Remediation
Air Permits by Rule (PBR) Checklist
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Rule	Check the Most Appropriate Answers and Fill in the Blanks
(d)	**Sites contaminated only with petroleum compounds (continued)**
(d)(3)	Do the TCEQ PST remediation and/or reimbursement requirements apply to this site? ☐ YES ☐ NO **Check all the boxes which apply:** ☐ Sampling and lab analysis of influent and effluent vapors will be performed at least monthly to demonstrate compliance with the control equipment efficiency and /or emission rate limits. ☐ Sampling and lab analysis of influent and effluent vapors will be performed at least monthly to demonstrate compliance with any related PST requirements. ☐ Alternative evaluation methods have been approved in writing by the TCEQ remediation program (Attach supporting documentation and describe the alternative method).
(b)(3)	Is the site contaminated with one or more of the following dry cleaning compounds? ☐ YES ☐ NO **Check all the boxes which apply:** ☐ Perchloroethylene (PERC), also known as tetrachloroethylene, and its degradation products, including trichloroethylene, 1,2-dichloroethylene, and vinyl chloride ☐ Petroleum-based solvents such as Stoddard Solvent, naphtha, and other petroleum distillates ☐ Hydrocarbons and synthetic hydrocarbons such as DF-2000™ fluid, EcoSolv ™, PureDry ™, or equivalent ☐ Silicone-based solvents containing decamethylcyclopentasiloxane ☐ Other nonaqueous solvents such as carbon tetrachloride, dipropylene glycol tertiary butyl ether, 1,1,1-trichloroethane, and 1,1,2-trichloro-1,1,2-trifluoroethane
(e)	Is this remediation project for dry cleaning compounds only? ☐ YES ☒ NO *If "YES," continue.* *If "NO," skip to (f).*
(e)(1)	Are there any facilities less than 100 feet from the nearest off-site receptor? ☐ YES ☒ NO Distance (feet): *If "YES," continue.* *If "NO," skip to (e)(2).*
(e)(1)(A)	Will one of the following be used as a control device? ☐ YES ☐ NO **Check the boxes which apply.** ☐ direct-flame combustion device (incinerator, furnace, boiler, heater, or other enclosed direct-flame device) ☐ catalytic oxidizer ☐ internal combustion engine ☐ carbon absorption system *If "YES," go to the next question.* *If "NO," skip to Question (e)(1)(B).*

Remediation
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Rule	Check the Most Appropriate Answers and Fill in the Blanks
(e)	**Sites contaminated only with dry cleaning compounds (continued)**
(e)(1)(A)	Will a control device be used, and will total emissions be within the limits of the rule? ☐ YES ☐ NO **Check all that apply.** ☐ § 106.261 lb/hr and tpy ☐ § 106.262 lb/hr and tpy (assuming 100 feet) ☐ 0.04 lb/hr for any air contaminant [**Note:** *When a control device is used, the total emissions of each individual compound must meet the chemical specific emission limits in § 106.261 or § 106.262 (assuming 100 feet), whichever is more stringent. Attach emissions calculations to demonstrate the limits are met.*]
(e)(1)(B)	If no control device is used, will total emissions be within 10% of the values as specified by § 106.261 and § 106.262? ☐ YES ☐ NO **Check the boxes that apply.** ☐ § 106.261 lb/hr and tpy ☐ § 106.262 lb/hr and tpy (assuming 100 feet) ☐ 0.04 lb/hr for any air contaminant [**Note:** *When a control device is used, the total emissions of each individual compound must not exceed 10% of the chemical specific emission limits in § 106.261 or § 106.262 (assuming 100 feet), whichever is more stringent. Attach emissions calculations to demonstrate the limits are met.*]
(e)(1)(C)	Will the maximum emission rate for any individual compound be 0.04 lb/hr, unless § 106.261 or § 106.262 specify a higher emission rate? ☐ YES ☐ NO
(e)(2)	Are all facilities at least 100 feet from the nearest off-site receptor? ☐ YES ☐ NO Distance (feet): *If "YES," continue.* *If "NO," go back to Question (e)(1).*
(e)(2)	Will emissions of each individual compound from each facility meet the emissions and distance requirements of the rule? ☐ YES ☐ NO **Check the boxes which apply and attach emissions calculations to demonstrate the limits are met.** ☐ § 106.261 lb/hr and tpy ☐ § 106.262 lb/hr and tpy (assuming 100 feet) ☐ 0.04 lb/hr for any air contaminant
(e)(2)	Will the maximum emission rate for any individual compound be 0.04 lb/hr, unless § 106.261 or § 106.262 specify a higher emission rate? ☐ YES ☐ NO
(e)(3)	Is a carbon adsorption system (CAS) that meets the requirements of this PBR as listed in (g) used? ☐ YES ☐ NO [**Note:** *No other control devices are allowed under this PBR for dry cleaning compounds.*]

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(e)	**Sites contaminated only with dry cleaning compounds (continued)**	
(e)(4)	Are additional technical and administrative requirements for the remediation of dry cleaning sites being complied with following Texas Health and Safety Code §§ 374.001 - 374.253?	☐ YES ☐ NO N/A
(f)	**All other sites and affected properties**	
(f)	Is this project covered by Subsections (d) or (e) above? *If "YES," skip to Subsection (g).* *If "NO," continue.*	☐ YES ☒ NO
(f)(1)(A)	Will hourly emissions of each individual organic and inorganic compound from each facility (other than products of combustion) meet the most stringent of the following requirements? Check the boxes which apply and attach emissions calculations to demonstrate the limits are met. ☐ § 106.261 lb/hr and tpy ☐ § 106.262 lb/hr and tpy (assuming 100 feet) ☐ Not in § 106.262, the short-term ESL ≤ 100 μg/m^3 but ≥ 2 μg/m^3, and emissions are ≤ 0.04 lb/hr ☒ Not in § 106.262 and the ESL < 2 μg/m^3, and emissions are ≤ 0.01 lb/hr	☒ YES ☐ NO
(f)(1)(B)	Are the total annual emissions of each organic or inorganic compound less than five tons per year for each facility?	☒ YES ☐ NO
(f)(3)	Are all emission points and area sources associated with each facility located at least 100 feet from any off-site receptor? Distance (feet): 3,200 feet – hunting camp	☒ YES ☐ NO
(g)	**Control devices**	
(g)	Will a control device be used? *If "YES," continue.* *If "NO," check if Subsection (d) or (e) is applicable.*	☐ YES ☒ NO
(g)	Will the control device comply with applicable opacity restrictions in 30 TAC § 111 (relating to Control of Air Pollution from Visible Emissions and Particulate Matter)?	☐ YES ☐ NO N/A
(g)(1)	Will a direct-flame combustion device (incinerator, furnace, boiler, heater, or other enclosed direct-flame device) be used as a control device? *If "YES," continue with Subsection (g)(1).* *If "NO," skip to Subsection (g)(2) below.*	☐ YES ☐ NO N/A

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(g)	**Control devices (continued)**	
(g)(1)(A)	Will each direct-flame combustion device be automatically controlled to maintain a minimum temperature of 1,400 degrees Fahrenheit or higher in the combustion chamber (secondary chamber, if dual-chamber) and have a gas retention time of 0.5 second or greater?	☐ YES ☐ NO N/A
(g)(1)(B)	Will the temperature of the device be maintained at a minimum of 1,400 degrees Fahrenheit? Temperature (°F):	☐ YES ☐ NO N/A
(g)(1)(C)	Will continuous temperature monitors be installed and maintained to record the temperature of the combustion chamber (secondary chamber, if dual-chamber)?	☐ YES ☐ NO N/A
(g)(1)(C)	Will records of temperature data be maintained?	☐ YES ☐ NO N/A
(g)(2)	Will a flare be used as a control device? *If "YES," continue with Subsection (g)(2).* *If "NO," skip to Subsection (g)(3) below.*	☐ YES ☐ NO N/A
(g)(2)(A)(i)	Will the flare be equipped with a flare tip designed to provide good mixing with air, flame stability, and meet the most stringent of either 30 TAC § 106.492 (relating to Flares); or 40 Code of Federal Regulations (CFR) § 60.18, General Control Device Requirements (as published in the October 17, 2000 issue of the Federal Register)?	☐ YES ☐ NO N/A
(g)(2)(A)(ii)	Will the flare be equipped with a continuously burning pilot or other automatic ignition system that assures gas ignition and provides immediate notification of appropriate personnel when the ignition system ceases to function?	☐ YES ☐ NO N/A
(g)(2)(B)	Will liquids be burned in the flare?	☐ YES ☐ NO N/A
(g)(2)(C)	Will visible emissions be limited to no more than five minutes in any two-hour period?	☐ YES ☐ NO N/A
(g)(3)	Will a catalytic oxidizer be used as a control device? *If "YES," continue with Subsection (g)(3).* *If "NO," skip to Subsection (g)(4) below.*	☐ YES ☐ NO N/A
(g)(3)(A)	Will the minimum design destruction efficiency of the catalytic oxidizer be at least 90% for the contaminants at the site? Efficiency (%):	☐ YES ☐ NO N/A
(g)(3)(B)	Will the appropriate catalyst be used depending on the type of contaminants in accordance with the manufacturer's guidelines?	☐ YES ☐ NO N/A

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(g)	**Control devices (continued)**	
(g)(3)(C)	Will an evaluation of oxidizer effectiveness be made? **Check all that apply.** ☐ Within two hours of startup ☐ At least weekly ☐ Using a flame ionization detector (FID) ☐ Using a photo-ionization detector (PID) ☐ Using a flow meter ☐ To demonstrate compliance with emission rate limits	☐ YES ☐ NO N/A
(g)(3)(C)	Will the flame ionization detector (FID) or photo-ionization detector (PID) instrument chosen be capable of properly detecting the types of contaminants present?	☐ YES ☐ NO N/A
(g)(3)(C)	Will records of oxidizer effectiveness be maintained?	☐ YES ☐ NO N/A
(g)(4)	Will an internal combustion engine be used as a control device? *If "YES," continue with Subsection (g)(4).* *If "NO," skip to Subsection (g)(5) below.*	☐ YES ☐ NO N/A
(g)(4)(A)	Will the minimum design destruction efficiency of the catalytic oxidizer be at least 99% for the contaminants at the site? Efficiency (%):	☐ YES ☐ NO N/A
(g)(4)(B)	Will chlorinated or sulfur compounds be burned in these facilities?	☐ YES ☐ NO N/A
(g)(4)(C)	Will an evaluation of engine effectiveness be made? **Check all that apply:** ☐ Within two hours of startup ☐ At least weekly ☐ Using a FID ☐ Using a PID ☐ Using a flow meter ☐ To demonstrate compliance with emission rate limits	☐ YES ☐ NO N/A
(g)(4)(C)	Will the FID or PID instrument chosen be capable of properly detecting the types of contaminants present?	☐ YES ☐ NO N/A
(g)(4)(C)	Will records of engine effectiveness be maintained?	☐ YES ☐ NO N/A
(g)(5)	Will a carbon adsorption system (CAS) be used as a control device? *If "YES," continue with Subsection (g)(5).* *If "NO," skip to Subsection (h) below.*	☐ YES ☐ NO N/A

