APPENDIX NOT INCLUDED

REMOVAL ASSESSMENT REPORT

FOR

WILCOX OIL COMPANY SUPERFUND SITE
WEST 221ST STREET SOUTH/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

Prepared for

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EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) tasked Weston Solutions, Inc. (WESTON®), the EPA Region 6 Superfund Technical Assessment and Response Team (START-3) contractor (EPA team), to conduct a removal assessment at the Wilcox Oil Company Superfund Site (Site) located near Bristow, Creek County, Oklahoma.

The EPA team conducted the removal assessment activities in two phases. Phase 1 was conducted 08 - 11 December 2014. During Phase 1, a total of 187 soil samples (including duplicate quality assurance/quality control (QA/QC samples) were collected for laboratory analysis. A total of 185 composite samples were collected from 57 grids and 2 locations along the banks of a historical pond and analyzed for lead by Method SW-846 6010. The 2 grab samples (Pit 1 and Pit 2) were collected from a potential waste pit identified in previous investigations. The 2 grab samples were analyzed for Target Analyte List (TAL) metals by Method SW-846 6010, volatile organic compounds (VOCs) by Method SW-846 5035/8260, semi-volatile organic compounds (SVOCs) by Method SW-846 8270, and total petroleum hydrocarbons (TPH) by Method 1005.

Phase 2 was conducted from 18 May to 12 June 2015. During this phase, 240 soil samples (including duplicate QA/QC samples) were collected and analyzed for TAL metals, including mercury, following EPA Contract Laboratory Program (CLP) Method ISM01.3, and VOCs, SVOCs, and pesticides/aroclors target compound list by EPA CLP Method SOM01.2. In addition to the soil assessment, the Emergency and Rapid Response Services (ERRS) contractor installed fencing around the former Lorraine process area to restrict access.

A review of sampling analytical results indicated that in Phase 1 lead, benzo (a) anthracene, and benzo (a) pyrene are present above their respective EPA Removal Management Levels (RMLs). Phase 2 results indicated cadmium, cobalt, iron, manganese, and benzo (a) pyrene are present in soil above the EPA RMLs.

This report describes the technical scope of work completed as part of TDD No. 5/WESTON-042-15-004 under Contract No. EP-W-06-042 for EPA Region 6. The EPA On-scene

Coordinator (OSC) was Mark Hayes, and the EPA Project Team Leader (PTL) was Derrick Cobb.

- ☐ The EPA Task Monitor did not provide final approval of this report prior to the completion date of the work assignment. Therefore, Weston Solutions, Inc. has submitted this report absent the Task Monitor's approval.
- ☐ The EPA Task Monitor has provided final approval of this report. Therefore, Weston Solutions, Inc. has submitted this report with the Task Monitor's approval.

TABLE OF CONTENTS

Section **Page**

EXECUTIVE SUMMARY ES-1

1. INTRODUCTION 1-1

1.1 PROJECT OBJECTIVES 1-1

1.2 SCOPE OF WORK 1-2

1.3 REPORT FORMAT 1-2

2. BACKGROUND 2-1

2.1 SITE LOCATION AND DESCRIPTION 2-1

2.2 OPERATIONAL HISTORY 2-3

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS 2-4

3. ACTIONS TAKEN 3-1

3.1 SOIL SAMPLING 3-1

3.2 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES 3-3

3.3 INVESTIGATION-DERIVED WASTE MANAGEMENT 3-4

3.4 FENCE INSTALLATION 3-4

4. SAMPLE ANALYSES AND DATA EVALUATION 4-1

4.1 LABORATORY ANALYSES, DATA VALIDATION, AND DATA REPORTING4-1

4.2 DATA VALIDATION 4-2

5. SUMMARY OF ANALYTICAL RESULTS 5-1

LIST OF APPENDICES

Appendix	Title
Appendix A	Quality Assurance Sampling Plan (QASP)
Appendix B	Site Logbook
Appendix C	Digital Photographs
Appendix D	Laboratory Data Packages
Appendix E	Soil Sample Analytical Exceedance Summary
Appendix F	TDD No. 5/WESTON-042-15-004

LIST OF FIGURES

Figure	Title
Figure 1-1	Site Location Map
Figure 2-1	Site Area Map
Figure 3-1	Site Overview Map
Figure 3-2	Phase 1 Sample Location Map
Figure 3-3	Phase 2 Sample Location Map
Figure 5-1	Phase 1 Sample Results Map
Figure 5-2	Phase 2 Sample Results Map – Property 002
Figure 5-3	Phase 2 Sample Results Map – Property 005
Figure 5-4	Phase 2 Sample Results Map – Property 006
Figure 5-5	Phase 2 Sample Results Map – Property 008
Figure 5-6	Phase 2 Sample Results Map – Property 011
Figure 5-7	Phase 2 Sample Results Map – Property 017
Figure 5-8	Phase 2 Sample Results Map – Property 019
Figure 5-9	Phase 2 Sample Results Map – Property 020
Figure 5-10	Phase 2 Sample Results Map – Property 021

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®), the Superfund Technical Assessment and Response Team (START-3) Contractor (EPA team), was tasked by the U.S. Environmental Protection Agency (EPA) Region 6 Prevention and Response Branch (PRB) under Contract Number EP-W-06-042, Technical Direction Document (TDD) No. 5/WESTON-042-15-004 (Appendix F) to conduct a removal assessment at the Wilcox Oil Company Superfund Site (Wilcox) located near Bristow, Creek County, Oklahoma. Site coordinates are Latitude 35.842144° North and Longitude 96.381456° West. A Site Location Map is provided as Figure 1-1. All figures are provided as separate portable document format (PDF) files. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) Identification Number assigned to the Site is OK0001010917.

This removal assessment report has been prepared to describe the technical scope of work and activities completed at the Wilcox Site.

1.1 PROJECT OBJECTIVES

Technical assistance was provided to EPA Region 6 for performance of the Wilcox removal assessment to assist EPA in determining if the site presents a threat to public health or welfare of the United States or the environment in accordance with 40 *Code of Federal Regulations* (CFR) 300.415 as well as the nature and extent of such contamination.

The objective of the removal assessment was to investigate the nature and extent of site-related contaminants in the soil of residential properties built within the former refinery property boundaries or adjacent to the historical property boundaries associated with the Wilcox Site. To achieve this objective, a field sampling plan that focused on sample collection in the immediate vicinity of the residential properties was developed.

Phase 1 pit samples were analyzed for TAL metals, not including mercury, analyses by Method SW-846 6010, volatile organic compounds (VOCs) by Method SW846 5035/8260, total petroleum hydrocarbons (TPH) by Method 1005, and semi-volatile organic compound (SVOC) analyses by Method SW846 8270. Phase 1 residential soil samples collected to a depth of 1 foot below ground surface were analyzed for lead by Method SW-846 6010. Two surface soil

samples (0-3 inches) were collected along the banks of a historical pond and were analyzed for lead by Method SW-846 6010.

Phase 2 samples were analyzed for Target Analyte List (TAL) metals, including mercury, following EPA CLP Method ISM01.3, volatile organic target compound (VOC) list, semi-volatile target compound list (SVOC), and pesticides/aroclors target compound list by EPA CLP Method SOM01.2.

1.2 SCOPE OF WORK

The removal assessment sampling efforts were focused on residential yards to determine the location and extent of site-related contaminated soil associated with historical operations. The scope of work included the following activities:

- Develop a site-specific Quality Assurance Sampling Plan (QASP).
- Develop a Health and Safety Plan (HASP).
- Obtain access to the subject properties.
- Collect soil samples from a predetermined grid system.
- Review analytical sample data results and compare those analytical results to the EPA Removal Management Levels (RMLs).
- Prepare a removal assessment report.

The site-specific QASP and addendum are included as Appendix A. The site-specific health and safety plan prepared for the project will remain as part of the overall project file until requested by the EPA OSC.

1.3 REPORT FORMAT

This removal assessment report has been organized as follows:

- Section 1 - Introduction
- Section 2 - Background
- Section 3 - Actions Taken
- Section 4 - Sample Analyses and Data Evaluation
- Section 5 - Summary of Analytical Results

Figures referred to in this document are presented as separate PDF files.

2. BACKGROUND

Information regarding the site location and description, operational history, and a summary of previous investigations are included in this section.

2.1 SITE LOCATION AND DESCRIPTION

The Wilcox Oil Company Superfund Site (Site) is an abandoned and demolished oil refinery and associated tank farm located north of Bristow, Creek County, Oklahoma. The geographic coordinates of the Site are approximately 35°50'31" North latitude and 96°23'02" West longitude. A detailed title search in the Creek County Clerk office confirms that the property was used in oil refinery operations from approximately 1915 until November 1963. The former Lorraine refinery, including associated tank farm, operated under numerous companies from approximately 1915 to 1937 when the property was sold to Wilcox Oil and Gas Company. Wilcox Oil and Gas Company purchased refinery operations on the remaining acres east of the railroad tracks and operated as a crude oil refinery from the 1920s until the property was sold on 1 November 1963. The site encompasses approximately 140 to 150 acres. A Site Area Map is provided as Figure 2-1.

The site is flanked by Route 66 to the west; a residential area and Turner Turnpike to the northwest and north; Sand Creek to the southwest; and residential, agricultural, and wooded areas to the east and south. The topography in the vicinity of the site slopes to the south. Surface water runoff would follow the topography in the vicinity of the site. There are several fresh-water ponds on the site, and some local residents indicated that, historically, fishing has occurred. Two intermittent streams drain the eastern and western portions of the site. These streams flow south into Sand Creek.

The former Wilcox Process Area is fenced while residential and agricultural properties on the site are partially fenced with barbed wire. There was no fencing around the former Lorraine Process area; however, as part of this removal assessment, a chain-link fence was installed around the property.

The Site can be divided into five major former operational areas: the Wilcox refinery, the Lorraine refinery, the north tank farm, the east tank farm, and the loading dock area.

- The former Wilcox refinery area is fenced and covers approximately 26 acres. Most of the equipment and storage tanks that remained on-site in 1963 were auctioned and have been salvaged for scrap iron by private land owners, and what remains are in ruins. Four aboveground storage tanks (ASTs) (12,500 gallons each) remain standing, in addition to a number of buildings, discarded drums and pieces of scrap iron and piping. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature. A building in the northern part of the former refinery has been converted to a residence. An intermittent creek flows southward across the eastern portion of the refinery area through a small pond in the southeast corner of the refinery area and into Sand Creek.

- The former Lorraine refinery area covers approximately 8 acres and includes the southwestern portion of the Site, south of Refinery Road and west of the railroad. No refinery structures remain in the processing area. The First Assembly of God Church, a playground, and one residence are located here. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature.

- The East tank farm was a large crude oil storage area/tank farm covering approximately 80 acres and contains pits, ponds, and a number of circular berms that surrounded tank locations. All of the tanks have been cut down and removed; however, remnants of the tank locations remain and are visible. Many of the berms surrounding the pits, ponds, and former tanks have been cut or leveled. An intermittent creek is located in the eastern portion of the tank farm and flows south to Sand Creek. A pumping or gas compressor station exists in the north-central portion of the Site, and an active pipeline crosses from northwest to southeast across the middle of the Site. There are four residences located on top of or directly next to former tank locations. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature. Waste was also observed in several drainage channels that empty into Sand Creek.

- The North tank farm was a crude and fuel oil storage area consisting of approximately 20 acres. No refinery structures remain in the product storage area, and all tanks have been cut down and removed. Remnants of the tank locations are not visible, and historic locations are difficult to pinpoint. One residence is located in this area.

- The loading dock area is approximately 7 acres and was used for loading and unloading product by rail. Just a few refinery structures/supports remain and are generally located parallel to the existing rail lines. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature.

2.2 OPERATIONAL HISTORY

A modern skimming and cracking plant was constructed in 1929. The upgraded facility had an operating capacity of 4,000 barrels of crude oil per day. The main components of the system consisted of a skimming plant, cracking unit, and re-distillation battery with a vapor recovery system and continuous treating equipment. The crude oil was brought directly from the field, eliminating storage and handling facilities, but resulting in crude oil with high sediment and water.

Sanborn fire insurance maps can be used to understand historical property usage. The Wilcox Oil and Gas Company and Lorraine Refining Company Sanborn Insurance Maps indicate that the properties contained approximately 80 storage tanks of various sizes, a cooling pond, and approximately 10 buildings housing refinery operations. The maps also indicate that crude oil, fuel oil, gas oil, distillate, kerosene, naptha, and benzene (petroleum ether) were all stored on the property.

After the refinery operations ceased and most of the tanks and buildings were demolished and sold for scrap, the property was sold to private interests. Beginning in 1975 with the construction of the church, private residences were constructed on 6 parcels of land that were part of the former refinery operations. The most recent being constructed in 2003/2004. One former building associated with the refinery was repurposed as a residence. As a result, there is a total of seven residences on the Site, all of which are located on former tank or refinery operations locations. Three of the residences located on the eastern portion of the Site are known to use water from domestic/private wells. The drainage pattern of the Site is primarily toward Sand Creek that serves as the western and southwestern boundaries of the Site. Two intermittent streams and several drainage channels cross the portion of the Site east of the railroad and flow into Sand Creek.

The refinery waste source areas of concern include a backfilled oily waste pond and pit, a breached settling pond, a former pond apparently backfilled with solid refinery waste, and a number of former tank storage areas. The contaminants of concern are metals and organic compounds (Total Petroleum Hydrocarbons (TPH) and Polycyclic Aromatic Hydrocarbons

[PAHs]). These potential contaminants of concern are found in soil, sediment, and waste material.

2.3 SUMMARY OF PREVIOUS INVESTIGATIONS

Multiple investigations have been performed on the Site since 1994. These documents were used to summarize the Site background and operational history described above.

- Preliminary Assessment (PA) was performed at the former Wilcox Refinery Site by the Oklahoma Department of Environmental Quality (ODEQ) in December 1994.
- Expand Site Inspection (ESI) was performed at the former Wilcox Refinery Site for the Environmental Protection Agency (EPA) in March 1997.
- Site Assessment (SA) was performed at the former Wilcox Refinery Site by EPA in March 1999.
- PA was performed at the former Lorraine Refinery Site by ODEQ in September 2008.
- Site Inspection (SI) was performed at the former Lorraine Refinery Site by ODEQ in August 2009.
- ESI was performed at the former Lorraine Refinery Site by ODEQ in September 2010.
- ESI was performed at the former Wilcox Refinery Site by ODEQ in September 2011.
- Hazard Ranking System Package was completed in May 2013.

In 2014, the EPA Emergency Rapid Response Services (ERRS) contractor capped and locked an abandoned drinking water well located near the former location of the First Assembly of God Church to the west of the site. ERRS also installed a fence with signage around an oily sludge pit located on a residential property developed within the historical refinery boundary (Property 001).

3. ACTIONS TAKEN

The EPA team conducted removal assessment activities in two phases in general accordance with the EPA team's site-specific QASP and HASP prepared as part of the TDD requirements. Phase 1 was conducted 08 - 11 December 2014, and Phase 2 was conducted 18 May 2015 through 12 June 2015. The field sampling strategy focused on collecting soil samples from residential properties that have been built on or in close proximity to the former Wilcox Site. A Site Overview Map is included as Figure 3-1. Soil sampling, sample collection methods used, field quality assurance/quality control sampling, and investigation-derived waste management are described in the following text.

EPA Guidance Documents and WESTON Standard Operating Procedures (SOPs), including sample collection techniques, were utilized during field assessment activities. Field logbook notes are included in Appendix B. Digital photographs of site-related activities are presented in Appendix C.

Prior to initiation of field work, the Oklahoma One-Call System was contacted, as well as local municipalities (e.g., power, phone, gas, cable, water, sewer, etc.) 48 hours prior to the sampling event to locate underground utilities.

3.1 SOIL SAMPLING

Prior to initiating the sampling activities in Phase 1, EPA gained access to one targeted residential property (Property 001) within the former Wilcox Site boundary. As part of the assessment activities, the EPA team collected 187 soil samples (including duplicate QA/QC samples) from a total of 57 grids. Grids varied in size based on potential exposure to the soil (areas with high potential utilized smaller grids, areas with less exposure utilized larger grids). Grids immediately surrounding the house, driveway, and garage were as small as 25 feet by 25 feet. Grids with less exposure ranged in size from 50 feet by 50 feet to as large as 100 feet by 100 feet. Grid locations were established using Global Positioning System (GPS) technology to obtain horizontal control of the sample locations. Two samples were also taken at the request of the EPA OSC from soil on the bank of an on-site pond and soil that was affected with a tar-like substance from an unknown source. Figure 3-2 presents the Sample Location Map for Phase 1.

In each grid, 5-point composite soil samples were collected utilizing a combination of hand-auger and/or direct-push technology. Dedicated acetate liners were used to reduce the possibility of cross-contamination between sample locations. Five separate pushes were conducted within each grid. Samples were collected from three discrete depth intervals: 0 to 3 inches bgs, 3 to 6 inches bgs, and 6 to 12 inches bgs. Samples were composited per depth interval from the five aliquots within each grid and placed in dedicated plastic bags, homogenized, and transferred to clean, unused sample containers. Two grab samples were collected from the surface (0-3 inches) from a suspected waste pit located on the property.

Following sample collection, each sample container was labeled and placed in a shipping container (e.g., cooler) with ice while on-site. At the end of each day, each sample shipping container was repacked with ice and sufficient packing material (e.g., bubble wrap) to prevent movement of the cooler and breakage during shipment.

Prior to initiating Phase 2, EPA gained access to 9 residential properties. Phase 2 work was conducted in two sampling events due to heavy rain in the area. The first event was conducted 18 May to 22 May 2015, and the second sampling event was conducted 01 June to 04 June 2015. After completing the Phase 2 field work, a subset of samples was collected for metals analysis. The subset of samples was sieved to remove foreign objects from the samples. These samples were allowed to dry for 4 days prior to sieving due to the high-moisture content. The sieved samples were collected from 08 June to 12 June 2015. The EPA team collected a total of 240 soil samples (including duplicate QA/QC samples) from a total of 52 grids from 9 properties on and around the Wilcox Site (5 properties located on the site and 4 properties located adjacent to the site). A grid system was established based on potential exposure to the soils in the immediate vicinity of the residential properties or any other structures of high use (i.e., garages/sheds). Each grid was approximately 100 feet by 100 feet. Grid locations were established using Global Positioning System (GPS) technology to obtain horizontal control of the sample locations. At the direction of the EPA OSC, select locations were pushed to deeper depths to visually investigate the presence of potential refinery waste. The Sample Location Map for Phase 2 is present as Figure 3-3.

In each grid, composite soil samples were collected utilizing a direct-push technology. Dedicated acetate liners were used to reduce the possibility of cross-contamination between sample locations. Five separate pushes were conducted within each grid. Samples were collected from four discrete depth intervals: 0 to 2 inches bgs, 2 to 6 inches bgs, 6 to 12 inches bgs, and 12 to 24 inches bgs. Samples were composited per interval from the five aliquots within each grid and placed in dedicated plastic bags, homogenized, and transferred to clean, unused sample containers. VOC samples were collected from one of the aliquots prior to compositing and homogenization to minimize volatilization loss caused by the homogenization. Following sample collection, each sample container was labeled and tagged according to the EPA CLP procedures and placed in a shipping container (e.g., cooler) with ice while on-site. At the end of each day, each sample shipping container was repacked with ice and sufficient packing material (e.g., bubble wrap) to prevent cooler movement and breakage during shipment.

The shipping containers for both phases were sealed and shipped via overnight delivery service to the participating EPA CLP laboratories. SCRIBE software was utilized to generate chain-of-custody forms, label information, and to manage and track sample information.

Based on historical site operations and historical aerial photographs, selected grids were investigated below 24 inches bgs. These grids were identified on Properties 002, 006, 008, and 011. The center point of each grid was advanced to a maximum depth of 8 feet bgs or refusal (i.e., bedrock). Visual observations were noted (see property-specific maps referenced in Section 5). No analytical samples were collected from these at-depth soil investigation borings.

3.2 FIELD QUALITY ASSURANCE/QUALITY CONTROL SAMPLES

The EPA team collected blind field duplicates and equipment rinsate and field blanks during the field activities as follows:

- A total of 15 blind field duplicate samples were collected during the Phase 1 soil sampling activity. During the Phase 2 activities, 21 blind field duplicate samples were collected. Duplicates were collected as splits of the normal samples. Analysis of the duplicates provides quality assurance of sampling procedures and laboratory analytical data by evaluating reproducibility of results.
- A total of 6 equipment rinsate samples were taken during Phase 2 sampling activities. This was accomplished by pouring laboratory-grade deionized water over

decontaminated equipment (e.g., core barrels and or slab bar tube) and collecting the rinse water in appropriate sample containers. Equipment rinsate blanks were collected to provide information regarding the adequacy of the equipment decontamination procedures.

- A total of 5 field blank samples were taken during Phase 2 sampling activities. This was accomplished by pouring laboratory-grade deionized water in appropriate sample containers while standing on-site. Field blanks were collected to evaluate the potential contamination of a sample by contaminants from a source not associated with the sample.
- One trip blank sample was collected during the Phase 1 sampling activity. A total of 11 trip blank samples were collected during Phase 2 sampling activities. Trip blanks are pre-prepared by the laboratory by pouring laboratory-grade deionized water in appropriate sample containers. These samples are placed in coolers that contain VOC samples and are used to ensure that no cross contamination between samples occurred during transportation.

Other quality assurance (QA) samples included temperature blanks placed in each cooler to evaluate the temperature of samples upon arrival at the participating EPA CLP laboratories.

3.3 INVESTIGATION-DERIVED WASTE MANAGEMENT

To reduce decontamination activities, dedicated sampling equipment was used whenever possible. This equipment and the other investigation-derived waste (IDW) produced during the field activities were managed on-site as part of the removal assessment activities. Acetate liners used during the sampling activities were placed in drum liners and disposed.

3.4 FENCE INSTALLATION

The former Lorraine Process Area is located on the western boundary of the site. Based on historical site investigations, a potential exposure to waste material was identified. As a result, the EPA Region 6 ERRS contractor was mobilized to the site to install fencing around the area to restrict access and minimize potential exposure. Additional fencing was installed at Property 001 based on Phase I soil sampling results. Grid 050 was identified as having potential waste material, and fencing was installed around the associated grid to minimize exposure to the soil.

4. SAMPLE ANALYSES AND DATA EVALUATION

In Phase 1, Spectrum Analytical Inc. conducted sample analyses and data validation was performed by the EPA team. In Phase 2, sample analysis was conducted by both the EPA Region 6 Laboratory and the EPA-designated CLP Laboratory (ALS Environmental). The data review/data validation was performed by the EPA Region 6 Environmental Services Assistance Team (ESAT). These tasks were conducted in accordance with EPA CLP guidelines, WESTON's Quality Assurance Program, and the WESTON site-specific QASP.

As part of the overall removal assessment effort, a total of 427 soil samples (including duplicate QA/QC samples) were collected for laboratory analysis. A standard data management system that includes using bound field logbooks, site photographs, sample management and tracking procedures, document control, and inventory procedures for the laboratory data was utilized. SCRIBE software was utilized to create chain-of-custody forms and labels including managing and tracking sample information for samples submitted to the EPA Region 6 Laboratory and EPA-designated CLP laboratory.

Information regarding laboratory analyses, data validation, and data reporting tasks are discussed in the following subsections.

4.1 LABORATORY ANALYSES, DATA VALIDATION, AND DATA REPORTING

The laboratories reported the analytical results in data packages meeting EPA CLP requirements. The laboratory documentation in these data packages includes records of instrument readings, calculations, calibrations, and quality assurance checks.

To meet the sample capacity requirements of the Technical Direction Document (TDD) for Phase 1, the EPA team shipped 187 soil samples (including duplicate QA/QC samples) to Spectrum Analytical, Inc., in Tampa, Florida. Phase 2 samples were divided between the Region 6 Laboratory in Houston, Texas and the EPA CLP-designated laboratory (ALS Laboratory in Salt Lake City, Utah) for analysis.

Appendix D includes the analytical data packages including data validation comments submitted by each laboratory assigned to the project by EPA.

4.2 DATA VALIDATION

The EPA Region 6 ESAT data review team conducted a review of the CLP data packages. Samples analyzed by the EPA Region 6 laboratory underwent a full data review by the EPA Region analytical team. Data validation was conducted in accordance with the EPA Contract Laboratory Program *National Functional Guidelines for Superfund Organic Methods* Data Review June 2008 and *Inorganic Superfund Data Review* January 2010.

The data packages were reviewed to verify that they met the EPA technical requirements and Quality Assurance (QA) guidelines established for the respective analytical methods. The following list includes the items evaluated for each laboratory sample delivery group (as applicable):

- The chain-of-custody was reviewed to verify the sample IDs and the analyses requested.
- The sample receipt temperature was reviewed to verify that the cooler temperature was within acceptable range.
- Holding times were reviewed to verify the samples were extracted and analyzed within the required holding time.
- Laboratory blanks were reviewed to determine whether laboratory contamination was present.
- Matrix spike/matrix spike duplicate samples were reviewed to determine whether matrix interference was present and to determine if laboratory precision was within the acceptable range.
- Laboratory control samples and/or laboratory control sample duplicates were reviewed to verify the accuracy of the method.
- Surrogate recoveries were reviewed to verify that the recoveries were within the acceptable range.
- Initial calibrations were reviewed to confirm conformance to method acceptance criteria for percent recovery and/or correlation coefficient.
- Continuing calibrations were reviewed to confirm that calibration verification was performed before sample analysis and at the method-specified frequency. The calibration verification percent recoveries were reviewed and compared to acceptance criteria.
- Internal standards were reviewed to verify that the recoveries were within the acceptable range.
- Equipment rinsate blanks were reviewed to verify adequate field decontamination procedures.

- Field duplicates were reviewed to verify that field precision was within the acceptable range.
- Reporting limits were reviewed to confirm that they were adjusted to reflect dilution factors and percent solids, if applicable.
- Sample results were reviewed to confirm that the detected concentration was within the instrument calibration range. If the concentration exceeded the instrument calibration range, the data was reviewed to determine if the sample was re-analyzed at a secondary dilution.
- Calculations were performed for sample results from each analytical package to confirm the final result reported by the laboratory. These calculations consider the result produced by the analytical instrument, sample volume, sample weight, calibration correlations, dilution factor, and percent solids, if applicable.

In summary, the ESAT data validation team indicated that the data are of acceptable overall quality for their intended use in meeting the objectives of the removal assessment.

5. SUMMARY OF ANALYTICAL RESULTS

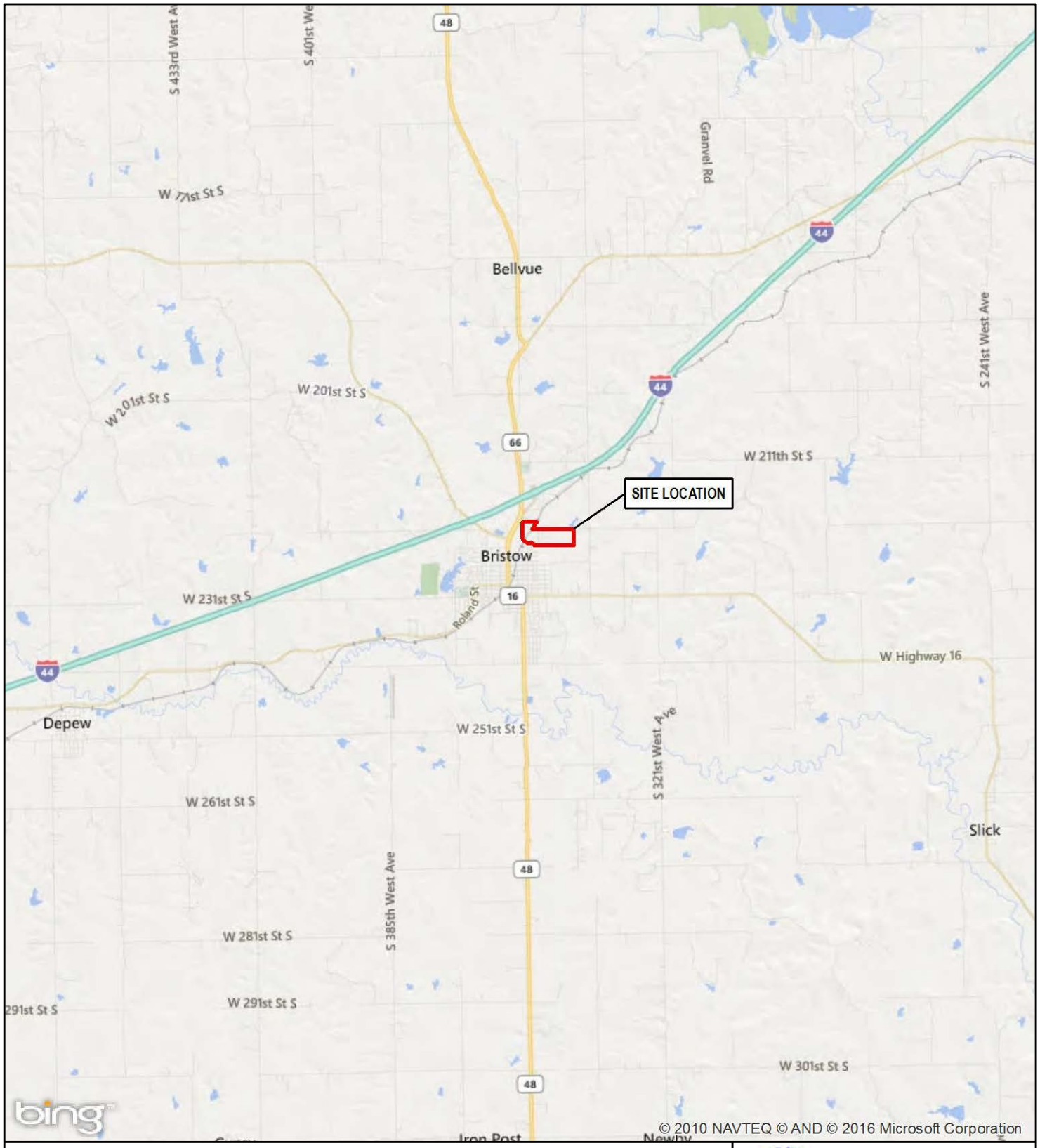
The EPA team conducted Phase 1 removal assessment activities from 08 December to 11 December 2014 in general accordance with the EPA team's site-specific QASP and HASP prepared as part of the TDD requirements. A total of 187 soil samples (including duplicate QA/QC samples) were collected and submitted for analyses. The two pit samples were analyzed for TAL metals (not including mercury), VOCs, SVOCs, and TPH, while the remaining 185 samples were analyzed for lead.

Phase 2 removal assessment activities were conducted in two sampling events that took place from 18 May to 12 June 2015 in general accordance with the EPA team's site-specific QASP and HASP prepared as part of the TDD requirements. A total of 240 samples (including duplicate QA/QC samples) were submitted to EPA Region 6 Laboratory and EPA-designated CLP laboratory for analyses for TAL metals, including mercury, VOCs, SVOCs, and pesticides/aroclors. The laboratory data results were subsequently validated by the EPA ESAT team. Samples analyzed by the EPA Region 6 Laboratory underwent a through data review by the EPA Region 6 analytical team. Analytical results were compared to EPA Removal Management Levels (RMLs). Soil sample analytical exceedance summary tables are included as Appendix E.

A review of the sample results for Phase 1 presented in Tables 1 and 2 of Appendix E indicates that Lead located in soils of Grid 050 exceed the EPA RML of 400 milligrams per kilogram (mg/kg) in 6-inch (906 mg/kg) and 12-inch (5,850 mg/kg) depth samples. The Pit-02 sample indicates benzo(a)anthracene (18.4 mg/kg) and benzo(a)pyrene (11 mg/kg) in the soil above the respective RMLs of 15 mg/kg and 1.5 mg/kg. A map illustrating these results is presented as Figure 5-1.

A review of the sample results for Phase 2 indicates that Property 008 had soil exceedances in Grid 001 and Grid 004. Grid 001 exceeded the 70 mg/kg RML for cadmium with a result of 80.2 mg/kg in the 0-3-inch sample. Grid 004 exceeded the 1.5 mg/kg RML for benzo(a)pyrene in soil from the 0-3-inch, 6-12-inch, and 12-24-inch samples with results of 1.5 mg/kg, 1.9 mg/kg, and 1.7 mg/kg respectively. Property 019 Grid 002 exceeded the 55,000 mg/kg RML for Iron in the 0-3-inch sample with a result of 72,700 mg/kg. The manganese RML (1,800 mg/kg) was

exceeded in the soil from Property 021, Grid 003, and 12-24-inch sample with a result of 1,880 mg/kg. Grid 005 from Property 021 also exceeded the Cobalt RML (23 mg/kg) in the 0-6-inch sample (61.2 mg/kg). Phase 2 sample results are presented in Table 3 of Appendix E. Based on historical site operations and historical aerial photographs, selected grids were investigated below 24 inches bgs. These grids were identified on Properties 002, 006, 008, and 011. The center point of each grid was advanced to a maximum depth of 8 feet bgs or refusal (i.e., bedrock). Maps illustrating the results, including visual observations of deeper pushes within the evaluation areas, are presented as Figure 5-2 through Figure 5-10.



0 2 4

Miles

LEGEND

Wilcox Oil Boundary

N

US EPA REGION 6

FIGURE 1-1
SITE LOCATION MAP
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
FEBRUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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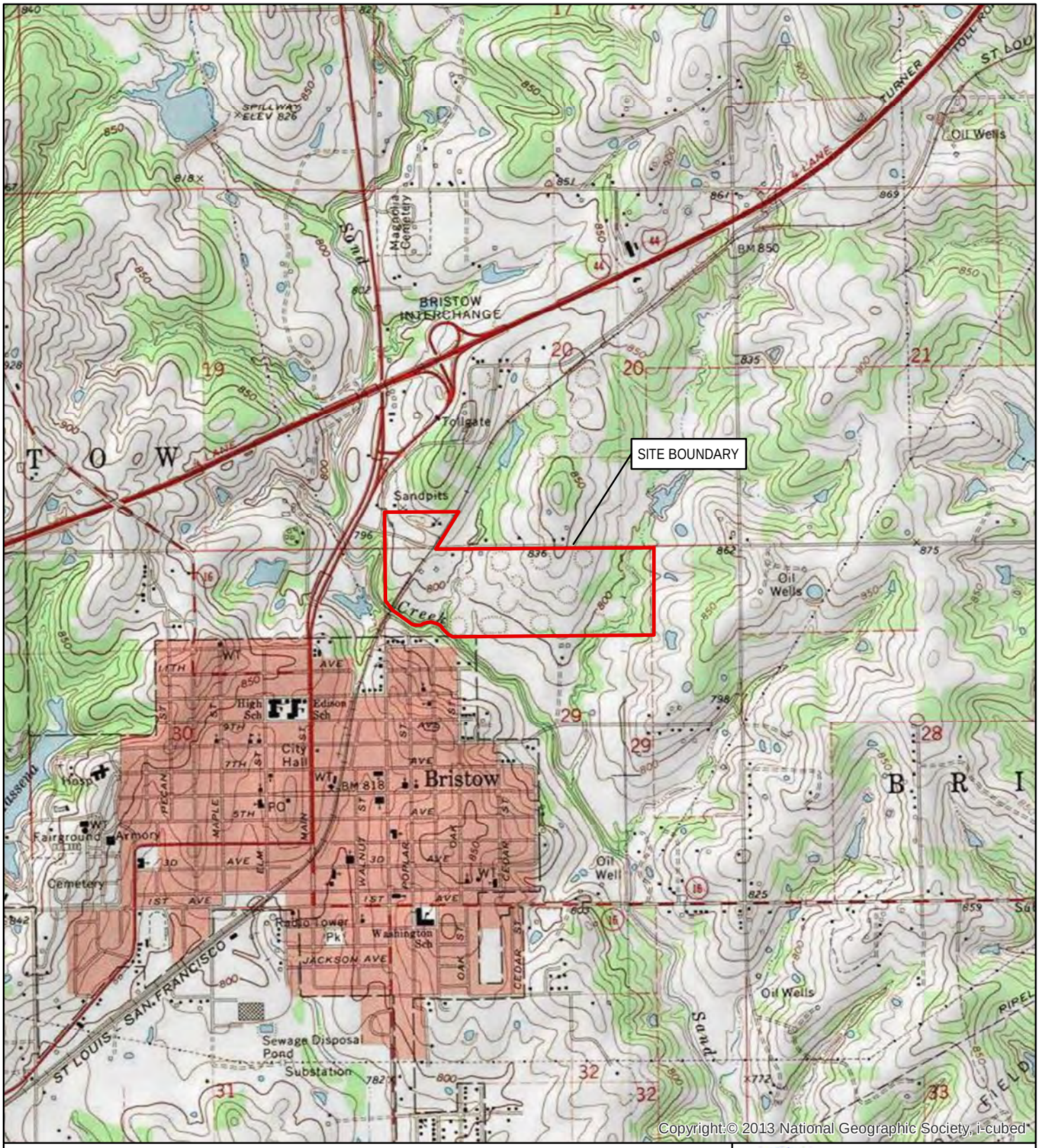

0 2,000 4,000

Feet

LEGEND

Former Wilcox Oil Site Boundary

N

US EPA REGION 6

FIGURE 2-1
SITE AREA MAP
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JAN 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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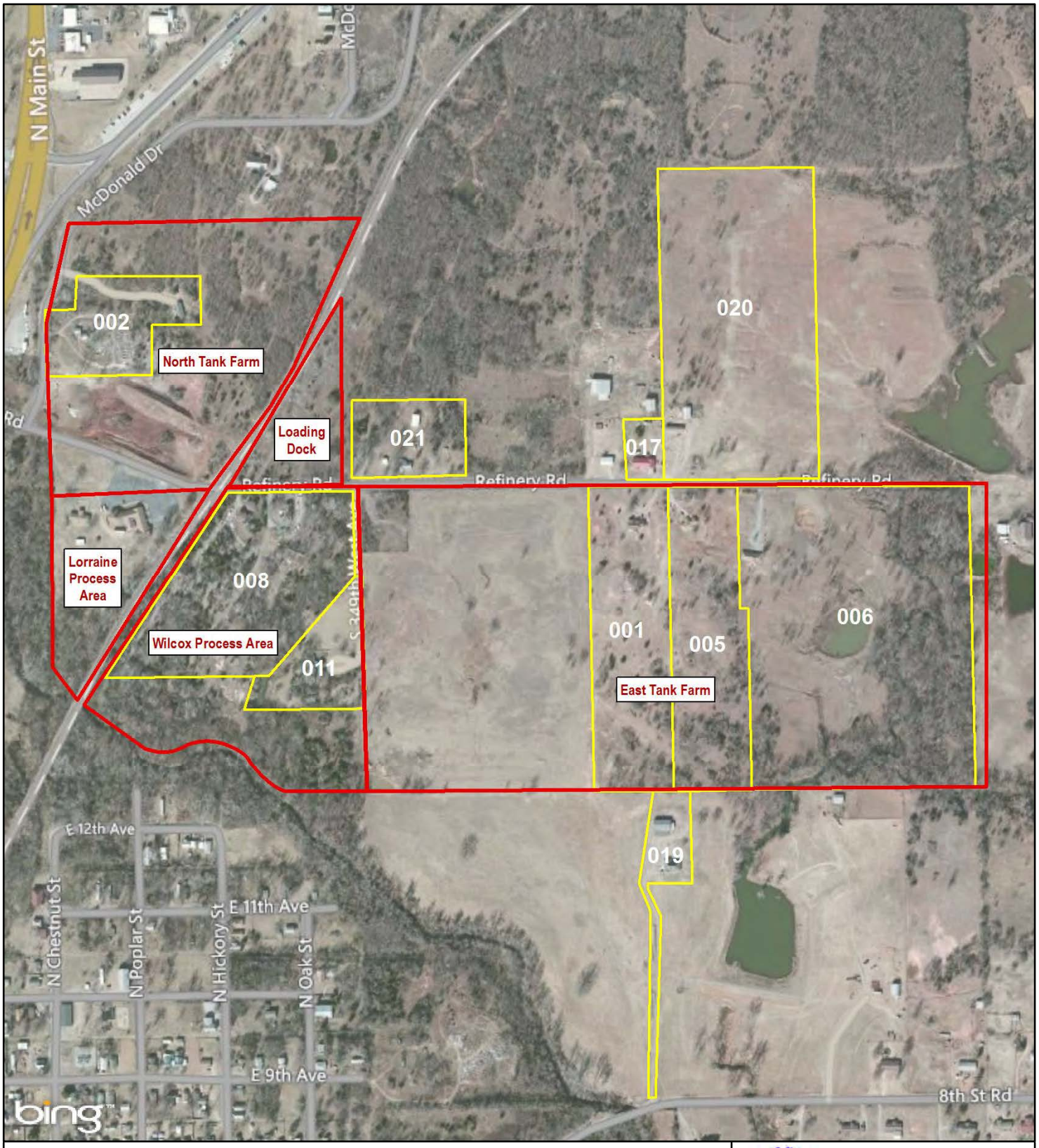