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(g)	**Control devices (continued)**	
(g)(5)	Will CAS consist of at least two activated carbon canisters that are connected in series?	☐ YES ☐ NO N/A
(g)(5)(A)	Prior to the use of a CAS at the site, will there be a demonstration that activated carbon is an appropriate choice for control of the contaminants at the site?	☐ YES ☐ NO N/A
(g)(5)(B)	Will the CAS be operated to minimize breakthrough and maintain compliance with the emission limits of this subsection?	☐ YES ☐ NO N/A
(g)(5)(B)	When the VOC breakthrough is detected in the outlet of the initial canister, will the waste gas flow be switched to the second canister immediately?	☐ YES ☐ NO N/A
(g)(5)(B)	Within four hours of detection of breakthrough, will a fresh canister be placed as the new final polishing canister?	☐ YES ☐ NO N/A
(g)(5)(B)	Will sufficient fresh activated carbon canisters be maintained at the site to ensure fresh polishing canisters are installed within four hours of detection of breakthrough?	☐ YES ☐ NO N/A
(g)(5)(C)(i)	Will the CAS be sampled initially (within two hours of startup) and periodically to determine breakthrough (defined as a measured VOC concentration of 100 parts per million by volume (ppmv) in the outlet of the initial canister)?	☐ YES ☐NO N/A
(g)(5)(C)(i)	Will the sampling point be at the outlet of the initial canister, but before the inlet to the second or final polishing canister?	☐ YES ☐ NO N/A
(g)(5)(C)(i)	Will sampling be performed while venting maximum emissions to the CAS (e.g., during loading of tank trucks, during tank filling, during process venting)?	☐ YES ☐ NO N/A
(g)(5)(C)(i)	Will the CAS be monitored on a weekly basis or 20% of the design carbon replacement interval, whichever is less?	☐ YES ☐ NO N/A
(g)(5)(C)(ii)	Will an FID or PID instrument capable of properly detecting the types of contaminants present be used for VOC sampling?	☐ YES ☐ NO N/A
(g)(5)(C)(iii)	At dry cleaning remediation sites, will additional sampling to determine total organics and speciated chlorinated compounds be performed initially (within two hours of startup) and at least monthly?	☐ YES ☐ NO N/A
(h)	**Fugitive emissions when no control device is used**	
(h)	Is a control device used for remediation? *If "NO," continue.* *If "YES," Subsection (h) does not apply.*	☐ YES ☒ NO
(h)	Whenever emission releases are not directly emitted from a control device or stack which can be sampled, will compliance with the emission limits be demonstrated by the use of a FID or PID?	☐ YES ☐ NO N/A – requesting waiver – non-volatile contaminant.
(h)	Will the FID or PID be used initially and on a weekly basis to demonstrate compliance with the emission limits?	☐ YES ☐ NO N/A

(h)	Will the FID or PID instrument chosen be capable of properly detecting the types of contaminants present?	☐ YES ☐ NO N/A

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(h)	**Fugitive emissions when no control device is used (continued)**	
(h)	Will measurements occur as close as possible to the remediation activity, but no further away than the nearest property line?	☐ YES ☐ NO N/A
(h)	Will records be kept demonstrating that the measured concentration is equal to or less than the air contaminant's effects screening level (ESL)?	☐ YES ☐ NO N/A
(h)	If an ESL is exceeded, will remediation cease until corrective action restores the concentration to below ESL values?	☐ YES ☐ NO N/A
(h)	Will conversion from FID and PID devices to ESLs use the following formula? $\mu g/m^3$ = [(ppmv)(gram molecular weight of substance)] /0.02445	☐ YES ☐ NO N/A
(i)	**Other regulatory requirements**	
(i)(1)	Is the remediation being conducted on a site as part of a voluntary cleanup? *If "YES," a state permit is not required for remediation.* *If "NO," go to Question (i)(2).*	☐ YES ☒ NO
(i)(1)	Will the voluntary cleanup be coordinated with ongoing federal and state hazardous waste programs?	☐ YES ☐ NO
(i)(1)	Will the persons conducting the voluntary cleanup comply with any federal or state standard, requirement, criterion, or limitation that the remediation would otherwise be subject to if a permit were required (see Texas Health and Safety Code § 361.611)?	☐ YES ☐ NO
(i)(2)	Is the remediation being conducted on a site as part of a Superfund project? *If "YES," a state permit is not required for remediation.* *If "NO," go to Question (i)(3).*	☐ YES ☒ NO
(i)(2)	Will the Superfund project be coordinated with ongoing federal and state hazardous waste programs?	☐ YES ☐ NO
(i)(2)	Will the persons conducting the cleanup comply with any federal or state standard, requirement, criterion, or limitation that the remediation would otherwise be subject if a permit were required (see Texas Health and Safety Code § 361.196)?	☐ YES ☐ NO
(i)(3)	Will the facilities comply with any local government regulations or other local government requirements, permits, registrations, or other authorizations required by local authorities?	☒ YES ☐ NO
(i)(4)	Will the remediation equipment comply with any additional state regulations?	☒ YES ☐ NO
(i)(5)	Will the remediation project comply with all applicable federal requirements, including air standards and requirements for hazardous air pollutants under 40 CFR Part 63, MACT Subpart GGGGG?	☐ YES ☐ NO N/A

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Rule	Check the Most Appropriate Answers and Fill in the Blanks	
(j)	**Administrative requirements**	
(j)(1)	Before starting remediation (pilot test or treatment), will the owner or operator notify the commission using **Form TCEQ 20122** (Regional Notification/Relocation Form)? **[Note:** *Notifications for multiple sites that are part of the same affected property may be submitted at the same time.*]	☒ YES ☐ NO
(j)(1)(B)	Will the notification be sent to the appropriate regional office, any local air pollution control program, and appropriate remediation program?	☒ YES ☐ NO
(j)(1)(C)	Will pilot test notifications be received by those listed in (j)(1)(B) above prior to the commencement of activities?	☒ YES ☐ NO
(j)(1)(D)	Will an updated or additional notification be received by those listed in (j)(1)(B) above prior to the commencement of activities?	☒YES ☐ NO
(j)(1)(D)	Will an updated or additional notification contain specific information concerning the basis (measured or calculated) for the expected emissions from the facility and explain details as to why the control device can be expected to perform as represented?	☒ YES ☐ NO
(j)(1)(E)	For any remediation project that changes or eliminates a represented control device during the lifetime of the project, will an amended notification be filed with those listed in (j)(1)(B) above as soon as practicable after the change and after confirmation with the appropriate remediation program?	☒ YES ☐ NO
(j)(2)(A)	Will records be maintained at the site or at the nearest staffed location, and made available upon request to personnel from the commission, any local agency having jurisdiction, or appropriate remediation program?	☒ YES ☐ NO
(j)(2)(A)	Will all of the following records be maintained? (Check which records are maintained). ☐ Sample time and date ☐ Monitoring results (ppmv) ☐ Process operations occurring at the time of sampling ☐ Documentation of any corrective action taken, including time and date of the action ☒ Records of compliance with emission rate limits ☐ Demonstration that the chosen control method is an appropriate choice for the site ☒ The return receipt of notification to the appropriate regional office, local air pollution control programs, and appropriate remediation program	☐ YES ☐ NO N/A, requesting waiver - non-volatile contaminant

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Rule	Check the Most Appropriate Answers and Fill in the Blanks
Other applicable rules and regulations	
Will the facilities be subject to 30 TAC §§ 115.140-149? Why or Why Not:	☐ YES ☒ NO
Will the facilities be subject to 30 TAC §§117.460-469? Why or Why Not:	☐ YES ☒ NO
Will the facilities be subject to 40 CFR Part 60, NSPS Subpart QQQ? Why or Why Not:	☐ YES ☒ NO
Will the facilities be subject to 40 CFR Part 61, NESHAPS Subpart FF? Why or Why Not:	☐ YES ☒ NO
Will the facilities be subject to 40 CFR Part 63, MACT Subpart QQ? Why or Why Not:	☐ YES ☒ NO
Will the facilities be subject to 40 CFR Part 63, MACT Subpart RR? Why or Why Not:	☐ YES ☒ NO

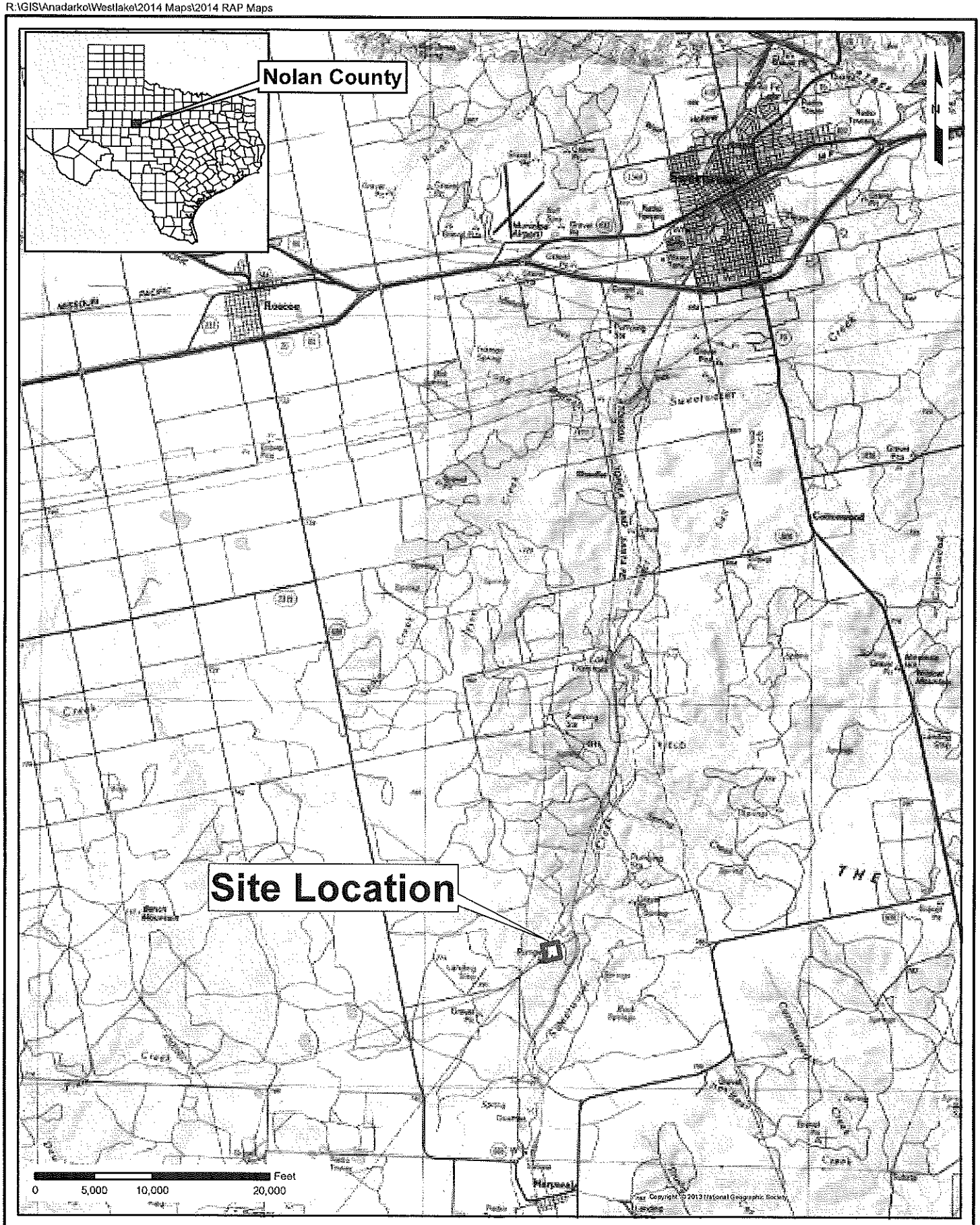
Record Keeping: In order to demonstrate compliance with the general and specific requirements of this PBR, sufficient records must be maintained to demonstrate that all requirements are met at all times. The minimum records of sampling or monitoring that must be maintained include the sample date and time, monitoring results (ppmv), corrective action taken (including the date and time of the action), process operations at the time of sampling, records of compliance with the emission rate limits, a record of the demonstration that the chosen control method is an appropriate choice for the site, and a record of the return receipt demonstrating notification to the appropriate regional office, any local air pollution control having jurisdiction over the site, and the appropriate remediation program. The registrant should also become familiar with the additional record keeping requirements in 30 TAC § 106.8. The records must be made available immediately upon request to the commission or any air pollution control program having jurisdiction. If you have any question about the type of records that should be maintained or testing requirements, contact the Air Program in the TCEQ Regional Office for the region in which the site is located.

Recommended Calculation Methods: In order to demonstrate compliance with this PBR, use the emission factors for each air contaminant from the EPA Compilation of Air Pollutant Emission Factors (AP-42), Fifth Edition, Volume 1 at: www.epa.gov/ttn/chief/ap42/index.html. Additional guidance may be found in the TCEQ Technical Guidance Document on Soil Remediation at: www.tceq.state.tx.us/permitting/air/nav/air_combustsources.html

Appendix B

Figures

R:\GIS\Anadarko\Westlake\2014 Maps\2014 RAP Maps



Site Location Map
Former Westlake Natural Gasoline Plant

Anadarko Petroleum Corporation
Nolan County, TX

SCALE: As Shown | DATE: May 2014 | PROJECT #: 60269730

AECOM
16000 Dallas Parkway, Suite 350
Dallas, Texas 75248
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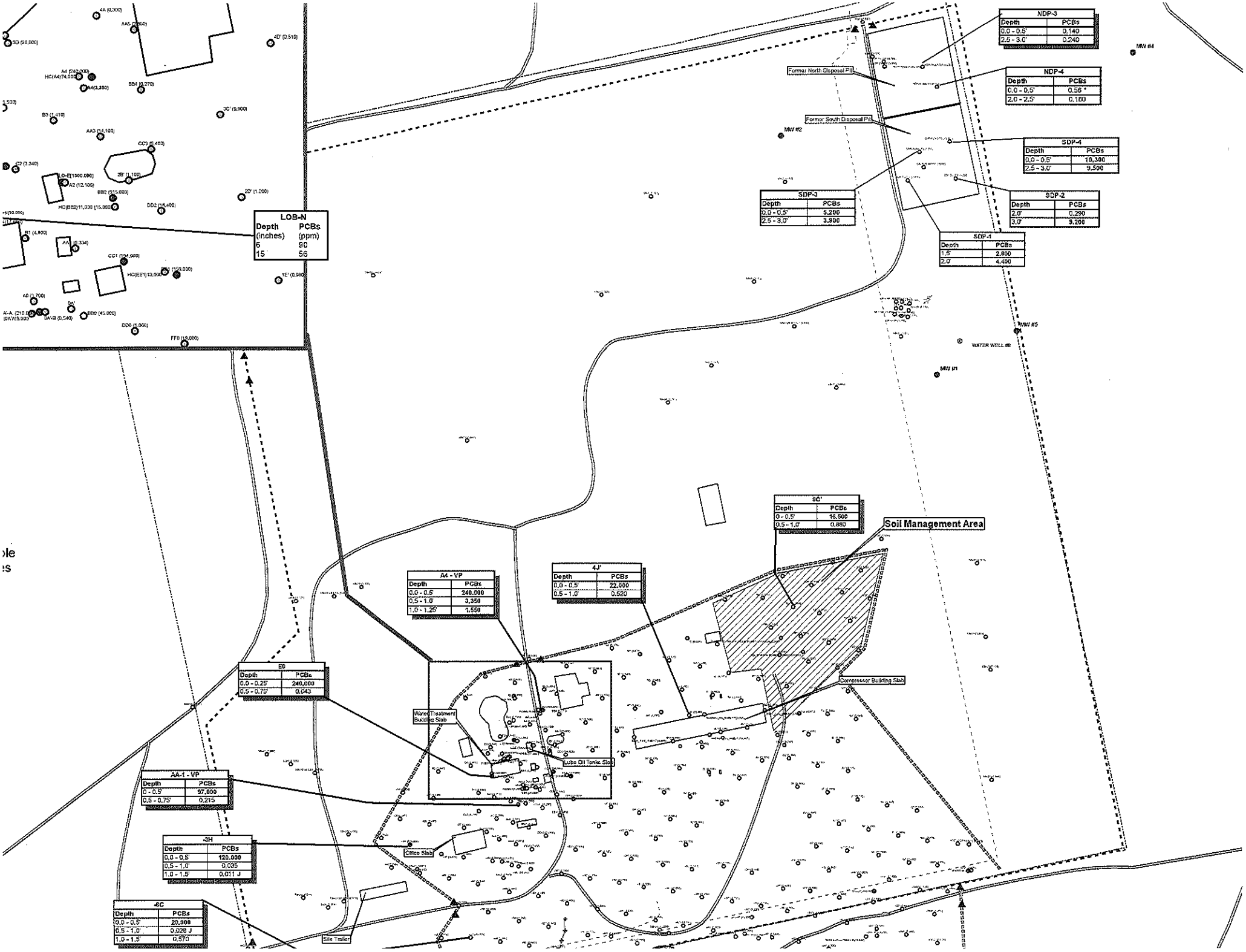
WEB: HTTP://WWW.AECOM.COM

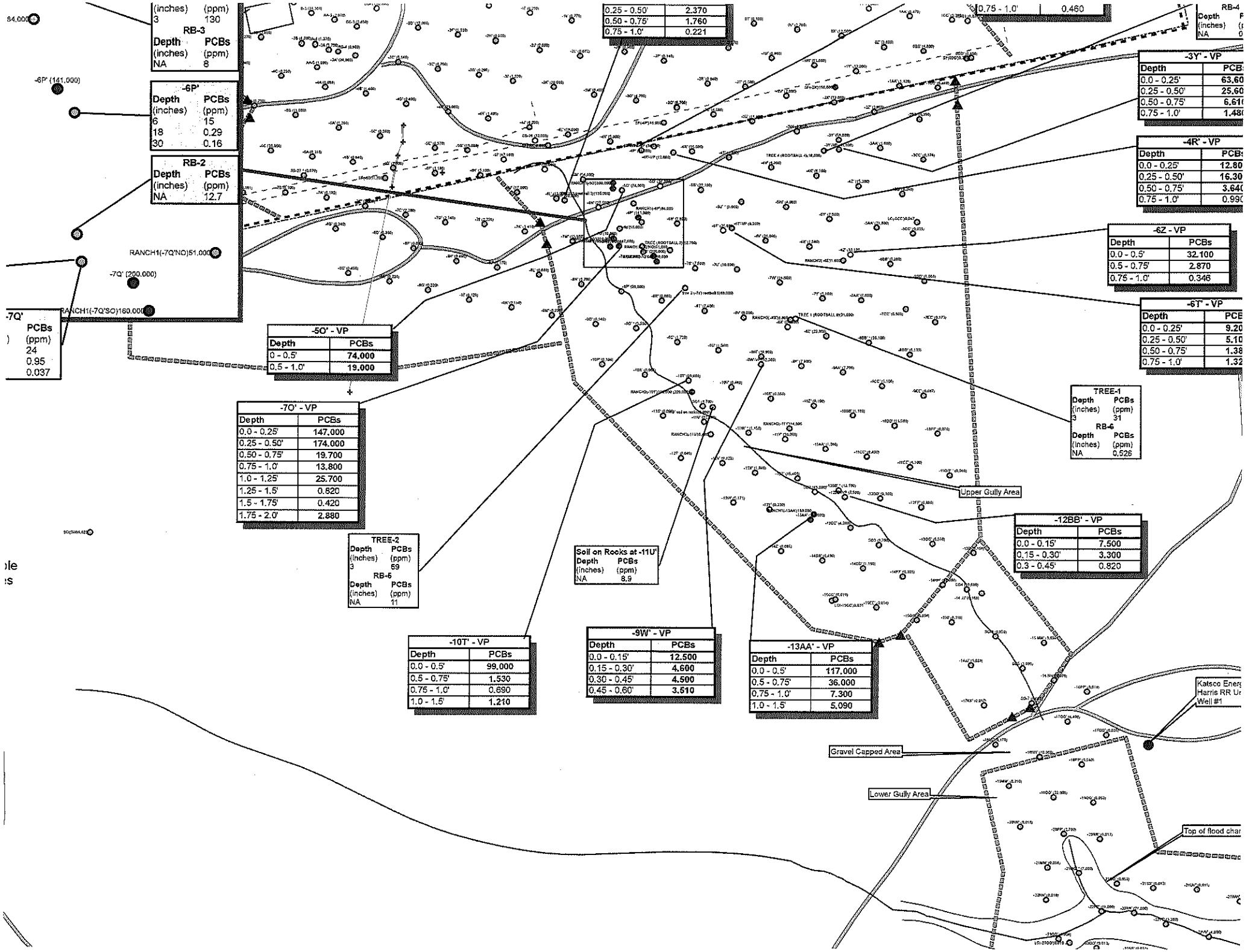
NOTES:
1. Base Image: USGS Topo Map

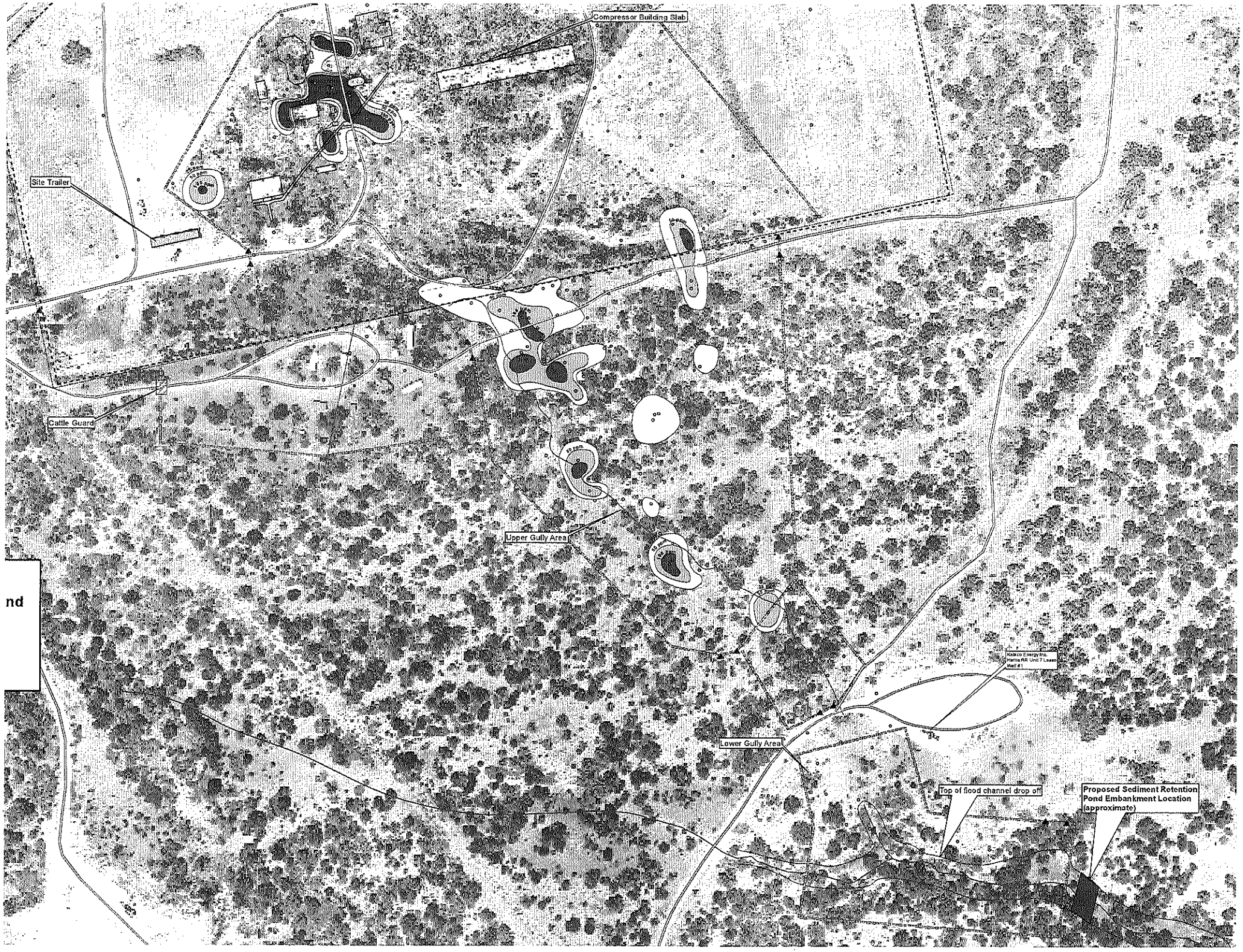
DRAWING NUMBER:
FIGURE 1

SHEET NUMBER:
1 of 1

Former Sanitary Pit
Former South Disposal Pit
Soil Managment Area
Compressor Building Slab
Office Slab
Site Trailer
Cattle Guard
Former Hunting Camp Location - Moved in Spring 2011.
Upper Gully Area
Lower Gully Area
Top of flood channel drop off
Burlington Northern Santa Fe Railway
2530
2525
2520
2515
2510
2505
2500
2495
2490
2485
2480
2475
2470
2460
2450