0 575 1,150

Feet

LEGEND

Property Boundaries

Historical Site Areas

N

US EPA REGION 6

FIGURE 3-1
SITE OVERVIEW MAP
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
FEB 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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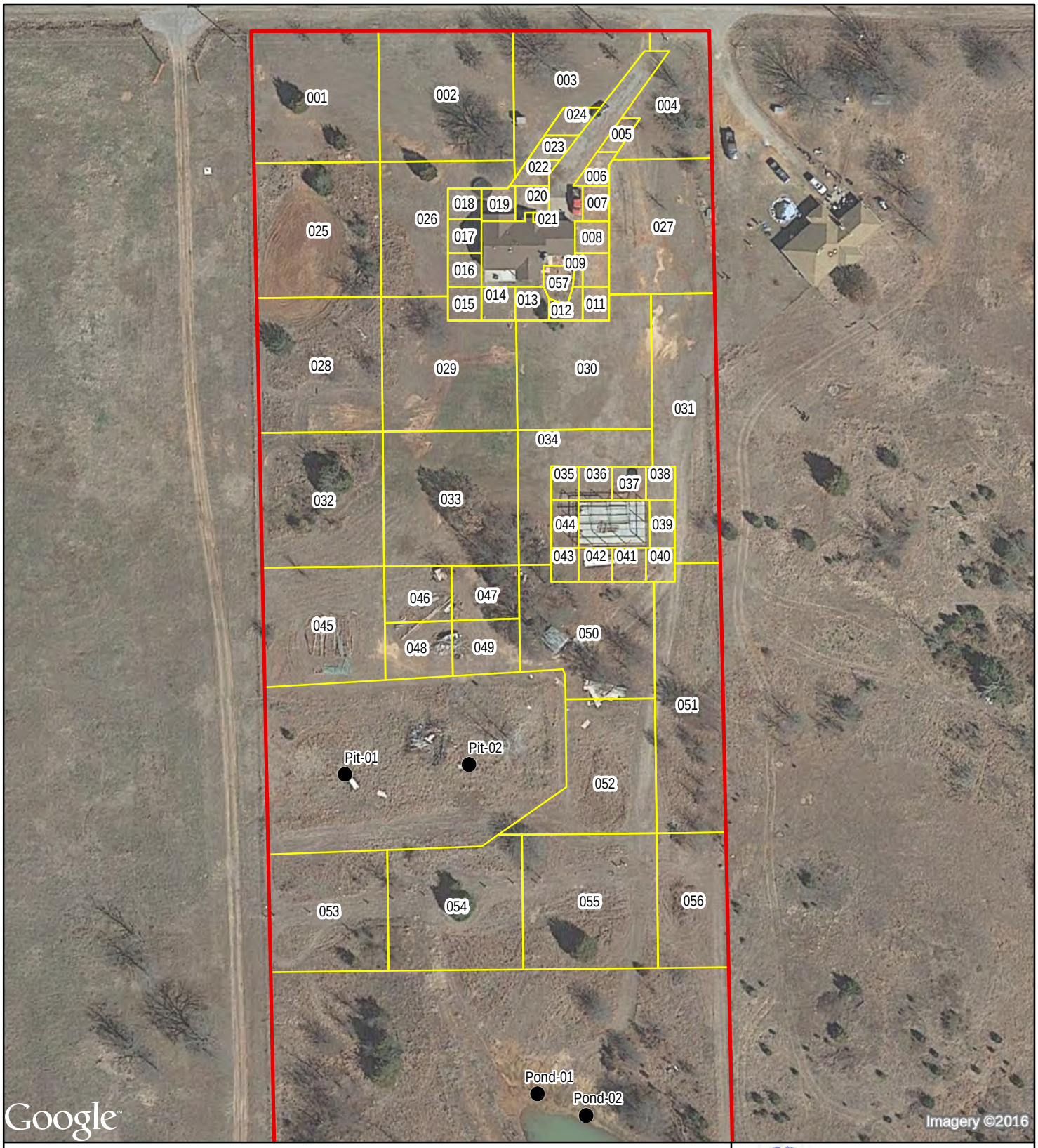

0 100 200

Feet

LEGEND

- Grab Sample Locations
- Property Boundary
- Proposed Sample Grid

N

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: Google Satellite HD

US EPA REGION 6

FIGURE 3-2
PHASE 1 SAMPLE LOCATION MAP
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JAN 2016	20406.012.005.0919.01	AS SHOWN

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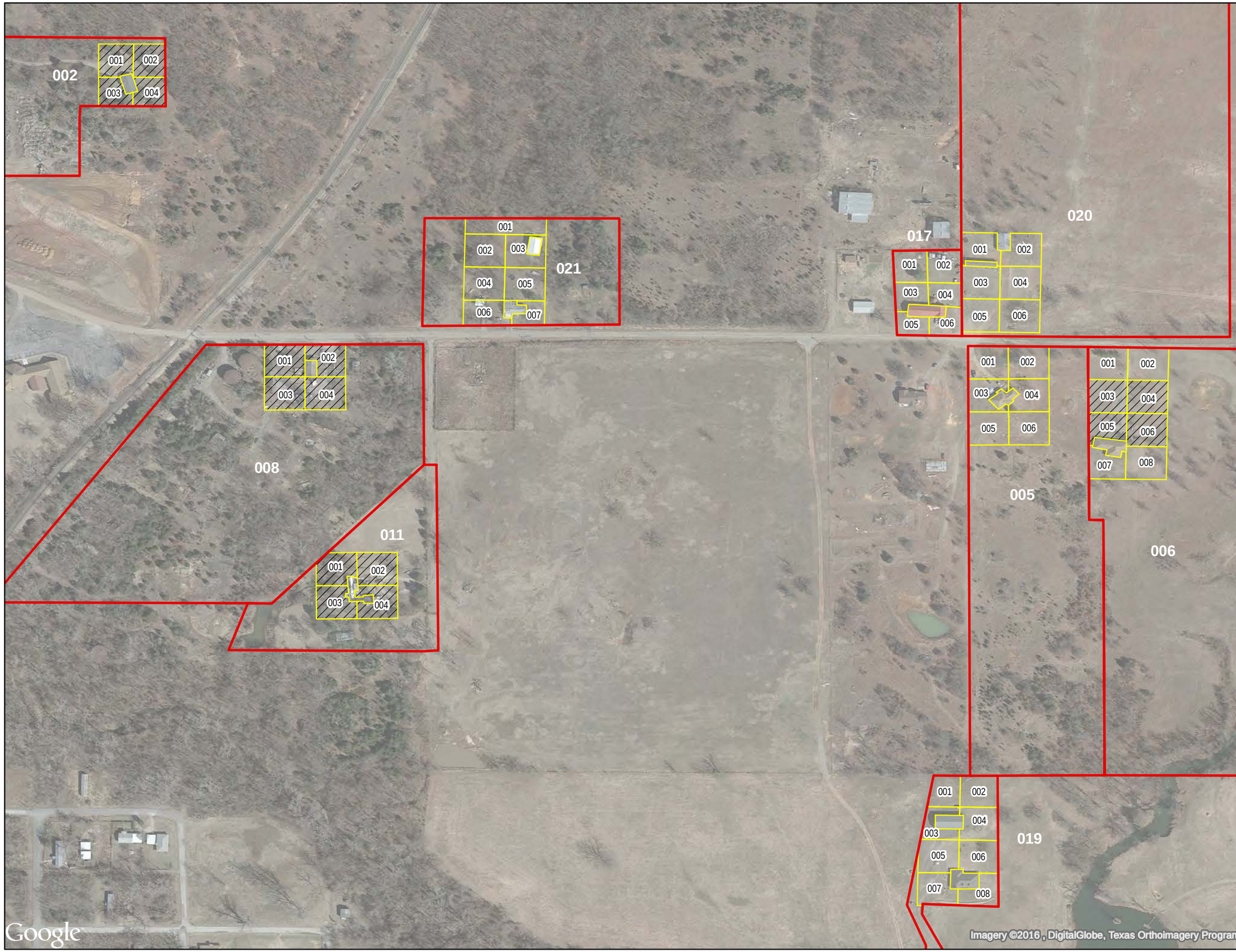


LEGEND

Property Boundary

Proposed Sample Grids

Depth Investigation Grid

Sample Grid

N

0 275 550

Feet

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: Google HD Imagery Service

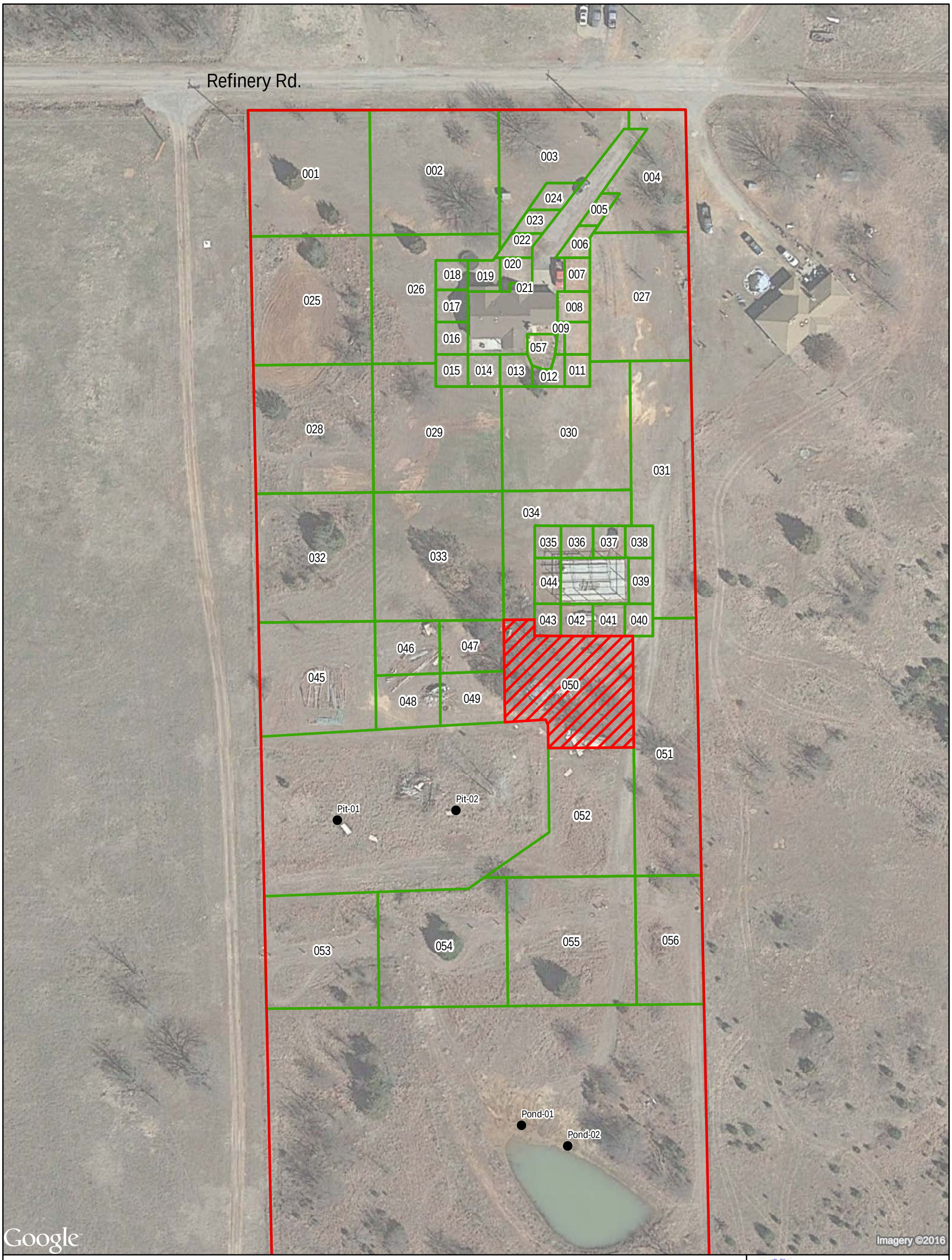
US EPA REGION 6

FIGURE 3-3
PHASE 2 SAMPLE LOCATION MAP
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JAN 2016	20406.012.005.0919.01	AS SHOWN

10:03:07 AM 1/13/2016

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure 3-3 Phase 2 Sample Location Map.mxd 10:03:07 AM 1/13/2016 millerv



LEGEND

- Grab Sample Locations
- Property Boundary

Sample Grid Results

- No Exceedance Reported
- 12" Depth Results Exceeded

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

0 80 160
Feet

N

US EPA REGION 6

FIGURE 5-1
PHASE 1 SAMPLE RESULTS MAP
PROPERTY 001
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JAN 2016	20406.012.005.0919.01	AS SHOWN

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Sample Results Maps\RML Results Maps\Property 001 - Sample Results.mxd 9:45:50 AM 1/13/2016 bondp

LEGEND

Property Boundary

Depth Investigation Grid (n=4)

Sample Grid Results

No Exceedance Reported

0 70 140

Feet

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

US EPA REGION 6

FIGURE 5-2
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 002
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

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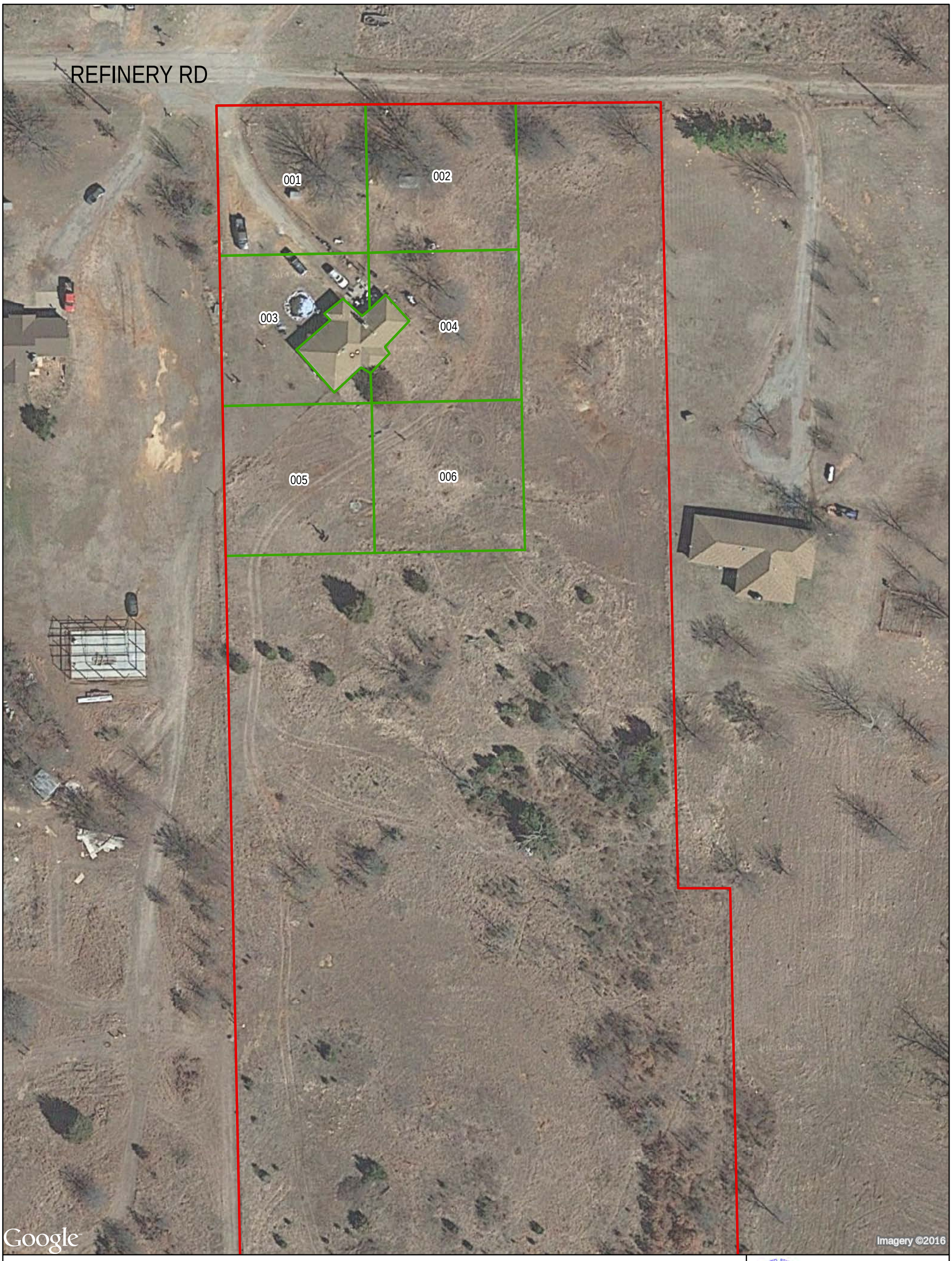

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

0 60 120

Feet

N

US EPA REGION 6

FIGURE 5-3
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 005
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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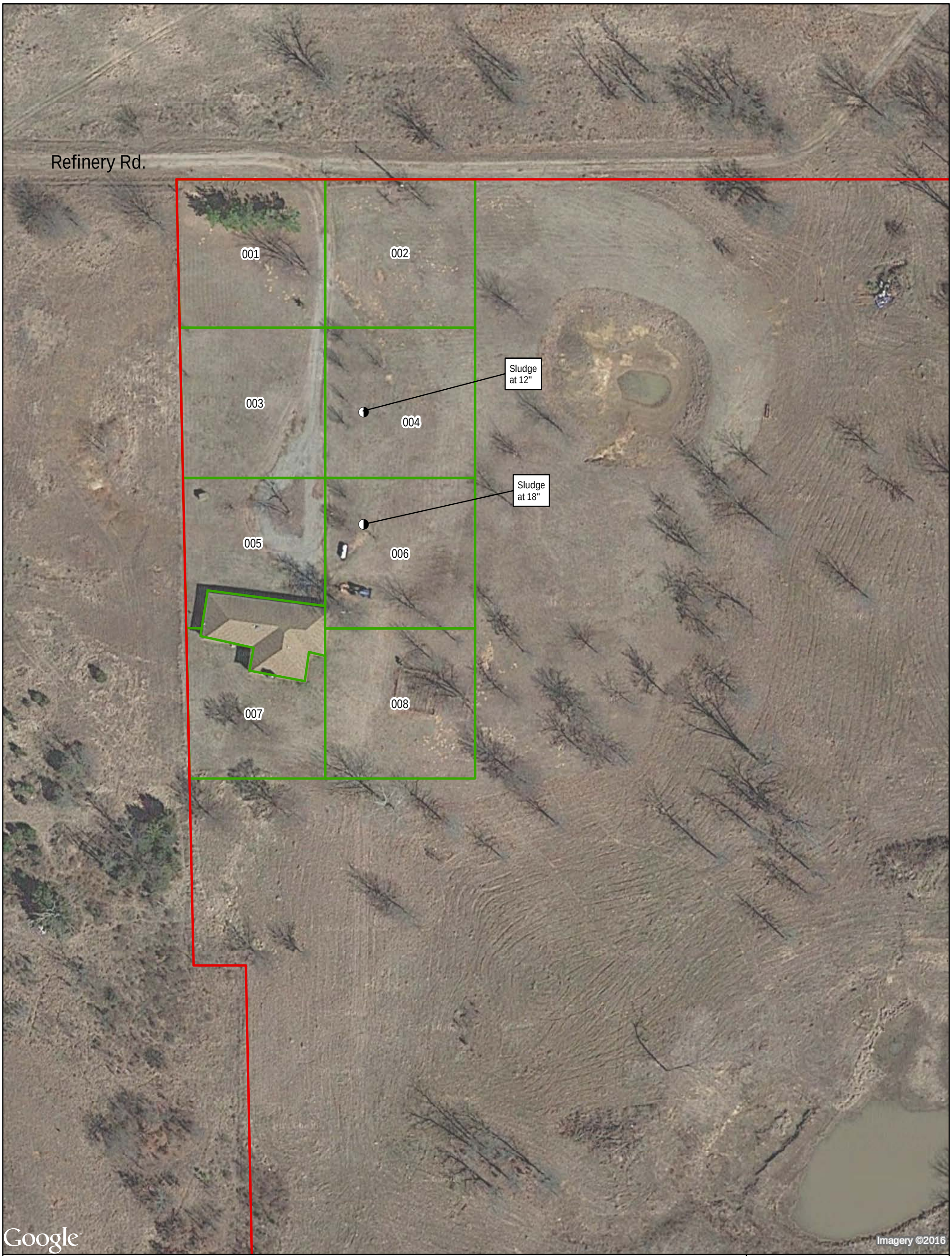

0 60 120
Feet

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

US EPA REGION 6

FIGURE 5-4
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 006
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

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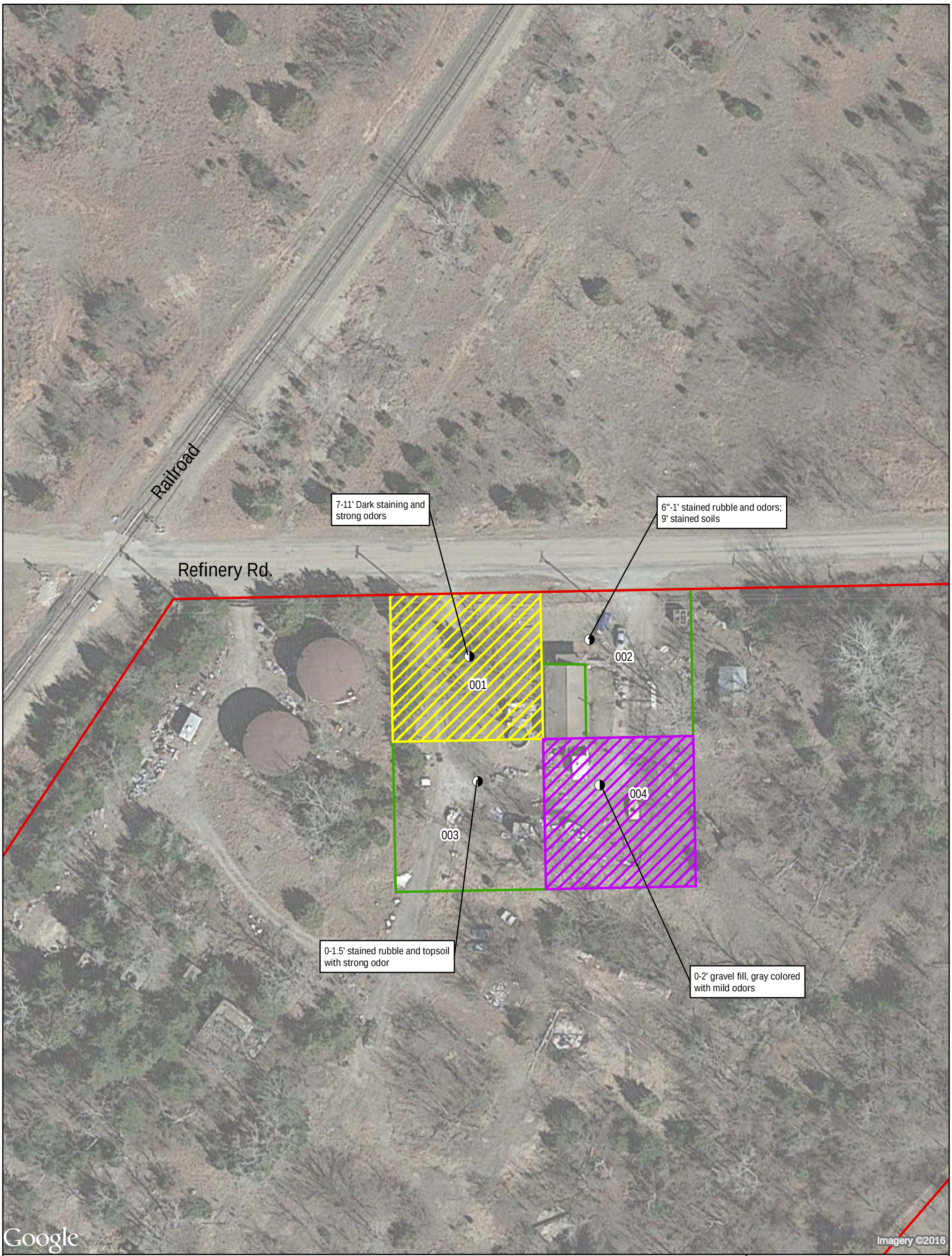

LEGEND

Soil Boring Location

Property Boundary

Sample Grid Results

No Exceedance Reported

00" Depth Results Exceeded

24" Depth Results Exceeded

0 60 120

Feet

Oklahoma

N

US EPA REGION 6

FIGURE 5-5
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 008
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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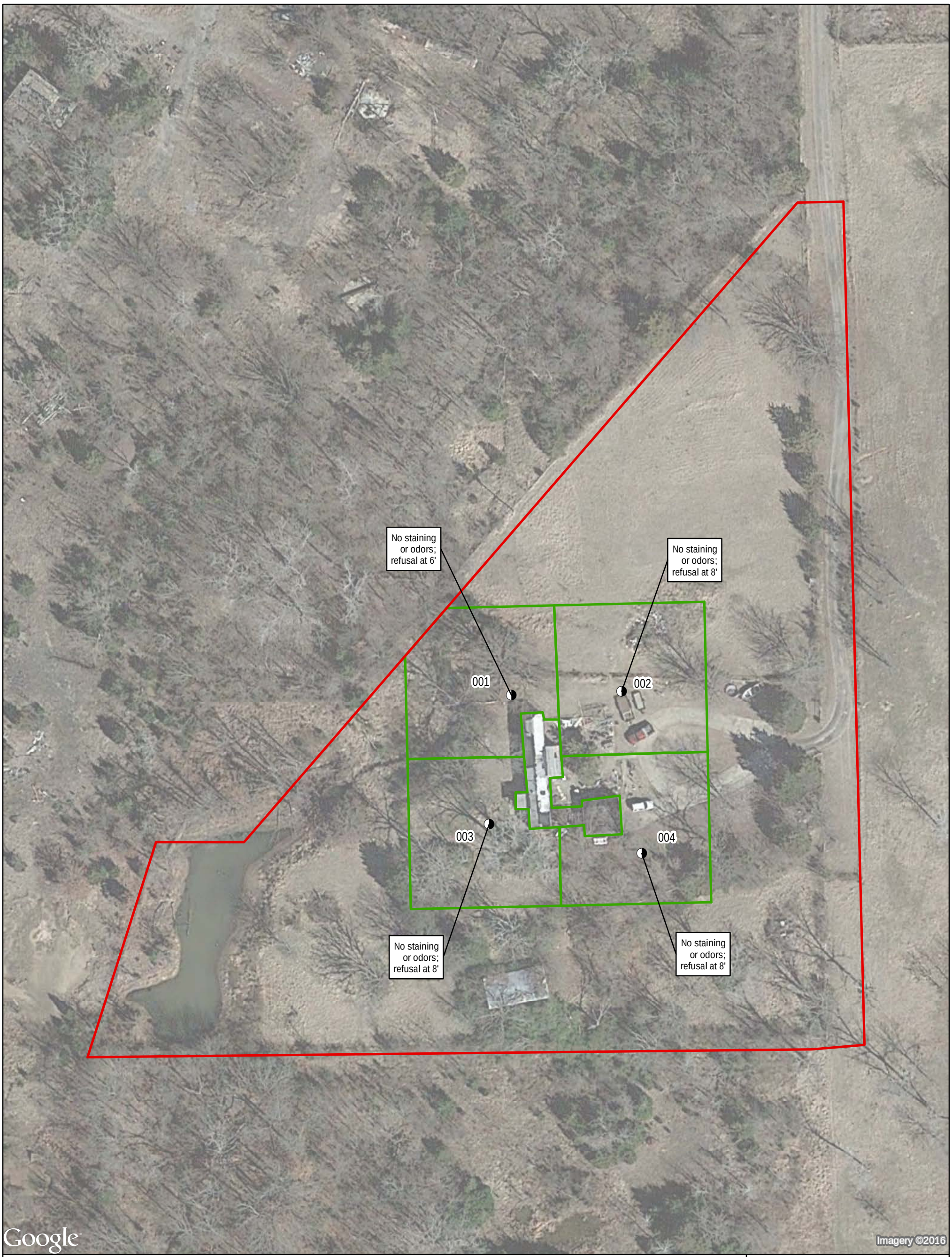

LEGEND

Soil Boring Location

Property Boundary

Sample Grid Results

No Exceedance Reported

0 60 120

Feet

US EPA REGION 6

FIGURE 5-6
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 011
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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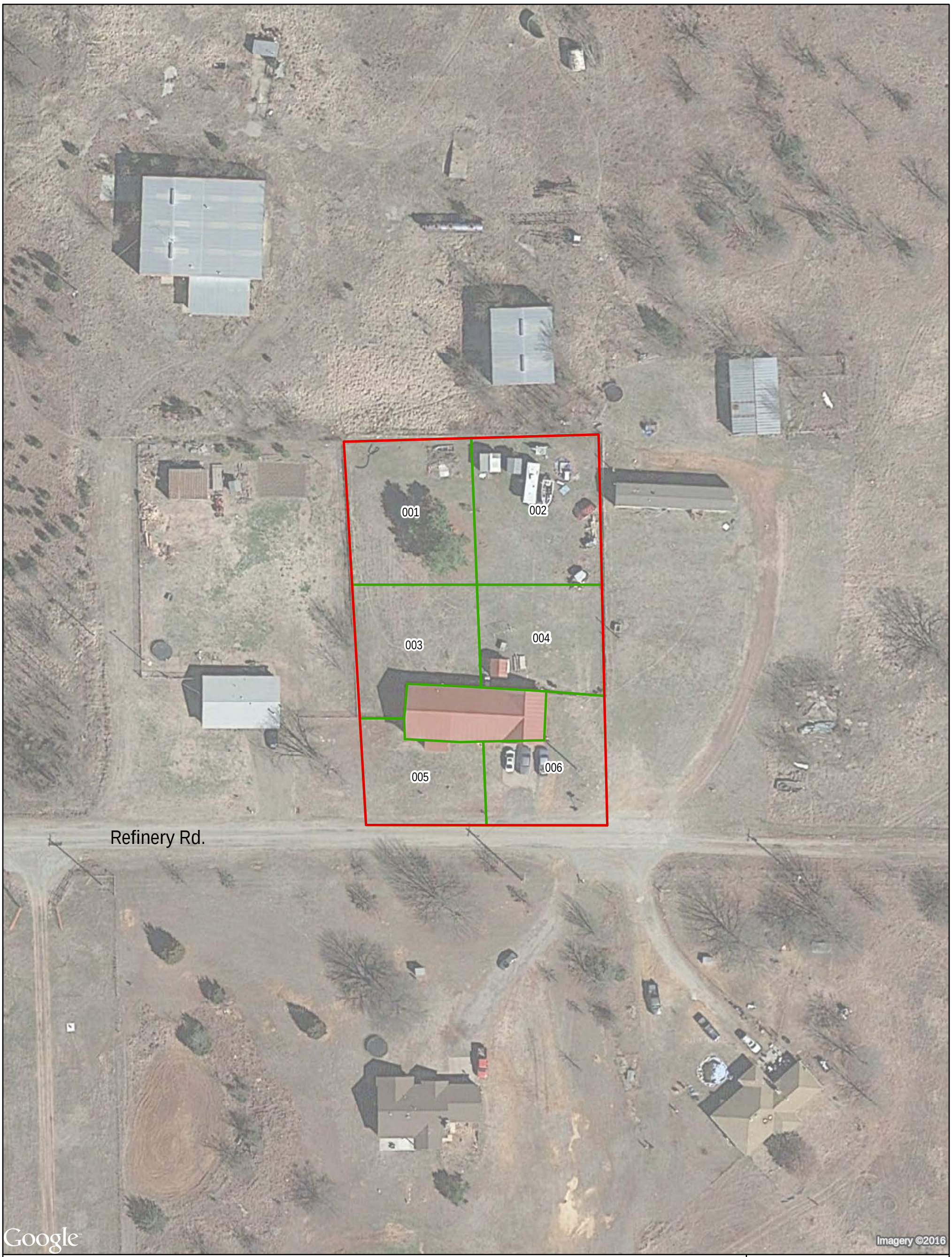

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

0 60 120

Feet

US EPA REGION 6

FIGURE 5-7
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 017
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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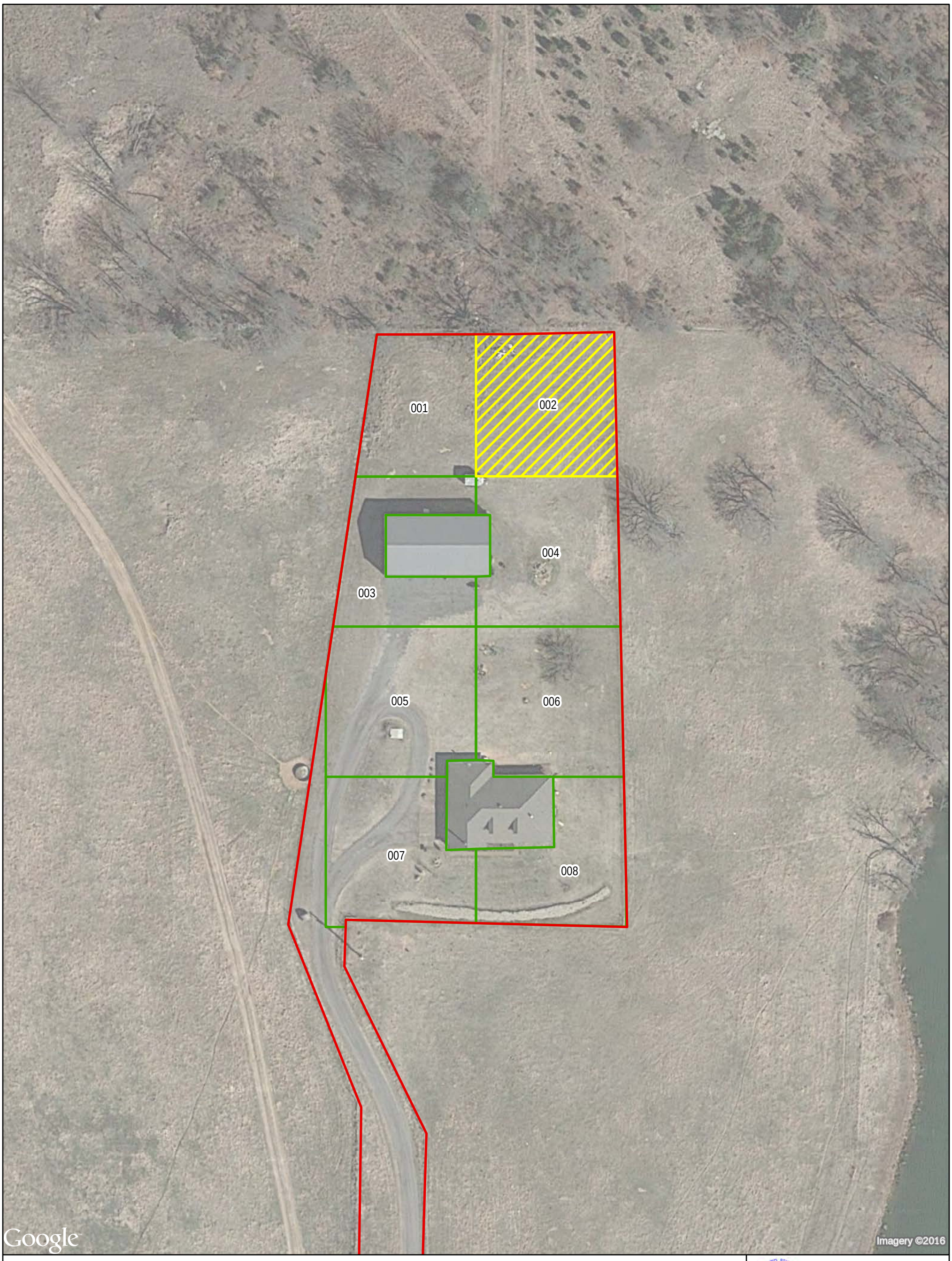

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

00" Depth Results Exceeded

0 60 120

Feet

US EPA REGION 6

FIGURE 5-8
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 019
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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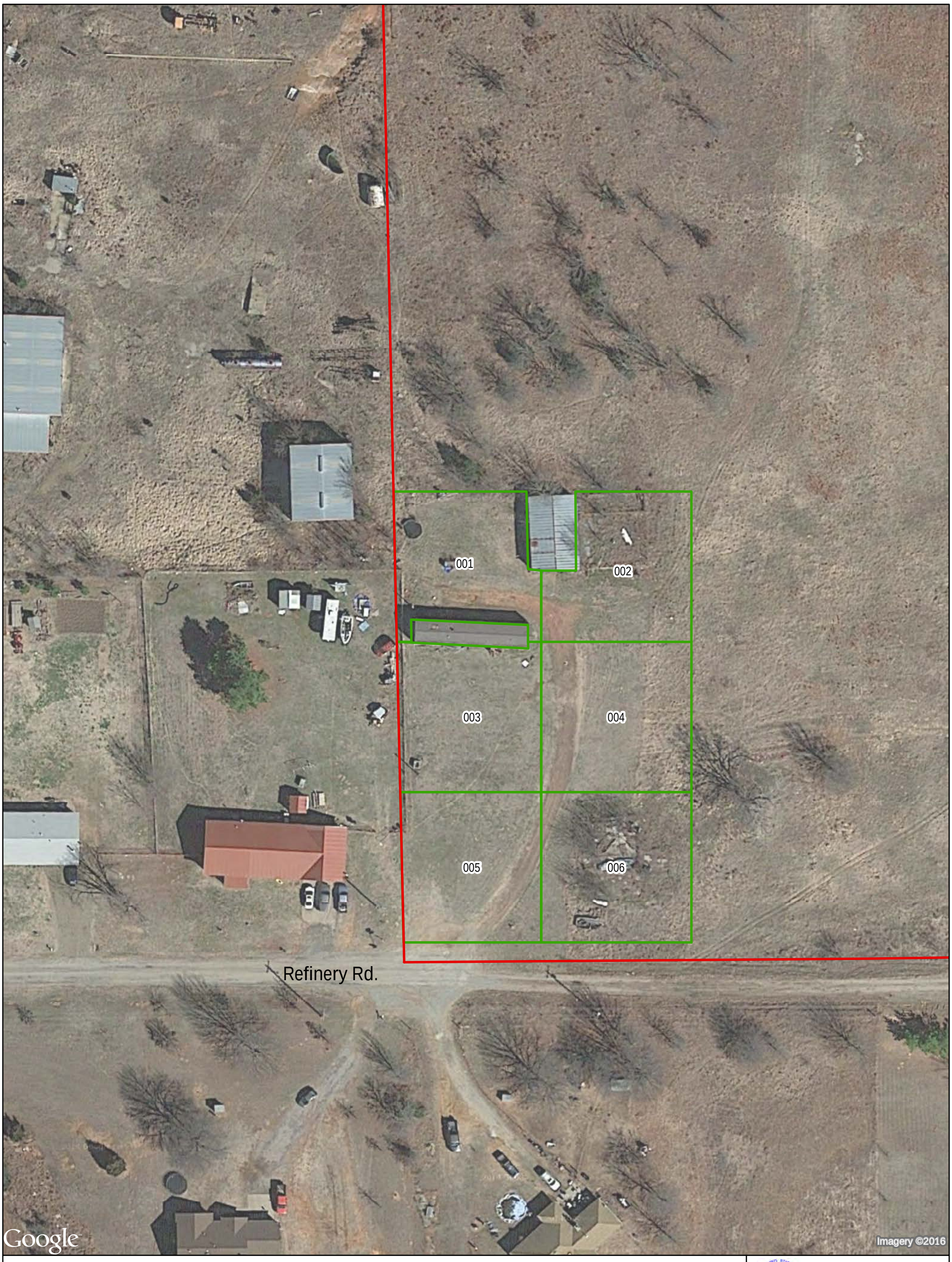

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

0 60 120

Feet

US EPA REGION 6

FIGURE 5-9
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 020
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

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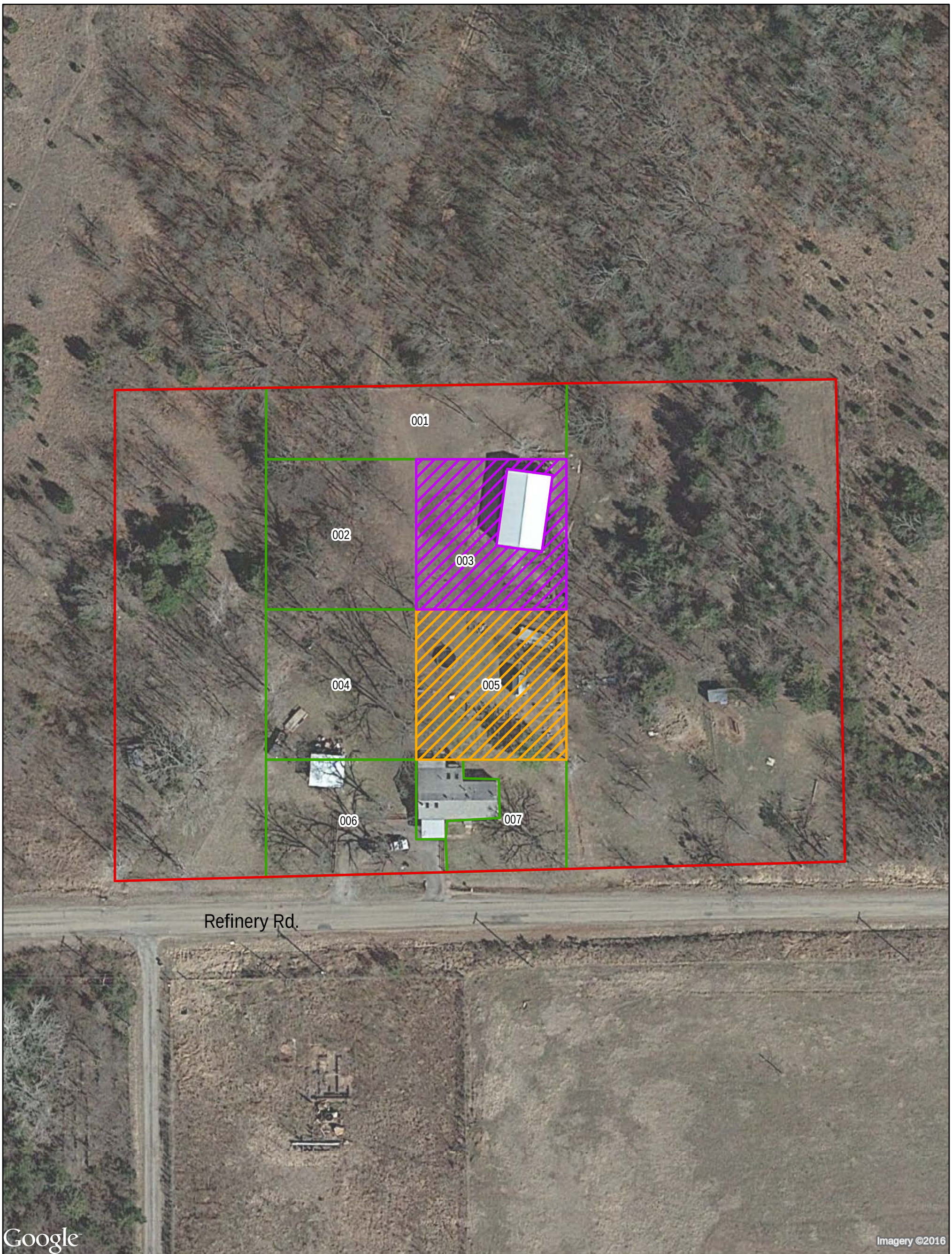

LEGEND

Property Boundary

Sample Grid Results

No Exceedance Reported

06" Depth Results Exceeded

24" Depth Results Exceeded

0 60 120

Feet

N

US EPA REGION 6

FIGURE 5-10
PHASE 2 SAMPLE RESULTS MAP
PROPERTY 021
WILCOX OIL
WEST 221st STREET SOUTH/
REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2016	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004
CERCLIS No. OK0001010917

SOURCE: 2010 Microsoft Corporation and its data suppliers

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APPENDIX A

QUALITY ASSURANCE SAMPLING PLAN (QASP)

REMOVAL ASSESSMENT
QUALITY ASSURANCE SAMPLING PLAN

FOR

WILCOX OIL
WEST 221ST STREET SOUTH / REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

Prepared for

U.S. Environmental Protection Agency Region 6
Will LaBombard, Project Officer
1445 Ross Avenue
Dallas, Texas 75202

Contract No. EP-W-06-042
Technical Direction Document No. 5/WESTON-042-15-004
WESTON Work Order No. 20406.012.005.0919.01
NRC No. N/A
CERCLIS No. OK0001010917
FPN N/A
EPA OSC: Mark Hayes
START-3 PTL: Derrick Cobb

Prepared by

Weston Solutions, Inc.
Cecilia H. Shappee P.E., Program Manager
5599 San Felipe, Suite 700
Houston, Texas 77056
(713) 985-6600

February 2015

TABLE OF CONTENTS

Section **Page**

1. INTRODUCTION 1-1
1.1 PROJECT OBJECTIVES 1-1
1.2 PROJECT TEAM 1-1
1.3 QASP FORMAT 1-2

2. SITE BACKGROUND 2-1
2.1 SITE LOCATION AND DESCRIPTION 2-1
2.2 SITE HISTORY 2-2
2.3 SITE CONCERNS 2-2

3. SAMPLING APPROACH AND PROCEDURES 3-1
3.1 OVERVIEW OF SAMPLING ACTIVITIES 3-1
3.1.1 Data Quality Objective 3-1
3.1.2 Health and Safety Implementation 3-1
3.1.3 Field Activities Review Meeting 3-2
3.1.4 Mobilization and Command Post Establishment 3-2
3.2 SAMPLING/MONITORING APPROACH 3-2
3.2.1 Soil Sampling 3-2
3.2.2 Investigation-Derived Wastes 3-3
3.2.3 Sample Handling Procedures 3-3
3.2.4 Quality Assurance/Quality Control Samples 3-4
3.3 SAMPLE MANAGEMENT 3-4
3.4 DECONTAMINATION 3-5
3.5 SAMPLE PRESERVATION, CONTAINERS, AND HOLD TIMES 3-6

4. ANALYTICAL METHODS AND DATA VALIDATION 4-1

5. QUALITY ASSURANCE 5-1
5.1 SAMPLE CHAIN-OF-CUSTODY PROCEDURES 5-1
5.2 REPORT PREPARATION 5-4

LIST OF APPENDICES

Appendix A Site-Specific Data Quality Objective

Appendix B Standard Operating Procedures

Appendix C TDD No. 5/WESTON-042-15-004

LIST OF FIGURES

Figure 1-1 Site Location Map

Figure 2-1 Site Area Map

Figure 2-2 Site Plan Map

Figure 3-1 Proposed Sample Location Map

LIST OF TABLES

Table 3-1 Requirements for Containers, Preservation Techniques, Sample Volumes, and Holding Times 3-7

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®), the Superfund Technical Assessment and Response Team (START-3) Contractor, has been tasked by the U.S. Environmental Protection Agency (EPA) Region 6 under Contract Number EP-W-06-042, Technical Direction Document (TDD) No. 5/WESTON-042-15-004 (Appendix C) to conduct a removal assessment at the Wilcox Oil Site located in Bristow, Creek County, Oklahoma. Site coordinates are Latitude 35.842144° North and Longitude -96.381456° West. A Site Location Map is provided as Figure 1-1. All figures are provided as separate portable document format (PDF) files. START-3 has prepared this Quality Assurance Sampling Plan (QASP) to describe the technical scope of work to be completed as part of the TDD.

1.1 PROJECT OBJECTIVES

START-3 is providing technical assistance to EPA Region 6 for performance of the removal assessment and to collect the data necessary to assist EPA in determining if the site presents a threat to public health or welfare of the United States or the environment in accordance with 40 Code of Federal Regulations (CFR) 300.415 as well as the extent of such contamination.

The objective of the removal assessment is to investigate the nature and extent of site-related contaminants in the soil associated with the Wilcox Oil Site. This removal assessment will help determine the location and estimated volume of soil that may need to be removed during the removal phase. The objectives of the removal assessment will be achieved by evaluating both historical data and current analytical results obtained during the collection of samples from representative locations. Soil samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPHs) and metals.

1.2 PROJECT TEAM

The Project Team will consist of Jeff Criner, START-3 Site Inspection/Assessment Manager; Derrick Cobb, START-3 Project Team Leader (PTL); and additional START-3 personnel as necessary. The PTL will be responsible for the technical quality of work performed in the field and will serve as the START-3 liaison to EPA Region 6 personnel in the field during the site

activities. The PTL, with the concurrence of EPA, will determine the precise location for sample collection in the field, collect samples as necessary, log the activities at each sample location in the field logbook, and verify the sample documentation. The Data Manager will be responsible for entering all samples collected into SCRIBE; producing accurate chain-of-custody documentation for the samples during the assessment; and entering daily operations and sample collection data into the Regional Response Center-Enterprise Data Management System (RRC-EDMS) Response Manager software. The PTL will oversee packaging and shipping of samples to a contracted laboratory. The START-3 PTL will also be responsible for providing overall site health and safety support during the removal assessment field activities.

1.3 QASP FORMAT

This QASP has been organized in a format that is intended to facilitate and effectively meet the objective of the removal assessment. The QASP is organized as follows:

- Section 1 – Introduction
- Section 2 – Site Background
- Section 3 – Sampling Approach and Procedures
- Section 4 – Analytical Methods and Data Validation
- Section 5 – Quality Assurance

Tables are included at the end of each representative section. Figures are provided as separate PDF files. Appendices are attached with the following information:

- Appendix A – Site-Specific Data Quality Objective
- Appendix B – Standard Operating Procedures
- Appendix C – TDD No. 5/WESTON-042-15-004

2. SITE BACKGROUND

Information regarding the site location, description, and site history is included in the following subsections.

2.1 SITE LOCATION AND DESCRIPTION

The Wilcox Oil Site is located approximately 0.35 miles east of US Highway 66 on Refinery Road, in Bristow, Creek County, Oklahoma. The site encompasses a total of 125 acres, approximately 10 acres of which are being investigated as part of this removal assessment. The geographic coordinates of the site are Latitude 35.842144^{o} North and Longitude -96.381456^{o} West. A Site Area Map is provided as Figure 2-1.

The site is flanked by the Turner Turnpike's tollgate to the west, a residential area and the turnpike to the northwest and north, and a wooded area to the east and south. Site access is not controlled, although the residential properties on the site and the south and eastern boundaries of the site are partially fenced with barbed wire. The remaining structures from the former refinery plant and tank farm include former refinery buildings, concrete pads, old tank foundations, and tank berms.

The topography in the vicinity of the site slopes to the south. Surface water runoff would follow the topography in the vicinity of the site. There are two fresh-water ponds on the site, both are currently or historically have been used for fishing. Intermittent streams drain the source areas and flow to the ponds and nearby Sand Creek.

The site includes remnants of former oil refining operations and tank farms. The site has three major former operations areas: two processing areas with surrounding refined product and a crude oil storage area. An active railroad divides the two former processing areas and product storage areas. Most of the refinery structures and tanks have been removed or are in ruins. The tank farm covers approximately 80 acres and has a number of refinery waste source areas of concern, including a backfilled oily waste pond, a breached settling pond, a backfilled oily waste pit, a former pond apparently backfilled with solid refinery waste, and a number of tank bottoms. A Site Plan Map is provided as Figure 2-2.

The site is currently inactive, and a church and six residential properties are located within the former refinery boundaries. The site is mostly rural with some residential, commercial, and industrial areas. Approximately 19 people live on-site and over 5,000 people live within 2 miles.

2.2 SITE HISTORY

The site includes the inactive and abandoned Lorraine and Wilcox Oil Refineries. The property was utilized from 1915 to 1965 by two different refineries with overlapping boundaries. Wilcox Oil Company operated as a crude oil refinery from the 1920s until 1963. A skimming and cracking plant was constructed in 1929. The main components of the plant consisted of a skimming plant, cracking unit, and re-distillation battery with a vapor recovery system and treatment equipment. Wilcox expanded when it acquired the Lorraine Refinery in 1937, which was located adjacent to Wilcox. The two refineries comprised 125 acres. The site includes remnants of former oil refining operations and tank farms.

Multiple sampling site investigations and sampling events have been conducted at the site. Preliminary Assessments (PA), a Site Investigation (SI) and an Expanded Site Investigation (ESI) have been performed by the Oklahoma Department of Environmental Quality. In 2014, the EPA Emergency Rapid Response Services (ERRS) contractor installed a cap with key access on an abandoned drinking water well located near the former location of the First Assembly of God Church. ERRS also installed a fence with signage around an oily sludge pit located on a residential property.

2.3 SITE CONCERNS

The primary concern at the Wilcox Oil Site is the presence of VOCs, SVOCs, TPHs, and metals, specifically lead. The contamination appears to be resulting from the former tank farm and refining processes. Previous investigations have documented lead concentrations in on-site soil as high as 953 milligrams per kilogram (mg/kg).

3. SAMPLING APPROACH AND PROCEDURES

The specific field investigation activities that will be conducted during the Wilcox Oil Site sampling event are presented in the following subsections. Specifically, sampling procedures, locations, quality assurance (QA), and the analytical approach that will be used during the removal assessment are discussed below. Relevant Standard Operating Procedures (SOPs) for field sampling methods are included as an attachment to this QASP.

3.1 OVERVIEW OF SAMPLING ACTIVITIES

EPA and START-3 developed a sampling strategy intended to collect data necessary to evaluate and meet the objectives of the removal assessment. The data quality objective and an overview of the health and safety and field activities required to complete these tasks are presented in the following subsections.

3.1.1 Data Quality Objective

The objective of soil sampling is to define the extent of site-related contamination present on-site. To accomplish this, a data quality objective (DQO) for determining the extent of site-related contaminated soil has been established and is included in Appendix A. The DQO presented was developed using the seven-step process set out in the *EPA Guidance for Quality Assurance Project Plans: EPA QA/G-5*.

3.1.2 Health and Safety Implementation

The removal assessment field activities will be conducted in accordance with a site-specific Health and Safety Plan (HASP). The HASP specifies that on-site soil sampling will proceed in modified Level D personal protective equipment (PPE) (safety glasses, disposable gloves, and steel-toed boots). The PTL will act as the Field Safety Officer (FSO) and will be responsible for implementation of the HASP during the field investigation activities. The START-3 field team will be required to conduct work according to the guidelines and requirements of the HASP. In accordance with the START-3 general health and safety operating procedures, the field team will also drive the route to the hospital specified in the HASP prior to initiating sampling activities.

3.1.3 Field Activities Review Meeting

The START-3 PTL will conduct a meeting with the entire field team to familiarize them with the project scope of work, discuss the planned field activities and roles and responsibilities, and review the project HASP and other relevant START-3 and EPA operating procedures. This meeting will be conducted prior to any site activities.

3.1.4 Mobilization and Command Post Establishment

The START-3 field team will mobilize the equipment required for the removal assessment from the WESTON Regional Equipment Store (RES) warehouse located in Houston, Texas, as necessary.

3.2 SAMPLING/MONITORING APPROACH

Soil sampling will be conducted in general accordance with the EPA *Compendium of Emergency Response Team (ERT) Soil Sampling and Surface Geophysics Procedures* and WESTON Standard Operating Procedures (SOPs). The specific sampling, decontamination, and sample handling procedures, including disposition of investigation-derived waste (IDW), are described in the following subsections.

3.2.1 Soil Sampling

START-3 will collect approximately 190 soil samples (including quality assurance/quality control samples) from 61 sample locations on the site. The EPA OSC and START-3 developed a sampling strategy to collect data from a representative number of locations throughout the site. Figure 3-1 illustrates the sample locations and property lines in more detail.

The EPA On-Scene Coordinator (OSC) and START-3 identified 61 sample locations throughout the site for sampling. Sample locations were identified based on site history and operations, along with preferred surface water-flow patterns. A detailed description of the proposed sampling approach is presented as follows:

- The area directly surrounding the residential properties will be divided into 25-foot by 25-foot grids (30 grids). Each grid will consist of 5-part composite samples. Composite samples will be collected from 0-6 inches below ground surface (bgs).
- The area of potentially high use will be divided into 50-foot by 50-foot grids (4 grids). Each grid will consist of 5-part composite samples. Composite samples will be collected from 0-6 and 6-12 inches below ground surface (bgs).
- The remaining portions of the property will be divided into 100-foot by 100-foot grids (22 grids). Each grid will consist of 5-part composite samples. Composite samples will be collected from 0-6 and 6-12 inches bgs.

3.2.2 Investigation-Derived Wastes

Any excess soil generated as a result of the collection techniques will be returned to the sample collection location. Any liquids associated with equipment decontamination will be stored on-site for future off-site transport and disposal. PPE will be bagged and left on-site for future off-site transport and disposal. It is anticipated that minimal amounts of investigation-derived waste (IDW) will be generated during this activity.

3.2.3 Sample Handling Procedures

Samples will be collected using equipment and procedures appropriate to the matrix, parameters, and sampling objectives. The volume of the sample collected must be sufficient to perform the analysis requested. Samples must be stored in the proper types of containers and preserved in a manner appropriate for the analysis to be performed (SOP 1001.01, 1001.10).

All clean decontaminated sampling equipment and sample containers will be maintained in a clean, segregated area. Samples will be collected with clean decontaminated equipment (SOP 1201.01). Each sample collected for laboratory analysis will be placed directly into pre-cleaned, unused containers. Sampling personnel will don clean gloves between each sample collection/handling. Samples will be assembled and catalogued prior to shipping (SOPs 1101.01 and 1102.01) to the designated laboratory.

3.2.4 Quality Assurance/Quality Control Samples

START-3 will collect field duplicates of soil samples during the removal assessment sampling activities (SOP 1005.01). Quality assurance/quality control (QA/QC) samples will be collected according to the following:

- Blind field duplicate soil samples will be collected during sampling activities at locations selected by the START-3 PTL. The data obtained from these samples will be used to assist in the quality assurance of the sampling procedures and laboratory analytical data by allowing an evaluation of reproducibility of results. Efforts will be made to collect duplicate samples in locations where there is visual evidence of contamination or where contamination is suspected. Blind field duplicate samples will be collected at the rate of 1 duplicate for every 10 samples collected.
- Matrix spike samples will be collected during sampling activities at locations selected by the START-3 PTL. The data obtained from these samples will be used to assist in the quality assurance of the laboratory analytical procedure. Matrix spiking ensures that the laboratory is able to extract an acceptable percentage of a spiked constituent. One matrix spike sample will be collected for every 20 samples submitted for analysis. The matrix spiking analysis often duplicates the spiking procedure on a separate sample volume. Therefore, a complete matrix analysis requires triple sample volume. Based on EPA CLP requirements, START-3 will collect a MS/MSD for the rinsate sample collected.

3.3 SAMPLE MANAGEMENT

Specific nomenclature that will be used by START-3 will provide a consistent means to facilitate the sampling and overall data management for the project (SOP 0110.01). Any deviations from the sample nomenclature proposed below must be approved by the EPA OSC and START-3 Site Inspection/Assessment Manager. The general nomenclature consists of the following components:

- Geographic location or on-site sample location.
- QA/QC Type (normal, duplicate, rinsate blank, etc.).
- Sequence (e.g., which sample it represents).
- Date (of sample activity).

The following presents the sample nomenclature for analytical samples that will generate unique sample names compatible with most data management systems. The sample nomenclature is based upon specific requirements for the reporting of these results.

SAMPLE NOMENCLATURE - SOIL AND SEDIMENT

Site Name – Property ID - Grid ID - Depth - Collection Type + QC Type

Where:

Grid ID: A three-digit identifier used to designate the particular Area of Concern (AOC) where the sample was collected.

Depth: A two-digit code used to designate what depth of sample was collected:

00	Surface
06	0 to 6 inches
12	6 to 12 inches

Collection Type: A one-digit code used to designate what type of sample was collected:

1	Surface Water
2	Ground Water
3	Leachate
4	Field QC/Water Sample
5	Soil/Sediment

6	Oil
7	Waste
8	Other
9	Drinking Water

QC Type: A one-digit code used to designate the QC type of the sample:

1	Normal
2	Duplicate
3	Rinsate Blank
4	Trip Blank
5	Field Blank
6	Confirmation

Examples:

- ***B01-06-51:*** Represents the normal soil sample collected from Grid B01 as identified on the Sample Location Map from 0 to 6 inches of depth.
- ***B01-06-52***: Represents the duplicate soil sample from Grid B01 as identified on the Sample Location Map from 0 to 6 inches of depth.

3.4 DECONTAMINATION

The non-disposable sampling equipment used during the sample collection process will be thoroughly decontaminated before initial use, between use, and at the end of the field investigation. Equipment decontamination will be completed in the following steps:

1. Non-phosphate detergent and potable water wash to clean the equipment.
2. Final potable water rinse.
3. Equipment air-dried.

Decontamination activities will be conducted at a temporary decontamination pad that will be constructed in an area identified prior to the beginning of field activities (SOP 1201.01).

Excess soil and fluids generated as a result of equipment decontamination will be placed in a drum and staged on-site. The drum will be labelled on the side with the name of the site, the contents, sampling location, and date.

3.5 SAMPLE PRESERVATION, CONTAINERS, AND HOLD TIMES

Once collected, samples will be stored in coolers and kept at approximately 4º C while at the site and until they are submitted for analysis. Samples that have been analyzed will be disposed of by the designated laboratory in accordance with the laboratory SOPs.

Table 3-1
Requirements for Containers, Preservation Techniques, Sample Volumes, and Holding Times

Name	Analytical Methods	Container[a]	Preservation[b]	Minimum Sample Volume or Weight	Maximum Holding Time
Volatile Organic Compounds (VOCs)	SW846 5035/8260	G	4°C	5 grams/4 ounces (soil)/ 3, 40 mL VOA vials (water)	48 hours to freezing (soil)/ 7 days to analysis, 14 days to analysis (water)
Semi Volatile Organic Compounds (SVOCs)	SW846 8270	G	4°C	4 ounces (soil)/ 2, 1 Liter (water)	14 days to extraction and 40 days to analysis (soil) / 7 days to extraction and 40 days to analysis (water)
Total Petroleum Hydrocarbons (TPHs)	1005	G	4°C	4 ounces (soil)/ 2, 1 Liter (water)	14 days to extraction and 40 days to analysis (soil) / 7 days to extraction and 40 days to analysis (water)
Metals	SW846 6010B	G	4°C	4 ounces	180 days (soil and water)

Notes:

[a] glass (G).
[b] No pH adjustment for soil.

4. ANALYTICAL METHODS AND DATA VALIDATION

Samples collected by START-3 will be analyzed by a Test America laboratory located in Houston, Texas. The following methods of analysis will be conducted on all samples submitted:

- Metals - SW846 6010B
- Volatile Organic Compounds - SW846 5035/8260
- Semi-Volatile Organic Compounds - SW846 8270
- Total Petroleum Hydrocarbons - 1005

Data validation from samples sent to the laboratory will be conducted by START-3. START-3 will provide an evaluation of QA/QC samples for reporting purposes. Data validation will be conducted in accordance with the EPA CLP National Function Guidelines for Superfund Inorganic Methods Data Review (January 2010).

5. QUALITY ASSURANCE

Quality assurance will be conducted in accordance with the WESTON Corporate Quality Management and Programmatic Quality Assurance Project Plan (QAPP), dated December 2009, and the WESTON START-3 Quality Management Plan, dated July 2009. The START-3 PTL will be responsible for QA/QC of the field investigation activities. The designated laboratory utilized during the investigation will be responsible for QA/QC related to the analytical work. START-3 will also collect samples to verify that laboratory QA/QC is consistent with the required standards as discussed in the QAPP.

5.1 SAMPLE CHAIN-OF-CUSTODY PROCEDURES

Documents will be completed legibly and in ink and by entry into field logbooks, Response Manager, or SCRIBE. Response Manager is the Enterprise Data Collection System designed to provide near real-time access to non-analytical data normally collected in logbooks. Response Manager provides a standard data collection interface for modules of data normally collected by START-3 field personnel while on-site. These modules fall into two basic categories for Response and Removal. The modules include Emergency Response, Reconnaissance, Facility Assessment, Shipping, Containers, Materials, Calls, HHW, and General/Site-specific data. The system provides users with a standard template for laptop/desktop/tablet PCs that will synchronize to the secure web interface using merge replication technology to provide access to field collected data on the RRC-EDMS EPA Web Hub. Response Manager also includes a PDA application that provides some of the standard data entry templates from Response Manager to users for field data entry. Response Manager also includes an integrated GPS unit with the secure PDA application, and the coordinates collected in Response Manager are automatically mapped on the RRC-EDMS interactive mapping site. GIS personnel can then access this data to provide comprehensive site maps for decision-making support.

Response Manager also includes an Analytical Module that is designed to give SCRIBE users the ability to synchronize the SCRIBE field data to the RRC-EDMS Web Hub. This allows analytical data managers and data validators access to data to perform reviews from anywhere with an Internet connection. The Analytical Module is designed to take the analytical data entered into EPA SCRIBE software and make it available for multiple users to access on one

site. START-3 personnel will utilize SCRIBE for all data entry on-site and will upload to the Response Manager Analytical Module.

Field Documentation

The following field documentation will be maintained as described below.

Field Logbook

The field logbook is a descriptive notebook detailing site activities and observations so that an accurate, factual account of field procedures may be reconstructed (SOP 1501.01). All entries will be signed by the individuals making them. Entries should include, at a minimum, the following:

- Site name and project number.
- Names of personnel on-site.
- Dates and times of all entries.
- Description of all site activities, including site entry and exit times.
- Noteworthy events and discussions.
- Weather conditions.
- Site observations.
- Identification and description of samples and locations.
- Subcontractor information and names of on-site personnel.
- Dates and times of sample collections and chain-of-custody information.
- Records of photographs.
- Site sketches.
- Calibration results.

Sample Labels

Sample labels will be securely affixed to the sample container. The labels will clearly identify the particular sample and include the following information:

- Site name and project number.
- Date and time the sample was collected.
- Sample preservation method.
- Analysis requested.
- Sampling location.

Chain-of-Custody Record

A chain-of-custody will be maintained from the time of sample collection until final deposition. Every transfer of custody will be noted and signed for and a copy of the record will be kept by each individual who has signed it.

Custody Seal

Custody seals demonstrate that a sample container has not been tampered with or opened. The individual who has custody of the samples will sign and date the seal and affix it to the container in such a manner that it cannot be opened without breaking the seal.

Response Manager

START-3 will use the Response Manager module located on the EPA Web Hub, https://solutions.westonproject.net/epawebhub/, to compile and organize the data collected from project activities. The information to be included encompasses some or all of the following depending on the specific project needs:

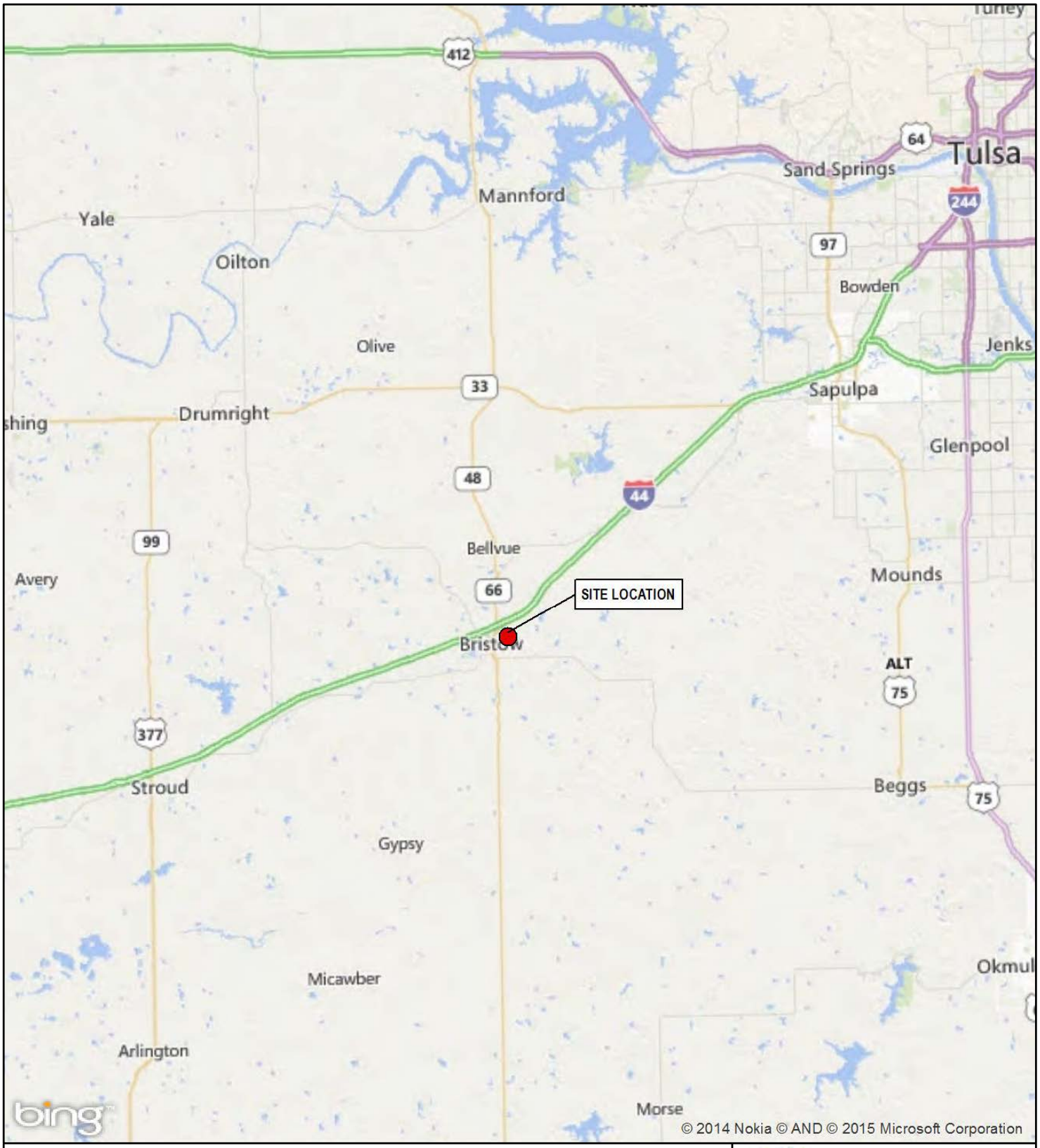
- General Module – site-specific data including location and type of site. It also includes an area for key site locations including geo-spatial data associated with the key site locations.
- Emergency Response Module – includes the following sub-modules: Basic Info, HAZMAT, Release, Time Line Log, Incident Zones, Photos, Sensitive Receptors, Evacuations, Source, Cause, and Weather.
- Reconnaissance Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for targeted reconnaissance efforts. Typically the data in this module is associated with ESF-10 deployments and the clean-up of orphaned containers and hazardous debris, but the module can be utilized for any or all reconnaissance activities.
- Facility Assessment Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for assessments of structures. Typically utilized for EPA-regulated program facilities during an ESF-10 deployment of resources. This module can be utilized to track the assessment of any facilities including multiple assessments of the fixed facilities.
- Shipping Module – provides standard templates for creating a cradle-to-grave record of all waste shipments from the site until they are recycled or destroyed. This includes the ability to capture manifests and manifest line items and upload photos/original documents to support the records.
- Container Module – provides standard templates for cataloguing containers including HAZCAT and Layer information in each container. The module also allows for tracking which containers are bulked.

- Properties Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for collection of property data including access agreements and assessments of the property and current status of property regarding the site removal action.
- Materials Module – provides standard templates for tracking materials that are brought on-site or that are removed from the site.
- Daily Reports – provides standard templates for tracking daily site activities, daily site personnel, and daily site notes for reporting back to the EPA OSC in a POLREP or SITREP.
- HHW Module – provides standard templates with the flexibility of adding any additional questions of values to the drop-down lists for tracking the amount of HHW collected at individual collection stations by HHW type.
- Data Files – data files can be uploaded in the photo module section and be associated with individual records or with the site in general. The meta-data associated with that data file can be filled in using the photo log fields.

The data stored in the Response Manager database can be viewed and edited by any individual with access rights to those functions. At any time deemed necessary, POLREPs and/or SITREPs can be generated by exporting the data out of Response Manager into Microsoft Excel/Word. The database is stored on a secure server and backed up regularly.

5.2 REPORT PREPARATION

At the completion of the project, START-3 will review and evaluate the laboratory data and prepare a draft report of field activities, figures, and analytical results for EPA OSC review. Draft deliverable documents will be uploaded to the EPA TeamLink website for EPA OSC review and comment.



0 6 12

Miles

LEGEND

SITE LOCATION

N

US EPA REGION 6

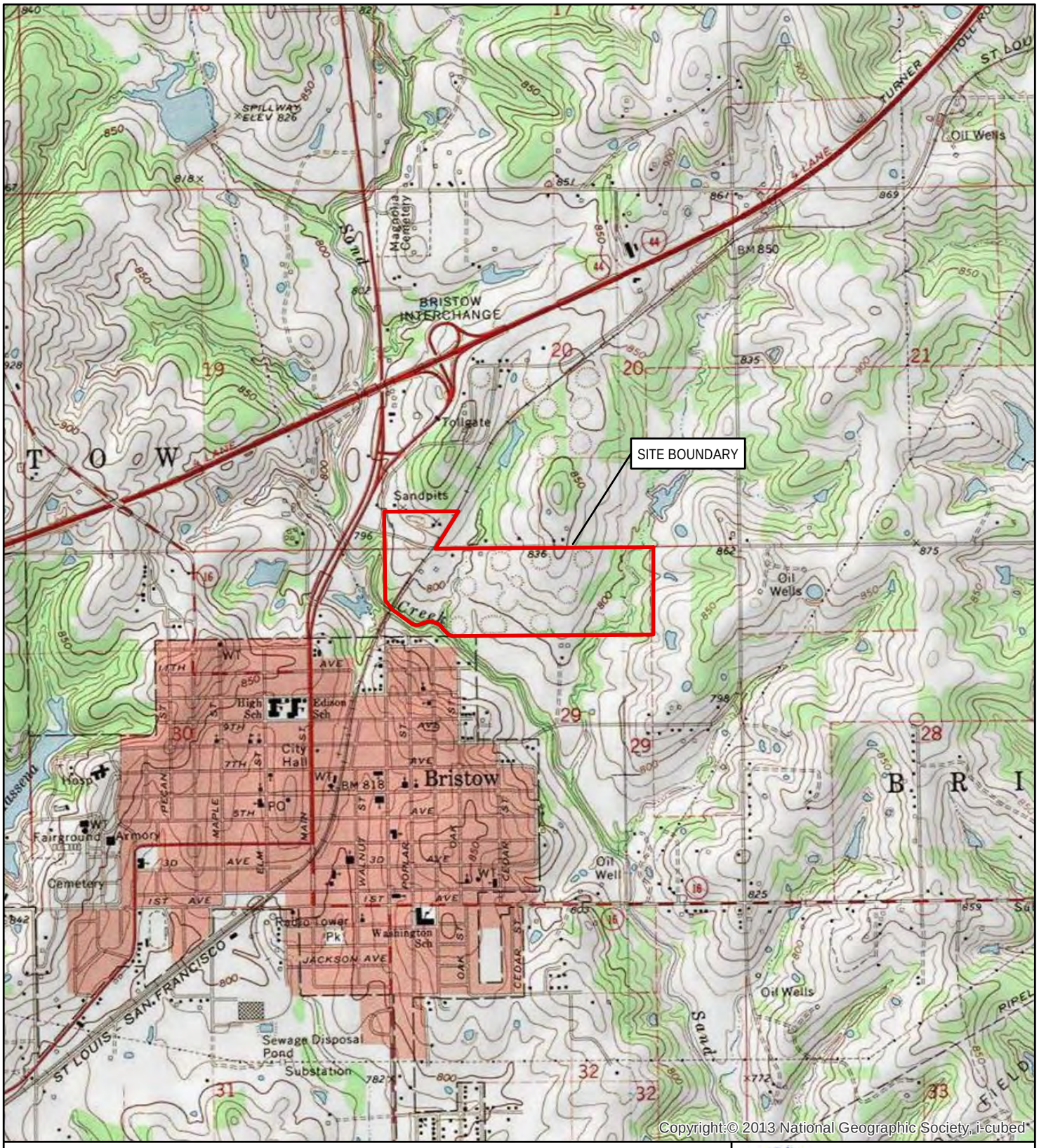
FIGURE 1-1
SITE LOCATION MAP
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\Figure 1-1 Site Location Map.mxd 11:00:39 AM 1/23/2015 bondp



0 1,000 2,000

Feet

LEGEND

FORMER WILCOX OIL SITE BOUNDARY

N

US EPA REGION 6

FIGURE 2-1
SITE AREA MAP
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\Figure 2-1 Site Area Map.mxd 11:10:51 AM 1/23/2015 bondp

0 175 350

Feet

LEGEND

PROPERTY 001 BOUNDARY

N

US EPA REGION 6

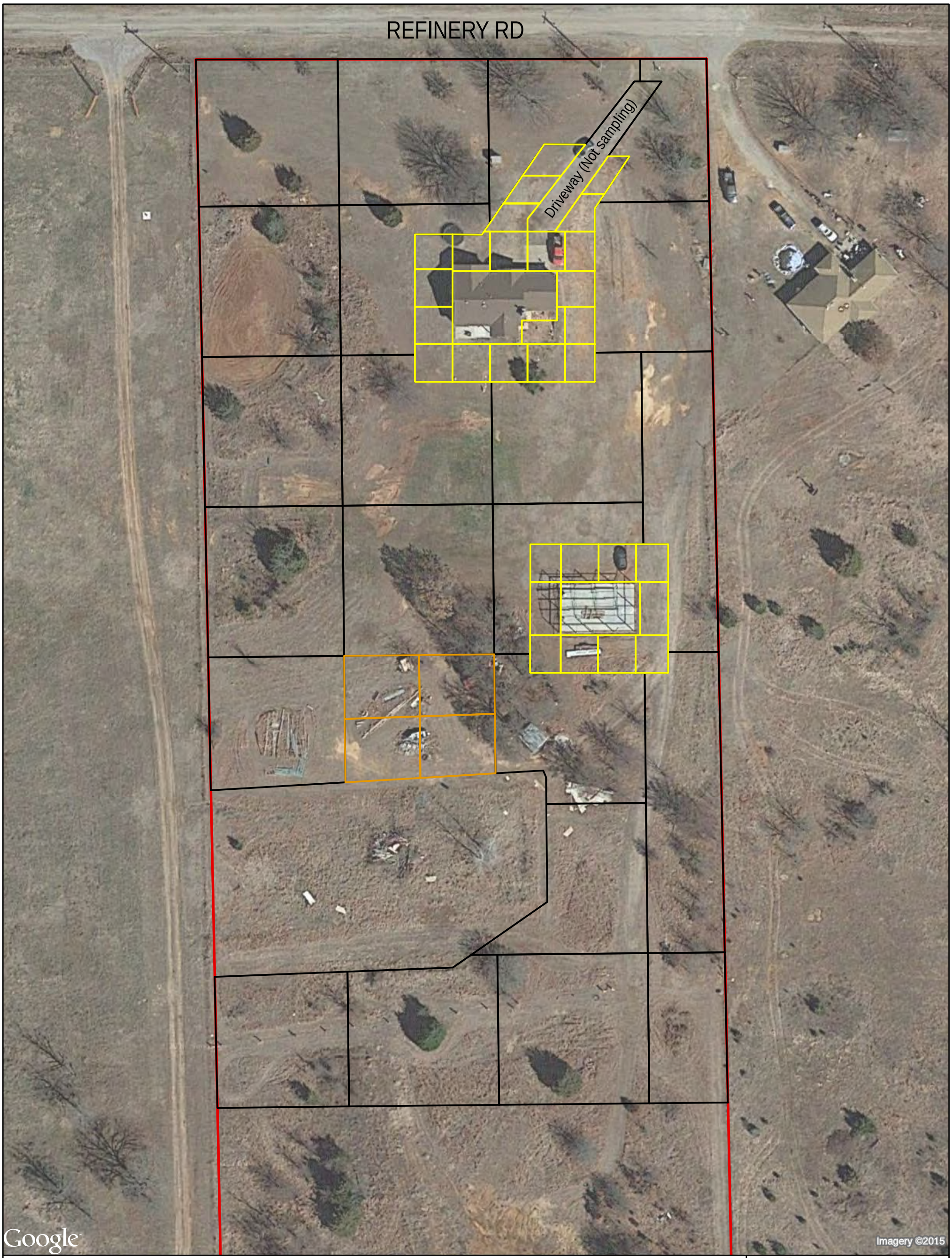
FIGURE 2-2
SITE PLAN MAP
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
JANUARY, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\Figure 2-2 Site Plan.mxd 11:23:04 AM 1/23/2015 bondp



LEGEND

- 25x25ft Sample Grid
- 50x50ft Sample Grid
- 100x100ft Sample Grid
- Property Boundary

0 60 120
Feet

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

US EPA REGION 6

FIGURE 3-1
PROPOSED SAMPLE LOCATION MAP
PROPERTY 001
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
FEBRUARY, 2015	20406.012.005.0919.01	AS SHOWN

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\Figure 3-1 Proposed Sample Location Map.mxd 5:48:56 PM 2/3/2015 bondp

APPENDIX A

SITE-SPECIFIC DATA QUALITY OBJECTIVE

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

STEP 1. STATE THE PROBLEM	
To investigate the nature and extent of site-related contaminants in the soil associated with the Wilcox Oil Site.	
STEP 2. IDENTIFY THE DECISION	
Soil samples will be collected from various locations within the property to determine whether contaminants of concern (CoCs) are significantly elevated in the soil.	
IDENTIFY THE ALTERNATIVE ACTIONS THAT MAY BE TAKEN BASED ON THE DECISIONS.	• If concentrations of CoCs in soil exceed the EPA Region 6 RSLs, then that sample will be considered contaminated and require additional attention. • If concentrations of CoCs in the soil samples do not exceed the EPA Region 6 RSLs, then the media represented by that sample will not require additional attention.
STEP 3. IDENTIFY INPUTS TO THE DECISION	
IDENTIFY THE INFORMATIONAL INPUTS NEEDED TO RESOLVE A DECISION.	Contaminant concentrations in the soil samples collected from the property.
IDENTIFY THE SOURCES FOR EACH INFORMATIONAL INPUT AND LIST THE INPUTS THAT ARE OBTAINED THROUGH ENVIRONMENTAL MEASUREMENTS.	Analytical results from parameters listed in Section 3 of the QASP.
BASIS FOR THE CONTAMINANT SPECIFIC ACTION LEVELS.	Region 6 RSLs.
IDENTIFY POTENTIAL SAMPLING TECHNIQUES AND APPROPRIATE ANALYTICAL METHODS.	• Five-point composite samples (surface, 0-6, and 6-12 inches bgs) from each designated grid. • See analyses listed in Section 3 of the QASP.
STEP 4. DEFINE THE BOUNDARIES OF THE STUDY	
DEFINE THE DOMAIN OR GEOGRAPHIC AREA WITHIN WHICH ALL DECISIONS MUST APPLY.	The area of concern on the property.
SPECIFY THE CHARACTERISTICS THAT DEFINE THE POPULATION OF INTEREST.	Contaminant concentration in soil within the property.
DEFINE THE SCALE OF DECISION MAKING.	Results of soil sampling will be used to evaluate the CoCs within the property.
DETERMINE THE TIME FRAME TO WHICH THE DATA APPLY.	The data will apply until the site media, represented by the soil samples, receives appropriate response actions.
DETERMINE WHEN TO COLLECT DATA.	Samples will be collected during the EPA Team field effort.
IDENTIFY PRACTICAL CONSTRAINTS ON DATA COLLECTION.	• Inclement weather. • Access not attainable.
STEP 5. DEVELOP A DECISION RULE	
SPECIFY THE PARAMETER THAT CHARACTERIZES THE POPULATION OF INTEREST.	Detection of CoCs in the soil samples by analytical testing to confirm concentrations in the pathway that exceed the EPA Region 6 RSLs.