NDP-3
Depth | PCBs
0.0 - 0.5' | 0.140
2.5 - 3.0' | 0.240
NDP-4
Depth | PCBs
0.0 - 0.5' | 0.56 *
2.0 - 2.5' | 0.180
SDP-4
Depth | PCBs
0.0 - 0.5' | 10,300
2.5 - 3.0' | 9,500
SDP-3
Depth | PCBs
0.0 - 0.5' | 5,200
2.5 - 3.0' | 3,900
SDP-2
Depth | PCBs
2.0' | 0.290
3.0' | 9,200
SDP-1
Depth | PCBs
1.5' | 2,800
2.0' | 4,400
LOB-N
Depth (inches) | PCBs (ppm)
6 | 90
15 | 56
90'
Depth | PCBs
0 - 0.5' | 16,500
0.5 - 1.0' | 0.880
A4 - VP
Depth | PCBs
0.0 - 0.5' | 240,000
0.5 - 1.0' | 3,350
1.0 - 1.25' | 1,550
4J'
Depth | PCBs
0.0 - 0.5' | 22,000
0.5 - 1.0' | 0.520
E0
Depth | PCBs
0.0 - 0.25' | 240,000
0.5 - 0.75' | 0.045
AA-1 - VP
Depth | PCBs
0 - 0.5' | 97,000
0.5 - 0.75' | 0.215
-3H
Depth | PCBs
0.0 - 0.5' | 120,000
0.5 - 1.0' | 0.095
1.0 - 1.5' | 0.011 J
-6C
Depth | PCBs
0.0 - 0.5' | 20,900
0.5 - 1.0' | 0.028 J
1.0 - 1.5' | 0.570
Former North Disposal Pit
Former South Disposal Pit
MW #2
MW #4
MW #5
MW #1
WATER WELL #8
Soil Management Area
Compressor Building Slab
Water Treatment Building Slab
Lube Oil Tanks Slab
Office Slab
Site Trailer


(inches) (ppm)
3 130
RB-3
Depth PCBs
(inches) (ppm)
NA 8
-6P' (141,000)
-6P'
Depth PCBs
(inches) (ppm)
6 15
18 0.29
30 0.16
RB-2
Depth PCBs
(inches) (ppm)
NA 12.7
RANCH1(-7Q'NO)51,000
-7Q' (200,000)
RANCH1(-7Q'SO)160,000
-7Q'
PCBs
(ppm)
24
0.95
0.037
0.25 - 0.50' 2.370
0.50 - 0.75' 1.760
0.75 - 1.0' 0.221
0.75 - 1.0' 0.460
RB-4
Depth
(inches)
NA
-3Y' - VP
Depth PCB
0.0 - 0.25' 63.60
0.25 - 0.50' 25.60
0.50 - 0.75' 6.61
0.75 - 1.0' 1.48
-4R' - VP
Depth PCB
0.0 - 0.25' 12.80
0.25 - 0.50' 16.30
0.50 - 0.75' 3.640
0.75 - 1.0' 0.990
-6Z - VP
Depth PCBs
0.0 - 0.5' 32.100
0.5 - 0.75' 2.870
0.75 - 1.0' 0.346
-6T' - VP
Depth PCB
0.0 - 0.25' 9.20
0.25 - 0.50' 5.10
0.50 - 0.75' 1.38
0.75 - 1.0' 1.32
-5O' - VP
Depth PCBs
0 - 0.5' 74,000
0.5 - 1.0' 19,000
-7Q' - VP
Depth PCBs
0.0 - 0.25' 147,000
0.25 - 0.50' 174,000
0.50 - 0.75' 19.700
0.75 - 1.0' 13.800
1.0 - 1.25' 25.700
1.25 - 1.5' 0.820
1.5 - 1.75' 0.420
1.75 - 2.0' 2.880
TREE-1
Depth PCBs
(inches) (ppm)
3 31
RB-6
Depth PCBs
(inches) (ppm)
NA 0.526
Upper Gully Area
-12BB' - VP
Depth PCBs
0.0 - 0.15' 7.500
0.15 - 0.30' 3.300
0.3 - 0.45' 0.820
TREE-2
Depth PCBs
(inches) (ppm)
3 59
RB-5
Depth PCBs
(inches) (ppm)
NA 11
Soil on Rocks at -11U'
Depth PCBs
(inches) (ppm)
NA 8.9
-10T' - VP
Depth PCBs
0.0 - 0.5' 99,000
0.5 - 0.75' 1.530
0.75 - 1.0' 0.690
1.0 - 1.5' 1.210
-9W' - VP
Depth PCBs
0.0 - 0.15' 12.500
0.15 - 0.30' 4.600
0.30 - 0.45' 4.500
0.45 - 0.60' 3.510
-13AA' - VP
Depth PCBs
0.0 - 0.5' 117,000
0.5 - 0.75' 36.000
0.75 - 1.0' 7.300
1.0 - 1.5' 5.090
Katsco Energ
Harris RR Ur
Well #1
Gravel Capped Area
Lower Gully Area
Top of flood char


Compressor Building Slab
Site Trailer
Cattle Guard
Upper Gully Area
Lower Gully Area
Top of flood channel drop off
Proposed Sediment Retention Pond Embankment Location (approximate)

nd

Appendix C

Emission Calculations

Appendix C - Emissions Calcuations, Westlake site

Emission Factor (E)	Type	Total Processed	Concentration* in the Soil	Annual Emissions	Hourly Emissions
(pounds emitted / ton handled)		(tons)	(ppm)	(tons/year)	(lbs/hr)
0.1815	Polychlorinated biphenyl-impacted soil	4000	317.6	1.1531E-04	7.2070E-04
PCB Emissions				**0.0001**	**0.0007**

Note- * The concentration of PCB in soil is the representative 95% upper confidence limit (UCL) calculated using ProUCL tool using PCB data collected previously from the subject area. See Appendix D for additional details on the 95% UCL calculations.

Emission Factor (E)	Type	Total Processed	Annual Emissions	Hourly Emissions
(pounds emitted / ton handled)		(tons)	(tons/year)	(lbs/hr)
0.1815	soil (PM Total)	4000	0.3631	2.2692
0.0859	soil (PM_{10})	4000	0.1717	1.0733
0.0130	soil (PM_{2S})	4000	0.0260	0.1625

$$E = k(0.0032)\frac{\left(\frac{U}{5}\right)^{1.3}}{\left(\frac{M}{2}\right)^{1.4}}$$

USEPA AP-42, 13.2.4 Aggregate Handling and Storage Piles

aerodynamic size multiplier	k	0.74	0.74	PM Total	PM Total
		0.35	0.35	PM_{10}	PM_{10}
		0.053	0.053	PM_{2S}	PM_{2S}
Wind Speed (mph)	U	15			
Moisture Content (% water)	M	0.25			

Schedule 8 weeks (40 days). Assume 8 hours/day. 320 total hours

Appendix D

Development of 95% UCL PCB Concentration

	0	1
	Sample ID	Total PCBs
1	0A'-A (1.0')	210
2	0A'-B (1.5')	0.54
3	-10T'	99
4	-10T'_vp(0.5-0.75')	1.53
5	-10T'_vp(0.75-1.0')	0.69
6	-10T'_vp(1.0-1.5')	1.21
7	-11U'	72
8	-11Y'	36
9	Ranch2 (-11Y')	14
10	-13AA'	117
11	-13AA'_vp(0.5-0.75')	36
12	-13AA'_vp(0.75-1.0')	7.3
13	-13AA'_vp(1.0-1.5')	5.09
14	-14HH'	97
15	-1W'	53
16	-2X'	72
17	3D (CS)	0.169
18	3D-A (1.0')	96
19	-3H	120
20	-3Y'	58
21	-3Y'_vp(0.25-0.5')	25.6
22	-3Y'_vp(0.5-0.75')	6.61
23	-3Y'_vp(0.75-1.0')	1.48
24	-3Y'_vp(0-0.25')	63.6
25	-4P'	31
26	-4P'_west_vp(0.25-0.5')	5.8
27	-4P'_west_vp(0.5-0.75')	0.89
28	-4P'_west_vp(0.75-1.0')	0.46
29	-4P'_west_vp(0-0.25')	34.5
30	-5I'	47.1
31	-5K'	28
32	-5M'	54
33	-5O'	74
34	-5O'_vp(1.0')	19
35	-5Q'	36.3
36	-6N'	27.5
37	-6P'	141
38	-6P' (CS)	15
39	-6T'	25
40	-6T'_vp(0.25-0.5')	5.1
41	-6T'_vp(0.5-0.75')	1.38
42	-6T'_vp(0.75-1.0')	1.32
43	-6T'_vp(0-0.25')	9.2
44	-6Z'	32.1
45	-6Z'_vp(0.5-0.75')	2.87
46	-6Z'_vp(0.75-1.0')	0.346
47	-7O'	270
48	-7O' (CS)	19
49	-7O'_vp(0.25-0.5')	174
50	-7Q'	200
51	-7Q' (CS)	24

	0	1
	Sample ID	Total PCBs
52	-8X'	28.3
53	A2	12.1
54	A4	240
55	AA-1	97
56	BB0	45
57	BB2	515
58	C2	3.34
59	C2(CS-2)15"	740
60	CC1	194
61	CC-1	40.2
62	D1	2.85
63	D1B(CS-3)24"	13000
64	D3	31.5
65	Dup. #2 (dup of SB 8 1B')	0.27
66	DUP-1 (JAN14) (HC(BB2))	15
67	DUP-2 (Ranch2 (-10T'))	220
68	Duplicate-1 (dup of -6Z')	32.1
69	Duplicate-1 (dup of -7Q')	190
70	Duplicate-2 (dup of -3Y'_vp(0-0.25'	52.4
71	E0	240
72	EE1	159
73	HC (0A'A)	5.9
74	HC (A4)	74
75	HC (BB2)	11
76	HC (E0)	3
77	HC (EE1)	13
78	LO_E	1300
79	LOB_N	17.8
80	LOB-N (CS)	90
81	Ranch1 (-13AA')	180
82	Ranch1 (-5O')	300
83	Ranch1 (-6P')	84
84	Ranch1 (-7O')	210
85	Ranch1 (-7Q'NO)	51
86	Ranch2 (-8X')	6.8
87	RB-1 (Rocky Area)	88
88	RB-3 (Tree 3)	8
89	RB-5 (Tree 2)	11
90	RB-6 (Tree 1)	0.526
91	SB 8 0B	1.7
92	SB 8 0B'	0.25
93	SB 8 1A	1.9
94	SB 8 -1A	0.58
95	SB 8 1B	1.3
96	SB 8 1B'	0.82
97	SB 8 -1B	1.3
98	SB 8 -1B'	0.17
99	SBR-10	2.88
100	SBR-26	32
101	SBR-8	3.98
102	SDP-1A (2.0')	4.4

	0	1
	Sample ID	Total PCBs
103	SDP-2A (2.0')	0.29
104	SF (-2X')	150
105	SF (-5K')	9.9
106	SG-2	45
107	Tree1(-8X')	31
108	Tree2(-7S')	69
109	South Pit 2 (3.0') **	9.2
110	SDP-1A (2.0')	4.4
111	SDP-2A (2.0')	0.29
112	SDP-3_0-0.5'	5.2
113	SDP-3_0-0.5' MS	5.2
114	SDP-3_0-0.5' MSD	7
115	SDP-3_2.5-3.0'	3.9
116	SDP-4_0-0.5'	10.3
117	SDP-4_2.5-3.0'	9.5

	A	B	C	D	E	F	G	H	I	J	K	L
1						Normal UCL Statistics for Uncensored Full Data Sets						
2												
3				User Selected Options								
4				Date/Time of Computation	12/5/2014 3:57:30 PM							
5				From File	WorkSheet.xls							
6				Full Precision	OFF							
7				Confidence Coefficient	95%							
8												
9												
10	Total PCBs											
11												
12						General Statistics						
13					Total Number of Observations	117			Number of Distinct Observations		100	
14									Number of Missing Observations		0	
15					Minimum	0.169			Mean		181.2	
16					Maximum	13000			Median		24	
17					SD	1205			SD of logged Data		2.139	
18					Coefficient of Variation	6.652			Skewness		10.56	
19												
20						Normal GOF Test						
21					Shapiro Wilk Test Statistic	0.143			Normal GOF Test			
22					5% Shapiro Wilk P Value	0			Data Not Normal at 5% Significance Level			
23					Lilliefors Test Statistic	0.44			Lilliefors GOF Test			
24					5% Lilliefors Critical Value	0.0819			Data Not Normal at 5% Significance Level			
25						Data Not Normal at 5% Significance Level						
26												
27						Assuming Normal Distribution						
28					95% Normal UCL				95% UCLs (Adjusted for Skewness)			
29					95% Student's-t UCL	365.9			95% Adjusted-CLT UCL (Chen-1995)		480.7	
30									95% Modified-t UCL (Johnson-1978)		384	
31												
32						Suggested UCL to Use						
33						Data appear Lognormal, May want to try Lognormal Distribution						
34												
35						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
36						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
37						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
38						For additional insight the user may want to consult a statistician.						
39												

	A	B	C	D	E	F	G	H	I	J	K	L
1						Lognormal UCL Statistics for Uncensored Full Data Sets						
2												
3				User Selected Options								
4				Date/Time of Computation	12/5/2014 3:57:41 PM							
5				From File	WorkSheet.xls							
6				Full Precision	OFF							
7				Confidence Coefficient	95%							
8				Number of Bootstrap Operations	2000							
9												
10												
11	Total PCBs											
12												
13						General Statistics						
14					Total Number of Observations	117				Number of Distinct Observations	100	
15										Number of Missing Observations	0	
16					Minimum	0.169				Mean	181.2	
17					Maximum	13000				Median	24	
18					SD	1205				Std. Error of Mean	111.4	
19					Coefficient of Variation	6.652				Skewness	10.56	
20												
21						Lognormal GOF Test						
22					Shapiro Wilk Test Statistic	0.974			Shapiro Wilk Lognormal GOF Test			
23					5% Shapiro Wilk P Value	0.197			Data appear Lognormal at 5% Significance Level			
24					Lilliefors Test Statistic	0.0787			Lilliefors Lognormal GOF Test			
25					5% Lilliefors Critical Value	0.0819			Data appear Lognormal at 5% Significance Level			
26						Data appear Lognormal at 5% Significance Level						
27												
28						Lognormal Statistics						
29					Minimum of Logged Data	-1.778				Mean of logged Data	2.777	
30					Maximum of Logged Data	9.473				SD of logged Data	2.139	
31												
32						Assuming Lognormal Distribution						
33					95% H-UCL	317.6				90% Chebyshev (MVUE) UCL	294.7	
34					95% Chebyshev (MVUE) UCL	360.7				97.5% Chebyshev (MVUE) UCL	452.3	
35					99% Chebyshev (MVUE) UCL	632.3						
36												
37						Nonparametric Distribution Free UCLs						
38					95% CLT UCL	364.4				95% Jackknife UCL	365.9	
39					95% Standard Bootstrap UCL	368.9				95% Bootstrap-t UCL	1820	
40					95% Hall's Bootstrap UCL	1044				95% Percentile Bootstrap UCL	399	
41					95% BCA Bootstrap UCL	615.4						
42					90% Chebyshev(Mean, Sd) UCL	515.4				95% Chebyshev(Mean, Sd) UCL	666.8	
43					97.5% Chebyshev(Mean, Sd) UCL	877				99% Chebyshev(Mean, Sd) UCL	1290	
44												
45						Suggested UCL to Use						
46					95% H-UCL	317.6						
47												
48						Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.						
49						These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)						
50						and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.						
51						For additional insight the user may want to consult a statistician.						
52												

	A	B	C	D	E	F	G	H	I	J	K	L
53	ProUCL computes and outputs H-statistic based UCLs for historical reasons only.											
54	H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.											
55	It is therefore recommended to avoid the use of H-statistic based 95% UCLs.											
56	Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.											
57												

AECOM
16000 Dallas Parkway, Suite 350
Dallas, TX 75248

972.735.3000 tel
972.735.3001 fax

January 6, 2015
AECOM Project No. 60335556

Air Permit Initial Review Team (APIRT)
Texas Commission on Environmental Quality, MC – 161
12100 Park 35 Circle, Building C, Third Floor, Room 300W
Austin, Texas 78763

Subject: **Permit by Rule Documentation for Remediation Activities**
Kerr-McGee Oil & Gas Onshore, LLC.
Customer Reference No.: CN601170566

Dear TCEQ APIR Team,

On behalf of Kerr-McGee Oil & Gas Onshore, LLC (Kerr-McGee), a subsidiary of Anadarko Petroleum Corporation (Anadarko), AECOM Technical Services, Inc. (AECOM) is submitting this voluntary Permit by Rule (PBR) documentation to authorize operation of remediation activities at the former Westlake Natural Gasoline Plant located approximately 3.5 miles north of Maryneal in Nolan County, Texas. The proposed project will comply with the PBR TAC § 106.533 (Remediation)

30 TAC § 106.533(h) stipulates that compliance must be demonstrated by the use of a PID or FID for emission releases that are not directly emitted from a control device or stack which can be sampled. The remediation site contains soil impacted with polychlorinated biphenyls (PCBs) only, which are non-volatile. Kerr-McGee hereby requests a waiver from the PID or FID monitoring requirement listed in § 106.533(h) and the associated recordkeeping requirements listed in § 106.533(j)(B).

Prior to starting remediation activities, Kerr-McGee will notify the commission using form TCEQ-20122, Regional Notification for Permits by Rule and Standard Permits. Notification will be sent to the TCEQ Region 3 Office located in Abilene, Texas.

Yours sincerely,

Kurt Webber
Project Manager
972-735-7067
kurt.webber@aecom.com

Marwan Salameh
Sr. Program Manager
972-735-7063
marwan.salameh@aecom.com

Cc: Mike Taylor, Air Section Manager
TCEQ Region 3
1977 Industrial Blvd.
Abilene, Texas 79602-7833

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

June 28, 2015

Kurt Webber
AECOM
16000 Dallas Parkway, Suite 350
Dallas, TX 75248

RE: Former Westlake Gas Plant - Maryneal, TX

Enclosed are the analytical results for the samples received by the laboratory on 05/13/2015.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Johnson For Jessica Esser
Project Manager

Certification List		Expires
TCEQ	TCEQ NELAP Accreditation	T104704504-14-11/30/2015

2525 Advance Road
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AECOM 16000 Dallas Parkway, Suite 350 Dallas TX, 75248	Project: Former Westlake Gas Plant - Maryneal, TX Project Number: 2717 Project Manager: Kurt Webber

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Field Blank	N152005-01	Wipe	05/13/2015	05/13/2015
1-6 inch Pipe	N152005-02	Wipe	05/13/2015	05/13/2015
2-18 inch Pipe	N152005-03	Wipe	05/13/2015	05/13/2015
3-6 inch Pipe	N152005-04	Wipe	05/13/2015	05/13/2015
4-6 inch Pipe	N152005-05	Wipe	05/13/2015	05/13/2015
5-6 inch Pipe	N152005-06	Wipe	05/13/2015	05/13/2015

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Field Blank

N152005-01 (Wipe)

Date Sampled
05/13/2015 11:56

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N505009**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
PCB-1254	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	E1
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	
Total PCBs	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 20:40	EPA 8082A	E1
Surrogate: Decachlorobiphenyl			*79.8 %*	*60-140*		*05/13/2015*	*05/13/2015 20:40*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*88.3 %*	*60-140*		*05/13/2015*	*05/13/2015 20:40*	*EPA 8082A*	

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

1-6 inch Pipe

N152005-02 (Wipe)

Date Sampled
05/13/2015 12:01

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N505009**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
PCB-1254	**0.80**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	E1
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	
Total PCBs	**0.80**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:00	EPA 8082A	E1
Surrogate: Decachlorobiphenyl			*112 %*	*60-140*		*05/13/2015*	*05/13/2015 21:00*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*156 %*	*60-140*		*05/13/2015*	*05/13/2015 21:00*	*EPA 8082A*	*S*

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

2-18 inch Pipe

N152005-03 (Wipe)

Date Sampled
05/13/2015 12:30

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N505009**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
PCB-1254	**0.72**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	E1
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	
Total PCBs	**0.72**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:20	EPA 8082A	E1
Surrogate: Decachlorobiphenyl			*91.0 %*	*60-140*		*05/13/2015*	*05/13/2015 21:20*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*108 %*	*60-140*		*05/13/2015*	*05/13/2015 21:20*	*EPA 8082A*	

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

3-6 inch Pipe

N152005-04 (Wipe)

Date Sampled
05/13/2015 12:33

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N505009**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
PCB-1254	**1.3**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	E1
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	
Total PCBs	**1.3**		0.50	ug/Wipe	1	05/13/2015	05/13/2015 21:40	EPA 8082A	E1
Surrogate: Decachlorobiphenyl			*79.0 %*	*60-140*		*05/13/2015*	*05/13/2015 21:40*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*91.0 %*	*60-140*		*05/13/2015*	*05/13/2015 21:40*	*EPA 8082A*	

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

4-6 inch Pipe

N152005-05 (Wipe)

Date Sampled
05/13/2015 12:38

ECCS - Lab #14

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Polychlorinated Biphenyls by EPA Method 8082						**Preparation Batch: N505009**			
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
PCB-1254	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	E1
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	
Total PCBs	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:00	EPA 8082A	E1
Surrogate: Decachlorobiphenyl			*97.0 %*	*60-140*		*05/13/2015*	*05/13/2015 22:00*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*101 %*	*60-140*		*05/13/2015*	*05/13/2015 22:00*	*EPA 8082A*	

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

5-6 inch Pipe

N152005-06 (Wipe)

Date Sampled
05/13/2015 12:46

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N505009**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
PCB-1254	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	EI
PCB-1260	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	
Total PCBs	ND		0.50	ug/Wipe	1	05/13/2015	05/13/2015 22:20	EPA 8082A	EI
Surrogate: Decachlorobiphenyl			*96.7 %*	*60-140*		*05/13/2015*	*05/13/2015 22:20*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*106 %*	*60-140*		*05/13/2015*	*05/13/2015 22:20*	*EPA 8082A*	

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

ECCS - Lab #14

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N505009 - ECCS PRE-007										
Blank (N505009-BLK1)				Prepared: 05/13/2015 Analyzed: 05/13/2015 20:00						
PCB-1016	ND	0.50	ug/Wipe							
PCB-1221	ND	1.0	ug/Wipe							
PCB-1232	ND	0.50	ug/Wipe							
PCB-1242	ND	0.50	ug/Wipe							
PCB-1248	ND	0.50	ug/Wipe							
PCB-1254	ND	0.50	ug/Wipe							
PCB-1260	ND	0.50	ug/Wipe							
Total PCBs	ND	0.50	ug/Wipe							
Surrogate: Decachlorobiphenyl	*0.681*		*ug/Wipe*	*0.6000*		*113*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.693*		*ug/Wipe*	*0.6000*		*116*	*60-140*			
LCS (N505009-BS1)				Prepared: 05/13/2015 Analyzed: 05/13/2015 20:20						
PCB-1242	0	0.50	ug/Wipe				70-130			
PCB-1248	0	0.50	ug/Wipe				70-130			
PCB-1254	13.4	0.50	ug/Wipe	10.00		134	70-130			
PCB-1260	0	0.50	ug/Wipe				70-130			
Surrogate: Decachlorobiphenyl	*0.728*		*ug/Wipe*	*0.6000*		*121*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.702*		*ug/Wipe*	*0.6000*		*117*	*60-140*			

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Notes and Definitions

S	Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
E1	Estimated value because of quality control sample exceedances.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
RPD	Relative Percent Difference

Environmental Chemistry
Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N152005

Mail Report To: Kurt Webber
Company: AECOM
Address: 16000 Dallas Parkway, Ste. 350
Dallas, TX 75248
E-mail Address: Kurt.Webber@AECOM.com