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

SPECIFY THE ACTION LEVEL FOR THE DECISION.	EPA Region 6 RSLs.
STEP 6. SPECIFY LIMITS ON DECISION ERRORS	
DEVELOP A DECISION RULE.	If any result in the soil sample is above the EPA Region 6 RSLs, then the soil sample represented by that sample will require additional attention; otherwise, the soil does not require additional attention.
DETERMINE THE POSSIBLE RANGE OF THE PARAMETER OF INTEREST.	Contaminant concentrations may range from 0 milligrams per kilogram (mg/kg) to more than the contaminant -specific action level.
DEFINE BOTH TYPES OF DECISION ERRORS AND IDENTIFY THE POTENTIAL CONSEQUENCES OF EACH.	Type I Error: Deciding that the specified area represented by the soil sample does not exceed the specified assessment level when, in truth, the concentration of the contaminant exceeds its specified assessment level. The consequence of this decision error is that remedial efforts in the area may not be undertaken, possibly endangering human health and the environment. This decision error is more severe. Type II Error: Deciding that the specified area represented by the soil sample does exceed the specified assessment level when, in truth, it does not. The consequences of this decision error are that remediation of the area will continue and unnecessary costs will be incurred.
ESTABLISH THE TRUE STATE OF NATURE FOR EACH DECISION RULE.	The true state of nature when the soil is decided to be below the specified assessment levels when in fact, it is not below the specified assessment levels, is that the area does need remedial action. The true state of nature when the soil is decided to be above the specified assessment levels when in fact, it is not above the specified assessment levels, is that the area does not need remedial action.

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

STEP 6. SPECIFY LIMITS ON DECISION ERRORS (Continued)	
DEFINE THE TRUE STATE OF NATURE FOR THE MORE SEVERE DECISION ERROR AS THE BASELINE CONDITION OR THE NULL HYPOTHESIS (H_o) AND DEFINE THE TRUE STATE FOR THE LESS SEVERE DECISION ERROR AS THE ALTERNATIVE HYPOTHESIS (H_a).	Ho: The soil represented by the sample is above the specified action level. Ha: The soil represented by the sample is below the specified action level.
ASSIGN THE TERMS "FALSE POSITIVE" AND "FALSE NEGATIVE" TO THE PROPER DECISION ERRORS.	• False Positive Error = Type I • False Negative Error = Type II
ASSIGN PROBABILITY VALUES TO POINTS ABOVE AND BELOW THE ACTION LEVEL THAT REFLECT THE ACCEPTABLE PROBABILITY FOR THE OCCURRENCES OF DECISION ERRORS.	To be assigned based on discussions with EPA OSC.
STEP 7. OPTIMIZE THE DESIGN	
REVIEW THE DQOs.	Due to insufficient historical data, determination of the standard deviation was not possible. Therefore, sample size calculation using the traditional statistical formula may not be the optimal design. In order to select the optimal sampling program that satisfies the DQO and is the most resource effective, other elements were considered.
DEVELOP GENERAL SAMPLING AND ANALYSIS DESIGN. The EPA Team will collect soil samples from the property in Bristow, Creek County, Oklahoma. The samples will be shipped for laboratory analysis and methodology consistent with EPA Region 6 protocols. The samples will be analyzed by the methods listed in Section 3 of the QASP.	

APPENDIX B

STANDARD OPERATING PROCEDURES

INTRODUCTION

The following Standard Operating Procedure (SOP) is to describe the procedures for collecting representative soil samples. Analysis of soil samples may determine whether concentrations of specific soil pollutants exceed established action levels, or if the concentrations of soil pollutants present a risk to public health, welfare, or the environment. This SOP is similar to SOP Number 1001.03 for collecting near surface soil samples with a hand auger.

PROCEDURE

Surface soil samples may be collected using a variety of methods and equipment. The methods and equipment used are dependent on the depth of the desired sample, the type of sample required (disturbed versus undisturbed), and the type of soil. Near-surface soils may be easily sampled using a spade, trowel, or hand scoop.

Sample Preservation

Cooling to 4°C ± 2°C, supplemented by a minimal holding time, is suggested.

Interferences and Potential Problems

There are two primary interferences or potential problems associated with soil sampling: cross-contamination of samples and improper sample collection. Cross-contamination problems can be eliminated or minimized through the use of dedicated (disposable) sampling equipment. If this is not possible or practical, then decontamination of sampling equipment is necessary. Improper sample collection can involve using contaminated equipment, disturbance of the matrix resulting in compaction of the sample, or inadequate homogenization of the samples where required, resulting in variable, non-representative results. Homogenization may also affect sample representativeness where the analytical requirements include volatile organic compounds.

Equipment or Apparatus

The equipment used for sampling may be selected from the following list, as appropriate:

- Tape measure
- Survey stakes or flags
- Stainless steel, plastic, or other appropriate homogenization bucket or bowl
- Ziploc plastic bags
- Logbook
- Labels
- Chain-of-custody forms and seals
- Coolers
- Ice
- Decontamination supplies and equipment
- Canvas or plastic sheet
- Spatulas/spades/shovels
- Scoops

- Plastic or stainless steel spoons
- Trowel

Preparation

1. Determine the extent of the sampling effort, the sampling methods to be employed, and what equipment and supplies are required.
2. Obtain necessary sampling and monitoring equipment from the list above.
3. Prepare schedules, and coordinate with staff, client, and regulatory agencies, if appropriate.
4. Perform a general site survey prior to site entry in accordance with the site-specific health and safety plan.
5. Decontaminate or preclean equipment, and ensure that it is in working order.
6. Use stakes, buoys, or flagging to identify and mark all sampling locations. Consider specific site factors, including extent and nature of contaminant, when selecting sample locations. If required, the proposed locations may be adjusted based on site access, property boundaries, and surface obstructions. All staked locations will be utility-cleared by the property owner or other responsible party prior to soil sampling.
7. Evaluate safety concerns associated with sampling that may require use of personal protective equipment and/or air monitoring.

Surface Soil Sample Collection

Collect samples from the near-surface soil with tools such as spades, shovels, and scoops. Surface material can be removed to the required depth with this equipment, then a stainless steel or plastic scoop can be used to collect the sample. The use of a flat, pointed mason trowel to cut a block of the desired soil can be helpful when undisturbed profiles are required. A stainless steel scoop, lab spoon, or plastic spoon will suffice in most other applications. Avoid the use of devices plated with chrome or other target analyte materials.

The following procedures should be followed when collecting surface soil samples:

1. Carefully remove the top layer of soil or debris to the desired sample depth with a pre-cleaned spade.
2. Using a pre-cleaned, stainless steel scoop, plastic spoon, or trowel, remove and discard a thin layer of soil from the area which came in contact with the spade.
3. If volatile organic analysis is to be performed, transfer a portion of the sample directly into an appropriate, labeled sample container(s) with a stainless steel lab spoon, plastic lab spoon, or equivalent and secure the cap(s) tightly. Place the remainder of the sample into a stainless steel, plastic, or other appropriate homogenization container, and mix thoroughly to obtain a homogenous sample representative of the entire sampling interval. Then, either place the sample into an appropriate, labeled container(s) and secure the cap(s) tightly; or if composite samples are to be collected, place a sample from another sampling interval into the

homogenization container and mix thoroughly. When compositing is complete, place the sample into appropriate, labeled container(s) and secure the cap(s) tightly.

4. Fill hole created through sampling with unused material or other appropriate backfill material (sand).

5. Record applicable information into field log book or appropriate forms as documentation of sampling.

INTRODUCTION

The following Standard Operating Procedure (SOP) describes the procedure for compositing soil samples. Soil samples are typically collected for laboratory analysis, and sometimes it is necessary to composite (mix together) samples from several locations for one combined analysis at the laboratory. This soil sampling procedure is closely related to SOP Nos. 1001.01, 1001.03, and 1001.10 regarding soil sampling procedures. This procedure serves as an alternative method of sample preparation prior to placing the samples in containers, as described in the other named SOPs.

PROCEDURE

Equipment

Equipment that may be used as part of the soil compositing procedure is identified under SOP Nos. 1001.01 and 1001.03 where soil sampling methods are described. Specific equipment typically used during the compositing process after discrete samples are collected includes:

- Mixing bowls or buckets
- Scoops, spatulas, and knives
- Sample containers
- Personal protection clothing
- Plastic Sheeting
- Decontamination equipment and supplies

Method

The procedure to be used to physically collect soil samples are described in SOP Nos. 1001.01 and 1001.03. Reference should be made to these SOPs for specific sampling equipment, procedures, and other general guidelines. As soil samples are collected, the site-specific Sampling and Analysis Plan may required compositing (mixing together) of two or more samples to create a single sample that will be sent to the laboratory for analysis. When this is the case, the following compositing procedure will generally be used:

- The soil will be collected in general accordance with SOP 1001.01 or 1001.03, with the exception that samples from discrete locations will generally not be immediately placed into sample containers and an additional preparation step (i.e., compositing) will be performed.

- As they are collected, soil samples selected for compositing will be staged in a clean mixing bowl or mixing bucket until each sample to be included in the composite sample is obtained. Depending on site requirements and analytical procedures to be requested, it may be necessary to temporarily stage individual discrete-location samples within clean sample jars, aluminum foil, or other appropriate materials for the project. The method for sample staging should be specified in the site-specific sampling and analysis plan.

- For composite samples that will be analyzed for volatile organic compounds, an equal portion of soil will be removed directly from each discrete-location sample and placed into a final sample jar without homogenizing the soil.

- For analyses other than volatile organics, equal portions of soil will be removed from each discrete-location sample and placed in a clean mixing bowl. The equal portions of the samples will then be broken up and homogenized together using a scoop or spatula. Homogenization will generally continue until the discrete samples being combined are reasonably indistinquishable as indivual individual samples in the soil mixture. However, it is recognized that homogenization can be difficult for highly plastic clays. In this case, equal amounts of the the soil core of each clay sample will be cut into small, roughly cubical pieces using a stainless steel knife, and an equal numbers of pieces of each discrete sample will be placed into the bowl and homogenized to extent practical.

- The composited soil sample will be collected from the mixing bowl containing the individual homogenized samples after homogenization is performed. The composited sample will be collected using a stainless steel or disposable plastic scoop or similar tool. The sample will be placed in a clean sample container and then handled in accordance with soil sampling SOPs 1001.01 and 1001.03.

Variations on this procedure are allowable to accomodate different soil conditions and any site requirements specifically identified in the site-specific Sampling and Analysis Plan.

The number of discrete samples that may be composited into a single sample typically ranges from two to six. The number of discrete samples that may be composited for the project in question will be specified in the site-specific Sampling and Analysis Plan.

REFERENCES

SOP No. 1001.01 - Standard Operating Procedure, Surface Soil Sampling
SOP No. 1001.03 - Standard Operating Procedure, Shallow Subsurface and Near Surface Soil Sampling

INTRODUCTION

The following Standard Operating Procedure (SOP) describes the procedure for collecting field duplicate soil and water samples. When samples are collected for analysis, it is typically desired that independent data allowing evaluation of laboratory precision (i.e., the degree to which a laboratory result can be repeated) on site-specific samples be collected.

A field duplicate sample is a second sample collected at the same location as the original sample. Duplicate samples are collected simultaneously or in immediate succession, using identical recovery techniques, and treated in an identical manner during storage, transportation, and analysis. The sample containers are assigned an identification number in the field such that they cannot be identified (blind duplicate) as duplicated samples by laboratory personnel performing the analysis. Specific locations are designated for collection of field duplicate samples prior to the beginning of sample collection.

The duplicate soil sampling procedure is closely related to SOP Nos. 1001.01, 1001.03, and 1001.10 regarding soil sampling procedures. This procedure serves as an alternative method or extension of sample preparation prior to placing the samples in containers, as described in the 1001 series of the SOPs (e.g. 1001.01 and 1001.03).

DUPLICATE SOIL SAMPLING PROCEDURE

The procedure to be used to physically collect soil samples are described in SOP Nos. 1001.01 and 1001.03. Reference should be made to these SOPs for specific sampling equipment, procedures, and other general guidelines. As soil is collected, the following procedure will be used to prepare a field duplicate sample:

- The soil will be collected in general accordance with SOP 1001.01 or 1001.03, with the exception that samples will generally not be immediately placed into sample containers and an additional preparation step (i.e., sample splitting) will be performed.

- As they are collected, soil samples to be submitted as field duplicates will be staged in a clean mixing bowl or mixing bucket.

- For samples that will be analyzed for volatile organic compounds, the soil sample will be split in half and an equal portion of soil will be placed directly into two or more different sample containers, each container representing a different sample for laboratory analysis. The soil will not be homogenized to minimize the potential for volatilization of the organic compounds potentially in the sample.

- For analyses of chemicals other than volatile organic compounds, the soil removed from the discrete sample location will be homogenized in a clean mixing bowl using a clean scoop or spatula (as described in SOPs 1001.01 and 1001.03). Homogenization will generally continue until the discrete samples being combined are reasonably indistinguishable as individual samples in the soil mixture. However, it is recognized that homogenization can be difficult for highly plastic clays. In this case, equal amounts of the soil core of each clay sample will be cut into small, roughly cubical pieces using a stainless steel knife and placed into a bowl and homogenized to extent practical.

- The field duplicate sample (except for volatiles as note above) will be collected from the mixing bowl containing the homogenized samples after homogenization is performed. The composited sample will be collected using a stainless steel or disposable plastic scoop or similar tool. The sample will be placed in a clean sample container and then handled in accordance with soil sampling SOPs 1001.01 and 1001.03.

Another difference from the referenced SOPs is that additional soil volume may need to be collected from a discrete sample location during the sampling process to provide sufficient sample volume for two or more sets of laboratory analyses. If the collection of additional sample volume will result in the sample interval expanding to greater depths or laterally outward, the sampling tools identified in 1001 series of the SOPs can be used at two immediately vertically or laterally adjacent locations, as appropriate. If sampling from two adjacent but distinct locations is necessary to obtain adequate sample volume, the soil from the two locations should be composited in accordance with SOP 1001.10. Field duplicates of composited samples may also be performed using this SOP for field duplicate samples.

Variations on this procedure are allowable to accommodate different soil conditions and any site requirements specifically identified in the site-specific Sampling and Analysis Plan. Equipment that may be used as part of the soil compositing procedure is identified under SOP Nos. 1001.01 and 1001.03 where soil sampling methods are described.

DUPLICATE WATER SAMPLING PROCEDURES

The procedure to be used to physically collect water samples are described in 1002 series of the SOPs (e.g. 1002.01 and 1002.02). Reference should be made to these SOPs for specific sampling equipment, procedures, and other general guidelines. A duplicate water sample will be collected from the same location as the parent sample and within 15 minutes of the collection of the parent sample.

The number of samples that may be submitted as blind field duplicates for the project in question will be specified in the site-specific sampling plan. Blind field duplicates are typically collected at a frequency of 1 per 10 samples of a given environmental media at sites, especially where laboratory analytical data will be used for evaluating regulatory compliance and other engineering judgments. Sampling in support of a routine monitoring program may not require field duplicates. Reference should be made to the site-specific contract and work plans.

REFERENCES

SOP No. 1001.01 - Standard Operating Procedure, Surface Soil Sampling
SOP No. 1001.03 - Standard Operating Procedure, Soil Sampling - Hand Auger Method
SOP No. 1001.10 - Standard Operating Procedure, Soil Compositing

INTRODUCTION

The following Standard Operating Procedure (SOP) presents procedures for maintaining sample chain of custody (COC) during activities where samples are collected.

PROCEDURE

Sample custody is defined as being under a person's custody if any of the following conditions exist:

- it is in their possession,
- it is in their view, after being in their possession,
- it was in their possession and they locked it up, or
- it is in a designated secure area.

A designated field sampler will be personally responsible for the care and custody of collected samples until they are transferred to another person or properly dispatched to the laboratory. To the extent practicable, as few people as possible will handle the samples.

Sample tags or labels will be completed and applied to the container of each sample. When the tags or labels are being completed, waterproof ink will be used. If waterproof ink is not used, the tags or labels will be covered by transparent waterproof tape. Sample containers may also be placed in Ziploc-type storage bags to help keep them clean in the cooler. Information typically included on the sample tags or labels will include the following:

- Project Code
- Station Number and Location
- Sample Identification Number
- Date and Time of Sample Collection
- Type of Laboratory Analysis Required
- Preservation Required, if applicable
- Collector's Signature
- Priority (optional)
- Other Remarks

Additonal information may include:

- Anticipated Range of Results (Low, Medium, or High)
- Sample Analysis Priority

A COC form will be completed each time a sample or group of samples is prepared for transfer to the laboratory. The form will repeat the information on each of the sample labels and will serve as documentation of handling during shipment. The minimum information requirements of the COC form are listed in Table 1101.01-A. An example COC form is shown in Figure 1101.01-A. The completed COC must be reviewed by the Field Team Leader or Site Manager prior to sample shipment. The COC form will remain each sample shipping container at all times, and another copy will be retained by the member of the sampling team who originally relinquished the samples or in a project file.

TABLE 1101.01-A CHAIN OF CUSTODY FORM

INFORMATION	COMPLETED BY	DESCRIPTION
COC	Laboratory	enter a unique number for each chain of custody form
SHIP TO	Field Team	enter the laboratory name and address
CARRIER	Field Team	enter the name of the transporter (e.g., FedEx) or handcarried
AIRBILL	Field Team	enter the airbill number or transporter tracking number (if applicable)
PROJECT NAME	Field Team	enter the project name
SAMPLER NAME	Field Team	enter the name of the person collecting the samples
SAMPLER SIGNATURE	Field Team	signature of the person collecting the samples
SEND RESULTS TO	Field Team	enter the name and address of the prime contractor
FIELD SAMPLE ID	Field Team	enter the unique identifying number given to the field sample (includes MS, MSD, field duplicate and field blanks)
DATE	Field Team	enter the year and date the sample was collected in the format M/D (e.g., 6/3)
TIME	Field Team	enter the time the sample was collected in 24 hour format (e.g., 0900)
MATRIX	Field Team	enter the sample matrix (e.g., water, soil)
PRESERVATIVE	Field Team	enter the preservative used (e.g., HNO3) or “none”
FILTERED/ UNFILTERED	Field Team	enter “F” if the sample was filtered or “U” if the sample was not filtered
CONTAINERS	Field Team	enter the number of containers associated with the sample
MS/MSD	Field Team or Laboratory	enter “X” if the sample is designated for the MS/MSD
ANALYSES REQUESTED	Field Team	enter the method name of the analysis requested (e.g., SW6010A)
COMMENTS	Field Team	enter comments
SAMPLE CONDITION UPON RECEIPT AT LABORATORY	Laboratory	enter any problems with the condition of any sample(s)
COOLER TEMPERATURE	Laboratory	enter the internal temperature of the cooler, in degrees C, upon opening
SPECIAL INSTRUCTIONS/COMMENTS	Laboratory	enter any special instructions or comments
RELEASED BY (SIG)	Field Team and Laboratory	enter the signature of the person releasing custody of the samples
COMPANY NAME	Field Team and Laboratory	enter the company name employing the person releasing/receiving custody
RECEIVED BY (SIG)	Field Team and Laboratory	enter the signature of the person receiving custody of the samples
DATE	Field Team and Laboratory	enter the date in the format M/D/YY (e.g., 6/3/96) when the samples were released/received
TIME	Field Team and Laboratory	enter the date in 24 hour format (e.g., 0900) when the samples were released/received

SOP	**1102.01**				
GROUP	Sample Handling				
SUB-GROUP	Sample Shipping				
TITLE	Sample Shipping				
DATE	11/19/2001	**FILE**	1102-01.DOC	**PAGE**	1 of 1

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the procedures for sample shipping that will be implemented during field work involving sampling activities.

TERMS

COC - Chain-of-Custody

PROCEDURE

Prior to shipping or transferring custody of samples, they will be packed according to D.O.T. requirements with sufficient ice to maintain an internal temperature of 4°C ± 2°C during transport to the laboratory. Samples relinquished to the participating laboratories will be subject to the following procedures for transfer of custody and shipment:

1. Samples will be accompanied by a COC record. When transferring possession of samples, the individuals relinquishing and receiving the samples will sign, date, and note the time of the sample transfer on the record. If sent by common carrier, a bill of lading or airbill should be used. Bill of lading and airbill receipts will be retained in the project file as part of the permanent documentation of sample shipping and transfer. This custody record documents transfer of sample custody from the sampler to another person or to the laboratory. The designated laboratory will accept custody in the field upon sample pick-up or at the laboratory if the samples are delivered via field personnel or a courier service.
2. Samples will be properly packed in approved shipping containers for laboratory pick-up by the appropriate laboratory for analysis, with separate, signed custody records enclosed in each sample box or cooler. Sample shipping containers will be padlocked or custody-sealed for transfer to the laboratory. The preferred procedure includes use of a custody seal wrapped across filament tape that is wrapped around the package at least twice. The custody seal will then be folded over and stuck to itself so that the only access to the package is by cutting the filament tape or breaking the seal to unwrap the tape. The seal will then be signed. The designated laboratory will accept custody of the samples upon receipt.
3. Whenever samples are split with state representatives or other parties, the COC record will be marked to indicate with whom the samples were split.
4. The field sampler will call the designated laboratory to inform them of sample shipment and verify sample receipt as necessary.

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the methods used for minimizing the potential for cross-contamination, and provides general guidelines for sampling equipment decontamination procedures.

PROCEDURE

As part of the Health and Safety Plan (HASP), develop and set up a decontamination plan before any personnel or equipment enter the areas of potential exposure. The decontamination plan should include the following:

- The number, location, and layout of decontamination stations
- Which decontamination apparatus is needed
- The appropriate decontamination methods
- Methods for disposal of contaminated clothing, apparatus, and solutions

Decontamination Methods

Personnel, samples, and equipment leaving the contaminated area of a site will be decontaminated. Various decontamination methods will be used to either physically remove contaminants, inactivate contaminants by disinfection or sterilization, or both. The physical decontamination techniques appropriate for equipment decontamination can be grouped into two categories: abrasive methods and non-abrasive methods.

Abrasive Cleaning Methods

Abrasive cleaning methods work by rubbing/scrubbing the surface containing the contaminant. This method includes mechanical and wet blasting methods.

Mechanical cleaning methods use brushes of metal or nylon. The amount and type of contaminants removed will vary with the hardness of bristles, length of brushing time, and degree of brush contact.

Cleaning can also be accomplished by water blasting which is also referred to as steam cleaning and pressure washing. Pressure washing utilizes high-pressure that is sprayed from a nozzle onto sampling equipment to physically remove soil or (potentially) contaminated material. Steam cleaning is a modification of pressure washing where the water is heated to temperatures approaching 100°C to assist in removing organic constituents from equipment.

Disinfection/Rinse Methods

Disinfectants are a practical means of inactivating chemicals or contaminants of concern. Standard sterilization methods involve heating the equipment which is impractical for large equipment. Rinsing removes contaminants through dilution, physical attraction, and solubilization.

The use of distilled/deionized water commonly available from commercial vendors may be acceptable for decontamination of sampling equipment provided that it has been verified by laboratory analysis to be target analyte free. Tap water may be used from any municipal water treatment system for mixing of decontamination solutions. An untreated potable water supply is not an acceptable substitute for tap water. Acids and solvents are occasionally utilized in decontamination of equipment to remove metals and organics, respectively, from sampling equipment. Other than ethanol, these are avoided when possible due to the safety, disposal, and transportation concerns associated with them.

Equipment or apparatuses that may be selected for use include the following:

- Personal protective clothing
- Non-phosphate detergent
- Selected solvents for removal of polar and nonpolar organics (ethanol, methanol, hexane)
- Acid washes for removal of metals (nitric acid)
- Long-handled brushes
- Drop cloths or plastic sheeting
- Paper towels
- Galvanized tubs or buckets
- Distilled, deionized, or tap water (as required by the project)
- Storage containers for spent wash solutions
- Sprayers (pressurized and non-pressurized)
- Trash bags
- Safety glasses or splash shield

<u>Field Sampling Equipment Cleaning Procedures</u>

The following procedures should be followed:

1. Where applicable, follow physical removal procedures previously described (pressure wash, scrub wash)
2. Wash equipment with a non-phosphate detergent solution
3. Rinse with tap water
4. Rinse with distilled or deionized water
5. Rinse with 10% nitric acid if the sample will be analyzed for metals/organics
6. Rinse with distilled or deionized water
7. Use a solvent rinse (pesticide grade) if the sample will be analyzed for organics
8. Air dry the equipment completely
9. Rinse again with distilled or deionized water

10. Place in clean bag or container for storage/transport to subsequent sampling locations.

Selection of the solvent for use in the decontamination process is based on the contaminants present at the site. Solvent rinses are not necessarily required when organics are not a contaminant of concern and may be eliminated from the sequence specified below. Similarly, an acid rinse is not required if the analyses do not include inorganics. Use of a solvent is required when organic contamination is present on-site. Typical solvents used for removal of organic contaminants include acetone, ethanol, hexane, methanol, or water. An acid rinse step is required if metals are present on-site. If a particular contaminant fraction is not present at the site, the ten-step decontamination procedure listed above may be modified for site specificity.

Sampling equipment that requires the use of plastic tubing should be disassembled and the tubing replaced with clean tubing before commencement of sampling and between sampling locations. Plastic tubing should not be reused.

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the sample nomenclature for analytical samples that will generate unique sample names compatible with most data management systems. The sample nomenclature is based upon specific requirements for the reporting of these results. A site specific data management plan should be prepared prior to sample collection.

PROCEDURE

SAMPLE NOMENCLATURE – SOIL AND SEDIMENT

Area of Concern – ID – Depth - Collection Type + QC Type

Where:

Area of Concern: A four-digit identifier used to designate the particular Area of Concern (AOC) that the location where the sample was collected.

ID: A three-digit identifier used to designate the particular location in the AOC from which the sample was collected or the center of the composite sample.

Depth: A two-digit code used to designate what depth of sample was collected:

03	0 to 3 inches
06	3 to 6 inches
12	6 to 12 inches

Collection Type: A one-digit code used to designate what type of sample was collected:

1	Surface Water
2	Ground Water
3	Leachate
4	Field QC/water sample
5	Soil/Sediment

6	Oil
7	Waste
8	Other
9	Drinking Water

QC Type: A one-digit code used to designate the QC type of the sample:

1	Normal
2	Duplicate
3	Rinsate Blank
4	Trip Blank
5	Field Blank
6	Confirmation

Examples:

- ***2054-055-06-51:*** Represents the normal soil sample collected from AOC 2054 at location 055 from 3 to 6 inches of depth.
- ***2054-055-06-52***: Represents the duplicate soil sample collected from AOC 2054 at location 055 from 3 to 6 inches of depth.
- ***2054-055-06-43***: Represents the rinsate water sample collected after the last sample of the day if last sample was collected from AOC 2054 at location 055 from 3 to 6 inches of depth.

SAMPLE NOMENCLATURE – WATER (from fixed station or location to be sampled more than once)

WELL OR STATION – YYYYMMDD - Collection Type + QC Type

Where:

Well or Station: For Wells and boreholes always assume there will be 10 or more so Monitoring Well 1 becomes designated MW01 or MW-01. If it is anticipated that there will be over 100 wells designate Monitoring Well 1 as MW001 or MW-001.

YYYYMMDD: A four-digit year + two-digit month + two-digit day

Collection Type: A one-digit code used to designate what type of sample was collected and are shown on page 1.

QC Type: A one-digit code used to designate the QC type of the sample and are shown on page 1.

Examples:

- ***MW01-20090226-21:*** Represents the normal groundwater sample collected from Monitoring Well 1 on 26 February 2009.
- ***MW01-20090226-44:*** Represents the trip blank in the same ice chest as the groundwater sample in the previous collected from Monitor Well 1 on 02/26/2009. All trip blanks must have a sample ID and they must be unique and on the Chain-of -Custody.
- ***2054-000-00-43:*** Represents the rinsate sample from AOC 2054

INTRODUCTION

The following Standard Operating Procedure (SOP) presents the procedures for documenting activities observed or completed in the field in a field logbook. The documentation should represent all activities of WESTON personnel and entities under WESTON's supervision.

TERMS

FSP - Field Sampling Plan

SAP - Sampling and Analysis Plan

QAPP - Quality Assurance Project Plan

HASP - Health and Safety Plan

PROCEDURE

Field logbooks will be used and maintained during field activities to document pertinent information observed or completed by WESTON personnel or entities that WESTON is responsible for providing oversight. Field logbooks are legal documents that form the basis for later written reports and may serve as evidence in legal proceedings. The Site Manager or Field Team Leader will review field log entries daily and initial each page of entries. Field logbooks will be maintained by the Site Manager or Field Team Leader during field activities and transferred to the project files for a record of activities at the conclusion of the project. General logbook entry procedures are listed below.

- Logbooks must be permanently bound with all pages numbered to the end of the book. Entries should begin on page 1.
- Only use blue or black ink (waterproof) for logbook entries.
- Sign entries at the end of the day, or before someone else writes in the logbook.
- If a complete page is not used, draw a line diagonally across the blank portion of the page and initial and date the bottom line.
- If a line on the page is not completely filled, draw a horizontal line through the blank portion.
- Ensure that the logbook clearly shows the sequence of the day's events.
- Do not write in the margins or between written lines, and do not leave blank pages to fill in later.
- If an error is made, make corrections by drawing a single line through the error and initialing it.
- Maintain control of the logbook and keep in a secure location.

Field logbooks will contain, at a minimum, the following information, if applicable:

General Information

- Name, location of site, and work order number
- Name of the Site Manager or Field Team Leader
- Names and responsibilities of all field team members using the logbook (or involved with activities for which entries are being made)
- Weather conditions
- Field observations
- Names of any site visitors including entities that they represent

Sample Collection Activities

- Date(s) and times of the sample collection or event.
- Number and types of collected samples.
- Sample location with an emphasis on any changes to documentation in governing documents (i.e., SAP, FSP). This may include measurements from reference points or sketches of sample locations with respect to local features.
- Sample identification numbers, including any applicable cross-references to split samples or samples collected by another entity.
- A description of sampling methodology, or reference to any governing document (i.e., FSP, SAP, QAPP).
- Summary of equipment preparation and decontamination procedures.
- Sample description including depth, color, texture, moisture content, and evidence of waste material or staining.
- Air monitoring (field screening) results.
- Types of laboratory analyses requested.

Site Health and Safety Activities

- All safety, accident, and/or incident reports.

- Real-time personnel air monitoring results, if applicable, or if not documented in the HASP.
- Heat/cold stress monitoring data, if applicable.
- Reasons for upgrades or downgrades in personal protective equipment.
- Health and safety inspections, checklists (drilling safety guide), meetings/briefings.
- Calibration records for field instruments.

Oversight Activities

- Progress and activities performed by contractors including operating times.
- Deviations of contractor activities with respect to project governing documents (i.e., specifications).
- Contractor sampling results and disposition of contingent soil materials/stockpiles.
- Excavation specifications and locations of contractor confirmation samples.
- General site housekeeping and safety issues by site contractors.

APPENDIX C

TDD NO. 5/WESTON-042-15-004

Technical Direction Document

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Vendor : WESTON SOLUTIONS, INC.

TDD # : 5/WESTON-042-15-004
Amendment # :
Contract # : EP-W-06-042

TDD Title : Wilcox Oil
Purpose : TDD INITIATION
Priority : HIGH
Overtime Authorized : Yes
Invoice Unit :

Verbal Date :
Start Date : 12/03/2014
Completion Date : 04/30/2015
Effective Date : 12/03/2014

SSID : O6GG
Project/Site Name : Wilcox Oil
Project Address : West 221st St. South/Refinery Road
County : Creek County
City : Bristow
State : OK
Zip Code : 74010

Work Area : Response / Removal
Work Area Code :
Activity : Removal Ass'mnt w/On-Site (walk,survey, or sample)
Activity Code : RS
Operable Unit :
Emergency Code :
FPN :
Performance Based : No

Authorized TDD Ceiling :

	Amount	LOE (Hours)
Previous Action(s) :	$0.00	0.00
This Action :	$20,000.00	0.00
New Total :	$20,000.00	0.00

Specific Elements :

Description of Work :

See Schedule

Region Specific :

CERCLIS:

Misc 2 :

Accounting and Appropriation Information:

SFO:

Line	Budget / FY	Approp. Code	Budget Org.	Program Element	Object Class	Site Project	Cost Org.	DCN Line-ID	Funding Category	TDD Amount
1	07	T	6A00	302DC6C	2505	06GGRV00	C001	076ARVC006-001	REMOVAL	$716.51
2	06	T	6A00	302DD2C	2505	06GGRS00	C001	066APLC041-*	CERCLA PIPELINE	$1,772.85
3	10	T	6A00	302DD2C	2505	06GGRS00	C001	106APLC017-001	CERCLA PIPELINE	$6,000.00
4	12	T	6A00	303DC6	2505	06GGRV00	C001	126ARVC031-001	REMOVAL	$11,510.64

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

TDD # : 5/WESTON-042-15-004
Amendment # :
Contract # : EP-W-06-042

Vendor : WESTON SOLUTIONS, INC.

Project Officer : Will LaBombard	(Signature)	(Date)	**Branch Mail Code:**
		Phone Number : 214-665-7199
		Fax Number :
Contracting Officer Representative : Mark Hayes	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2705
		Fax Number :
Contract Specialist: Michael J. Pheeny	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Contracting Officer : Michael J. Pheeny	Electronically Signed by Michael J. Pheeny (Signature)	12/03/2014 (Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Other Agency Official :	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number :
		Fax Number :

Description of Work:TDD to initiate the following tasks:
Contractor shall collect soil samples to determine the extent of Lead contamination on designated residential properties. Location, type, and method of sample collection will be determined by the OSC. Contractor shall collect all facts and iformation pertaining to residential properties. Contractor shall review analytical resuls and provide technical advice to the OSC. Contractor shall develop sampling plan. Contractor shall document all site activities and provide web based reporting as directed by OSC. Contact OSC Hayes at 214-232-7134 to discuss site tasks.

The ceiling to initiate this TDD is $20,000.00

Technical Direction Document

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Vendor : WESTON SOLUTIONS, INC.

TDD # : 5/WESTON-042-15-004
Amendment # : 001
Contract # : EP-W-06-042

TDD Title : Wilcox Oil
Purpose : TDD INITIATION
Priority : HIGH
Overtime Authorized : Yes
Invoice Unit :

Verbal Date :
Start Date : 12/03/2014
Completion Date : 04/30/2015
Effective Date : 12/03/2014

SSID : O6GG
Project/Site Name : Wilcox Oil
Project Address : West 221st St. South/Refinery Road
County : Creek County
City : Bristow
State : OK
Zip Code : 74010

Work Area : Response / Removal
Work Area Code :
Activity : Removal Ass'mnt w/On-Site (walk,survey, or sample
Activity Code : RS
Operable Unit :
Emergency Code :
FPN :
Performance Based : No

Authorized TDD Ceiling :

	Amount	LOE (Hours)
Previous Action(s) :	$20,000.00	0.00
This Action :	$10,000.00	0.00
New Total :	$30,000.00	0.00

Specific Elements :

Description of Work :

See Schedule

Region Specific :

CERCLIS:

Misc 2 :

Accounting and Appropriation Information:

SFO:

Line	Budget / FY	Approp. Code	Budget Org.	Program Element	Object Class	Site Project	Cost Org.	DCN Line-ID	Funding Category	TDD Amount
1	07	T	6A00	302DC6C	2505	06THRS00	C001	076ARVC023-*	REMOVAL SUPPORT	$10,000.00

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

TDD # : 5/WESTON-042-15-004
Amendment # : 001
Contract # : EP-W-06-042

Vendor : WESTON SOLUTIONS, INC.

Project Officer : Will LaBombard	(Signature)	(Date)	**Branch Mail Code:**
		Phone Number : 214-665-7199
		Fax Number :
Contracting Officer Representative : Mark Hayes	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2705
		Fax Number :
Contract Specialist: Michael J. Pheeny	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Contracting Officer : Michael J. Pheeny	Electronically Signed by Michael J. Pheeny (Signature)	12/10/2014 (Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Other Agency Official :	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number :
		Fax Number :

Description of Work:
Amendment 001 - This amendment increases the TDD celing by $10,000 to allow for the continuation of work. The SOW remains unchanged.
Base ORIG - TDD to initiate the following tasks:
Contractor shall collect soil samples to determine the extent of Lead contamination on designated residential properties. Location, type, and method of sample collection will be determined by the OSC. Contractor shall collect all facts and iformation pertaining to residential properties. Contractor shall review analytical resuls and provide technical advice to the OSC. Contractor shall develop sampling plan. Contractor shall document all site activities and provide web based reporting as directed by OSC. Contact OSC Hayes at 214-232-7134 to discuss site tasks.