Project Number: 60335556
Project Name: Former Westlake Gas Plant
Project Location: Maryneal, TX

Preservation Codes
Analyses Requested

Turn Around (check one): [X] Normal [ ] 5 BDs [ ] 3 BDs [ ] 2 BDs [ ] 24 hrs
If Rush, Report Due Date:
Sampled By (Print): Kurt Webber

Invoice To:
Company:
Address:

N152005-

Sample Description	Collection Date	Collection Time	Matrix Wipes	Total # of Containers	8082-Total PCBs						Comments	Lab ID	Lab Receipt Time
Field Blank	5/13/15	11:56	W	1	X							01	
1- 6 inch pipe	5/13/15	12:01	W	1	X							02	
2- 18 inch pipe	5/13/15	12:30	W	1	X							03	
3- 6 inch pipe	5/13/15	12:33	W	1	X							04	
4- 6 inch pipe	5/13/15	12:38	W	1	X							05	
5- 6 inch pipe	5/13/15	12:46	W	1	X							06	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air G=Soil W=Water O=Other

Rush TAT Multipliers
5 Business Days = 1.5x
3 Business Days = 2x
2 Business Days = 2.25x
24 Hours = 2.5x
must be pre-arranged

Relinquished By	Date	Time	Received By	Date	Time
Kurt Webber	5/13/15	1300	Richard W. Lopche	5/13/15	13:00
Relinquished By	Date	Time	Received By	Date	Time

Custody Seal: ___ Present ___ Absent ___ Intact ___ Not Intact
Seal #s
Shipped Via
Receipt Temp: Hand delivered
Temp Blank: X

Download this form at www.ecosmobilelab.com

WHITE - REPORT COPY YELLOW - LABORATORY COPY PINK - SAMPLER/SUBMITTER Rev. 5/11

Construction Storm Water Pollution Prevention Plan (SWPPP) Former Westlake Natural Gasoline Plant Nolan County, TX

Emile Hanna, AECOM Technical Services

December 5, 2014

Anadarko AECOM

Outline

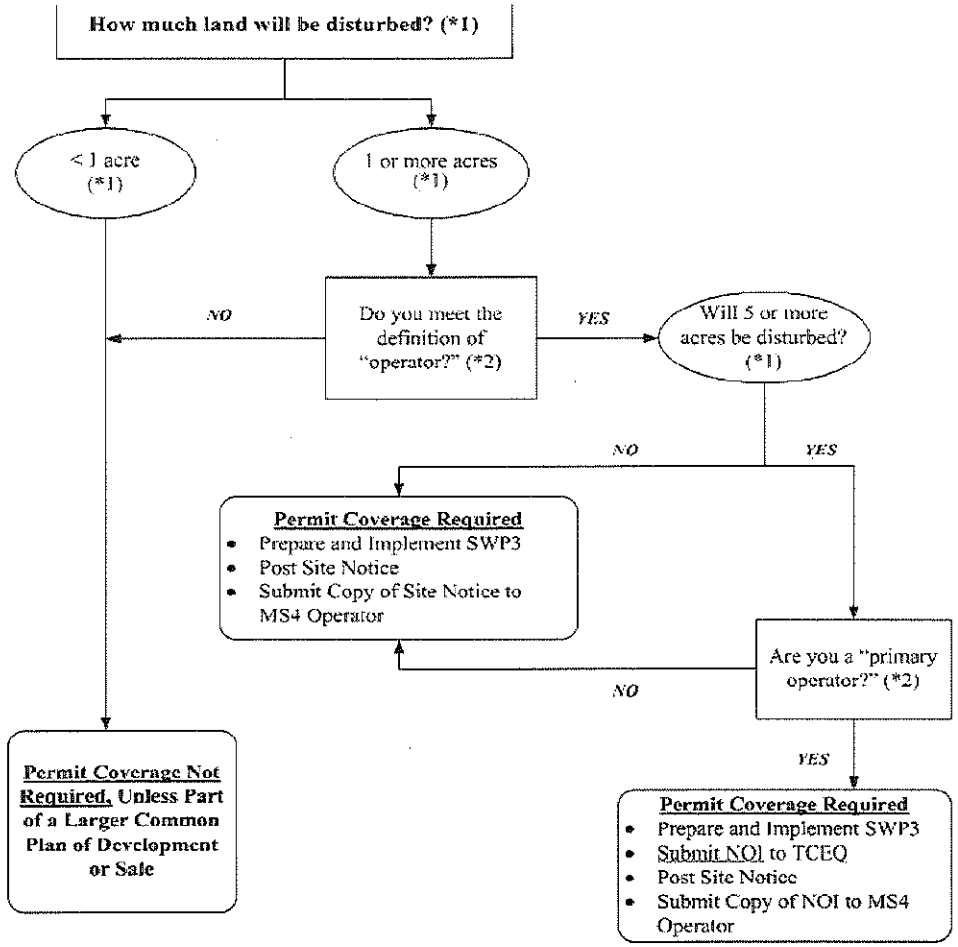
- Overview of Rules and Permit Requirements
- Permit Applicability and Coverage
- Goals of the Construction SWPPP
- Construction Project Description
- Potential Pollutant Sources
- Limitations on Permit Coverage
- Pollution Prevention Measures and Controls
- Spill Prevention and Response
- Inspection, Maintenance Requirements and Prohibited Discharges
- Plan Revisions, Recordkeeping and Training

Rules and Permit Requirements

- Discharges of storm water runoff from small and large construction activities may be authorized under the TPDES General Permit TXR150000
  - TPDES = Texas Pollutant Discharge Elimination System
    - Permit became effective on March 5, 2013 and all authorizations will expire at midnight on March 4, 2018

- TPDES Program is administered by the TCEQ and applies to permitting, inspections, monitoring and enforcement associated with the discharge of industrial waste and storm water runoff from industrial and construction activities.
  - TCEQ = Texas Commission on Environmental Quality

Rules and Permit Requirements (Cont'ed)



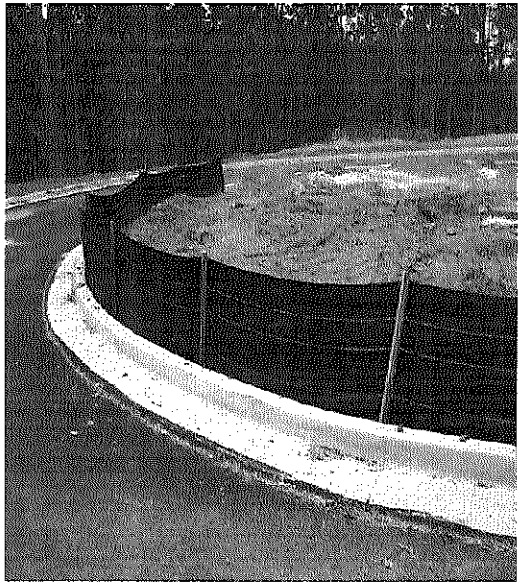
*(*1) To determine the size of the construction project, use the size of the entire area to be disturbed, and include the size of the larger common plan of development or sale, if the project is part of a larger project (refer to Part I.B., "Definitions," for an explanation of "common plan of development or sale").*

*(*2) Refer to the definitions for "operator," "primary operator," and "secondary operator" in Part I., Section B. of this permit.*

Rules and Permit Requirements (Cont'ed)

- TPDES GP requires nearly all construction site operators engaged in clearing, grading, and excavation activities that disturb one to five acres to obtain coverage for storm water discharges and develop a SWPPP.

- Construction sites that are larger than five acres must prepare and submit to TCEQ a Notice of Intent in order to obtain a permit prior to discharging storm water runoff.



Permit Applicability & Coverage

- Discharges of storm water runoff from construction activities are authorized under the TPDES GP as long as the appropriate controls and measures are implemented as described in the SWPPP to reduce erosion and the discharge of pollutants in storm water.
- Allowable Sources of Non-Storm Water Discharges
  - Discharges from firefighting activities;
  - Water from routine external washing of vehicles, buildings, structures and pavement without the use of detergents and soaps; and
  - Uncontaminated water used to control dust.
- Storm water discharges that occur after the construction activities are complete and after final site stabilization, are not eligible under this GP.

Goals of the Construction SWPPP

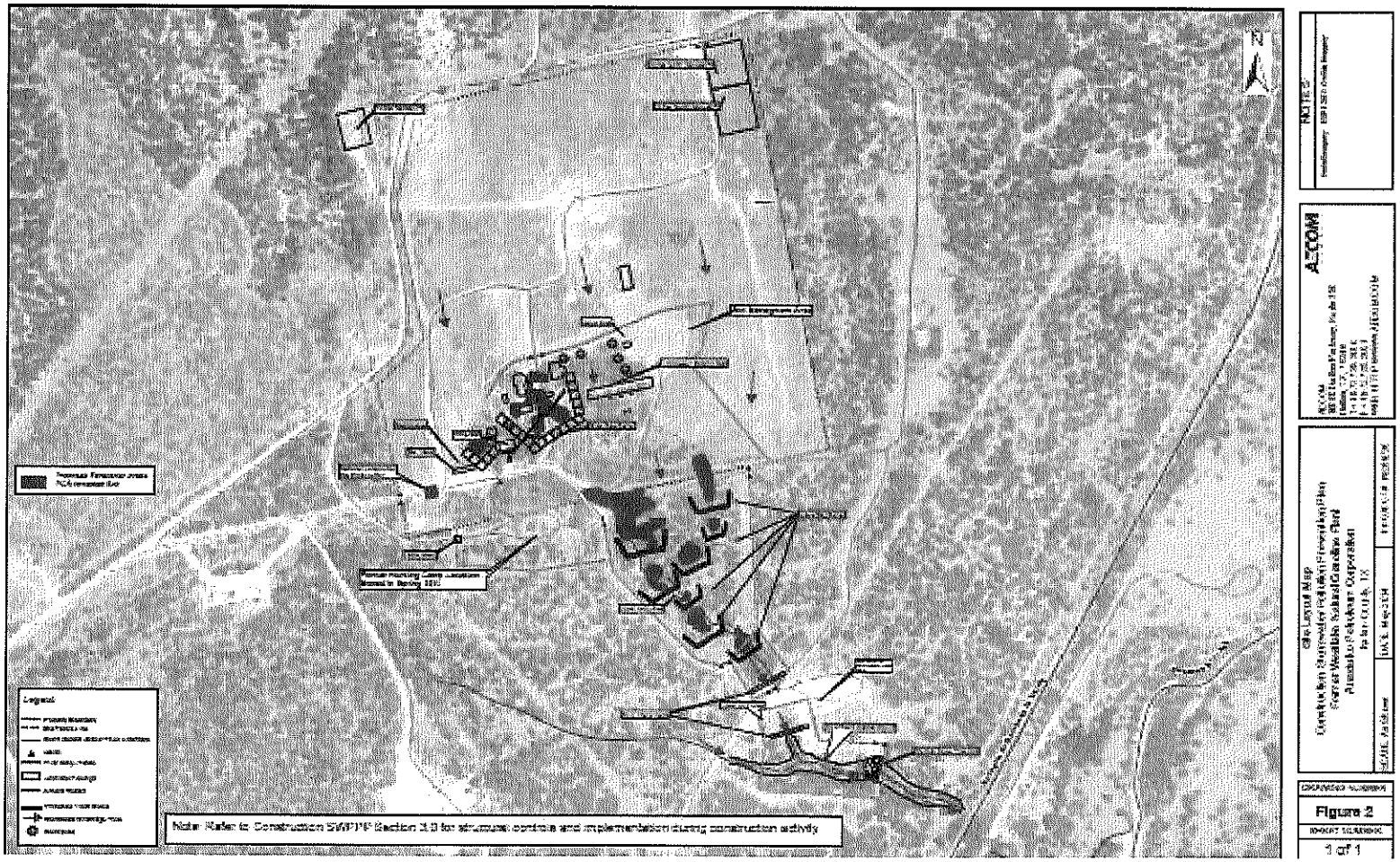
- To address storm water discharges associated with construction activities
- To identify and address potential sources of storm water pollution including:
  - Material storage areas;
  - Overburden and stockpiles of dirt;
  - Borrow areas;
  - Equipment staging areas; and
  - Fueling areas

  Used solely by the permitted project.
- To describe the implementation of practices that will be used to minimize the discharge of pollutants in storm water.

Project Description

- Conducting remediation activities associated with PCB-impacted soils within the former Westlake Natural Gasoline Plant and the adjoining property (69 Ranch) within Nolan County, TX.
- Latitude: 32.291597 N (Decimal Degrees)
- Longitude: -100.451378 W (Decimal Degrees)
- **Project Duration**:
- Project Start Date: December, 2014
- Anticipated Project End Date: February, 2015

Construction Activity

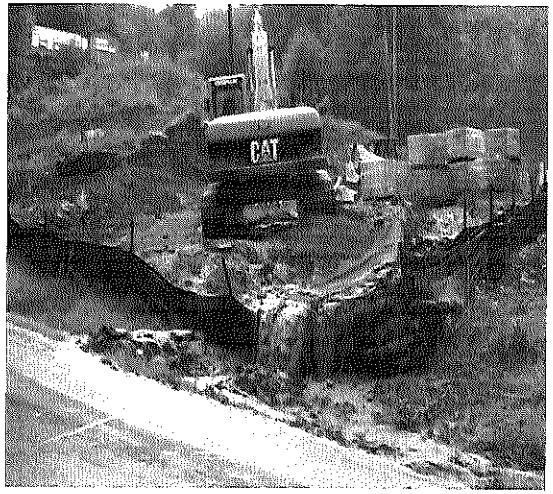


Requirements of the Primary Operator for a Small Construction Site

- Construction SWPPP: develop, implement, and maintain a copy on-site (update as necessary)
- Site Notice: Post at site entrance
- Final stabilization requirements: covered by an impervious surface and re-vegetated as adequate. Temporary soil erosion and sediment control measures will be removed 30 days after final stabilization is achieved.

Potential Pollution Sources

- The most common source of pollution during construction is sediment that results from:
  - Clearing and grubbing operations;
  - Demolition of existing structures;
  - Trenching and grading activities;
  - Sand, fill dirt, and gravel stockpiles;
  - Excavation operations; and
  - Vehicle tracking.



Potential Pollution Sources (Cont'ed)

- Other potential pollutants and sources:
  - Staging areas = fueling activities, equipment maintenance, and temporary sanitary facilities;
  - Construction activity = building materials, scrap metal, and concrete; and
  - Waste storage areas and dumpsters.

Limitations on Permit Coverage

- Post Construction Discharges

Storm water and other related non-storm water discharges that may occur after the completion of the construction activity are not eligible for coverage under this GP.

- Water Quality Standards & TMDLs

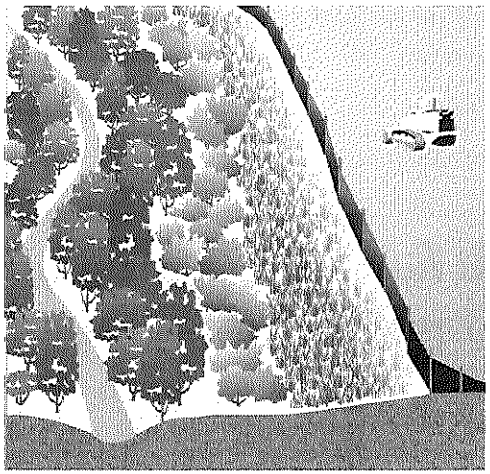
Discharges from the site will flow toward an unidentified drainage ditch that may ultimately flow toward the intermittent part of Sweetwater Creek, thence to the perennial part of Sweetwater Creek and then to Lake Trammel. Both Sweetwater and Lake Trammel are unclassified water segments and do not have a TMDL identified or scheduled. Therefore, no additional controls or monitoring will be required at this time.

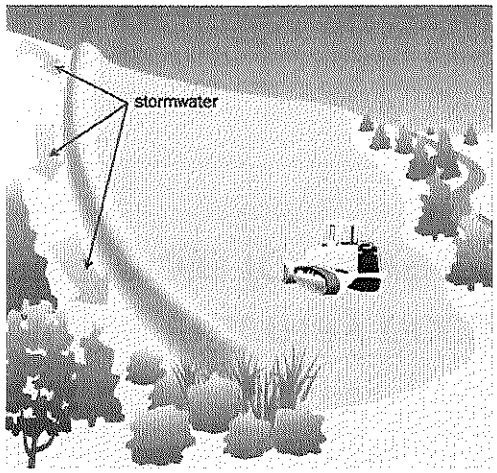
- Endangered Species Act

According to the US Fish and Wildlife Service, there are no critical habitats within the vicinity of the construction activity.

Pollution Prevention Measures and Controls

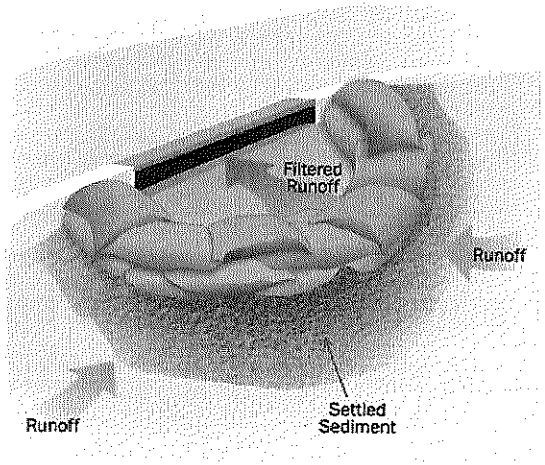
- Pollution prevention measures and controls are utilized to reduce the potential for pollutants to contaminate storm water which include the following Best Management Practices (BMPs):
  - Erosion Control: designed to retain sediment in place;
    - Minimize disturbed area and protect natural features and soils.
    - Phase construction activity.
    - Control storm water flowing onto and through the project.
    - Stabilize soils promptly.
    - Protect slopes.

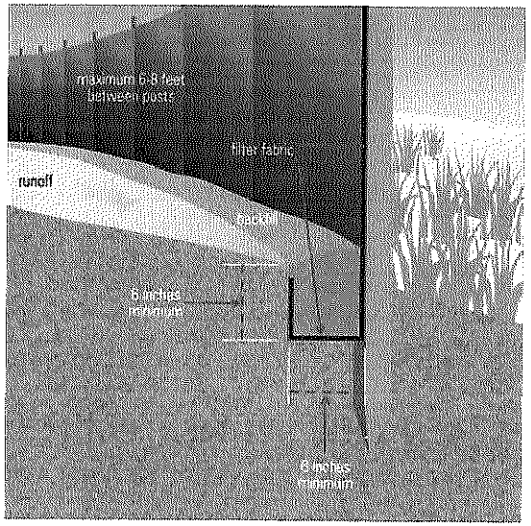




Pollution Prevention Measures and Controls (Cont'ed)

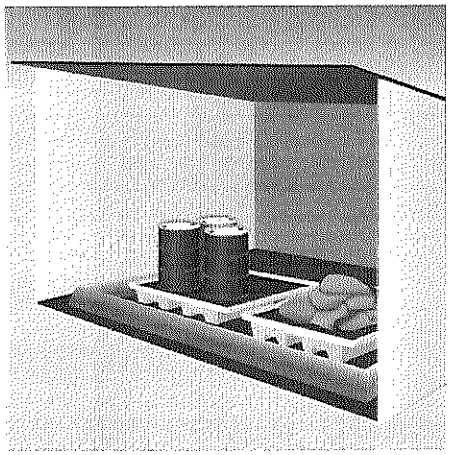
– Sediment Controls: designed to retain sediment on-site;
  - Protect storm drain inlets.
  - Establish perimeter controls.
  - Retain sediment on-site and control dewatering practices.
  - Establish stabilized construction exits.
  - Inspect and maintain controls.





Pollution Prevention Measures and Controls (Cont'ed)

– Structural and other controls: developed to minimize the offsite transport of litter, construction debris and materials; and



Pollution Prevention Measures and Controls (Cont'ed)

- Good housekeeping measures
  - The project area will be visually inspected on a daily basis to ensure proper use, storage, and disposal of on-site materials.
  - Fuel/material staging areas will be located away from storm water conveyance systems.
  - Appropriate spill prevention and response measures will be implemented.
  - Waste receptacles will be provided in staging areas and work trailers.
  - Waste will be disposed offsite regularly and according to applicable federal, state and local requirements.
  - Sanitary facilities will be provided and maintained adequately.
  - Equipment and vehicles will be regularly inspected.
  - Drums and tanks (if any) will be tightly sealed and clearly labeled.
  - Materials will be stored in designated areas until those materials are required and will be loaded and off-loaded in designated area.

Spill Prevention and Response

- Procedures that can reduce the potential of spills from contaminating storm water include:
  - Employee training;
  - Placing oil, oil-based products and other chemicals inside secondary containment;
  - Installation of overfill prevention devices on pumps and tanks;
  - Modification of material handling techniques; and
  - Routine inspection of vehicles, drums, tanks and other containers.

Spill Prevention and Response (Cont'ed)

- Spill response and cleanup procedures:
  - Notify senior management;
  - Assess the spill;
  - Stop flow at source;
  - Contain the spill;
  - Clean up the spill (using dry clean-up methods);
  - Dispose of contaminated material;
  - Record (and report) spill event information;
  - Evaluate response;
  - Update the SWPPP;
  - Replace used spill equipment.

Inspection, Maintenance Requirements and Prohibited Discharges

- Primary contractor will conduct site inspections once every 14 calendar days and within 24 hours after a storm event of 0.5 in. or greater.
  - The Inspection Checklist is included as Appendix C in the SWPPP.
- Primary contractor will inspect the disturbed areas of the construction site; areas used for material storage exposed to precipitation; and erosion, sediment and structural controls.
- Pollution prevention measures and control identified in the SWPPP will be maintained in good operating conditions and replaced as needed.

Inspection, Maintenance Requirements and Prohibited Discharges (Cont'ed)

- Prohibited Discharges:
  - Fuels and oils used in vehicle and equipment operation and maintenance; and
  - Soaps or solvents used on vehicle and equipment washing.