The ceiling to initiate this TDD is $20,000.00

ADDENDUM NO. 1
TO THE FEBRUARY 2015
REMOVAL ASSESSMENT
QUALITY ASSURANCE SAMPLING PLAN

FOR

WILCOX OIL
WEST 221ST STREET SOUTH / REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

Prepared for

U.S. Environmental Protection Agency Region 6
Will LaBombard, Project Officer
1445 Ross Avenue
Dallas, Texas 75202

Contract No. EP-W-06-042
Technical Direction Document No. 5/WESTON-042-15-004
WESTON Work Order No. 20406.012.005.0919.01
NRC No. N/A
CERCLIS No. OK0001010917
FPN N/A
EPA OSC: Mark Hayes
START-3 PTL: Derrick Cobb

Prepared by

Weston Solutions, Inc.
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April 2015

TABLE OF CONTENTS

Section **Page**

1. INTRODUCTION 1

2. PROJECT TEAM 1

3. PROJECT OBJECTIVE 2

4. SAMPLING APPROACH 2

4.1 SOIL SAMPLING 2

4.2 LABORATORY ANALYSIS 2

LIST OF APPENDICES

Appendix A EPA Residential Soil Regional Screening Levels (RSLs)

Appendix B Site-Specific Data Quality Objective

Appendix C Proposed Sample Location Maps

Appendix D TDD NO. 5/WESTON-042-15-004

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®), the Superfund Technical Assessment and Response Team (START-3) Contractor, has been tasked by the U.S. Environmental Protection Agency (EPA) Region 6 under Contract Number EP-W-06-042, Technical Direction Document (TDD) No. 5/WESTON-042-15-004 (Appendix D) to conduct a removal assessment at the Wilcox Oil Site located in Bristow, Creek County, Oklahoma. Site coordinates are Latitude 35.842144° North and Longitude 96.381456° West. This is Addendum No. 1 to the February 2015 Removal Assessment Quality Assurance Sampling Plan (QASP) prepared under TDD 5/WESTON-042-15-004. The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database number assigned to the site is OK0001010917. All figures are provided as separate portable document format (PDF) files.

2. PROJECT TEAM

The Project Team will consist of Jeff Criner, Site Inspection/Assessment Manager; Derrick Cobb, Project Team Leader (PTL); and additional personnel as necessary. The PTL will be responsible for the technical quality of work performed in the field and will serve as the liaison to EPA Region 6 personnel in the field during the site activities. The PTL, with the concurrence of EPA, will determine the precise location for sample collection in the field, collect samples as necessary, log the activities at each sample location in the field logbook, and verify the sample documentation. The Data Manager will be responsible for entering all samples collected into SCRIBE; producing accurate chain-of-custody documentation for the samples during the assessment; and entering daily operations and sample collection data into the Regional Response Center-Enterprise Data Management System (RRC-EDMS) Response Manager software. The PTL will oversee packaging and shipping of samples to a contracted laboratory. The PTL will also be responsible for providing overall site health and safety support during the removal assessment field activities.

3. PROJECT OBJECTIVE

Performing the removal assessment and collecting the data necessary will assist EPA in determining if the site presents a threat to public health or welfare of the United States or the environment in accordance with 40 Code of Federal Regulations (CFR) 300.415 as well as the extent of such contamination.

The objective of the removal assessment is to investigate the nature and extent of site-related contaminants in the soil associated with the Wilcox Oil Site. This removal assessment will help determine the locations and estimated volumes of soil that may need to be removed during the removal phase. The objective of the removal assessment will be achieved by evaluating both historical data and current analytical results obtained during the collection of samples from representative locations. Soil samples will be analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and metals. Soil sample results will be compared to the EPA Residential Soil Regional Screening Levels (RSLs) (Appendix A).

4. SAMPLING APPROACH

The EPA Team will follow soil sampling procedures and appropriate Standard Operating Procedures (SOPs). The Site-Specific Data Quality Objective (DQO) for soil sampling is included as Appendix B.

4.1 SOIL SAMPLING

Approximately 256 soil samples (including quality assurance/quality control samples) will be collected from 58 sample locations on the site. The EPA OSC and START-3 developed a sampling strategy to collect data from residential properties throughout the site and adjacent to the site. Proposed Sample Location Maps are included in Appendix C.

4.2 LABORATORY ANALYSIS

Samples collected will be analyzed by the EPA Region 6 Laboratory and/or by the EPA-designated CLP laboratories. The following methods of analysis will be conducted:

- Volatile Organic Target Compound List – SOM01.2
- Semi-volatile Target Compound List – SOM01.2
- Pesticides/Aroclors Target Compound List – SOM01.2
- Target Analyte List (TAL) Metals (including Mercury) – ISM01.3

EPA will conduct data validation of the site analytical data, and data validation will be conducted in accordance with the EPA CLP National Function Guidelines for Superfund Organic/Inorganic Methods Data Review (June 2008 and January 2010).

APPENDIX A

EPA RESIDENTIAL SOIL REGIONAL SCREENING LEVELS (RSLs)

Key: T = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See TAG #27); H = HEAST; O = New Jersey; G = EPA Office of Water; F = See TAG; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
ALAR	1596-84-5	3.9E+01	1.3E+02	7.5E+05	3.0E+01	1.2E+03	4.4E+03		9.2E+02
Acephate	30560-19-1	8.0E+01	2.6E+02		6.1E+01	3.1E+01	1.2E+02		2.5E+01
Acetaldehyde	75-07-0			1.1E+01	1.1E+01			8.2E+00	8.2E+00
Acetochlor	34256-82-1					1.6E+02	5.8E+02		1.2E+02
Acetone	67-64-1					7.0E+03		4.4E+04	6.1E+03
Acetone Cyanohydrin	75-86-5							5.0E+00	5.0E+00
Acetonitrile	75-05-8							8.1E+01	8.1E+01
Acetophenone	98-86-2					7.8E+02			7.8E+02
Acetylaminofluorene, 2-	53-96-3	1.8E-01	6.0E-01	2.9E+03	1.4E-01				
Acrolein	107-02-8					3.9E+00		1.4E-02	1.4E-02
Acrylamide	79-06-1	3.1E-01	1.1E+00	1.4E+04	2.4E-01	1.6E+01	5.8E+01	8.5E+05	1.2E+01
Acrylic Acid	79-10-7					3.9E+03	1.5E+04	1.4E+05	3.0E+03
Acrylonitrile	107-13-1	1.3E+00		3.2E-01	2.5E-01	3.1E+02		1.6E+00	1.6E+00
Adiponitrile	111-69-3							8.5E+05	8.5E+05
Alachlor	15972-60-8	1.2E+01	4.1E+01		9.5E+00	7.8E+01	2.9E+02		6.2E+01
Aldicarb	116-06-3					7.8E+00	2.9E+01		6.2E+00
Aldicarb Sulfone	1646-88-4					7.8E+00	2.9E+01		6.2E+00
Aldicarb sulfoxide	1646-87-3								
Aldrin	309-00-2	4.1E-02	1.3E-01	7.8E+02	3.1E-02	2.3E-01	8.7E-01		1.8E-01
Ally	74223-64-6					2.0E+03	7.3E+03		1.5E+03
Allyl Alcohol	107-18-6					3.9E+01	1.5E+02	1.4E+04	3.1E+01
Allyl Chloride	107-05-1	3.3E+01		7.4E-01	7.2E-01			1.7E-01	1.7E-01
Aluminum	7429-90-5					7.8E+03		7.1E+05	7.7E+03
Aluminum Phosphide	20859-73-8					3.1E+00			3.1E+00
Amdro	67485-29-4					2.3E+00	8.7E+00		1.8E+00
Ametryn	834-12-8					7.0E+01	2.6E+02		5.5E+01
Aminobiphenyl, 4-	92-67-1	3.3E-02	1.1E-01	6.4E+02	2.5E-02				
Aminophenol, m-	591-27-5					6.3E+02	2.3E+03		4.9E+02
Aminophenol, p-	123-30-8					1.6E+02	5.8E+02		1.2E+02
Amitraz	33089-61-1					2.0E+01	7.3E+01		1.5E+01
Ammonia	7664-41-7								
Ammonium Sulfamate	7773-06-0					1.6E+03			1.6E+03
Amyl Alcohol, tert-	75-85-4							8.2E+00	8.2E+00
Aniline	62-53-3	1.2E+02	4.0E+02	2.4E+06	9.3E+01	5.5E+01	2.0E+02	1.4E+05	4.3E+01
Anthraquinone, 9,10-	84-65-1	1.7E+01	5.7E+01		1.3E+01	1.6E+01	5.8E+01		1.2E+01
Antimony (metallic)	7440-36-0					3.1E+00			3.1E+00
Antimony Pentoxide	1314-60-9					3.9E+00			3.9E+00
Antimony Potassium Tartrate	11071-15-1					7.0E+00			7.0E+00
Antimony Tetroxide	1332-81-6					3.1E+00			3.1E+00
Antimony Trioxide	1309-64-4							2.8E+04	2.8E+04
Apollo	74115-24-5					1.0E+02	3.8E+02		8.0E+01
Aramite	140-57-8	2.8E+01	9.1E+01	5.4E+05	2.1E+01	3.9E+02	1.5E+03		3.1E+02

TR=1E-06
HQ=0.1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See PPRTV User Guide); H = HEAST; O = New Jersey; G = EPA Office of Water; T = See PAQ; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Arsenic, Inorganic	7440-38-2	7.7E-01	5.1E+00	8.9E+02	6.7E-01	3.9E+00	2.9E+01	2.1E+03	3.4E+00
Arsine	7784-42-1					2.7E-02		7.1E+03	2.7E-02
Assure	76578-14-8					7.0E+01	2.6E+02		5.5E+01
Asulam	3337-71-1					3.9E+02	1.5E+03		3.1E+02
Atrazine	1912-24-9	3.0E+00	9.9E+00		2.3E+00	2.7E+02	1.0E+03		2.2E+02
Auramine	492-80-8	7.9E-01	2.6E+00	1.5E+04	6.1E-01				
Avermectin B1	65195-55-3					3.1E+00	1.2E+01		2.5E+00
Azobenzene	103-33-3	6.3E+00		4.7E+01	5.6E+00				
Azodicarbonamide	123-77-3					7.8E+03	2.9E+04	9.9E+02	8.5E+02
Barium	7440-39-3					1.6E+03		7.1E+04	1.5E+03
Barium Chromate	10294-40-3	3.1E-01		9.2E+00	3.0E-01	1.6E+02		2.8E+04	1.6E+02
Baygon	114-26-1					3.1E+01	1.2E+02		2.5E+01
Bayleton	43121-43-3					2.3E+02	8.7E+02		1.8E+02
Baythroid	68359-37-5					2.0E+02	7.3E+02		1.5E+02
Benefin	1861-40-1					2.3E+03	8.7E+03		1.8E+03
Benomyl	17804-35-2					3.9E+02	1.5E+03		3.1E+02
Bentazon	25057-89-0					2.3E+02	8.7E+02		1.8E+02
Benzaldehyde	100-52-7					7.8E+02			7.8E+02
Benzene	71-43-2	1.3E+01		1.3E+00	1.2E+00	3.1E+01		1.1E+01	8.2E+00
Benzenediamine-2-methyl sulfate, 1,4-	6369-59-1	7.0E+00	2.3E+01		5.3E+00	2.3E+00	8.7E+00		1.8E+00
Benzenethiol	108-98-5					7.8E+00			7.8E+00
Benzidine	92-87-5	6.7E-04	2.3E-03	2.1E+01	5.2E-04	2.3E+01	8.7E+01		1.8E+01
Benzoic Acid	65-85-0					3.1E+04	1.2E+05		2.5E+04
Benzotrichloride	98-07-7	5.3E-02			5.3E-02				
Benzyl Alcohol	100-51-6					7.8E+02	2.9E+03		6.2E+02
Benzyl Chloride	100-44-7	4.1E+00		1.5E+00	1.1E+00	1.6E+01		2.7E+00	2.3E+00
Beryllium and compounds	7440-41-7			1.6E+03	1.6E+03	1.6E+01		2.8E+03	1.6E+01
Bidrin	141-66-2					7.8E-01	2.9E+00		6.2E-01
Bifenox	42576-02-3					7.0E+01	2.6E+02		5.5E+01
Biphenthrin	82657-04-3					1.2E+02	4.4E+02		9.2E+01
Biphenyl, 1,1'-	92-52-4	8.7E+01			8.7E+01	3.9E+03		4.8E+00	4.7E+00
Bis(2-chloro-1-methylethyl) ether	108-60-1	9.9E+00		9.8E+00	4.9E+00	3.1E+02			3.1E+02
Bis(2-chloroethoxy)methane	111-91-1					2.3E+01	8.7E+01		1.8E+01
Bis(2-chloroethyl)ether	111-44-4	6.3E-01		3.6E-01	2.3E-01				
Bis(chloromethyl)ether	542-88-1	3.2E-03		8.5E-05	8.3E-05				
Bisphenol A	80-05-7					3.9E+02	1.5E+03		3.1E+02
Boron And Borates Only	7440-42-8					1.6E+03		2.8E+06	1.6E+03
Boron Trichloride	10294-34-5					1.6E+04		2.8E+06	1.6E+04
Boron Trifluoride	7637-07-2					3.1E+02		1.8E+06	3.1E+02
Bromate	15541-45-4	9.9E-01			9.9E-01	3.1E+01			3.1E+01
Bromo-2-chloroethane, 1-	107-04-0	3.5E-01		2.8E-02	2.6E-02				
Bromobenzene	108-86-1					6.3E+01		5.2E+01	2.9E+01

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Bromochloromethane	74-97-5							1.5E+01	1.5E+01
Bromodichloromethane	75-27-4	1.1E+01		3.0E-01	2.9E-01	1.6E+02			1.6E+02
Bromoform	75-25-2	8.8E+01	2.9E+02	3.5E+06	6.7E+01	1.6E+02	5.8E+02		1.2E+02
Bromomethane	74-83-9					1.1E+01		7.3E-01	6.8E-01
Bromophos	2104-96-3					3.9E+01	1.5E+02		3.1E+01
Bromoxynil	1689-84-5					1.6E+02	5.8E+02		1.2E+02
Bromoxynil Octanoate	1689-99-2					1.6E+02	5.8E+02		1.2E+02
Butadiene, 1,3-	106-99-0	2.0E-01		8.1E-02	5.8E-02			1.8E-01	1.8E-01
Butanol, N-	71-36-3					7.8E+02	2.9E+03		6.2E+02
Butyl Benzyl Phthlate	85-68-7	3.7E+02	1.2E+03		2.8E+02	1.6E+03	5.8E+03		1.2E+03
Butyl alcohol, sec-	78-92-2					1.6E+04	5.8E+04	4.3E+09	1.2E+04
Butylate	2008-41-5					3.9E+02	1.5E+03		3.1E+02
Butylated hydroxyanisole	25013-16-5	3.5E+03	1.1E+04	6.7E+07	2.7E+03				
Butylated hydroxytoluene	128-37-0	1.9E+02	6.3E+02		1.5E+02	2.3E+03	8.7E+03		1.8E+03
Butylbenzene, n-	104-51-8					3.9E+02			3.9E+02
Butylbenzene, sec-	135-98-8					7.8E+02			7.8E+02
Butylbenzene, tert-	98-06-6					7.8E+02			7.8E+02
Cacodylic Acid	75-60-5					1.6E+02	5.8E+02		1.2E+02
Cadmium (Diet)	7440-43-9			2.1E+03	2.1E+03	7.8E+00	7.3E+01	1.4E+03	7.0E+00
Cadmium (Water)	7440-43-9								
Calcium Chromate	13765-19-0	3.1E-01		9.2E+00	3.0E-01	1.6E+02		2.8E+04	1.6E+02
Caprolactam	105-60-2					3.9E+03	1.5E+04	3.1E+05	3.1E+03
Captafol	2425-06-1	4.6E+00	1.5E+01	8.9E+04	3.6E+00	1.6E+01	5.8E+01		1.2E+01
Captan	133-06-2	3.0E+02	9.9E+02	5.8E+06	2.3E+02	1.0E+03	3.8E+03		8.0E+02
Carbaryl	63-25-2					7.8E+02	2.9E+03		6.2E+02
Carbofuran	1563-66-2					3.9E+01	1.5E+02		3.1E+01
Carbon Disulfide	75-15-0					7.8E+02		8.5E+01	7.7E+01
Carbon Tetrachloride	56-23-5	9.9E+00		7.0E-01	6.5E-01	3.1E+01		1.6E+01	1.0E+01
Carbosulfan	55285-14-8					7.8E+01	2.9E+02		6.2E+01
Carboxin	5234-68-4					7.8E+02	2.9E+03		6.2E+02
Ceric oxide	1306-38-3							1.3E+05	1.3E+05
Chloral Hydrate	302-17-0					7.8E+02	2.9E+03		6.2E+02
Chloramben	133-90-4					1.2E+02	4.4E+02		9.2E+01
Chloranil	118-75-2	1.7E+00	5.6E+00		1.3E+00				
Chlordane	12789-03-6	2.0E+00	1.6E+01	3.8E+04	1.8E+00	3.9E+00	3.6E+01	9.9E+04	3.5E+00
Chlordecone (Kepone)	143-50-0	7.0E-02	2.3E-01	8.3E+02	5.3E-02	2.3E+00	8.7E+00		1.8E+00
Chlorfenvinphos	470-90-6					5.5E+00	2.0E+01		4.3E+00
Chlorimuron, Ethyl-	90982-32-4					1.6E+02	5.8E+02		1.2E+02
Chlorine	7782-50-5					7.8E+02		2.1E+04	7.5E+02
Chlorine Dioxide	10049-04-4					2.3E+02		2.8E+04	2.3E+02
Chlorite (Sodium Salt)	7758-19-2					2.3E+02			2.3E+02
Chloro-1,1-difluoroethane, 1-	75-68-3							5.4E+03	5.4E+03

R=1E-06
HQ=0.1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See PAQ #27); H = HEAST; O = New Jersey; G = EPA Office of Water; T = See PAQ; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Chloro-1,3-butadiene, 2-	126-99-8			1.0E-02	1.0E-02	1.6E+02		2.2E+00	2.2E+00
Chloro-2-methylaniline HCl, 4-	3165-93-3	1.5E+00	4.9E+00		1.2E+00				
Chloro-2-methylaniline, 4-	95-69-2	7.0E+00	2.3E+01	5.0E+04	5.3E+00	2.3E+01	8.7E+01		1.8E+01
Chloroacetaldehyde, 2-	107-20-0	2.6E+00	8.4E+00		2.0E+00				
Chloroacetic Acid	79-11-8					1.6E+01	5.8E+01		1.2E+01
Chloroacetophenone, 2-	532-27-4							4.3E+03	4.3E+03
Chloroaniline, p-	106-47-8	3.5E+00	1.1E+01		2.7E+00	3.1E+01	1.2E+02		2.5E+01
Chlorobenzene	108-90-7					1.6E+02		3.4E+01	2.8E+01
Chlorobenzilate	510-15-6	6.3E+00	2.1E+01	1.2E+05	4.8E+00	1.6E+02	5.8E+02		1.2E+02
Chlorobenzoic Acid, p-	74-11-3					2.3E+02	8.7E+02		1.8E+02
Chlorobenzotrifluoride, 4-	98-56-6					2.3E+01		2.1E+02	2.1E+01
Chlorobutane, 1-	109-69-3					3.1E+02			3.1E+02
Chlorodifluoromethane	75-45-6							4.9E+03	4.9E+03
Chloroethanol, 2-	107-07-3					1.6E+02	5.8E+02		1.2E+02
Chloroform	67-66-3	2.2E+01		3.2E-01	3.2E-01	7.8E+01		2.7E+01	2.0E+01
Chloromethane	74-87-3							1.1E+01	1.1E+01
Chloromethyl Methyl Ether	107-30-2	2.9E-01		2.2E-02	2.0E-02				
Chloronitrobenzene, o-	88-73-3	2.3E+00	7.6E+00		1.8E+00	2.3E+01	8.7E+01	1.4E+03	1.8E+01
Chloronitrobenzene, p-	100-00-5	1.1E+02	3.6E+02		8.5E+01	7.8E+00	2.9E+01	8.5E+04	6.2E+00
Chlorophenol, 2-	95-57-8					3.9E+01			3.9E+01
Chloropicrin	76-06-2							2.0E-01	2.0E-01
Chlorothalonil	1897-45-6	2.2E+02	7.3E+02	4.3E+06	1.7E+02	1.2E+02	4.4E+02		9.2E+01
Chlorotoluene, o-	95-49-8					1.6E+02			1.6E+02
Chlorotoluene, p-	106-43-4					1.6E+02			1.6E+02
Chlorozotocin	54749-90-5	2.9E-03	9.5E-03	5.5E+01	2.2E-03				
Chlorpropham	101-21-3					1.6E+03	5.8E+03		1.2E+03
Chlorpyrifos	2921-88-2					7.8E+00	2.9E+01		6.2E+00
Chlorpyrifos Methyl	5598-13-0					7.8E+01	2.9E+02		6.2E+01
Chlorsulfuron	64902-72-3					3.9E+02	1.5E+03		3.1E+02
Chlorthiophos	60238-56-4					6.3E+00	2.3E+01		4.9E+00
Chromium(III), Insoluble Salts	16065-83-1					1.2E+04			1.2E+04
Chromium(VI)	18540-29-9	3.1E-01		1.6E+01	3.0E-01	2.3E+01		1.4E+04	2.3E+01
Chromium, Total	7440-47-3								
Cobalt	7440-48-4			4.2E+02	4.2E+02	2.3E+00		8.5E+02	2.3E+00
Coke Oven Emissions	8007-45-2								
Copper	7440-50-8					3.1E+02			3.1E+02
Cresol, m-	108-39-4					3.9E+02	1.5E+03	8.5E+07	3.1E+02
Cresol, o-	95-48-7					3.9E+02	1.5E+03	8.5E+07	3.1E+02
Cresol, p-	106-44-5					7.8E+02	2.9E+03	8.5E+07	6.2E+02
Cresol, p-chloro-m-	59-50-7					7.8E+02	2.9E+03		6.2E+02
Cresols	1319-77-3					7.8E+02	2.9E+03	8.5E+07	6.2E+02
Crotonaldehyde, trans-	123-73-9	3.7E-01			3.7E-01	7.8E+00			7.8E+00

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Cumene	98-82-8					7.8E+02		2.6E+02	1.9E+02
Cupferron	135-20-6	3.2E+00	1.0E+01	6.1E+04	2.4E+00				
Cyanazine	21725-46-2	8.3E-01	2.7E+00		6.3E-01	1.6E+01	5.8E+01		1.2E+01
Cyanides									
~Calcium Cyanide	592-01-8					7.8E+00			7.8E+00
~Copper Cyanide	544-92-3					3.9E+01			3.9E+01
~Cyanide (CN-)	57-12-5					4.7E+00		3.9E+00	2.1E+00
~Cyanogen	460-19-5					7.8E+00			7.8E+00
~Cyanogen Bromide	506-68-3					7.0E+02			7.0E+02
~Cyanogen Chloride	506-77-4					3.9E+02			3.9E+02
~Hydrogen Cyanide	74-90-8					4.7E+00		4.4E+00	2.3E+00
~Potassium Cyanide	151-50-8					1.6E+01			1.6E+01
~Potassium Silver Cyanide	506-61-6					3.9E+01			3.9E+01
~Silver Cyanide	506-64-9					7.8E+02			7.8E+02
~Sodium Cyanide	143-33-9					7.8E+00			7.8E+00
~Thiocyanates	NA					1.6E+00			1.6E+00
~Thiocyanic Acid	463-56-9					1.6E+00			1.6E+00
~Zinc Cyanide	557-21-1					3.9E+02			3.9E+02
Cyclohexane	110-82-7							6.5E+02	6.5E+02
Cyclohexane, 1,2,3,4,5-pentabromo-6-chloro-	87-84-3	3.0E+01	9.9E+01		2.3E+01				
Cyclohexanone	108-94-1					3.9E+04	1.5E+05	9.9E+07	3.1E+04
Cyclohexene	110-83-8					3.9E+01		1.4E+02	3.1E+01
Cyclohexylamine	108-91-8					1.6E+03	5.8E+03		1.2E+03
Cyhalothrin/karate	68085-85-8					3.9E+01	1.5E+02		3.1E+01
Cypermethrin	52315-07-8					7.8E+01	2.9E+02		6.2E+01
Cyromazine	66215-27-8					5.9E+01	2.2E+02		4.6E+01
DDD	72-54-8	2.9E+00	9.5E+00	5.5E+04	2.2E+00				
DDE, p,p'-	72-55-9	2.0E+00	6.7E+00	3.9E+04	1.6E+00				
DDT	50-29-3	2.0E+00	2.2E+01	3.9E+04	1.9E+00	3.9E+00	4.8E+01		3.6E+00
Dacthal	1861-32-1					7.8E+01	2.9E+02		6.2E+01
Dalapon	75-99-0					2.3E+02	8.7E+02		1.8E+02
Decabromodiphenyl ether, 2,2',3,3',4,4',5,5',6,6'- (BDE-209)	1163-19-5	9.9E+02	3.3E+03		7.6E+02	5.5E+01	2.0E+02		4.3E+01
Demeton	8065-48-3					3.1E-01	1.2E+00		2.5E-01
Di(2-ethylhexyl)adipate	103-23-1	5.8E+02	1.9E+03		4.4E+02	4.7E+03	1.7E+04		3.7E+03
Diallate	2303-16-4	1.1E+01	3.7E+01		8.7E+00				
Diazinon	333-41-5					5.5E+00	2.0E+01		4.3E+00
Dibenzothiophene	132-65-0					7.8E+01			7.8E+01
Dibromo-3-chloropropane, 1,2-	96-12-8	1.9E-01		5.4E-03	5.3E-03	1.6E+00		6.7E-01	4.7E-01
Dibromobenzene, 1,3-	108-36-1					3.1E+00	1.2E+01		2.5E+00
Dibromobenzene, 1,4-	106-37-6					7.8E+01	2.9E+02		6.2E+01
Dibromochloromethane	124-48-1	8.3E+00	2.7E+01	8.3E-01	7.3E-01	1.6E+02	5.8E+02		1.2E+02
Dibromoethane, 1,2-	106-93-4	3.5E-01		4.0E-02	3.6E-02	7.0E+01		8.1E+00	7.3E+00

TR=1E-06
HQ=0.1

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Dibromomethane (Methylene Bromide)	74-95-3					7.8E+01		2.4E+00	2.3E+00
Dibutyltin Compounds	NA					2.3E+00	8.7E+00		1.8E+00
Dicamba	1918-00-9					2.3E+02	8.7E+02		1.8E+02
Dichloro-2-butene, 1,4-	764-41-0			7.4E-03	7.4E-03				
Dichloro-2-butene, cis-1,4-	1476-11-5			7.4E-03	7.4E-03				
Dichloro-2-butene, trans-1,4-	110-57-6			7.4E-03	7.4E-03				
Dichloroacetic Acid	79-43-6	1.4E+01	4.6E+01		1.1E+01	3.1E+01	1.2E+02		2.5E+01
Dichlorobenzene, 1,2-	95-50-1					7.0E+02		2.4E+02	1.8E+02
Dichlorobenzene, 1,4-	106-46-7	1.3E+02		2.7E+00	2.6E+00	5.5E+02		8.7E+02	3.4E+02
Dichlorobenzidine, 3,3'-	91-94-1	1.5E+00	5.1E+00	1.1E+04	1.2E+00				
Dichlorobenzophenone, 4,4'-	90-98-2					7.0E+01	2.6E+02		5.5E+01
Dichlorodifluoromethane	75-71-8					1.6E+03		8.8E+00	8.7E+00
Dichloroethane, 1,1-	75-34-3	1.2E+02		3.7E+00	3.6E+00	1.6E+03			1.6E+03
Dichloroethane, 1,2-	107-06-2	7.6E+00		4.9E-01	4.6E-01	4.7E+01		3.3E+00	3.1E+00
Dichloroethylene, 1,1-	75-35-4					3.9E+02		2.4E+01	2.3E+01
Dichloroethylene, 1,2-cis-	156-59-2					1.6E+01			1.6E+01
Dichloroethylene, 1,2-trans-	156-60-5					1.6E+02			1.6E+02
Dichlorophenol, 2,4-	120-83-2					2.3E+01	8.7E+01		1.8E+01
Dichlorophenoxy Acetic Acid, 2,4-	94-75-7					7.8E+01	5.8E+02		6.9E+01
Dichlorophenoxy)butyric Acid, 4-(2,4-	94-82-6					6.3E+01	2.3E+02		4.9E+01
Dichloropropane, 1,2-	78-87-5	1.9E+01		1.1E+00	1.0E+00	7.0E+02		1.6E+00	1.6E+00
Dichloropropane, 1,3-	142-28-9					1.6E+02			1.6E+02
Dichloropropanol, 2,3-	616-23-9					2.3E+01	8.7E+01		1.8E+01
Dichloropropene, 1,3-	542-75-6	7.0E+00		2.5E+00	1.8E+00	2.3E+02		7.4E+00	7.2E+00
Dichlorvos	62-73-7	2.4E+00	7.8E+00	4.6E+04	1.8E+00	3.9E+00	1.5E+01	7.1E+04	3.1E+00
Dicyclopentadiene	77-73-6					6.3E+02		1.3E-01	1.3E-01
Dieldrin	60-57-1	4.3E-02	1.4E-01	8.3E+02	3.3E-02	3.9E-01	1.5E+00		3.1E-01
Diesel Engine Exhaust	NA								
Diethanolamine	111-42-2					1.6E+01	5.8E+01	2.8E+04	1.2E+01
Diethylene Glycol Monobutyl Ether	112-34-5					2.3E+02	8.7E+02	1.4E+04	1.8E+02
Diethylene Glycol Monoethyl Ether	111-90-0					4.7E+02	1.7E+03	4.3E+04	3.7E+02
Diethylformamide	617-84-5					7.8E+00	2.9E+01		6.2E+00
Diethylstilbestrol	56-53-1	2.0E-03	6.5E-03	3.8E+01	1.5E-03				
Difenzoquat	43222-48-6					6.3E+02	2.3E+03		4.9E+02
Diflubenzuron	35367-38-5					1.6E+02	5.8E+02		1.2E+02
Difluoroethane, 1,1-	75-37-6							4.8E+03	4.8E+03
Dihydrosafrole	94-58-6	1.6E+01	5.2E+01	2.7E-01	2.6E-01				
Diisopropyl Ether	108-20-3							2.2E+02	2.2E+02
Diisopropyl Methylphosphonate	1445-75-6					6.3E+02			6.3E+02
Dimethipin	55290-64-7					1.6E+02	5.8E+02		1.2E+02
Dimethoate	60-51-5					1.6E+00	5.8E+00		1.2E+00
Dimethoxybenzidine, 3,3'-	119-90-4	4.3E-01	1.4E+00		3.3E-01				

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Dimethyl methylphosphonate	756-79-6	4.1E+02	1.3E+03		3.1E+02	4.7E+02	1.7E+03		3.7E+02
Dimethylamino azobenzene [p-]	60-11-7	1.5E-01	4.9E-01	2.9E+03	1.2E-01				
Dimethylaniline HCl, 2,4-	21436-96-4	1.2E+00	3.9E+00		9.2E-01				
Dimethylaniline, 2,4-	95-68-1	3.5E+00	1.1E+01		2.7E+00	1.6E+01	5.8E+01		1.2E+01
Dimethylaniline, N,N-	121-69-7					1.6E+01			1.6E+01
Dimethylbenzidine, 3,3'-	119-93-7	6.3E-02	2.1E-01		4.8E-02				
Dimethylformamide	68-12-2					7.8E+02	2.9E+03	4.3E+06	6.2E+02
Dimethylhydrazine, 1,1-	57-14-7					7.8E-01	2.9E+00	2.8E+02	6.2E-01
Dimethylhydrazine, 1,2-	540-73-8	1.3E-03	4.1E-03	2.4E+01	9.7E-04				
Dimethylphenol, 2,4-	105-67-9					1.6E+02	5.8E+02		1.2E+02
Dimethylphenol, 2,6-	576-26-1					4.7E+00	1.7E+01		3.7E+00
Dimethylphenol, 3,4-	95-65-8					7.8E+00	2.9E+01		6.2E+00
Dimethylvinylchloride	513-37-1	1.5E+01	5.1E+01	2.2E-01	2.1E-01				
Dinitro-o-cresol, 4,6-	534-52-1					6.3E-01	2.3E+00		4.9E-01
Dinitro-o-cyclohexyl Phenol, 4,6-	131-89-5					1.6E+01	5.8E+01		1.2E+01
Dinitrobenzene, 1,2-	528-29-0					7.8E-01	2.9E+00		6.2E-01
Dinitrobenzene, 1,3-	99-65-0					7.8E-01	2.9E+00		6.2E-01
Dinitrobenzene, 1,4-	100-25-4					7.8E-01	2.9E+00		6.2E-01
Dinitrophenol, 2,4-	51-28-5					1.6E+01	5.8E+01		1.2E+01
Dinitrotoluene Mixture, 2,4/2,6-	NA	1.0E+00	3.3E+00		7.8E-01				
Dinitrotoluene, 2,4-	121-14-2	2.2E+00	7.2E+00	4.3E+04	1.7E+00	1.6E+01	5.7E+01		1.2E+01
Dinitrotoluene, 2,6-	606-20-2	4.6E-01	1.5E+00		3.6E-01	2.3E+00	8.8E+00		1.9E+00
Dinitrotoluene, 2-Amino-4,6-	35572-78-2					1.6E+01	9.7E+02		1.5E+01
Dinitrotoluene, 4-Amino-2,6-	19406-51-0					1.6E+01	6.5E+02		1.5E+01
Dinitrotoluene, Technical grade	25321-14-6	1.5E+00	5.1E+00		1.2E+00	7.0E+00	2.6E+01		5.5E+00
Dinoseb	88-85-7					7.8E+00	2.9E+01		6.2E+00
Dioxane, 1,4-	123-91-1	7.0E+00	2.3E+01	7.6E+05	5.3E+00	2.3E+02	8.7E+02	4.3E+06	1.8E+02
Dioxins									
~Hexachlorodibenzo-p-dioxin, Mixture	NA	1.1E-04	1.2E-03	2.9E+00	1.0E-04				
~TCDD, 2,3,7,8-	1746-01-6	5.3E-06	5.8E-05	1.0E-01	4.9E-06	5.5E-06	6.8E-05	5.7E+00	5.1E-06
Diphenamid	957-51-7					2.3E+02	8.7E+02		1.8E+02
Diphenyl Sulfone	127-63-9					6.3E+00	2.3E+01		4.9E+00
Diphenylamine	122-39-4					2.0E+02	7.3E+02		1.5E+02
Diphenylhydrazine, 1,2-	122-66-7	8.7E-01	2.8E+00	1.7E+04	6.7E-01				
Diquat	85-00-7					1.7E+01	6.4E+01		1.4E+01
Direct Black 38	1937-37-7	9.8E-02	3.2E-01	2.7E+01	7.5E-02				
Direct Blue 6	2602-46-2	9.4E-02	3.1E-01	2.7E+01	7.2E-02				
Direct Brown 95	16071-86-6	1.0E-01	3.4E-01	2.7E+01	7.9E-02				
Disulfoton	298-04-4					3.1E-01	1.2E+00		2.5E-01
Dithiane, 1,4-	505-29-3					7.8E+01	2.9E+02		6.2E+01
Diuron	330-54-1					1.6E+01	5.8E+01		1.2E+01
Dodine	2439-10-3					3.1E+01	1.2E+02		2.5E+01

TR=1E-06
HQ=0.1

Key: T = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See PAQ #27); H = HEAST; O = New Jersey; G = EPA Office of Water; F = See PAQ; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
EPTC	759-94-4					2.0E+02			2.0E+02
Endosulfan	115-29-7					4.7E+01	1.7E+02		3.7E+01
Endothall	145-73-3					1.6E+02	5.8E+02		1.2E+02
Endrin	72-20-8					2.3E+00	8.7E+00		1.8E+00
Epichlorohydrin	106-89-8	7.0E+01		4.4E+01	2.7E+01	4.7E+01		2.0E+00	1.9E+00
Epoxybutane, 1,2-	106-88-7							1.6E+01	1.6E+01
Ethephon	16672-87-0					3.9E+01	1.5E+02		3.1E+01
Ethion	563-12-2					3.9E+00	1.5E+01		3.1E+00
Ethoxyethanol Acetate, 2-	111-15-9					7.8E+02	2.9E+03	8.5E+06	6.2E+02
Ethoxyethanol, 2-	110-80-5					7.0E+02	2.6E+03	2.8E+07	5.5E+02
Ethyl Acetate	141-78-6					7.0E+03		6.3E+01	6.2E+01
Ethyl Acrylate	140-88-5	1.4E+01			1.4E+01	3.9E+01		5.3E+00	4.7E+00
Ethyl Chloride (Chloroethane)	75-00-3							1.4E+03	1.4E+03
Ethyl Ether	60-29-7					1.6E+03			1.6E+03
Ethyl Methacrylate	97-63-2					7.0E+02		1.8E+02	1.4E+02
Ethyl-p-nitrophenyl Phosphonate	2104-64-5					7.8E-02	2.9E-01		6.2E-02
Ethylbenzene	100-41-4	6.3E+01		6.4E+00	5.8E+00	7.8E+02		5.9E+02	3.4E+02
Ethylene Cyanohydrin	109-78-4					5.5E+02	2.0E+03		4.3E+02
Ethylene Diamine	107-15-3					7.0E+02	2.6E+03		5.5E+02
Ethylene Glycol	107-21-1					1.6E+04	5.8E+04	5.7E+07	1.2E+04
Ethylene Glycol Monobutyl Ether	111-76-2					7.8E+02	2.9E+03	2.3E+08	6.2E+02
Ethylene Oxide	75-21-8	2.2E+00		1.9E-01	1.8E-01			1.9E+01	1.9E+01
Ethylene Thiourea	96-45-7	1.5E+01	5.1E+01	2.9E+05	1.2E+01	6.3E-01	2.3E+00		4.9E-01
Ethyleneimine	151-56-4	1.1E-02	3.5E-02	3.5E-03	2.5E-03				
Ethylphthalyl Ethyl Glycolate	84-72-0					2.3E+04	8.7E+04		1.8E+04
Express	101200-48-0					6.3E+01	2.3E+02		4.9E+01
Fenamiphos	22224-92-6					2.0E+00	7.3E+00		1.5E+00
Fenpropathrin	39515-41-8					2.0E+02	7.3E+02		1.5E+02
Fluometuron	2164-17-2					1.0E+02	3.8E+02		8.0E+01
Fluoride	16984-48-8					3.1E+02		1.8E+06	3.1E+02
Fluorine (Soluble Fluoride)	7782-41-4					4.7E+02		1.8E+06	4.7E+02
Fluridone	59756-60-4					6.3E+02	2.3E+03		4.9E+02
Flurprimidol	56425-91-3					1.6E+02	5.8E+02		1.2E+02
Flutolanil	66332-96-5					4.7E+02	1.7E+03		3.7E+02
Fluvalinate	69409-94-5					7.8E+01	2.9E+02		6.2E+01
Folpet	133-07-3	2.0E+02	6.5E+02		1.5E+02	7.8E+02	2.9E+03		6.2E+02
Fomesafen	72178-02-0	3.7E+00	1.2E+01		2.8E+00				
Fonofos	944-22-9					1.6E+01	5.8E+01		1.2E+01
Formaldehyde	50-00-0			2.9E+05	2.9E+05	1.6E+03	5.8E+03	1.4E+06	1.2E+03
Formic Acid	64-18-6					7.0E+03	2.6E+04	4.3E+04	4.9E+03
Fosetyl-AL	39148-24-8					2.3E+04	8.7E+04		1.8E+04
Furans									

R=1E-06

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
~Dibenzofuran	132-64-9					7.8E+00	9.7E+01		7.2E+00
~Furan	110-00-9					7.8E+00	9.7E+01		7.2E+00
~Tetrahydrofuran	109-99-9					7.0E+03	8.7E+04	2.5E+03	1.8E+03
Furazolidone	67-45-8	1.8E-01	6.0E-01		1.4E-01				
Furfural	98-01-1					2.3E+01	8.7E+01	7.1E+06	1.8E+01
Furium	531-82-8	4.6E-01	1.5E+00	8.9E+03	3.6E-01				
Furmecyclox	60568-05-0	2.3E+01	7.6E+01	4.4E+05	1.8E+01				
Glufosinate, Ammonium	77182-82-2					3.1E+00	1.2E+01		2.5E+00
Glutaraldehyde	111-30-8							1.1E+04	1.1E+04
Glycidyl	765-34-4					3.1E+00	1.2E+01	1.4E+05	2.5E+00
Glyphosate	1071-83-6					7.8E+02	2.9E+03		6.2E+02
Goal	42874-03-3					2.3E+01	8.7E+01		1.8E+01
Guanidine	113-00-8					7.8E+01	2.9E+02		6.2E+01
Guanidine Chloride	50-01-1					1.6E+02	5.8E+02		1.2E+02
Guthion	86-50-0					2.3E+01	8.7E+01	1.4E+06	1.8E+01
Haloxyfop, Methyl	69806-40-2					3.9E-01	1.5E+00		3.1E-01
Harmony	79277-27-3					1.0E+02	3.8E+02		8.0E+01
Heptachlor	76-44-8	1.5E-01	5.1E-01	2.9E+03	1.2E-01	3.9E+00	1.5E+01		3.1E+00
Heptachlor Epoxide	1024-57-3	7.6E-02	2.5E-01	1.5E+03	5.9E-02	1.0E-01	3.8E-01		8.0E-02
Hexabromobenzene	87-82-1					1.6E+01	5.8E+01		1.2E+01
Hexabromodiphenyl ether, 2,2',4,4',5,5'- (BDE-153)	68631-49-2					1.6E+00	5.8E+00		1.2E+00
Hexachlorobenzene	118-74-1	4.3E-01	1.4E+00	8.3E+03	3.3E-01	6.3E+00	2.3E+01		4.9E+00
Hexachlorobutadiene	87-68-3	8.9E+00	2.9E+01	1.7E+05	6.8E+00	7.8E+00	2.9E+01		6.2E+00
Hexachlorocyclohexane, Alpha-	319-84-6	1.1E-01	3.6E-01	2.1E+03	8.5E-02	6.3E+01	2.3E+02		4.9E+01
Hexachlorocyclohexane, Beta-	319-85-7	3.9E-01	1.3E+00	7.2E+03	3.0E-01				
Hexachlorocyclohexane, Gamma- (Lindane)	58-89-9	6.3E-01	5.2E+00	1.2E+04	5.6E-01	2.3E+00	2.2E+01		2.1E+00
Hexachlorocyclohexane, Technical	608-73-1	3.9E-01	1.3E+00	7.5E+03	3.0E-01				
Hexachlorocyclopentadiene	77-47-4					4.7E+01	1.7E+02	2.8E+04	3.7E+01
Hexachloroethane	67-72-1	1.7E+01	5.7E+01	3.5E+05	1.3E+01	5.5E+00	2.0E+01	4.3E+06	4.3E+00
Hexachlorophene	70-30-4					2.3E+00	8.7E+00		1.8E+00
Hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX)	121-82-4	6.3E+00	1.4E+02		6.0E+00	2.3E+01	5.8E+02		2.3E+01
Hexamethylene Diisocyanate, 1,6-	822-06-0							3.1E-01	3.1E-01
Hexamethylphosphoramide	680-31-9					3.1E+00	1.2E+01		2.5E+00
Hexane, N-	110-54-3					4.7E+02		6.1E+01	5.4E+01
Hexanedioic Acid	124-04-9					1.6E+04	5.8E+04		1.2E+04
Hexanone, 2-	591-78-6					3.9E+01		4.2E+01	2.0E+01
Hexazinone	51235-04-2					2.6E+02	9.6E+02		2.0E+02
Hydrazine	302-01-2	2.3E-01		7.8E+02	2.3E-01			4.3E+03	4.3E+03
Hydrazine Sulfate	10034-93-2	2.3E-01		7.8E+02	2.3E-01				
Hydrogen Chloride	7647-01-0							2.8E+06	2.8E+06
Hydrogen Fluoride	7664-39-3					3.1E+02		2.0E+06	3.1E+02
Hydrogen Sulfide	7783-06-4							2.8E+05	2.8E+05

HQ=0.1

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Hydroquinone	123-31-9	1.2E+01	3.8E+01		8.9E+00	3.1E+02	1.2E+03		2.5E+02
Imazalil	35554-44-0					1.0E+02	3.8E+02		8.0E+01
Imazaquin	81335-37-7					2.0E+03	7.3E+03		1.5E+03
Iodine	7553-56-2					7.8E+01			7.8E+01
Iprodione	36734-19-7					3.1E+02	1.2E+03		2.5E+02
Iron	7439-89-6					5.5E+03			5.5E+03
Isobutyl Alcohol	78-83-1					2.3E+03	8.7E+03		1.8E+03
Isophorone	78-59-1	7.3E+02	2.4E+03		5.6E+02	1.6E+03	5.8E+03	2.8E+08	1.2E+03
Isopropalin	33820-53-0					1.2E+02	4.4E+02		9.2E+01
Isopropanol	67-63-0					1.6E+04	5.8E+04	2.8E+07	1.2E+04
Isopropyl Methyl Phosphonic Acid	1832-54-8					7.8E+02	2.9E+03		6.2E+02
Isoxaben	82558-50-7					3.9E+02	1.5E+03		3.1E+02
JP-7	NA							4.3E+07	4.3E+07
Kerb	23950-58-5					5.9E+02	2.2E+03		4.6E+02
Lactofen	77501-63-4					1.6E+01	5.8E+01		1.2E+01
Lead Compounds									
~Lead Chromate	7758-97-6	3.1E-01		9.2E+00	3.0E-01	1.6E+02		2.8E+04	1.6E+02
~Lead Phosphate	7446-27-7	8.2E+01		3.2E+05	8.2E+01				
~Lead acetate	301-04-2	2.5E+00	8.1E+00	4.8E+04	1.9E+00				
~Lead and Compounds	7439-92-1								4.0E+02
~Lead subacetate	1335-32-6	8.2E+01	2.7E+02	3.2E+05	6.3E+01				
~Tetraethyl Lead	78-00-2					7.8E-04	2.9E-03		6.2E-04
Linuron	330-55-2					1.6E+01	5.8E+01		1.2E+01
Lithium	7439-93-2					1.6E+01			1.6E+01
Londax	83055-99-6					1.6E+03	5.8E+03		1.2E+03
MCPA	94-74-6					3.9E+00	1.5E+01		3.1E+00
MCPB	94-81-5					7.8E+01	2.9E+02		6.2E+01
MCPP	93-65-2					7.8E+00	2.9E+01		6.2E+00
Malathion	121-75-5					1.6E+02	5.8E+02		1.2E+02
Maleic Anhydride	108-31-6					7.8E+02	2.9E+03	9.9E+04	6.1E+02
Maleic Hydrazide	123-33-1					3.9E+03	1.5E+04		3.1E+03
Malononitrile	109-77-3					7.8E-01	2.9E+00		6.2E-01
Mancozeb	8018-01-7					2.3E+02	8.7E+02		1.8E+02
Maneb	12427-38-2					3.9E+01	1.5E+02		3.1E+01
Manganese (Diet)	7439-96-5								
Manganese (Non-diet)	7439-96-5					1.9E+02		7.1E+03	1.8E+02
Mephosfolan	950-10-7					7.0E-01	2.6E+00		5.5E-01
Mepiquat Chloride	24307-26-4					2.3E+02	8.7E+02		1.8E+02
Mercury Compounds									
~Mercuric Chloride (and other Mercury salts)	7487-94-7					2.3E+00		4.3E+04	2.3E+00
~Mercury (elemental)	7439-97-6							9.4E-01	9.4E-01
~Methyl Mercury	22967-92-6					7.8E-01			7.8E-01

TR=1E-06
HQ=0.1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See PAQ #27); H = HEAST; O = New Jersey; G = EPA Office of Water; T = See PAQ; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
~Phenylmercuric Acetate	62-38-4					6.3E-01	2.3E+00		4.9E-01
Merphos	150-50-5					2.3E-01	8.7E-01		1.8E-01
Merphos Oxide	78-48-8					2.3E-01	8.7E-01		1.8E-01
Metalaxyl	57837-19-1					4.7E+02	1.7E+03		3.7E+02
Methacrylonitrile	126-98-7					7.8E-01		2.1E+01	7.5E-01
Methamidophos	10265-92-6					3.9E-01	1.5E+00		3.1E-01
Methanol	67-56-1					1.6E+04	5.8E+04	2.8E+09	1.2E+04
Methidathion	950-37-8					7.8E+00	2.9E+01		6.2E+00
Methomyl	16752-77-5					2.0E+02	7.3E+02		1.5E+02
Methoxy-5-nitroaniline, 2-	99-59-2	1.4E+01	4.6E+01	2.7E+05	1.1E+01				
Methoxychlor	72-43-5					3.9E+01	1.5E+02		3.1E+01
Methoxyethanol Acetate, 2-	110-49-6					6.3E+01	2.3E+02	1.4E+05	4.9E+01
Methoxyethanol, 2-	109-86-4					3.9E+01	1.5E+02	2.8E+06	3.1E+01
Methyl Acetate	79-20-9					7.8E+03			7.8E+03
Methyl Acrylate	96-33-3					2.3E+02		1.5E+01	1.4E+01
Methyl Ethyl Ketone (2-Butanone)	78-93-3					4.7E+03		6.4E+03	2.7E+03
Methyl Hydrazine	60-34-4			3.8E+03	3.8E+03	7.8E+00	2.9E+01	2.8E+03	6.2E+00
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1					6.3E+02		3.3E+03	5.3E+02
Methyl Isocyanate	624-83-9							4.6E-01	4.6E-01
Methyl Methacrylate	80-62-6					1.1E+04		4.6E+02	4.4E+02
Methyl Parathion	298-00-0					2.0E+00	7.3E+00		1.5E+00
Methyl Phosphonic Acid	993-13-5					4.7E+02	1.7E+03		3.7E+02
Methyl Styrene (Mixed Isomers)	25013-15-4					4.7E+01		4.4E+01	2.3E+01
Methyl methanesulfonate	66-27-3	7.0E+00	2.3E+01	1.4E+05	5.4E+00				
Methyl tert-Butyl Ether (MTBE)	1634-04-4	3.9E+02		5.3E+01	4.7E+01			1.5E+03	1.5E+03
Methyl-1,4-benzenediamine dihydrochloride, 2-	615-45-2					2.3E+00	8.7E+00		1.8E+00
Methyl-5-Nitroaniline, 2-	99-55-8	7.7E+01	2.5E+02		5.9E+01	1.6E+02	5.8E+02		1.2E+02
Methyl-N-nitro-N-nitrosoguanidine, N-	70-25-7	8.4E-02	2.7E-01	1.6E+03	6.4E-02				
Methylaniline Hydrochloride, 2-	636-21-5	5.3E+00	1.8E+01	1.0E+05	4.1E+00				
Methylarsonic acid	124-58-3					7.8E+01	2.9E+02		6.2E+01
Methylbenzene,1-4-diamine monohydrochloride, 2-	74612-12-7					1.6E+00	5.8E+00		1.2E+00
Methylbenzene-1,4-diamine sulfate, 2-	615-50-9	7.0E+00	2.3E+01		5.3E+00	2.3E+00	8.7E+00		1.8E+00
Methylcholanthrene, 3-	56-49-5	7.0E-03	2.4E-02	2.2E+02	5.4E-03				
Methylene Chloride	75-09-2	7.7E+01		2.2E+02	5.7E+01	4.7E+01		1.4E+02	3.5E+01
Methylene-bis(2-chloroaniline), 4,4'-	101-14-4	1.5E+00	5.4E+00	3.2E+03	1.2E+00	1.6E+01	5.8E+01		1.2E+01
Methylene-bis(N,N-dimethyl) Aniline, 4,4'-	101-61-1	1.5E+01	4.9E+01	2.9E+05	1.2E+01				
Methylenebisbenzenamine, 4,4'-	101-77-9	4.3E-01	1.4E+00	8.3E+03	3.3E-01			2.8E+06	2.8E+06
Methylenediphenyl Diisocyanate	101-68-8							8.5E+04	8.5E+04
Methylstyrene, Alpha-	98-83-9					5.5E+02			5.5E+02
Metolachlor	51218-45-2					1.2E+03	4.4E+03		9.2E+02
Metribuzin	21087-64-9					2.0E+02	7.3E+02		1.5E+02
Mineral oils	8012-95-1					2.3E+04	8.7E+04		1.8E+04

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Mirex	2385-85-5	3.9E-02	1.3E-01	7.5E+02	3.0E-02	1.6E+00	5.8E+00		1.2E+00
Molinate	2212-67-1					1.6E+01	5.8E+01		1.2E+01
Molybdenum	7439-98-7					3.9E+01			3.9E+01
Monochloramine	10599-90-3					7.8E+02			7.8E+02
Monomethylaniline	100-61-8					1.6E+01	5.8E+01		1.2E+01
N,N'-Diphenyl-1,4-benzenediamine	74-31-7					2.3E+00	8.7E+00		1.8E+00
Naled	300-76-5					1.6E+01	5.8E+01		1.2E+01
Naphtha, High Flash Aromatic (HFAN)	64742-95-6					2.3E+02		1.4E+07	2.3E+02
Naphthylamine, 2-	91-59-8	3.9E-01	1.3E+00		3.0E-01				
Napropamide	15299-99-7					7.8E+02	2.9E+03		6.2E+02
Nickel Acetate	373-02-4			1.5E+04	1.5E+04	8.6E+01		2.0E+03	8.2E+01
Nickel Carbonate	3333-67-3			1.5E+04	1.5E+04	8.6E+01		2.0E+03	8.2E+01
Nickel Carbonyl	13463-39-3			1.5E+04	1.5E+04	8.6E+01		2.0E+03	8.2E+01
Nickel Hydroxide	12054-48-7			1.5E+04	1.5E+04	8.6E+01		2.0E+03	8.2E+01
Nickel Oxide	1313-99-1			1.5E+04	1.5E+04	8.6E+01		2.8E+03	8.4E+01
Nickel Refinery Dust	NA			1.6E+04	1.6E+04	8.6E+01		2.0E+03	8.2E+01
Nickel Soluble Salts	7440-02-0			1.5E+04	1.5E+04	1.6E+02		1.3E+04	1.5E+02
Nickel Subsulfide	12035-72-2	4.1E-01		8.0E+03	4.1E-01	8.6E+01		2.0E+03	8.2E+01
Nickelocene	1271-28-9			1.5E+04	1.5E+04	8.6E+01		2.0E+03	8.2E+01
Nitrate	14797-55-8					1.3E+04			1.3E+04
Nitrate + Nitrite (as N)	NA								
Nitrite	14797-65-0					7.8E+02			7.8E+02
Nitroaniline, 2-	88-74-4					7.8E+01	2.9E+02	7.1E+03	6.1E+01
Nitroaniline, 4-	100-01-6	3.5E+01	1.1E+02		2.7E+01	3.1E+01	1.2E+02	8.5E+05	2.5E+01
Nitrobenzene	98-95-3			5.1E+00	5.1E+00	1.6E+01		6.9E+01	1.3E+01
Nitrocellulose	9004-70-0					2.3E+07	8.7E+07		1.8E+07
Nitrofurantoin	67-20-9					5.5E+02	2.0E+03		4.3E+02
Nitrofurazone	59-87-0	5.3E-01	1.8E+00	1.0E+04	4.1E-01				
Nitroglycerin	55-63-0	4.1E+01	1.3E+02		3.1E+01	7.8E-01	2.9E+00		6.2E-01
Nitroguanidine	556-88-7					7.8E+02	2.9E+03		6.2E+02
Nitromethane	75-52-5			5.4E+00	5.4E+00			8.8E+00	8.8E+00
Nitropropane, 2-	79-46-9			1.4E-02	1.4E-02			2.7E+01	2.7E+01
Nitroso-N-ethylurea, N-	759-73-9	5.7E-03	2.0E-02	1.8E+02	4.4E-03				
Nitroso-N-methylurea, N-	684-93-5	1.3E-03	4.5E-03	4.1E+01	9.9E-04				
Nitroso-di-N-butylamine, N-	924-16-3	1.3E-01		3.5E-01	9.4E-02				
Nitroso-di-N-propylamine, N-	621-64-7	9.9E-02	3.3E-01	1.9E+03	7.6E-02				
Nitrosodiethanolamine, N-	1116-54-7	2.5E-01	8.1E-01	4.8E+03	1.9E-01				
Nitrosodiethylamine, N-	55-18-5	1.0E-03	3.6E-03	3.2E+01	7.9E-04				
Nitrosodimethylamine, N-	62-75-9	3.0E-03	1.1E-02	9.8E+01	2.3E-03	6.3E-02	2.3E-01	5.7E+03	4.9E-02
Nitrosodiphenylamine, N-	86-30-6	1.4E+02	4.6E+02	1.5E+06	1.1E+02				
Nitrosomethylethylamine, N-	10595-95-6	3.2E-02	1.0E-01	6.1E+02	2.4E-02				
Nitrosomorpholine [N-]	59-89-2	1.0E-01	3.4E-01	2.0E+03	7.9E-02				

TR=1E-06
HQ=0.1

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Nitrosopiperidine [N-]	100-75-4	7.4E-02	2.4E-01	1.4E+03	5.7E-02				
Nitrosopyrrolidine, N-	930-55-2	3.3E-01	1.1E+00	6.3E+03	2.5E-01				
Nitrotoluene, m-	99-08-1					7.8E-01	2.9E+00		6.2E-01
Nitrotoluene, o-	88-72-2	3.2E+00			3.2E+00	7.0E+00			7.0E+00
Nitrotoluene, p-	99-99-0	4.3E+01	1.4E+02		3.3E+01	3.1E+01	1.2E+02		2.5E+01
Nonane, n-	111-84-2					2.3E+00		2.2E+00	1.1E+00
Norflurazon	27314-13-2					3.1E+02	1.2E+03		2.5E+02
Nustar	85509-19-9					5.5E+00	2.0E+01		4.3E+00
Octabromodiphenyl Ether	32536-52-0					2.3E+01	8.7E+01		1.8E+01
Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine (HMX)	2691-41-0					3.9E+02	2.4E+04		3.8E+02
Octamethylpyrophosphoramide	152-16-9					1.6E+01	5.8E+01		1.2E+01
Oryzalin	19044-88-3					3.9E+02	1.5E+03		3.1E+02
Oxadiazon	19666-30-9					3.9E+01	1.5E+02		3.1E+01
Oxamyl	23135-22-0					2.0E+02	7.3E+02		1.5E+02
Paclobutrazol	76738-62-0					1.0E+02	3.8E+02		8.0E+01
Paraquat Dichloride	1910-42-5					3.5E+01	1.3E+02		2.8E+01
Parathion	56-38-2					4.7E+01	1.7E+02		3.7E+01
Pebulate	1114-71-2					3.9E+02	1.5E+03		3.1E+02
Pendimethalin	40487-42-1					3.1E+02	1.2E+03		2.5E+02
Pentabromodiphenyl Ether	32534-81-9					1.6E+01	5.8E+01		1.2E+01
Pentabromodiphenyl ether, 2,2',4,4',5- (BDE-99)	60348-60-9					7.8E-01	2.9E+00		6.2E-01
Pentachlorobenzene	608-93-5					6.3E+00	2.3E+01		4.9E+00
Pentachloroethane	76-01-7	7.7E+00	2.5E+01		5.9E+00				
Pentachloronitrobenzene	82-68-8	2.7E+00	8.8E+00		2.0E+00	2.3E+01	8.7E+01		1.8E+01
Pentachlorophenol	87-86-5	1.7E+00	2.3E+00	7.5E+05	9.9E-01	3.9E+01	5.8E+01		2.3E+01
Pentaerythritol tetranitrate (PETN)	78-11-5	1.7E+02	5.7E+02		1.3E+02	1.6E+01	5.8E+01		1.2E+01
Pentane, n-	109-66-0							8.1E+01	8.1E+01
Perchlorates									
~Ammonium Perchlorate	7790-98-9					5.5E+00			5.5E+00
~Lithium Perchlorate	7791-03-9					5.5E+00			5.5E+00
~Perchlorate and Perchlorate Salts	14797-73-0					5.5E+00			5.5E+00
~Potassium Perchlorate	7778-74-7					5.5E+00			5.5E+00
~Sodium Perchlorate	7601-89-0					5.5E+00			5.5E+00
Perfluorobutane Sulfonate	375-73-5					1.6E+02	5.8E+02		1.2E+02
Permethrin	52645-53-1					3.9E+02	1.5E+03		3.1E+02
Phenacetin	62-44-2	3.2E+02	1.0E+03	6.1E+06	2.4E+02				
Phenmedipham	13684-63-4					2.0E+03	7.3E+03		1.5E+03
Phenol	108-95-2					2.3E+03	8.7E+03	2.8E+07	1.8E+03
Phenothiazine	92-84-2					3.9E+00	1.5E+01		3.1E+00
Phenylenediamine, m-	108-45-2					4.7E+01	1.7E+02		3.7E+01
Phenylenediamine, o-	95-54-5	1.5E+01	4.8E+01		1.1E+01				
Phenylenediamine, p-	106-50-3					1.5E+03	5.5E+03		1.2E+03

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Phenylphenol, 2-	90-43-7	3.6E+02	1.2E+03		2.7E+02				
Phorate	298-02-2					1.6E+00	5.8E+00		1.2E+00
Phosgene	75-44-5							3.1E-02	3.1E-02
Phosmet	732-11-6					1.6E+02	5.8E+02		1.2E+02
Phosphates, Inorganic									
~Aluminum metaphosphate	13776-88-0					3.8E+05			3.8E+05
~Ammonium polyphosphate	68333-79-9					3.8E+05			3.8E+05
~Calcium pyrophosphate	7790-76-3					3.8E+05			3.8E+05
~Diammonium phosphate	7783-28-0					3.8E+05			3.8E+05
~Dicalcium phosphate	7757-93-9					3.8E+05			3.8E+05
~Dimagnesium phosphate	7782-75-4					3.8E+05			3.8E+05
~Dipotassium phosphate	7758-11-4					3.8E+05			3.8E+05
~Disodium phosphate	7558-79-4					3.8E+05			3.8E+05
~Monoaluminum phosphate	13530-50-2					3.8E+05			3.8E+05
~Monoammonium phosphate	7722-76-1					3.8E+05			3.8E+05
~Monocalcium phosphate	7758-23-8					3.8E+05			3.8E+05
~Monomagnesium phosphate	7757-86-0					3.8E+05			3.8E+05
~Monopotassium phosphate	7778-77-0					3.8E+05			3.8E+05
~Monosodium phosphate	7558-80-7					3.8E+05			3.8E+05
~Polyphosphoric acid	8017-16-1					3.8E+05			3.8E+05
~Potassium tripolyphosphate	13845-36-8					3.8E+05			3.8E+05
~Sodium acid pyrophosphate	7758-16-9					3.8E+05			3.8E+05
~Sodium aluminum phosphate (acidic)	7785-88-8					3.8E+05			3.8E+05
~Sodium aluminum phosphate (anhydrous)	10279-59-1					3.8E+05			3.8E+05
~Sodium aluminum phosphate (tetrahydrate)	10305-76-7					3.8E+05			3.8E+05
~Sodium hexametaphosphate	10124-56-8					3.8E+05			3.8E+05
~Sodium polyphosphate	68915-31-1					3.8E+05			3.8E+05
~Sodium trimetaphosphate	7785-84-4					3.8E+05			3.8E+05
~Sodium tripolyphosphate	7758-29-4					3.8E+05			3.8E+05
~Tetrapotassium phosphate	7320-34-5					3.8E+05			3.8E+05
~Tetrasodium pyrophosphate	7722-88-5					3.8E+05			3.8E+05
~Trialuminum sodium tetra decahydrogenoctaorthophosphate (dihydrate)	15136-87-5					3.8E+05			3.8E+05
~Tricalcium phosphate	7758-87-4					3.8E+05			3.8E+05
~Trimagnesium phosphate	7757-87-1					3.8E+05			3.8E+05
~Tripotassium phosphate	7778-53-2					3.8E+05			3.8E+05
~Trisodium phosphate	7601-54-9					3.8E+05			3.8E+05
Phosphine	7803-51-2					2.3E+00		4.3E+04	2.3E+00
Phosphoric Acid	7664-38-2					3.8E+05		1.4E+06	3.0E+05
Phosphorus, White	7723-14-0					1.6E-01			1.6E-01
Phthalates									
~Bis(2-ethylhexyl)phthalate	117-81-7	5.0E+01	1.6E+02	1.6E+06	3.8E+01	1.6E+02	5.8E+02		1.2E+02
~Butylphthalyl Butylglycolate	85-70-1					7.8E+03	2.9E+04		6.2E+03

TR=1E-06
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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
~Dibutyl Phthalate	84-74-2					7.8E+02	2.9E+03		6.2E+02
~Diethyl Phthalate	84-66-2					6.3E+03	2.3E+04		4.9E+03
~Dimethylterephthalate	120-61-6					7.8E+02			7.8E+02
~Octyl Phthalate, di-N-	117-84-0					7.8E+01	2.9E+02		6.2E+01
~Phthalic Acid, P-	100-21-0					7.8E+03	2.9E+04		6.2E+03
~Phthalic Anhydride	85-44-9					1.6E+04	5.8E+04	2.8E+06	1.2E+04
Picloram	1918-02-1					5.5E+02	2.0E+03		4.3E+02
Picramic Acid (2-Amino-4,6-dinitrophenol)	96-91-3					7.8E-01	2.9E+00		6.2E-01
Pirimiphos, Methyl	29232-93-7					7.8E+01	2.9E+02		6.2E+01
Polybrominated Biphenyls	59536-65-1	2.3E-02	7.6E-02	4.4E+02	1.8E-02	5.5E-02	2.0E-01		4.3E-02
Polychlorinated Biphenyls (PCBs)									
~Aroclor 1016	12674-11-2	9.9E+00	2.3E+01	1.9E+05	7.0E+00	5.5E-01	1.5E+00		4.0E-01
~Aroclor 1221	11104-28-2	3.5E-01	8.1E-01	4.2E-01	1.5E-01				
~Aroclor 1232	11141-16-5	3.5E-01	8.1E-01	4.2E-01	1.5E-01				
~Aroclor 1242	53469-21-9	3.5E-01	8.1E-01	6.7E+03	2.4E-01				
~Aroclor 1248	12672-29-6	3.5E-01	8.1E-01	6.7E+03	2.4E-01				
~Aroclor 1254	11097-69-1	3.5E-01	8.1E-01	6.7E+03	2.4E-01	1.6E-01	4.2E-01		1.1E-01
~Aroclor 1260	11096-82-5	3.5E-01	8.1E-01	6.7E+03	2.4E-01				
~Aroclor 5460	11126-42-4					4.7E+00	1.7E+01		3.7E+00
~Heptachlorobiphenyl, 2,3,3',4,4',5,5'- (PCB 189)	39635-31-9	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Hexachlorobiphenyl, 2,3',4,4',5,5'- (PCB 167)	52663-72-6	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Hexachlorobiphenyl, 2,3,3',4,4',5'- (PCB 157)	69782-90-7	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Hexachlorobiphenyl, 2,3,3',4,4',5- (PCB 156)	38380-08-4	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Hexachlorobiphenyl, 3,3',4,4',5,5'- (PCB 169)	32774-16-6	1.8E-04	4.2E-04	3.3E+00	1.2E-04	1.8E-04	4.8E-04	1.9E+02	1.3E-04
~Pentachlorobiphenyl, 2',3,4,4',5- (PCB 123)	65510-44-3	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Pentachlorobiphenyl, 2,3',4,4',5- (PCB 118)	31508-00-6	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Pentachlorobiphenyl, 2,3,3',4,4'- (PCB 105)	32598-14-4	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Pentachlorobiphenyl, 2,3,4,4',5- (PCB 114)	74472-37-0	1.8E-01	4.2E-01	3.3E+03	1.2E-01	1.8E-01	4.8E-01	1.9E+05	1.3E-01
~Pentachlorobiphenyl, 3,3',4,4',5- (PCB 126)	57465-28-8	5.3E-05	1.3E-04	1.0E+00	3.7E-05	5.5E-05	1.5E-04	5.7E+01	4.0E-05
~Polychlorinated Biphenyls (high risk)	1336-36-3	3.5E-01	8.1E-01	6.7E+03	2.4E-01				
~Polychlorinated Biphenyls (low risk)	1336-36-3								
~Polychlorinated Biphenyls (lowest risk)	1336-36-3								
~Tetrachlorobiphenyl, 3,3',4,4'- (PCB 77)	32598-13-3	5.3E-02	1.3E-01	1.0E+03	3.7E-02	5.5E-02	1.5E-01	5.7E+04	4.0E-02
~Tetrachlorobiphenyl, 3,4,4',5- (PCB 81)	70362-50-4	1.8E-02	4.2E-02	3.3E+02	1.2E-02	1.8E-02	4.8E-02	1.9E+04	1.3E-02
Polymeric Methylene Diphenyl Diisocyanate (PMDI)	9016-87-9							8.5E+04	8.5E+04
Polynuclear Aromatic Hydrocarbons (PAHs)									
~Acenaphthene	83-32-9					4.7E+02	1.3E+03		3.5E+02
~Anthracene	120-12-7					2.3E+03	6.7E+03		1.7E+03
~Benz[a]anthracene	56-55-3	2.1E-01	5.7E-01	1.3E+04	1.5E-01				
~Benzo(j)fluoranthene	205-82-3	5.8E-01	1.5E+00	3.5E+04	4.1E-01				
~Benzo[a]pyrene	50-32-8	2.1E-02	5.7E-02	1.3E+03	1.5E-02				
~Benzo[b]fluoranthene	205-99-2	2.1E-01	5.7E-01	1.3E+04	1.5E-01				

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TR=1E-06
HQ=0.1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
~Benzo[k]fluoranthene	207-08-9	2.1E+00	5.7E+00	1.3E+04	1.5E+00				
~Chloronaphthalene, Beta-	91-58-7					6.3E+02			6.3E+02
~Chrysene	218-01-9	2.1E+01	5.7E+01	1.3E+05	1.5E+01				
~Dibenz[a,h]anthracene	53-70-3	2.1E-02	5.7E-02	1.1E+03	1.5E-02				
~Dibenzo(a,e)pyrene	192-65-4	5.8E-02	1.5E-01	3.5E+03	4.1E-02				
~Dimethylbenz(a)anthracene, 7,12-	57-97-6	6.1E-04	1.7E-03	1.9E+01	4.5E-04				
~Fluoranthene	206-44-0					3.1E+02	8.9E+02		2.3E+02
~Fluorene	86-73-7					3.1E+02	8.9E+02		2.3E+02
~Indeno[1,2,3-cd]pyrene	193-39-5	2.1E-01	5.7E-01	1.3E+04	1.5E-01				
~Methylnaphthalene, 1-	90-12-0	2.4E+01	6.0E+01		1.7E+01	5.5E+02	1.6E+03		4.1E+02
~Methylnaphthalene, 2-	91-57-6					3.1E+01	8.9E+01		2.3E+01
~Naphthalene	91-20-3			3.8E+00	3.8E+00	1.6E+02	4.5E+02	1.4E+01	1.3E+01
~Nitropyrene, 4-	57835-92-4	5.8E-01	1.5E+00	3.5E+04	4.1E-01				
~Pyrene	129-00-0					2.3E+02	6.7E+02		1.7E+02
Potassium Perfluorobutane Sulfonate	29420-49-3					1.6E+02	5.8E+02		1.2E+02
Prochloraz	67747-09-5	4.6E+00	1.5E+01		3.6E+00	7.0E+01	2.6E+02		5.5E+01
Profluralin	26399-36-0					4.7E+01	1.7E+02		3.7E+01
Prometon	1610-18-0					1.2E+02	4.4E+02		9.2E+01
Prometryn	7287-19-6					3.1E+01	1.2E+02		2.5E+01
Propachlor	1918-16-7					1.0E+02	3.8E+02		8.0E+01
Propanil	709-98-8					3.9E+01	1.5E+02		3.1E+01
Propargite	2312-35-8					1.6E+02	5.8E+02		1.2E+02
Propargyl Alcohol	107-19-7					1.6E+01	5.8E+01		1.2E+01
Propazine	139-40-2					1.6E+02	5.8E+02		1.2E+02
Propham	122-42-9					1.6E+02	5.8E+02		1.2E+02
Propiconazole	60207-90-1					1.0E+02	3.8E+02		8.0E+01
Propionaldehyde	123-38-6							7.5E+00	7.5E+00
Propyl benzene	103-65-1					7.8E+02	2.9E+03	7.3E+02	3.3E+02
Propylene	115-07-1							2.2E+02	2.2E+02
Propylene Glycol	57-55-6					1.6E+05	5.8E+05		1.2E+05
Propylene Glycol Dinitrate	6423-43-4							3.9E+04	3.9E+04
Propylene Glycol Monoethyl Ether	1569-02-4					5.5E+03	2.0E+04		4.3E+03
Propylene Glycol Monomethyl Ether	107-98-2					5.5E+03	2.0E+04	2.8E+08	4.3E+03
Propylene Oxide	75-56-9	2.9E+00		7.8E+00	2.1E+00			3.2E+01	3.2E+01
Pursuit	81335-77-5					2.0E+03	7.3E+03		1.5E+03
Pydrin	51630-58-1					2.0E+02	7.3E+02		1.5E+02
Pyridine	110-86-1					7.8E+00			7.8E+00
Quinalphos	13593-03-8					3.9E+00	1.5E+01		3.1E+00
Quinoline	91-22-5	2.3E-01	7.6E-01		1.8E-01				
Refractory Ceramic Fibers	NA							4.3E+06	4.3E+06
Resmethrin	10453-86-8					2.3E+02	8.7E+02		1.8E+02
Ronnel	299-84-3					3.9E+02	1.5E+03		3.1E+02

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Rotenone	83-79-4					3.1E+01	1.2E+02		2.5E+01
Safrole	94-59-7	7.0E-01	2.4E+00	2.2E+04	5.4E-01				
Savey	78587-05-0					2.0E+02	7.3E+02		1.5E+02
Selenious Acid	7783-00-8					3.9E+01			3.9E+01
Selenium	7782-49-2					3.9E+01		2.8E+06	3.9E+01
Selenium Sulfide	7446-34-6					3.9E+01		2.8E+06	3.9E+01
Sethoxydim	74051-80-2					7.0E+02	2.6E+03		5.5E+02
Silica (crystalline, respirable)	7631-86-9							4.3E+05	4.3E+05
Silver	7440-22-4					3.9E+01			3.9E+01
Simazine	122-34-9	5.8E+00	1.9E+01		4.4E+00	3.9E+01	1.5E+02		3.1E+01
Sodium Acifluorfen	62476-59-9					1.0E+02	3.8E+02		8.0E+01
Sodium Azide	26628-22-8					3.1E+01			3.1E+01
Sodium Dichromate	10588-01-9	3.1E-01		9.2E+00	3.0E-01	1.6E+02		2.8E+04	1.6E+02
Sodium Diethyldithiocarbamate	148-18-5	2.6E+00	8.4E+00		2.0E+00	2.3E+02	8.7E+02		1.8E+02
Sodium Fluoride	7681-49-4					3.9E+02		1.8E+06	3.9E+02
Sodium Fluoroacetate	62-74-8					1.6E-01	5.8E-01		1.2E-01
Sodium Metavanadate	13718-26-8					7.8E+00			7.8E+00
Stirofos (Tetrachlorovinphos)	961-11-5	2.9E+01	9.5E+01		2.2E+01	2.3E+02	8.7E+02		1.8E+02
Strontium Chromate	7789-06-2	3.1E-01		9.2E+00	3.0E-01	1.6E+02		2.8E+04	1.6E+02
Strontium, Stable	7440-24-6					4.7E+03			4.7E+03
Strychnine	57-24-9					2.3E+00	8.7E+00		1.8E+00
Styrene	100-42-5					1.6E+03		9.7E+02	6.0E+02
Styrene-Acrylonitrile (SAN) Trimer	NA					2.3E+01	8.7E+01		1.8E+01
Sulfolane	126-33-0					7.8E+00	2.9E+01	2.8E+05	6.2E+00
Sulfonylbis(4-chlorobenzene), 1,1'-	80-07-9					6.3E+00	2.3E+01		4.9E+00
Sulfur Trioxide	7446-11-9							1.4E+05	1.4E+05
Sulfuric Acid	7664-93-9							1.4E+05	1.4E+05
Systhane	88671-89-0					2.0E+02	7.3E+02		1.5E+02
TCMTB	21564-17-0					2.3E+02	8.7E+02		1.8E+02
Tebuthiuron	34014-18-1					5.5E+02	2.0E+03		4.3E+02
Temephos	3383-96-8					1.6E+02	5.8E+02		1.2E+02
Terbacil	5902-51-2					1.0E+02	3.8E+02		8.0E+01
Terbufos	13071-79-9					2.0E-01	7.3E-01		1.5E-01
Terbutryn	886-50-0					7.8E+00	2.9E+01		6.2E+00
Tetrabromodiphenyl ether, 2,2',4,4'- (BDE-47)	5436-43-1					7.8E-01	2.9E+00		6.2E-01
Tetrachlorobenzene, 1,2,4,5-	95-94-3					2.3E+00	8.7E+00		1.8E+00
Tetrachloroethane, 1,1,1,2-	630-20-6	2.7E+01		2.2E+00	2.0E+00	2.3E+02			2.3E+02
Tetrachloroethane, 1,1,2,2-	79-34-5	3.5E+00		7.3E-01	6.0E-01	1.6E+02			1.6E+02
Tetrachloroethylene	127-18-4	3.3E+02		2.5E+01	2.4E+01	4.7E+01		9.8E+00	8.1E+00
Tetrachlorophenol, 2,3,4,6-	58-90-2					2.3E+02	8.7E+02		1.8E+02
Tetrachlorotoluene, p- alpha, alpha, alpha-	5216-25-1	3.5E-02	1.1E-01		2.7E-02				
Tetraethyl Dithiopyrophosphate	3689-24-5					3.9E+00	1.5E+01		3.1E+00

TR=1E-06

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HQ=0.1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Tetrafluoroethane, 1,1,1,2-	811-97-2							1.0E+04	1.0E+04
Tetryl (Trinitrophenylmethylnitramine)	479-45-8					1.6E+01	5.8E+01		1.2E+01
Thallium (I) Nitrate	10102-45-1					5.5E-02			5.5E-02
Thallium (Soluble Salts)	7440-28-0					7.8E-02			7.8E-02
Thallium Acetate	563-68-8					4.7E-02			4.7E-02
Thallium Carbonate	6533-73-9					1.6E-01			1.6E-01
Thallium Chloride	7791-12-0					4.7E-02			4.7E-02
Thallium Sulfate	7446-18-6					1.6E-01			1.6E-01
Thiobencarb	28249-77-6					7.8E+01	2.9E+02		6.2E+01
Thiodiglycol	111-48-8					5.5E+02	2.7E+04		5.4E+02
Thiofanox	39196-18-4					2.3E+00	8.7E+00		1.8E+00
Thiophanate, Methyl	23564-05-8					6.3E+02	2.3E+03		4.9E+02
Thiram	137-26-8					3.9E+01	1.5E+02		3.1E+01
Tin	7440-31-5					4.7E+03			4.7E+03
Titanium Tetrachloride	7550-45-0							1.4E+04	1.4E+04
Toluene	108-88-3					6.3E+02		2.2E+03	4.9E+02
Toluene-2,5-diamine	95-70-5	3.9E+00	1.3E+01		3.0E+00	1.6E+00	5.8E+00		1.2E+00
Toluidine, p-	106-49-0	2.3E+01	7.6E+01		1.8E+01	3.1E+01	1.2E+02		2.5E+01
Total Petroleum Hydrocarbons (Aliphatic High)	NA					2.3E+04			2.3E+04
Total Petroleum Hydrocarbons (Aliphatic Low)	NA							5.2E+01	5.2E+01
Total Petroleum Hydrocarbons (Aliphatic Medium)	NA					7.8E+01		1.1E+01	9.6E+00
Total Petroleum Hydrocarbons (Aromatic High)	NA					3.1E+02	1.2E+03		2.5E+02
Total Petroleum Hydrocarbons (Aromatic Low)	NA					3.1E+01		1.1E+01	8.2E+00
Total Petroleum Hydrocarbons (Aromatic Medium)	NA					3.1E+01		1.6E+01	1.1E+01
Toxaphene	8001-35-2	6.3E-01	2.1E+00	1.2E+04	4.8E-01				
Tralomethrin	66841-25-6					5.9E+01	2.2E+02		4.6E+01
Tri-n-butyltin	688-73-3					2.3E+00	8.7E+00		1.8E+00
Triacetin	102-76-1					6.3E+05	2.3E+06		4.9E+05
Triallate	2303-17-5					1.0E+02	3.8E+02		8.0E+01
Triasulfuron	82097-50-5					7.8E+01	2.9E+02		6.2E+01
Tribromobenzene, 1,2,4-	615-54-3					3.9E+01	1.5E+02		3.1E+01
Tributyl Phosphate	126-73-8	7.7E+01	2.5E+02		5.9E+01	7.8E+01	2.9E+02		6.2E+01
Tributyltin Compounds	NA					2.3E+00	8.7E+00		1.8E+00
Tributyltin Oxide	56-35-9					2.3E+00	8.7E+00		1.8E+00
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1					2.3E+05		4.0E+03	4.0E+03
Trichloroacetic Acid	76-03-9	9.9E+00	3.3E+01		7.6E+00	1.6E+02	5.8E+02		1.2E+02
Trichloroaniline HCl, 2,4,6-	33663-50-2	2.4E+01	7.8E+01		1.8E+01				
Trichloroaniline, 2,4,6-	634-93-5	9.9E+01	3.3E+02		7.6E+01	2.3E-01	8.7E-01		1.8E-01
Trichlorobenzene, 1,2,3-	87-61-6					6.3E+00	2.3E+01		4.9E+00
Trichlorobenzene, 1,2,4-	120-82-1	2.4E+01			2.4E+01	7.8E+01		6.2E+00	5.8E+00
Trichloroethane, 1,1,1-	71-55-6					1.6E+04		8.6E+02	8.1E+02
Trichloroethane, 1,1,2-	79-00-5	1.2E+01		1.3E+00	1.1E+00	3.1E+01		1.5E-01	1.5E-01