Plan Revisions, Recordkeeping and Training

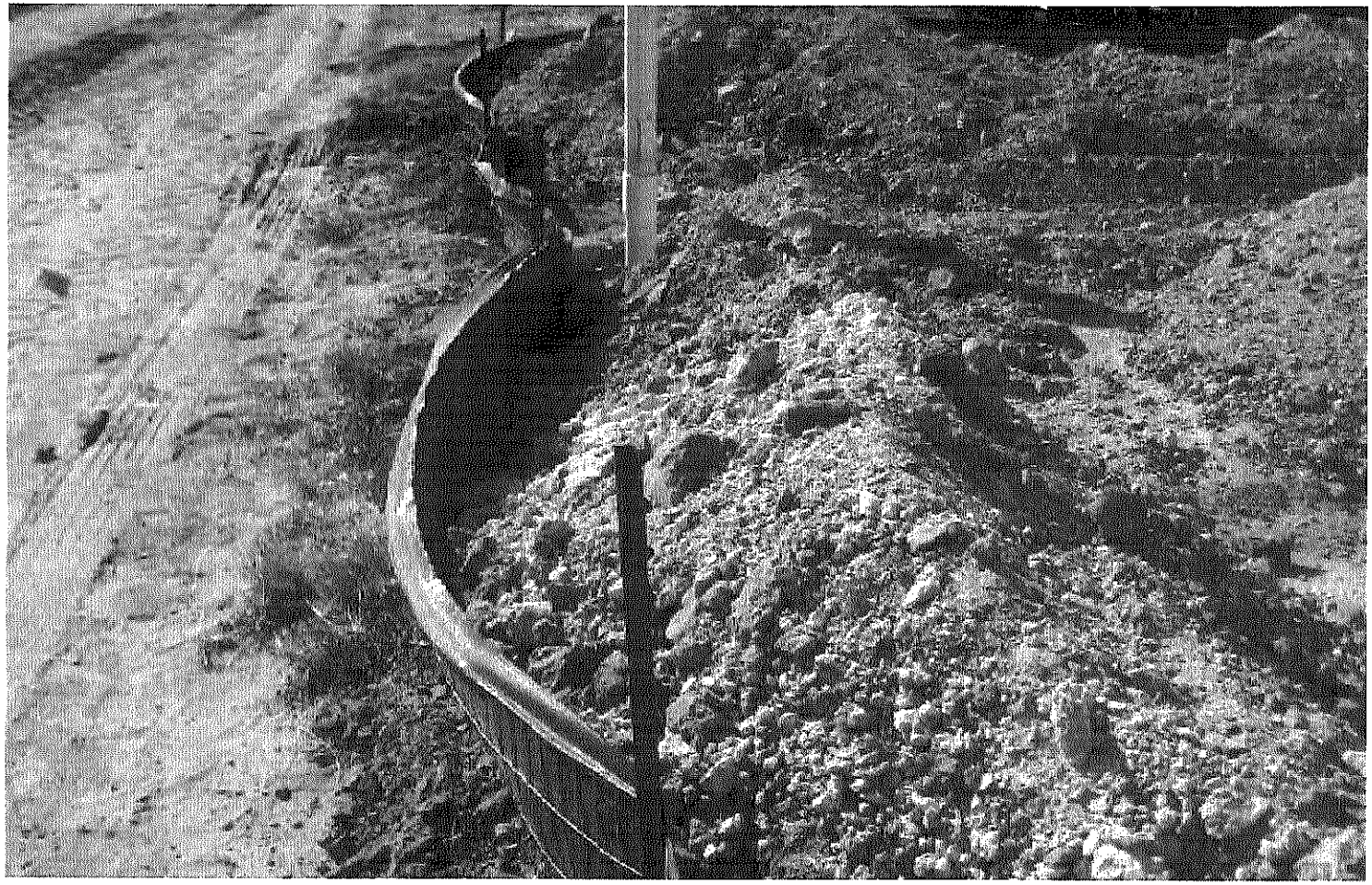
- SWPPP will be revised and updated as follows:
  - A change in design, construction, operation, or maintenance that has a significant effect on the discharge of pollutants that has not been previously addressed in the SWPPP;
  - Changing site conditions based on updated plans or specifications, new operators, new areas of responsibility and changes in BMPs;
  - Results of inspections or investigations by site operators, owner, or authorized federal, state or local agency with jurisdiction.
- Records will be maintained in the SWPPP to include:
  - Dates when major grading activities occur;
  - Dates when construction activity temporarily or permanently cease on a portion of the site;
  - Dates when stabilization measures are initiated.

Plan Revisions, Recordkeeping and Training (Cont'ed)

- Records will be retained in the SWPPP for a minimum of three years.
- Contractor and Employee Training upon initiating construction activities.

Miscellaneous Photographs (examples of non-compliance)

Miscellaneous Photographs (examples of non-compliance)



Thank You

emile.hanna@aecom.com

December 5, 2014

Anadarko AECOM

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

April 29, 2015

Kurt Webber
AECOM
16000 Dallas Parkway, Suite 350
Dallas, TX 75248

RE: Former Westlake Gas Plant - Maryneal, TX

Enclosed are the analytical results for the samples received by the laboratory on 03/27/2015.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard Johnson For Jessica Esser
Project Manager

Certification List		Expires
TCEQ	TCEQ NELAP Accreditation	T104704504-14-11/30/2015

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BLANK	N151307-01	Wipe	03/27/2015	03/27/2015
LOADER BUCKET	N151307-02	Wipe	03/27/2015	03/27/2015

2525 Advance Road
Madison, WI 53718
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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

BLANK

N151307-01 (Wipe)

Date Sampled
03/27/2015 10:19

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS - Lab #14									
Polychlorinated Biphenyls by EPA Method 8082						**Preparation Batch: N503027**			
PCB-1016	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1221	ND		1.2	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1232	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1242	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1248	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1254	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
PCB-1260	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
Total PCBs	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 13:56	EPA 8082A	
Surrogate: Decachlorobiphenyl			*98.3 %*	*60-140*		*03/27/2015*	*03/27/2015 13:56*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*88.3 %*	*60-140*		*03/27/2015*	*03/27/2015 13:56*	*EPA 8082A*	

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

LOADER BUCKET

N151307-02 (Wipe)

Date Sampled
03/27/2015 10:19

ECCS - Lab #14

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Polychlorinated Biphenyls by EPA Method 8082						**Preparation Batch: N503027**			
PCB-1016	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1221	ND		1.2	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1232	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1242	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1248	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1254	**1.7**		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
PCB-1260	ND		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
Total PCBs	**1.7**		0.60	ug/Wipe	1	03/27/2015	03/27/2015 11:26	EPA 8082A	
Surrogate: Decachlorobiphenyl			*93.4 %*	*60-140*		*03/27/2015*	*03/27/2015 11:26*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*87.3 %*	*60-140*		*03/27/2015*	*03/27/2015 11:26*	*EPA 8082A*	

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608.221.8700 Phone
608.221.4889 Fax

AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

ECCS - Lab #14

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N503027 - EPA 3580A										
Blank (N503027-BLK1)				Prepared: 03/27/2015 Analyzed: 03/27/2015 13:06						
PCB-1016	ND	0.60	ug/Wipe							
PCB-1221	ND	1.2	ug/Wipe							
PCB-1232	ND	0.60	ug/Wipe							
PCB-1242	ND	0.60	ug/Wipe							
PCB-1248	ND	0.60	ug/Wipe							
PCB-1254	ND	0.60	ug/Wipe							
PCB-1260	ND	0.60	ug/Wipe							
Total PCBs	ND	0.60	ug/Wipe							
Surrogate: Decachlorobiphenyl	*0.737*		*ug/Wipe*	*0.7920*		*93.1*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.526*		*ug/Wipe*	*0.6000*		*87.6*	*60-140*			
LCS (N503027-BS1)				Prepared: 03/27/2015 Analyzed: 03/27/2015 13:31						
PCB-1242	0	0.60	ug/Wipe				70-130			
PCB-1248	0	0.60	ug/Wipe				70-130			
PCB-1254	9.26	0.60	ug/Wipe	10.00		92.6	70-130			
PCB-1260	0	0.60	ug/Wipe				70-130			
Surrogate: Decachlorobiphenyl	*0.703*		*ug/Wipe*	*0.7920*		*88.8*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.497*		*ug/Wipe*	*0.6000*		*82.9*	*60-140*			

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
RPD	Relative Percent Difference

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N15 1307

Project Number: 60335556
Project Name: FORMER WESTLAKE GAS PLANT
Project Location: MARY NEAL, TX
Turn Around (circle one): (Normal) Rush
If Rush, Report Due Date:
Sampled By (Print): KURT WEBBER

Analyses Requested / Preservation Codes

Mail Report To: KURT WEBBER
Company: AECOM
Address: 16000 DALLAS PARKWAY STE 350 DALLAS, TX, 75248
E-mail Address: KURT.WEBBER@AECOM.COM
Invoice To:
Company:
Address:
N15 1307

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	TOTAL PB 8021						Comments	Lab ID	Lab Receipt Time
BLANK 1	03/27/15	1019	W	1	X							01	
LOADER BUCKET	↓	1019	W	1	X							02	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Kurt Webber	3/27/15	1030	[illegible]	27 MAR 15	1030
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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April 28, 2015

Kurt Webber
AECOM
16000 Dallas Parkway, Suite 350
Dallas, TX 75248

RE: Former Westlake Gas Plant - Maryneal, TX

Enclosed are the analytical results for the samples received by the laboratory on 03/25/2015.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. These results are in compliance with the 2009 NELAC Standards and the appropriate agencies listed below, unless otherwise noted in the case narrative. This analytical report should be reproduced in its entirety.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Richard W Johnson

Richard Johnson For Jessica Esser
Project Manager

Certification List		Expires
TCEQ	TCEQ NELAP Accreditation	T104704504-14-11/30/2015

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Madison, WI 53718
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608.221.4889 Fax

AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BLANK	N151302-01	Wipe	03/25/2015	03/25/2015
L. BUCKET	N151302-02	Wipe	03/25/2015	03/25/2015

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

BLANK

N151302-01 (Wipe)

Date Sampled
03/25/2015 10:17

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS - Lab #14									
Polychlorinated Biphenyls by EPA Method 8082						**Preparation Batch: N503019**			
PCB-1016	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1254	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
PCB-1260	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
Total PCBs	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 13:25	EPA 8082A	
Surrogate: Decachlorobiphenyl			*79.7 %*	*60-140*		*03/25/2015*	*03/25/2015 13:25*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*97.4 %*	*60-140*		*03/25/2015*	*03/25/2015 13:25*	*EPA 8082A*	

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AECOM 16000 Dallas Parkway, Suite 350 Dallas TX, 75248	Project: Former Westlake Gas Plant - Maryneal, TX Project Number: 2717 Project Manager: Kurt Webber

L. BUCKET

N151302-02 (Wipe)

Date Sampled
03/25/2015 10:17

ECCS - Lab #14

Polychlorinated Biphenyls by EPA Method 8082 — **Preparation Batch: N503019**

Analyte	Result	Limit of Detection	Limit of Quantitation	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
PCB-1016	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1221	ND		1.0	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1232	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1242	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1248	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1254	**3.3**		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
PCB-1260	ND		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
Total PCBs	**3.3**		0.50	ug/Wipe	1	03/25/2015	03/25/2015 10:55	EPA 8082A	
Surrogate: Decachlorobiphenyl			*86.3 %*	*60-140*		*03/25/2015*	*03/25/2015 10:55*	*EPA 8082A*	
Surrogate: Tetrachloro-meta-xylene			*102 %*	*60-140*		*03/25/2015*	*03/25/2015 10:55*	*EPA 8082A*	

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

ECCS - Lab #14

Analyte	Result	Limit of Quantitation	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N503019 - EPA 3580A										
Blank (N503019-BLK1)				Prepared: 03/25/2015 Analyzed: 03/25/2015 12:35						
PCB-1016	ND	0.60	ug/Wipe							
PCB-1221	ND	1.2	ug/Wipe							
PCB-1232	ND	0.60	ug/Wipe							
PCB-1242	ND	0.60	ug/Wipe							
PCB-1248	ND	0.60	ug/Wipe							
PCB-1254	ND	0.60	ug/Wipe							
PCB-1260	ND	0.60	ug/Wipe							
Total PCBs	ND	0.60	ug/Wipe							
Surrogate: Decachlorobiphenyl	*0.626*		*ug/Wipe*	*0.7920*		*79.0*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.565*		*ug/Wipe*	*0.6000*		*94.2*	*60-140*			
LCS (N503019-BS1)				Prepared: 03/25/2015 Analyzed: 03/25/2015 13:00						
PCB-1242	0	0.60	ug/Wipe				70-130			
PCB-1248	0	0.60	ug/Wipe				70-130			
PCB-1254	10.2	0.60	ug/Wipe	10.00		102	70-130			
PCB-1260	0	0.60	ug/Wipe				70-130			
Surrogate: Decachlorobiphenyl	*0.625*		*ug/Wipe*	*0.7920*		*78.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.560*		*ug/Wipe*	*0.6000*		*93.3*	*60-140*			

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AECOM	Project: Former Westlake Gas Plant - Maryneal, TX
16000 Dallas Parkway, Suite 350	Project Number: 2717
Dallas TX, 75248	Project Manager: Kurt Webber

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
RPD	Relative Percent Difference

Environmental Chemistry
Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N151302

Mail Report To: KURT WEBBER
Company: AECOM
Address: 16000 DALLAS PARKWAY STE 350
DALLAS, TX. 75248
E-mail Address: KURT.WEBBER@AECOM.COM
Invoice To:
Company:
Address:
N151302

Project Number: 60335556
Project Name: FORMER WESTLAKE GAS PLANT
Project Location: MARY NEAL, TX.
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): KURT WEBBER

Analyses Requested
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	TOTAL PCB's 8082						Comments	Lab ID	Lab Receipt Time
BLANK	03/25/15	1017	W	1	X							01	
L. BUCKET	03/25/15	1017	W	1	X							02	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Kurt Webber	3/25/15	1100	K Jackson	3/25/15	1100
Relinquished By:	Date:	Time:	Received By:	Date:	Time:
				3/25/15	

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N DROP OFF

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