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Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Trichloroethylene	79-01-6	8.8E+00		1.1E+00	9.4E-01	3.9E+00		4.6E-01	4.1E-01
Trichlorofluoromethane	75-69-4					2.3E+03		7.6E+01	7.3E+01
Trichlorophenol, 2,4,5-	95-95-4					7.8E+02	2.9E+03		6.2E+02
Trichlorophenol, 2,4,6-	88-06-2	6.3E+01	2.1E+02	1.2E+06	4.8E+01	7.8E+00	2.9E+01		6.2E+00
Trichlorophenoxyacetic Acid, 2,4,5-	93-76-5					7.8E+01	2.9E+02		6.2E+01
Trichlorophenoxypropionic acid, -2,4,5	93-72-1					6.3E+01	2.3E+02		4.9E+01
Trichloropropane, 1,1,2-	598-77-6					3.9E+01			3.9E+01
Trichloropropane, 1,2,3-	96-18-4	5.1E-03			5.1E-03	3.1E+01		4.9E-01	4.8E-01
Trichloropropene, 1,2,3-	96-19-5					2.3E+01		7.3E-02	7.3E-02
Tricresyl Phosphate (TCP)	1330-78-5					1.6E+02	5.8E+02		1.2E+02
Tridiphane	58138-08-2					2.3E+01	8.7E+01		1.8E+01
Triethylamine	121-44-8							1.2E+01	1.2E+01
Triethylene Glycol	112-27-6					1.6E+04	5.8E+04		1.2E+04
Trifluralin	1582-09-8	9.0E+01	3.0E+02		6.9E+01	5.9E+01	2.2E+02		4.6E+01
Trimethyl Phosphate	512-56-1	3.5E+01	1.1E+02		2.7E+01	7.8E+01	2.9E+02		6.2E+01
Trimethylbenzene, 1,2,3-	526-73-8							4.9E+00	4.9E+00
Trimethylbenzene, 1,2,4-	95-63-6							5.8E+00	5.8E+00
Trimethylbenzene, 1,3,5-	108-67-8					7.8E+01			7.8E+01
Trinitrobenzene, 1,3,5-	99-35-4					2.3E+02	4.6E+03		2.2E+02
Trinitrotoluene, 2,4,6-	118-96-7	2.3E+01	2.4E+02		2.1E+01	3.9E+00	4.5E+01		3.6E+00
Triphenylphosphine Oxide	791-28-6					1.6E+02	5.8E+02		1.2E+02
Tris(1,3-Dichloro-2-propyl) Phosphate	13674-87-8					1.6E+02	5.8E+02		1.2E+02
Tris(1-chloro-2-propyl)phosphate	13674-84-5					7.8E+01	2.9E+02		6.2E+01
Tris(2-chloroethyl)phosphate	115-96-8	3.5E+01	1.1E+02		2.7E+01	5.5E+01	2.0E+02		4.3E+01
Tris(2-ethylhexyl)phosphate	78-42-2	2.2E+02	7.1E+02		1.7E+02	7.8E+02	2.9E+03		6.2E+02
Uranium (Soluble Salts)	NA					2.3E+01		5.7E+03	2.3E+01
Urethane	51-79-6	1.5E-01	5.4E-01	4.8E+03	1.2E-01				
Vanadium Pentoxide	1314-62-1			4.6E+02	4.6E+02	7.0E+01		9.9E+02	6.6E+01
Vanadium and Compounds	7440-62-2					3.9E+01		1.4E+04	3.9E+01
Vernolate	1929-77-7					7.8E+00	2.9E+01		6.2E+00
Vinclozolin	50471-44-8					2.0E+02	7.3E+02		1.5E+02
Vinyl Acetate	108-05-4					7.8E+03		9.2E+01	9.1E+01
Vinyl Bromide	593-60-2			1.2E-01	1.2E-01			4.3E-01	4.3E-01
Vinyl Chloride	75-01-4	9.4E-02		1.6E-01	5.9E-02	2.3E+01		1.0E+01	7.0E+00
Warfarin	81-81-2					2.3E+00	8.7E+00		1.8E+00
Xylene, P-	106-42-3					1.6E+03		5.8E+01	5.6E+01
Xylene, m-	108-38-3					1.6E+03		5.7E+01	5.5E+01
Xylene, o-	95-47-6					1.6E+03		6.7E+01	6.5E+01
Xylenes	1330-20-7					1.6E+03		6.1E+01	5.8E+01
Zinc Phosphide	1314-84-7					2.3E+00			2.3E+00
Zinc and Compounds	7440-66-6					2.3E+03			2.3E+03
Zineb	12122-67-7					3.9E+02	1.5E+03		3.1E+02

TR=1E-06
HQ=0.1

Key: I = IRIS; P = PPRTV; A = ATSDR; C = Cal EPA; X = APPENDIX PPRTV SCREEN (See FAQ #27); H = HEAST; J = New Jersey; O = EPA Office of Water; F = See FAQ; E = Environmental Criteria and Assessment Office; S = see user guide Section 5; L = see user guide on lead; M = mutagen; V = volatile; R = RBA applied (See User Guide for Arsenic notice) ; c = cancer; * = where: n SL < 100X c SL; ** = where n SL < 10X c SL; n = noncancer; m = Concentration may exceed ceiling limit (See User Guide); s = Concentration may exceed Csat (See User Guide); SSL values are based on DAF=1

Contaminant		Carcinogenic Target Risk (TR) = 1E-06				Noncancer Child Hazard Index (HI) = 0.1			
Analyte	CAS No.	Ingestion SL TR=1.0E-6 (mg/kg)	Dermal SL TR=1.0E-6 (mg/kg)	Inhalation SL TR=1.0E-6 (mg/kg)	Carcinogenic SL TR=1.0E-6 (mg/kg)	Ingestion SL Child HQ=0.1 (mg/kg)	Dermal SL Child HQ=0.1 (mg/kg)	Inhalation SL Child HQ=0.1 (mg/kg)	Noncarcinogenic SL Child HI=0.1 (mg/kg)
Zirconium	7440-67-7					6.3E-01			6.3E-01

APPENDIX B

SITE-SPECIFIC DATA QUALITY OBJECTIVE

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

STEP 1. STATE THE PROBLEM	
To investigate the nature and extent of site-related contaminants in the soil associated with the Wilcox Oil Site.	
STEP 2. IDENTIFY THE DECISION	
Soil samples will be collected from various locations within the property to determine whether contaminants of concern (CoCs) are significantly elevated in the soil.	
IDENTIFY THE ALTERNATIVE ACTIONS THAT MAY BE TAKEN BASED ON THE DECISIONS.	• If concentrations of CoCs in soil exceed the EPA Region 6 RSLs, then that sample will be considered contaminated and require additional attention. • If concentrations of CoCs in the soil samples do not exceed the EPA Region 6 RSLs, then the media represented by that sample will not require additional attention.
STEP 3. IDENTIFY INPUTS TO THE DECISION	
IDENTIFY THE INFORMATIONAL INPUTS NEEDED TO RESOLVE A DECISION.	Contaminant concentrations in the soil samples collected from the property.
IDENTIFY THE SOURCES FOR EACH INFORMATIONAL INPUT AND LIST THE INPUTS THAT ARE OBTAINED THROUGH ENVIRONMENTAL MEASUREMENTS.	Analytical results from parameters listed in Section 4 of the QASP Addendum No. 1.
BASIS FOR THE CONTAMINANT SPECIFIC ACTION LEVELS.	Region 6 RSLs.
IDENTIFY POTENTIAL SAMPLING TECHNIQUES AND APPROPRIATE ANALYTICAL METHODS.	• Five-point composite samples (surface, 0-6, 6-12 and 12-24 inches bgs) from each designated grid. • See analyses listed in Section 4 of the QASP Addendum No. 1.
STEP 4. DEFINE THE BOUNDARIES OF THE STUDY	
DEFINE THE DOMAIN OR GEOGRAPHIC AREA WITHIN WHICH ALL DECISIONS MUST APPLY.	The area of concern on the property.
SPECIFY THE CHARACTERISTICS THAT DEFINE THE POPULATION OF INTEREST.	Contaminant concentration in soil within the property.
DEFINE THE SCALE OF DECISION MAKING.	Results of soil sampling will be used to evaluate the CoCs within the property.
DETERMINE THE TIME FRAME TO WHICH THE DATA APPLY.	The data will apply until the site media, represented by the soil samples, receives appropriate response actions.
DETERMINE WHEN TO COLLECT DATA.	Samples will be collected during the EPA Team field effort.
IDENTIFY PRACTICAL CONSTRAINTS ON DATA COLLECTION.	• Inclement weather. • Access not attainable.
STEP 5. DEVELOP A DECISION RULE	
SPECIFY THE PARAMETER THAT CHARACTERIZES THE POPULATION OF INTEREST.	Detection of CoCs in the soil samples by analytical testing to confirm concentrations in the pathway that exceed the EPA Region 6 RSLs.

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

SPECIFY THE ACTION LEVEL FOR THE DECISION.	EPA Region 6 RSLs.
STEP 6. SPECIFY LIMITS ON DECISION ERRORS	
DEVELOP A DECISION RULE.	If any result in the soil sample is above the EPA Region 6 RSLs, then the soil sample represented by that sample will require additional attention; otherwise, the soil does not require additional attention.
DETERMINE THE POSSIBLE RANGE OF THE PARAMETER OF INTEREST.	Contaminant concentrations may range from 0 milligrams per kilogram (mg/kg) to more than the contaminant -specific action level.
DEFINE BOTH TYPES OF DECISION ERRORS AND IDENTIFY THE POTENTIAL CONSEQUENCES OF EACH.	Type I Error: Deciding that the specified area represented by the soil sample does not exceed the specified assessment level when, in truth, the concentration of the contaminant exceeds its specified assessment level. The consequence of this decision error is that remedial efforts in the area may not be undertaken, possibly endangering human health and the environment. This decision error is more severe. Type II Error: Deciding that the specified area represented by the soil sample does exceed the specified assessment level when, in truth, it does not. The consequences of this decision error are that remediation of the area will continue and unnecessary costs will be incurred.
ESTABLISH THE TRUE STATE OF NATURE FOR EACH DECISION RULE.	The true state of nature when the soil is decided to be below the specified assessment levels when in fact, it is not below the specified assessment levels, is that the area does need remedial action. The true state of nature when the soil is decided to be above the specified assessment levels when in fact, it is not above the specified assessment levels, is that the area does not need remedial action.

DATA QUALITY OBJECTIVE NO. 1
WILCOX OIL
MEDIA OF CONCERN: SOIL

STEP 6. SPECIFY LIMITS ON DECISION ERRORS (Continued)	
DEFINE THE TRUE STATE OF NATURE FOR THE MORE SEVERE DECISION ERROR AS THE BASELINE CONDITION OR THE NULL HYPOTHESIS (H_o) AND DEFINE THE TRUE STATE FOR THE LESS SEVERE DECISION ERROR AS THE ALTERNATIVE HYPOTHESIS (H_a).	Ho: The soil represented by the sample is above the specified action level. Ha: The soil represented by the sample is below the specified action level.
ASSIGN THE TERMS "FALSE POSITIVE" AND "FALSE NEGATIVE" TO THE PROPER DECISION ERRORS.	• False Positive Error = Type I • False Negative Error = Type II
ASSIGN PROBABILITY VALUES TO POINTS ABOVE AND BELOW THE ACTION LEVEL THAT REFLECT THE ACCEPTABLE PROBABILITY FOR THE OCCURRENCES OF DECISION ERRORS.	To be assigned based on discussions with EPA OSC.
STEP 7. OPTIMIZE THE DESIGN	
REVIEW THE DQOs.	Due to insufficient historical data, determination of the standard deviation was not possible. Therefore, sample size calculation using the traditional statistical formula may not be the optimal design. In order to select the optimal sampling program that satisfies the DQO and is the most resource effective, other elements were considered.
DEVELOP GENERAL SAMPLING AND ANALYSIS DESIGN. The EPA Team will collect soil samples from the property in Bristow, Creek County, Oklahoma. The samples will be shipped for laboratory analysis and methodology consistent with EPA Region 6 protocols. The samples will be analyzed by the methods listed in Section 4 of the QASP Addendum No. 1.	

APPENDIX C

PROPOSED SAMPLE LOCATION MAPS

LEGEND

Property Boundary

Proposed Depth Investigation Sample (n=4)

0 70 140

Feet

US EPA REGION 6

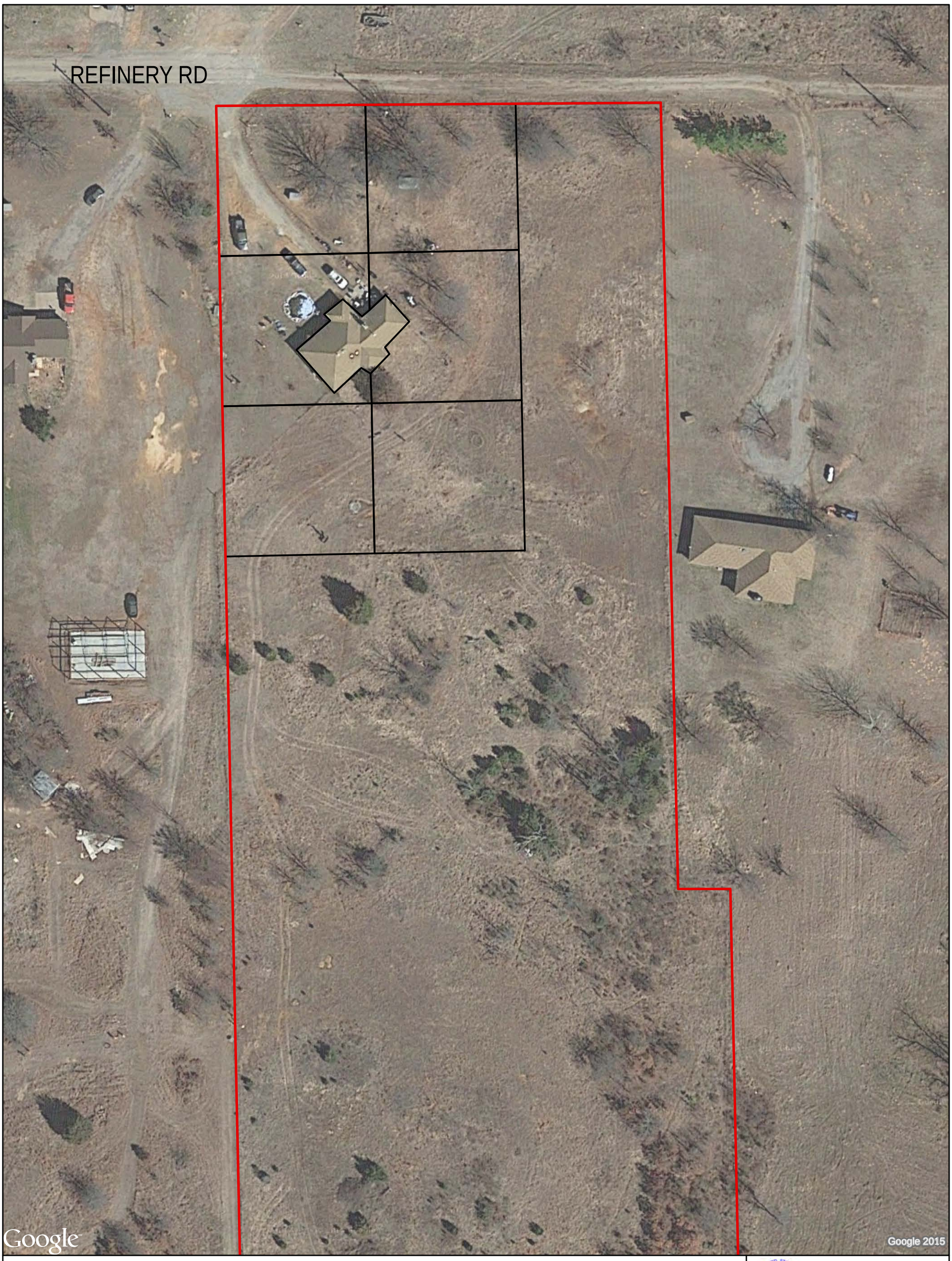
FIGURE C-1
PROPOSED SAMPLE LOCATION MAP
PROPERTY 002
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-1 Property 002 - Proposed Sample Location Map.mxd 3:26:59 PM 4/23/2015 bondp



LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=6)

0 60 120

Feet

US EPA REGION 6

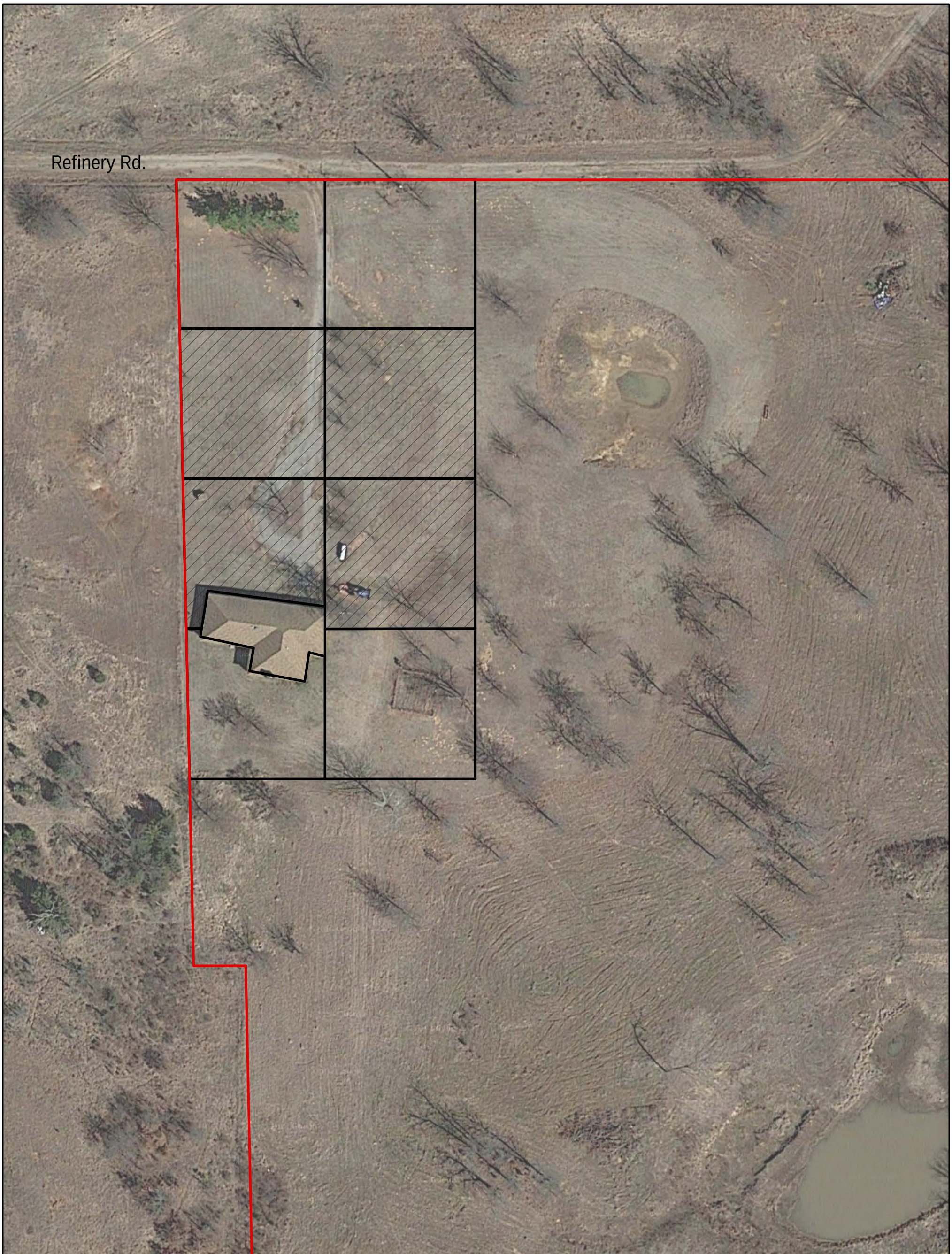
FIGURE C-2
PROPOSED SAMPLE LOCATION MAP
PROPERTY 005
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-2 Property 005 - Proposed Sample Location Map.mxd 3:26:37 PM 4/23/2015 bondp



LEGEND

- Property Boundary
- Proposed 100x100ft Sample Grid (n=4)
- Proposed Depth Investigation Sample (n=4)

0 60 120
Feet

N

US EPA REGION 6

FIGURE C-3
PROPOSED SAMPLE LOCATION MAP
PROPERTY 006
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-3 Property 006 - Proposed Sample Location Map.mxd 3:26:07 PM 4/23/2015 bondp

LEGEND

Property Boundary

Proposed Depth Investigation Sample (n=4)

0 60 120

Feet

US EPA REGION 6

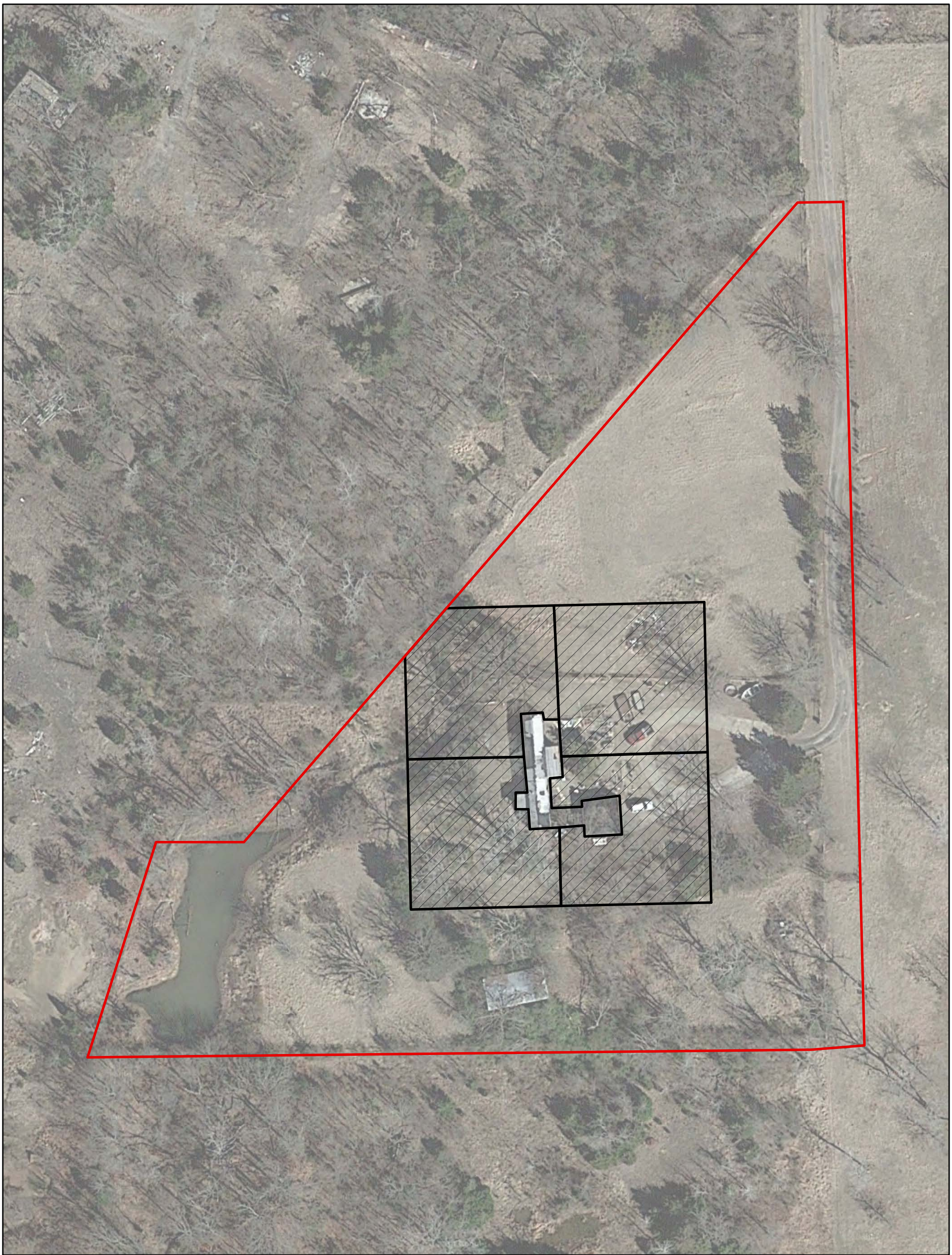
FIGURE C-4
PROPOSED SAMPLE LOCATION MAP
PROPERTY 008
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-4 Property 008 - Proposed Sample Location Map.mxd 3:25:36 PM 4/23/2015 bondp



0 60 120
Feet

LEGEND

Property Boundary

Proposed Depth Investigation Sample (n=4)

US EPA REGION 6

FIGURE C-5
PROPOSED SAMPLE LOCATION MAP
PROPERTY 011
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-5 Property 011 - Proposed Sample Location Map.mxd 3:25:14 PM 4/23/2015 bondp

LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=6)

0 60 120

Feet

US EPA REGION 6

FIGURE C-6
PROPOSED SAMPLE LOCATION MAP
PROPERTY 017
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-6 Property 017 - Proposed Sample Location Map.mxd 3:24:46 PM 4/23/2015 bondp

LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=5)

0 60 120

Feet

US EPA REGION 6

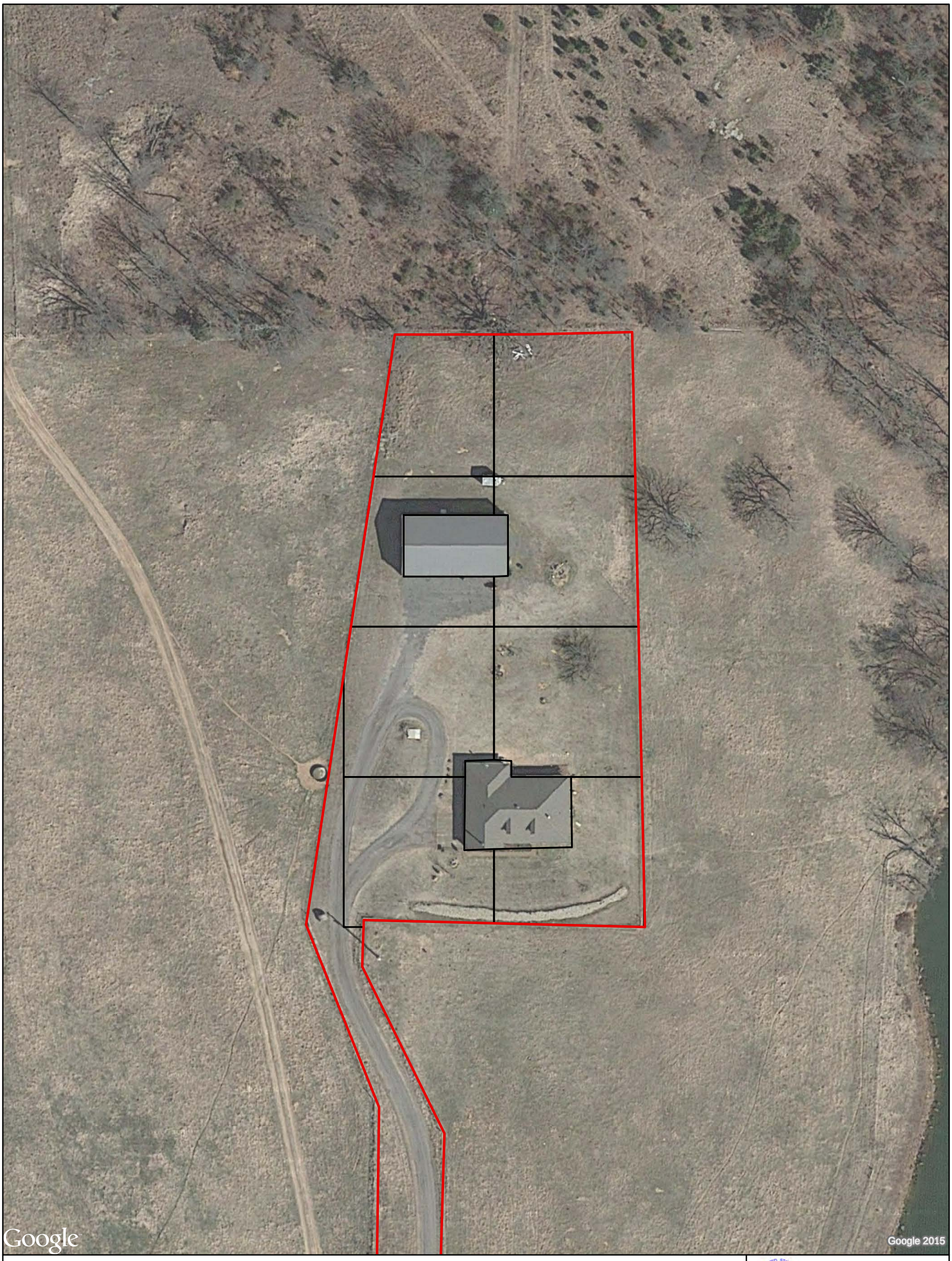
FIGURE C-7
PROPOSED SAMPLE LOCATION MAP
PROPERTY 018
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-7 Property 018 - Proposed Sample Location Map.mxd 3:24:28 PM 4/23/2015 bondp



0 60 120
Feet

LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=8)

US EPA REGION 6

FIGURE C-8
PROPOSED SAMPLE LOCATION MAP
PROPERTY 019
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-8 Property 019 - Proposed Sample Location Map.mxd 3:23:46 PM 4/23/2015 bondp

LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=6)

0 60 120

Feet

US EPA REGION 6

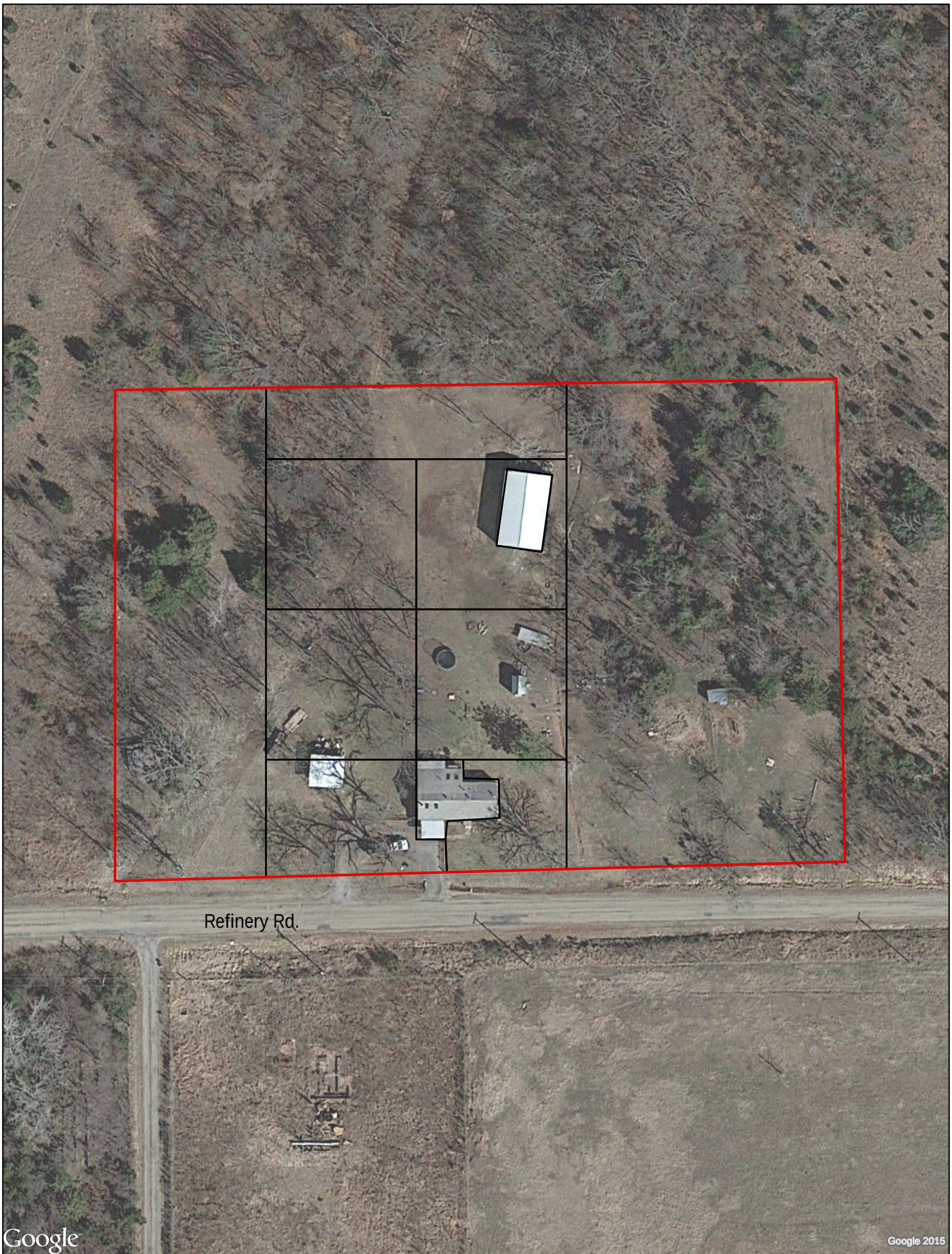
FIGURE C-9
PROPOSED SAMPLE LOCATION MAP
PROPERTY 020
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-9 Property 020 - Proposed Sample Location Map.mxd 3:23:05 PM 4/23/2015 bondp



LEGEND

Property Boundary

Proposed 100x100ft Sample Grid (n=7)

0 60 120

Feet

US EPA REGION 6

FIGURE C-10
PROPOSED SAMPLE LOCATION MAP
PROPERTY 021
WILCOX OIL
WEST 221st STREET/REFINERY ROAD
BRISTOW, CREEK COUNTY, OKLAHOMA

DATE	PROJECT NO	SCALE
APRIL, 2015	20406.012.005.0919.01	AS SHOWN

TDD NO: 5/WESTON-042-15-004

SOURCE: 2010 Microsoft Corporation and its data suppliers

FILE: L:\20406_START3_R6\WILCOX_OIL\GIS\MXDs\Figure C-10 Property 021 - Proposed Sample Location Map.mxd 3:22:32 PM 4/23/2015 bondp

APPENDIX D

TDD NO. 5/WESTON-042-15-004

Technical Direction Document

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Vendor : WESTON SOLUTIONS, INC.

TDD # : 5/WESTON-042-15-004
Amendment # :
Contract # : EP-W-06-042

TDD Title : Wilcox Oil
Purpose : TDD INITIATION
Priority : HIGH
Overtime Authorized : Yes
Invoice Unit :

Verbal Date :
Start Date : 12/03/2014
Completion Date : 04/30/2015
Effective Date : 12/03/2014

SSID : O6GG
Project/Site Name : Wilcox Oil
Project Address : West 221st St. South/Refinery Road
County : Creek County
City : Bristow
State : OK
Zip Code : 74010

Work Area : Response / Removal
Work Area Code :
Activity : Removal Ass'mnt w/On-Site (walk,survey, or sample)
Activity Code : RS
Operable Unit :
Emergency Code :
FPN :
Performance Based : No

Authorized TDD Ceiling :

	Amount	LOE (Hours)
Previous Action(s) :	$0.00	0.00
This Action :	$20,000.00	0.00
New Total :	$20,000.00	0.00

Specific Elements :

Description of Work :

See Schedule

Region Specific :

CERCLIS:

Misc 2 :

Accounting and Appropriation Information:

SFO:

Line	Budget / FY	Approp. Code	Budget Org.	Program Element	Object Class	Site Project	Cost Org.	DCN Line-ID	Funding Category	TDD Amount
1	07	T	6A00	302DC6C	2505	06GGRV00	C001	076ARVC006-001	REMOVAL	$716.51
2	06	T	6A00	302DD2C	2505	06GGRS00	C001	066APLC041-*	CERCLA PIPELINE	$1,772.85
3	10	T	6A00	302DD2C	2505	06GGRS00	C001	106APLC017-001	CERCLA PIPELINE	$6,000.00
4	12	T	6A00	303DC6	2505	06GGRV00	C001	126ARVC031-001	REMOVAL	$11,510.64

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

TDD # : 5/WESTON-042-15-004
Amendment # :
Contract # : EP-W-06-042

Vendor : WESTON SOLUTIONS, INC.

Project Officer : Will LaBombard	(Signature)	(Date)	**Branch Mail Code:**
		Phone Number : 214-665-7199
		Fax Number :
Contracting Officer Representative : Mark Hayes	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2705
		Fax Number :
Contract Specialist: Michael J. Pheeny	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Contracting Officer : Michael J. Pheeny	Electronically Signed by Michael J. Pheeny (Signature)	12/03/2014 (Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Other Agency Official :	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number :
		Fax Number :

Description of Work:TDD to initiate the following tasks:
Contractor shall collect soil samples to determine the extent of Lead contamination on designated residential properties. Location, type, and method of sample collection will be determined by the OSC. Contractor shall collect all facts and iformation pertaining to residential properties. Contractor shall review analytical resuls and provide technical advice to the OSC. Contractor shall develop sampling plan. Contractor shall document all site activities and provide web based reporting as directed by OSC. Contact OSC Hayes at 214-232-7134 to discuss site tasks.

The ceiling to initiate this TDD is $20,000.00

Technical Direction Document

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

Vendor : WESTON SOLUTIONS, INC.

TDD # : 5/WESTON-042-15-004
Amendment # : 001
Contract # : EP-W-06-042

TDD Title : Wilcox Oil
Purpose : TDD INITIATION
Priority : HIGH
Overtime Authorized : Yes
Invoice Unit :

Verbal Date :
Start Date : 12/03/2014
Completion Date : 04/30/2015
Effective Date : 12/03/2014

SSID : O6GG
Project/Site Name : Wilcox Oil
Project Address : West 221st St. South/Refinery Road
County : Creek County
City : Bristow
State : OK
Zip Code : 74010

Work Area : Response / Removal
Work Area Code :
Activity : Removal Ass'mnt w/On-Site (walk,survey, or sample
Activity Code : RS
Operable Unit :
Emergency Code :
FPN :
Performance Based : No

Authorized TDD Ceiling :

	Amount	LOE (Hours)
Previous Action(s) :	$20,000.00	0.00
This Action :	$10,000.00	0.00
New Total :	$30,000.00	0.00

Specific Elements :

Description of Work :

See Schedule

Region Specific :

CERCLIS:

Misc 2 :

Accounting and Appropriation Information:

SFO:

Line	Budget / FY	Approp. Code	Budget Org.	Program Element	Object Class	Site Project	Cost Org.	DCN Line-ID	Funding Category	TDD Amount
1	07	T	6A00	302DC6C	2505	06THRS00	C001	076ARVC023-*	REMOVAL SUPPORT	$10,000.00

U.S. EPA, Region 6
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

TDD # : 5/WESTON-042-15-004
Amendment # : 001
Contract # : EP-W-06-042

Vendor : WESTON SOLUTIONS, INC.

Project Officer : Will LaBombard	(Signature)	(Date)	**Branch Mail Code:**
		Phone Number : 214-665-7199
		Fax Number :
Contracting Officer Representative : Mark Hayes	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2705
		Fax Number :
Contract Specialist: Michael J. Pheeny	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Contracting Officer : Michael J. Pheeny	Electronically Signed by Michael J. Pheeny (Signature)	12/10/2014 (Date)	**Branch Mail Code :**
		Phone Number : 214-665-2798
		Fax Number :
Other Agency Official :	(Signature)	(Date)	**Branch Mail Code :**
		Phone Number :
		Fax Number :

Description of Work:
Amendment 001 - This amendment increases the TDD celing by $10,000 to allow for the continuation of work. The SOW remains unchanged.
Base ORIG - TDD to initiate the following tasks:
Contractor shall collect soil samples to determine the extent of Lead contamination on designated residential properties. Location, type, and method of sample collection will be determined by the OSC. Contractor shall collect all facts and iformation pertaining to residential properties. Contractor shall review analytical resuls and provide technical advice to the OSC. Contractor shall develop sampling plan. Contractor shall document all site activities and provide web based reporting as directed by OSC. Contact OSC Hayes at 214-232-7134 to discuss site tasks.

The ceiling to initiate this TDD is $20,000.00

APPENDIX E

SOIL SAMPLE ANALYTICAL EXCEEDANCE SUMMARY

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
Pond-01	12/11/2014	**5.51**
Pond-02	12/11/2014	**2.98**
WO-001-001-00-51	12/9/2014	**19.6 J**
WO-001-001-06-51	12/10/2014	**15**
WO-001-001-12-51	12/10/2014	**8.84**
WO-001-002-00-51	12/9/2014	**8.18 J**
WO-001-002-06-51	12/10/2014	**9.1**
WO-001-002-12-51	12/10/2014	**5.82**
WO-001-003-00-51	12/9/2014	**8.15**
WO-001-003-06-51	12/10/2014	**8.74**
WO-001-003-12-51	12/10/2014	**4.65**
WO-001-004-00-51	12/9/2014	**9.16**
WO-001-004-06-51	12/10/2014	**14.6**
WO-001-004-06-52	12/10/2014	**14.2**
WO-001-004-12-51	12/10/2014	**4.94**
WO-001-005-00-51	12/9/2014	**12.3**
WO-001-005-06-51	12/9/2014	**9.11**
WO-001-005-12-51	12/9/2014	**7.16**
WO-001-006-00-51	12/9/2014	**15.7**
WO-001-006-06-51	12/9/2014	**12.9**
WO-001-006-12-51	12/9/2014	**6.02**
WO-001-007-00-51	12/9/2014	**7.4**
WO-001-007-06-51	12/9/2014	**4.23**
WO-001-007-12-51	12/9/2014	**4.74**
WO-001-008-00-51	12/9/2014	**7.15**
WO-001-008-00-52	12/9/2014	**7.27**
WO-001-008-06-51	12/9/2014	**6**
WO-001-008-12-51	12/9/2014	**6.95**
WO-001-009-00-51	12/9/2014	**6.86**
WO-001-009-06-51	12/9/2014	**9.68**
WO-001-009-12-51	12/9/2014	**7.77**
WO-001-010-00-51	12/9/2014	**7.38**
WO-001-010-06-51	12/9/2014	**6.62**
WO-001-010-12-51	12/9/2014	**6.64**

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
WO-001-010-12-52	12/9/2014	**8.95**
WO-001-011-00-51	12/9/2014	**5.44**
WO-001-011-06-51	12/9/2014	**10.1**
WO-001-011-12-51	12/9/2014	**14.1**
WO-001-012-00-51	12/9/2014	**7.97**
WO-001-012-06-51	12/9/2014	**6.03**
WO-001-012-12-51	12/9/2014	**4.51**
WO-001-013-00-51	12/9/2014	**8.09**
WO-001-013-06-51	12/9/2014	**6.26**
WO-001-014-00-51	12/9/2014	**6.95**
WO-001-014-06-51	12/9/2014	**7**
WO-001-014-12-51	12/9/2014	**8.92**
WO-001-015-00-51	12/9/2014	**6.87**
WO-001-015-06-51	12/9/2014	**5.63**
WO-001-015-06-52	12/9/2014	**5.62**
WO-001-015-12-51	12/9/2014	**3.6**
WO-001-016-00-51	12/9/2014	**7.66 J**
WO-001-016-00-52	12/9/2014	**7.04 J**
WO-001-016-06-51	12/9/2014	**8**
WO-001-016-12-51	12/9/2014	**8.16**
WO-001-017-00-51	12/9/2014	**7.03 J**
WO-001-017-06-51	12/9/2014	**7.14**
WO-001-017-12-51	12/9/2014	**10.1**
WO-001-018-00-51	12/9/2014	**8.13 J**
WO-001-018-06-51	12/9/2014	**6.94**
WO-001-018-12-51	12/9/2014	**18.3**
WO-001-019-00-51	12/9/2014	**7.29**
WO-001-019-06-51	12/9/2014	**5.86**
WO-001-019-12-51	12/9/2014	**6.46**
WO-001-020-00-51	12/9/2014	**6.11**
WO-001-020-00-52	12/9/2014	**6.21**
WO-001-020-06-51	12/9/2014	**8.76**
WO-001-020-12-51	12/9/2014	**4.24**
WO-001-020-12-52	12/9/2014	**6.15**
WO-001-021-00-51	12/9/2014	**5.48**

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
WO-001-022-00-51	12/9/2014	**11.4**
WO-001-022-06-51	12/9/2014	**6.17**
WO-001-022-12-51	12/9/2014	**6.68**
WO-001-023-00-51	12/9/2014	**13.8**
WO-001-023-06-51	12/9/2014	**3.72**
WO-001-023-06-52	12/9/2014	**4.14**
WO-001-023-12-51	12/9/2014	**1.74**
WO-001-024-00-51	12/9/2014	**8.7**
WO-001-024-06-51	12/9/2014	**4.97**
WO-001-024-12-51	12/9/2014	**4**
WO-001-025-00-51	12/9/2014	**113 J**
WO-001-025-06-51	12/10/2014	**15.6**
WO-001-025-12-51	12/10/2014	**9.6**
WO-001-026-00-51	12/9/2014	**10.7 J**
WO-001-026-06-51	12/10/2014	**6.97**
WO-001-026-12-51	12/10/2014	**7.5**
WO-001-027-00-51	12/9/2014	**9.67**
WO-001-027-06-51	12/10/2014	**13.8**
WO-001-027-12-51	12/10/2014	**5.37**
WO-001-028-00-51	12/9/2014	**46.3 J**
WO-001-028-00-52	12/9/2014	**38.3 J**
WO-001-028-06-51	12/10/2014	**19.5**
WO-001-028-12-51	12/10/2014	**10.7 J**
WO-001-028-12-52	12/10/2014	**23 J**
WO-001-029-00-51	12/9/2014	**7.55 J**
WO-001-029-06-51	12/10/2014	**5.88**
WO-001-029-12-51	12/10/2014	**3.97**
WO-001-030-00-51	12/9/2014	**8.89 J**
WO-001-030-06-51	12/10/2014	**6.54**
WO-001-030-12-51	12/10/2014	**13.6**
WO-001-031-00-51	12/9/2014	**21.2 J**
WO-001-031-06-51	12/10/2014	**12.1**
WO-001-031-12-51	12/10/2014	**14.1**
WO-001-032-00-51	12/9/2014	**7.04 J**

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
WO-001-032-06-51	12/10/2014	**11**
WO-001-032-12-51	12/10/2014	**7.34**
WO-001-033-00-51	12/9/2014	**9.52 J**
WO-001-033-06-51	12/10/2014	**9.32**
WO-001-033-06-52	12/10/2014	**10.5**
WO-001-033-12-51	12/10/2014	**4.35**
WO-001-034-00-51	12/9/2014	**16.8 J**
WO-001-034-06-51	12/10/2014	**13.9**
WO-001-034-12-51	12/10/2014	**11.1**
WO-001-035-00-51	12/9/2014	**14.8**
WO-001-035-06-51	12/10/2014	**9.1**
WO-001-035-06-52	12/10/2014	**9.96**
WO-001-035-12-51	12/10/2014	**7.54**
WO-001-036-00-51	12/9/2014	**12.6**
WO-001-036-06-51	12/10/2014	**8.96**
WO-001-036-12-51	12/10/2014	**5.04**
WO-001-037-00-51	12/9/2014	**19**
WO-001-037-06-51	12/10/2014	**9.67**
WO-001-037-12-51	12/10/2014	**8.25**
WO-001-038-00-51	12/9/2014	**14.5**
WO-001-038-06-51	12/10/2014	**15.8**
WO-001-038-12-51	12/10/2014	**5.87**
WO-001-039-00-51	12/9/2014	**16**
WO-001-039-00-52	12/9/2014	**12.6**
WO-001-039-06-51	12/10/2014	**8.57**
WO-001-039-12-51	12/10/2014	**0.766**
WO-001-040-00-51	12/9/2014	**13.5**
WO-001-040-06-51	12/10/2014	**17.4**
WO-001-040-12-51	12/10/2014	**7.99**
WO-001-041-00-51	12/9/2014	**16.5**
WO-001-041-06-51	12/10/2014	**12.1**
WO-001-041-12-51	12/10/2014	**6.17**

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
WO-001-042-00-51	12/9/2014	**16.2**
WO-001-042-06-51	12/10/2014	**12.2**
WO-001-042-12-51	12/10/2014	**10.7**
WO-001-043-00-51	12/9/2014	**21.9**
WO-001-043-06-51	12/10/2014	**21**
WO-001-043-12-51	12/10/2014	**10.8**
WO-001-044-00-51	12/9/2014	**15.6**
WO-001-044-06-51	12/10/2014	**6.24**
WO-001-044-12-51	12/10/2014	**6.77**
WO-001-045-00-51	12/9/2014	**13.1 J**
WO-001-045-06-51	12/10/2014	**6.65**
WO-001-045-12-51	12/10/2014	**8.41**
WO-001-046-00-51	12/9/2014	**15.8 J**
WO-001-046-06-51	12/10/2014	**14.7**
WO-001-046-12-51	12/10/2014	**4.64**
WO-001-047-00-51	12/9/2014	**27.8 J**
WO-001-047-06-51	12/10/2014	**34.2**
WO-001-047-12-51	12/10/2014	**5.02**
WO-001-048-00-51	12/9/2014	**11.6 J**
WO-001-048-06-51	12/10/2014	**7.48**
WO-001-048-12-51	12/10/2014	**6.9**
WO-001-049-00-51	12/9/2014	**99.6**
WO-001-049-06-51	12/10/2014	**47**
WO-001-049-12-51	12/10/2014	**24.5**
WO-001-049-12-52	12/10/2014	**35.1**
WO-001-050-00-51	12/9/2014	**181**
WO-001-050-06-51	12/10/2014	**906**
WO-001-050-12-51	12/10/2014	**5850**
WO-001-051-00-51	12/9/2014	**12.3**
WO-001-051-06-51	12/10/2014	**8.88**
WO-001-051-12-51	12/10/2014	**10.9**
WO-001-052-00-51	12/9/2014	**11.2**
WO-001-052-06-51	12/10/2014	**8.77**

Appendix E - Table 1
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte		Lead
CAS.NO		7439-92-1
Units		mg/kg
Residential Soil RML		400
Sample ID	Date	--
WO-001-052-12-51	12/10/2014	**4.68**
WO-001-053-00-51	12/9/2014	**7.9**
WO-001-053-06-51	12/10/2014	**6.33**
WO-001-053-12-51	12/10/2014	**7.94**
WO-001-054-00-51	12/9/2014	**11.1**
WO-001-054-06-51	12/10/2014	**10.4**
WO-001-054-12-51	12/10/2014	**4.26**
WO-001-055-00-51	12/9/2014	**8.55**
WO-001-055-06-51	12/10/2014	**10.8**
WO-001-055-12-51	12/10/2014	**4.81**
WO-001-056-00-51	12/9/2014	**14.1**
WO-001-056-00-52	12/9/2014	**10.6**
WO-001-056-06-51	12/10/2014	**11.5**
WO-001-056-12-51	12/10/2014	**5.65**
WO-001-057-00-51	12/10/2014	**9.16**
WO-001-057-06-51	12/10/2014	**7.32**
WO-001-057-12-51	12/10/2014	**6.67**

Residential Soil RML - January 2015 EPA Residential Soil RML

J - Estimated Value

Yellow highlighted cells exceed RML

Appendix E - Table 2
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	Pit-01 12/11/2014	Pit-02 12/11/2014
Metals						
Aluminum	7429-90-5	mg/kg	77000	--	**1130**	**531**
Antimony	7440-36-0	mg/kg	31	--	0.29 U	0.209 U
Arsenic	7440-38-2	mg/kg	34	--	**3.04**	**2.2**
Barium	7440-39-3	mg/kg	15000	--	**14.1**	**9.02**
Beryllium	7440-41-7	mg/kg	160	--	0.193 U	0.14 U
Cadmium	7440-43-9	mg/kg	70	--	**0.235 JQ**	0.0436 U
Calcium	7440-70-2	mg/kg	NP	--	**980**	**619**
Chromium	7440-47-3	mg/kg	NP	--	**1.84**	**1.27**
Cobalt	7440-48-4	mg/kg	23	--	**1.79**	**0.568**
Copper	7440-50-8	mg/kg	3100	--	**4.96**	**7.05**
Iron	7439-89-6	mg/kg	55000	--	**3280**	**2100**
Lead	7439-92-1	mg/kg	400	--	**23.5**	**29**
Magnesium	7439-95-4	mg/kg	NP	--	**237**	**142**
Manganese	7439-96-5	mg/kg	1800	--	**69.2**	**41.8**
Molybdenum	7439-98-7	mg/kg	390	--	0.205 U	0.148 U
Nickel	7440-02-0	mg/kg	1500	--	**7.99**	**3.22**
Potassium	7440-09-7	mg/kg	NP	--	**263**	**142**
Selenium	7782-49-2	mg/kg	390	--	0.482 U	0.349 U
Silver	7440-22-4	mg/kg	390	--	0.193 U	0.14 U
Sodium	7440-23-5	mg/kg	NP	--	**408**	**96.1**
Thallium	7440-28-0	mg/kg	0.78	--	0.41 U	0.296 U
Tin	7440-31-5	mg/kg	47000	--	0.603 UB	0.436 UB
Vanadium	7440-62-2	mg/kg	390	--	**9.22**	**5.48**
Zinc	7440-66-6	mg/kg	23000	--	**40**	**18.6**
SVOA						
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	7.76 U	6.08 U
1-Methylnaphthalene	90-12-0	mg/kg	1700	--	8.3 U	6.5 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	29.4 UJ	23.1 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	9.9 U	7.76 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	9.1 U	7.13 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	10 U	7.86 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	7.63 U	5.98 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	29.4 U	23.1 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	6.56 U	5.14 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	6.69 U	5.24 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	8.93 U	6.99 U
2-Chlorophenol	95-57-8	mg/kg	390	--	9.24 U	7.23 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	7.76 U	6.08 U
2-Methylphenol	95-48-7	mg/kg	3100	--	12.8 U	10.1 U

Appendix E - Table 2
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	Pit-01 12/11/2014	Pit-02 12/11/2014
2-Nitroaniline	88-74-4	mg/kg	610	--	7.63 U	5.98 U
2-Nitrophenol	88-75-5	mg/kg	NP	--	9.64 U	7.55 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	7.9 U	6.18 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	10.7 U	8.39 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	35.6 U	27.9 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	6.56 U	5.14 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	7.5 U	5.87 U
4-Chloroaniline	106-47-8	mg/kg	250	--	8.43 U	6.6 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	6.82 U	5.35 U
4-Methylphenol	106-44-5	mg/kg	6200	--	7.9 U	6.18 U
4-Nitroaniline	100-01-6	mg/kg	250	--	11.8 U	9.22 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	7.09 U	5.56 U
Acenaphthene	83-32-9	mg/kg	3500	--	6.56 U	5.14 U
Acenaphthylene	208-96-8	mg/kg	NP	--	7.36 U	5.76 U
Aniline	62-53-3	mg/kg	430	--	10.3 U	8.07 U
Anthracene	120-12-7	mg/kg	17000	--	8.03 U	**10.6 JQ**
Benzidine	92-87-5	mg/kg	0.052	--	80.3 U	62.9 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	7.63 U	**18.4 JQ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	5.76 U	**11 JQ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	8.43 U	**14.9 JQ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	5.35 U	**12.8 JQ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	7.63 U	5.98 U
Benzoic acid	65-85-0	mg/kg	250000	--	36.1 U	28.3 U
Benzyl alcohol	100-51-6	mg/kg	6200	--	12.3 U	9.64 U
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	7.63 U	5.98 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	8.97 U	7.02 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	11.1 U	8.7 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	8.43 U	6.6 U
Chrysene	218-01-9	mg/kg	1500	--	**10 JQ**	**37.5**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	5.49 U	4.3 U
Dibenzofuran	132-64-9	mg/kg	72	--	7.23 U	5.66 U
Diethylphthalate	84-66-2	mg/kg	49000	--	6.82 U	5.35 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	7.9 U	6.18 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	5.89 U	4.61 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	7.76 U	6.08 U
Fluoranthene	206-44-0	mg/kg	2300	--	6.42 U	**18.7 JQ**
Fluorene	86-73-7	mg/kg	2300	--	6.82 U	5.35 U
Hexachlorobenzene	118-74-1	mg/kg	33	--	7.09 U	5.56 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	7.76 U	6.08 U

Appendix E - Table 2
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	Pit-01 12/11/2014	Pit-02 12/11/2014
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	20.1 U	15.7 U
Hexachloroethane	67-72-1	mg/kg	43	--	6.69 U	5.24 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	6.96 U	**5.74 JQ**
Isophorone	78-59-1	mg/kg	12000	--	7.9 U	6.18 U
Naphthalene	91-20-3	mg/kg	130	--	8.56 U	6.71 U
Nitrobenzene	98-95-3	mg/kg	130	--	8.03 U	6.29 U
N-Nitrosodimethylamine	62-75-9	mg/kg	0.23	--	9.5 U	7.44 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	8.16 U	6.39 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	8.43 U	6.6 U
Pentachlorophenol	87-86-5	mg/kg	99	--	17.8 U	13.9 U
Phenanthrene	85-01-8	mg/kg	NP	--	7.5 U	**27.8 JQ**
Phenol	108-95-2	mg/kg	18000	--	8.7 U	6.81 U
Pyrene	129-00-0	mg/kg	1700	--	12.3 U	**196**
TPH						
TPH C28-C35	TPH-C2835	mg/kg	NP	--	**114000**	**108000**
TPH C6-C12	TPH-C612	mg/kg	NP	--	**4180 JQ**	**2930 JQ**
TPH C6-C35	TPH-C635	mg/kg	NP	--	**301000**	**284000**
VOA						
1,1,1,2-Tetrachloroethane	630-20-6	mg/kg	200	--	0.113 U	0.0781 U
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.152 U	0.106 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0899 U	0.0623 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.125 U	0.0866 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0518 U	0.0359 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0518 U	0.0359 U
1,1-Dichloropropene	563-58-6	mg/kg	NP	--	0.0624 U	0.0433 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0929 U	0.0644 U
1,2,3-Trichloropropane	96-18-4	mg/kg	0.51	--	0.183 U	0.127 U
1,2,4-Trimethylbenzene	95-63-6	mg/kg	58	--	0.067 U	**0.621**
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.426 U	0.296 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.125 U	0.0866 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	7.63 U	5.98 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.152 U	0.106 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.096 U	0.0665 U
1,3,5-Trimethylbenzene	108-67-8	mg/kg	780	--	0.0792 U	**0.161 JQ**
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	8.16 U	6.39 U
1,3-Dichloropropane	142-28-9	mg/kg	1600	--	0.0822 U	0.057 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	8.43 U	6.6 U
2,2-Dichloropropane	594-20-7	mg/kg	NP	--	0.0899 U	0.0623 U
2-Butanone	78-93-3	mg/kg	27000	--	0.213 U	0.148 U

Appendix E - Table 2
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	Pit-01 12/11/2014	Pit-02 12/11/2014
2-Chlorotoluene	95-49-8	mg/kg	1600	--	0.0731 U	0.0507 U
2-Hexanone	591-78-6	mg/kg	200	--	0.198 U	0.137 U
4-Chlorotoluene	106-43-4	mg/kg	1600	--	0.0792 U	0.0549 U
4-Isopropyltoluene	99-87-6	mg/kg	NP	--	0.108 U	**0.14 JQ**
4-Methyl-2-pentanone	108-10-1	mg/kg	5300	--	0.244 U	0.169 U
Acetone	67-64-1	mg/kg	61000	--	**2.65**	**0.292 JQ**
Benzene	71-43-2	mg/kg	82	--	0.0762 U	0.0528 U
Bromobenzene	108-86-1	mg/kg	290	--	0.168 U	0.116 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.137 U	0.095 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0487 U	0.0338 U
Bromoform	75-25-2	mg/kg	1200	--	0.0701 U	0.0486 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.183 U	0.127 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.228 U	0.158 U
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0914 U	0.0633 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0533 U	0.037 U
Chloroethane	75-00-3	mg/kg	14000	--	0.113 U	0.0781 U
Chloroform	67-66-3	mg/kg	32	--	0.0822 U	0.057 U
Chloromethane	74-87-3	mg/kg	110	--	0.0579 U	0.0401 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0944 U	0.0654 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.064 U	0.0443 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0701 U	0.0486 U
Dibromomethane	74-95-3	mg/kg	23	--	0.1 U	0.0697 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0914 U	0.0633 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.105 U	0.0728 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0914 U	**0.132 JQ**
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.104 U	**0.189 JQ**
Methyl iodide	74-88-4	mg/kg	NP	--	0.228 U	0.158 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0655 U	0.0454 U
Methylene chloride	75-09-2	mg/kg	350	--	0.183 U	0.127 U
n-Butylbenzene	104-51-8	mg/kg	3900	--	**0.101 JQ**	**0.192 JQ**
n-Propylbenzene	103-65-1	mg/kg	3300	--	0.104 U	**0.124 JQ**
o-Xylene	95-47-6	mg/kg	650	--	0.0533 U	0.037 U
sec-Butylbenzene	135-98-8	mg/kg	7800	--	**0.064 JQ**	**0.152 JQ**
Styrene	100-42-5	mg/kg	6000	--	0.0426 U	0.0296 U
tert-Butylbenzene	98-06-6	mg/kg	7800	--	0.104 U	0.0718 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.142 U	0.0982 U
Toluene	108-88-3	mg/kg	4900	--	0.0442 U	0.0306 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0594 U	0.0412 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.152 U	0.106 U

Appendix E - Table 2
Wilcox Oil
Phase 1 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	Pit-01 12/11/2014	Pit-02 12/11/2014
Trichloroethene	79-01-6	mg/kg	4.1	--	0.067 U	0.0464 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.067 U	0.0464 U
Vinyl acetate	108-05-4	mg/kg	910	--	0.228 U	0.158 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0914 U	0.0633 U
Xylene (total)	1330-20-7	mg/kg	580	--	0.104 U	**0.219 JQ**

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

Q - Detected below the quantitation limit

B - Possible blank contamination

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-001-00-51 6/2/2015	WO-002-001-00-52 6/2/2015	WO-002-001-06-51 6/2/2015	WO-002-001-12-51 6/2/2015	WO-002-002-00-51 6/2/2015	WO-002-002-06-51 6/2/2015	WO-002-003-00-51 6/2/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2220 J**	**2120 J**	**2680**	**2960**	**2740**	**4020**	**1790 J**
Antimony	7440-36-0	mg/kg	31	--	0.99 UJ	0.92 UJ	1 UJ	0.8 UJ	0.88 UJ	0.92 UJ	1 UJ
Arsenic	7440-38-2	mg/kg	34	--	**0.98**	**1**	**1.1**	**1.7**	**2.1**	**1.8**	**1.3**
Barium	7440-39-3	mg/kg	15000	--	**32.4 J**	**32 J**	**29.4**	**32.2**	**34.7**	**31.1**	**48.1 J**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.46 U	0.52 U	0.4 U	0.44 U	0.46 U	0.52 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.46 U	0.52 U	0.4 U	0.44 U	0.46 U	0.52 U
Calcium	7440-70-2	mg/kg	NP	--	**1120**	**1120**	**1850**	**607**	**1080**	**688**	**2220**
Chromium	7440-47-3	mg/kg	NP	--	**5.3**	**5.6**	**5.6**	**8.5**	**6.6**	**7.7**	**5.6**
Cobalt	7440-48-4	mg/kg	23	--	**2.8**	**3.3**	**2.7**	**5.1**	**3**	**4**	**2.3**
Copper	7440-50-8	mg/kg	3100	--	**10.3**	**9.7**	**10.8**	**21.3**	**10**	**18.6**	**11**
Iron	7439-89-6	mg/kg	55000	--	**3410 J**	**3450 J**	**4100**	**9040**	**4170**	**17600**	**3280 J**
Lead	7439-92-1	mg/kg	400	--	**15.5**	**16.4**	**13.2**	**5.9**	**18**	**7.1**	**15.1**
Magnesium	7439-95-4	mg/kg	NP	--	**279 LJ**	**284 LJ**	**469**	433 U	481 U	546 U	**322 LJ**
Manganese	7439-96-5	mg/kg	1800	--	**210**	**208**	**203 J**	**577 J**	**410 J**	**1280 J**	**239**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0028 LJ**	0.12 U	**0.0042 LJ**	0.1 U	**0.0035 LJ**	0.11 U	0.11 U
Nickel	7440-02-0	mg/kg	1500	--	**3**	**3.2**	**3.1**	**4**	**2.8**	**3.9**	**3.2**
Potassium	7440-09-7	mg/kg	NP	--	466 U	500 U	465 U	433 U	481 U	546 U	465 U
Selenium	7782-49-2	mg/kg	390	--	2.5 U	2.3 U	2.6 U	2 U	2.2 U	2.3 U	2.6 U
Silver	7440-22-4	mg/kg	390	--	0.5 U	0.46 U	0.52 U	0.4 U	0.44 U	0.46 U	0.52 U
Sodium	7440-23-5	mg/kg	NP	--	466 U	500 U	465 U	433 U	481 U	546 U	465 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.46 U	0.52 U	0.4 U	0.44 U	0.46 U	0.52 U
Vanadium	7440-62-2	mg/kg	390	--	**7.6**	**8**	**8.2**	**12.7**	**8.1**	**12**	**7.7**
Zinc	7440-66-6	mg/kg	23000	--	**36.8 J**	**40.3 J**	**24.3**	**7.8**	**41.1**	**17.2**	**56.5 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.04 U	0.04 U	0.039 U	0.038 U	0.041 U	0.04 U	0.038 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00066 LJ**	**0.00054 LJ**	**0.00073 LJ**	**0.00025 LJ**	**0.000067 LJ**	0.004 U	**0.0008 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0018 LJ**	**0.0004 LJ**	**0.00062 LJ**	0.0038 U	**0.00024 LJ**	**0.00014 LJ**	**0.00024 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00051 LJ**	**0.0003 LJ**	**0.00046 LJ**	0.0038 U	**0.00075 LJ**	**0.00044 LJ**	**0.0011 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	0.0021 U	0.0021 U	0.002 U	0.002 U	0.0021 U	0.0021 U	**0.00025 LJ**
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0021 U	0.0021 U	0.002 U	0.002 U	0.0021 U	0.0021 U	0.002 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-001-00-51 6/2/2015	WO-002-001-00-52 6/2/2015	WO-002-001-06-51 6/2/2015	WO-002-001-12-51 6/2/2015	WO-002-002-00-51 6/2/2015	WO-002-002-06-51 6/2/2015	WO-002-003-00-51 6/2/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0021 U	0.0021 U	0.002 U	0.002 U	0.0021 U	0.0021 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	0.0021 U	**0.00061 LJ**	0.002 U	0.002 U	0.0021 U	0.0021 U	**0.00047 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	**0.024 LJ**
delta-BHC	319-86-8	mg/kg	NP	--	0.0021 U	0.0021 U	0.002 U	0.002 U	0.0021 U	0.0021 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.004 U	0.004 U	**0.00039 LJ**	**0.00027 LJ**	**0.00027 LJ**	**0.00039 LJ**	0.0038 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0021 U	0.0021 U	0.002 U	0.002 U	0.0021 U	0.0021 U	0.002 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00072 LJ**	**0.001 LJ**	0.0039 U	0.0038 U	0.0041 U	0.004 U	**0.00085 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.004 U	0.004 U	0.0039 U	0.0038 U	**0.00031 LJ**	0.004 U	**0.0046 J**
Endrin	72-20-8	mg/kg	18	--	**0.00048 LJ**	**0.00083 LJ**	0.0039 U	**0.00081 LJ**	0.0041 U	0.004 U	**0.0013 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.004 U	0.004 U	0.0039 U	0.0038 U	0.0041 U	0.004 U	0.0038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00029 LJ**	**0.00033 LJ**	0.0039 U	0.0038 U	0.0041 U	0.004 U	**0.0014 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.0021 U	0.0021 U	**0.000096 LJ**	**0.00019 LJ**	**0.00022 LJ**	**0.00034 LJ**	0.002 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00073 LJ**	**0.00024 LJ**	**0.00041 LJ**	**0.00022 LJ**	**0.0002 LJ**	**0.00019 LJ**	**0.00054 LJ**
Heptachlor	76-44-8	mg/kg	12	--	**0.00028 LJ**	**0.00032 LJ**	0.002 U	0.002 U	0.0021 U	**0.00025 LJ**	0.002 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0021 U	0.0021 U	**0.0006 LJ**	0.002 U	0.0021 U	0.0021 U	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	0.021 U	0.021 U	0.02 U	**0.0014 LJ**	0.021 U	0.021 U	0.02 U
Toxaphene	8001-35-2	mg/kg	48	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.12 U	0.1 U	0.11 U	0.11 U	0.13 U	0.099 U	0.13 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 UJ	0.4 UJ	0.39 U	0.38 U	0.42 U	0.4 U	0.38 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 U	0.4 U	0.39 U	0.38 U	0.42 U	0.4 U	0.38 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-001-00-51 6/2/2015	WO-002-001-00-52 6/2/2015	WO-002-001-06-51 6/2/2015	WO-002-001-12-51 6/2/2015	WO-002-002-00-51 6/2/2015	WO-002-002-06-51 6/2/2015	WO-002-003-00-51 6/2/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.21 UR	0.21 UR	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.2 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 U	0.4 U	0.39 U	0.38 U	0.42 U	0.4 U	0.38 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 U	0.4 U	0.39 U	0.38 U	0.42 U	0.4 U	0.38 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.21 UR	0.21 UR	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.2 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 U	0.4 U	0.39 U	0.38 U	0.42 U	0.4 U	0.38 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 U	0.4 U	0.39 U	0.38 U	0.42 U	0.4 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	**0.21**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	**0.47**
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.15 LJ**	**0.048 LJ**	**0.2**	**0.13 LJ**	0.21 U	**0.31**	**0.044 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.21 U	0.21 U	**0.093 LJ**	0.2 U	0.21 U	0.21 U	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	**0.24**
Dibenzofuran	132-64-9	mg/kg	72	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	**0.02 LJ**	0.21 U	0.2 U	0.2 U	0.21 U	**0.025 LJ**	0.2 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	**0.35**
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.21 UR	0.21 UR	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.2 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.21 U	0.21 U	0.2 U	0.2 U	0.21 U	0.21 U	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	**0.34**
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0037 LJ**	0.012 U	**0.0014 LJ**	**0.0037 LJ**	**0.0025 LJ**	0.004 U	0.076 U
Acenaphthene	83-32-9	mg/kg	3500	--	**0.0056 LJ**	**0.0071 LJ**	**0.0012 LJ**	**0.0008 LJ**	**0.0017 LJ**	0.004 U	0.076 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-001-00-51 6/2/2015	WO-002-001-00-52 6/2/2015	WO-002-001-06-51 6/2/2015	WO-002-001-12-51 6/2/2015	WO-002-002-00-51 6/2/2015	WO-002-002-06-51 6/2/2015	WO-002-003-00-51 6/2/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0066 LJ**	**0.0046 LJ**	**0.0039 LJ**	**0.0022 LJ**	**0.0025 LJ**	0.004 U	**0.084**
Anthracene	120-12-7	mg/kg	17000	--	**0.01**	**0.011 LJ**	**0.0045 J**	**0.0025 LJ**	**0.0036 LJ**	0.004 U	**0.066 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.042**	**0.048**	**0.021 J**	**0.0086**	**0.014**	**0.003 LJ**	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.035**	**0.04**	**0.022 J**	**0.0075**	**0.011**	**0.0026 LJ**	**0.21**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.064**	**0.068**	**0.03 J**	**0.015**	**0.021**	**0.0055**	NA
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0029 LJ**	**0.0029 LJ**	**0.014 J**	**0.0058**	**0.009**	**0.002 LJ**	**0.046 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.017**	**0.017**	**0.01 J**	**0.0046**	**0.0062**	**0.0014 LJ**	**0.12**
Chrysene	218-01-9	mg/kg	1500	--	**0.049**	**0.053**	**0.025 J**	**0.012**	**0.019**	**0.0057**	NA
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0083**	**0.009 LJ**	**0.004 J**	**0.002 LJ**	**0.0029 LJ**	0.004 U	**0.047 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.063**	**0.07**	**0.022 J**	**0.012**	**0.02**	**0.0054**	NA
Fluorene	86-73-7	mg/kg	2300	--	**0.0039 LJ**	**0.0041 LJ**	**0.0012 LJ**	0.0038 U	**0.0013 LJ**	0.004 U	0.076 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.035**	**0.038**	**0.018 J**	**0.0088**	**0.012**	**0.0032 LJ**	**0.23**
Naphthalene	91-20-3	mg/kg	130	--	**0.0029 LJ**	**0.0029 LJ**	**0.00097 LJ**	**0.0019 LJ**	**0.0026 LJ**	**0.00086 LJ**	0.076 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.016 UJ	0.024 UJ	0.008 UJ	**0.0019 LJ**	**0.0048 LJ**	0.0082 UJv	0.15 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.039**	**0.045**	**0.011 J**	**0.0057**	**0.013**	**0.0032 LJ**	**0.086**
Pyrene	129-00-0	mg/kg	1700	--	**0.06**	**0.065**	**0.024 J**	**0.012**	**0.02**	**0.0057**	NA
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
2-Butanone	78-93-3	mg/kg	27000	--	0.012 U	0.01 U	**0.013**	0.011 U	0.013 U	**0.013**	0.013 U
2-Hexanone	591-78-6	mg/kg	200	--	0.012 U	0.01 U	0.011 U	0.011 U	0.013 U	0.0099 U	0.013 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.012 U	0.01 U	0.011 U	0.011 U	0.013 U	0.0099 U	0.013 U
Acetone	67-64-1	mg/kg	61000	--	**0.023 J**	**0.027**	**0.039**	**0.019**	**0.0098 LJ**	**0.029**	0.013 U
Benzene	71-43-2	mg/kg	82	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Bromoform	75-25-2	mg/kg	1200	--	0.0058 UR	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-001-00-51 6/2/2015	WO-002-001-00-52 6/2/2015	WO-002-001-06-51 6/2/2015	WO-002-001-12-51 6/2/2015	WO-002-002-00-51 6/2/2015	WO-002-002-06-51 6/2/2015	WO-002-003-00-51 6/2/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Chloroform	67-66-3	mg/kg	32	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Chloromethane	74-87-3	mg/kg	110	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Ethylbenzene	100-41-4	mg/kg	580	--	**0.00029 LJ**	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00029 LJ**	0.0052 U	**0.00024 LJ**	0.0054 U	**0.00033 LJ**	**0.0002 LJ**	**0.00034 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
o-Xylene	95-47-6	mg/kg	650	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Styrene	100-42-5	mg/kg	6000	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Toluene	108-88-3	mg/kg	4900	--	**0.0094 J**	**0.0033 LJ**	**0.0061**	**0.0015 LJ**	**0.016**	**0.0049 LJ**	**0.017**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0058 U	0.0052 U	0.0055 U	0.0054 U	0.0066 U	0.005 U	0.0063 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-003-06-51 6/2/2015	WO-002-003-12-51 6/2/2015	WO-002-004-00-51 6/2/2015	WO-002-004-00-52 6/2/2015	WO-002-004-06-51 6/2/2015	WO-005-001-00-51 5/19/2015	WO-005-001-00-52 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2810 J**	**2770 J**	**2200 J**	**3150 J**	**3820**	**2520**	**2390**
Antimony	7440-36-0	mg/kg	31	--	0.78 UJ	0.87 UJ	1.1 UJ	1.1 UJ	0.84 UJ	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**1.6**	**1.4**	**1.3**	**1.4**	**1.9**	**2.5**	**1.5**
Barium	7440-39-3	mg/kg	15000	--	**39.9 J**	**33.1 J**	**31.9 J**	**31.2 J**	**34**	**23.4**	**22.6**
Beryllium	7440-41-7	mg/kg	160	--	0.39 U	0.44 U	0.55 U	0.56 U	0.42 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.39 U	0.44 U	0.55 U	0.56 U	0.42 U	**1.6**	**1.1**
Calcium	7440-70-2	mg/kg	NP	--	**4510**	**753**	**1880**	**13800**	**670**	**3500**	**3630**
Chromium	7440-47-3	mg/kg	NP	--	**6.1**	**6.8**	**5.5**	**5.5**	**9.5**	**6.2**	**3.9**
Cobalt	7440-48-4	mg/kg	23	--	**2.3**	**2.9**	**3**	**2.8**	**3.1**	**2.5**	2.1 U
Copper	7440-50-8	mg/kg	3100	--	**11.4**	**15.3**	**16.3**	**17**	**24.8**	**3.1**	**3.1**
Iron	7439-89-6	mg/kg	55000	--	**4190 J**	**6070 J**	**3090 J**	**5310 J**	**6360**	**6200**	**4000**
Lead	7439-92-1	mg/kg	400	--	**11.9**	**6.4**	**16.5**	**8.3**	**4.1**	**13.5**	**12.7**
Magnesium	7439-95-4	mg/kg	NP	--	**612**	449 U	**301 LJ**	**2020**	473 U	**1850**	**1770**
Manganese	7439-96-5	mg/kg	1800	--	**237**	**217**	**135**	**244**	**199 J**	**201**	**139**
Mercury	7439-97-6	mg/kg	9.4	--	0.11 U	0.1 U	0.12 U	0.11 U	0.1 U	0.072 U	0.077 U
Nickel	7440-02-0	mg/kg	1500	--	**3.6**	**3.4**	**3.3**	**3**	**4.1**	**2.3**	**2.2**
Potassium	7440-09-7	mg/kg	NP	--	**493**	449 U	569 U	535 U	473 U	**405**	**422**
Selenium	7782-49-2	mg/kg	390	--	2 U	2.2 U	2.7 U	2.8 U	2.1 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	0.39 U	0.44 U	0.55 U	0.56 U	0.42 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	413 U	449 U	569 U	535 U	473 U	53.8 U	53 U
Thallium	7440-28-0	mg/kg	0.78	--	0.39 U	0.44 U	0.55 U	0.56 U	0.42 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**8.8**	**10.2**	**8.7**	**9.6**	**15.7**	**11.6**	**7.2**
Zinc	7440-66-6	mg/kg	23000	--	**29.1 J**	**11 J**	**40.3 J**	**19.6 J**	**9.6**	**20.4**	**20.4**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.038 U	0.037 U	0.037 U	0.039 U	0.037 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00061 LJ**	**0.00037 LJ**	0.0037 U	**0.0012 LJ**	0.0039 U	**0.0012 LJ**	**0.00023 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0022 LJ**	0.0038 U	**0.0001 LJ**	0.0037 U	0.0039 U	**0.0002 LJ**	**0.00039 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0006 LJ**	**0.00019 LJ**	**0.00023 LJ**	**0.00044 LJ**	0.0039 U	**0.0009 LJ**	**0.00093 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.00048 LJ**	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	0.002 U	**0.000067 LJ**	**0.00015 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-003-06-51 6/2/2015	WO-002-003-12-51 6/2/2015	WO-002-004-00-51 6/2/2015	WO-002-004-00-52 6/2/2015	WO-002-004-06-51 6/2/2015	WO-005-001-00-51 5/19/2015	WO-005-001-00-52 5/19/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0019 U	**0.00028 LJ**	**0.000087 LJ**	0.0019 U	0.002 U	0.0019 U	**0.00077 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	**0.084 LJ**	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	0.0038 U	0.0037 U	0.0037 U	**0.00019 LJ**	0.0037 U	0.0037 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00095 LJ**	**0.00021 LJ**	**0.00053 LJ**	**0.0013 LJ**	0.0039 U	**0.00096 LJ**	**0.00025 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0038 U	0.0038 U	**0.000087 LJ**	**0.00036 LJ**	0.0039 U	**0.00062 LJ**	**0.000052 LJ**
Endrin	72-20-8	mg/kg	18	--	**0.00095 LJ**	**0.00042 LJ**	0.0037 U	0.0037 U	0.0039 U	**0.00058 LJ**	**0.0005 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0038 U	0.0037 U	0.0037 U	0.0039 U	0.0037 U	0.0037 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.0012 LJ**	**0.000095 LJ**	**0.00015 LJ**	**0.0002 LJ**	0.0039 U	**0.00037 LJ**	**0.00011 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	**0.00015 LJ**	**0.00044 LJ**	**0.00037 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00033 LJ**	**0.00014 LJ**	0.0019 U	**0.00031 LJ**	**0.00019 LJ**	**0.00018 LJ**	**0.00012 LJ**
Heptachlor	76-44-8	mg/kg	12	--	**0.00027 LJ**	**0.00015 LJ**	**0.00019 LJ**	**0.00028 LJ**	0.002 U	**0.000095 LJ**	**0.00022 LJ**
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0019 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	0.019 U	0.02 U	0.019 U	0.019 U	**0.0013 LJ**	0.019 U	**0.00041 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 U	0.1 U	0.12 U	0.14 U	0.11 U	0.099 U	0.1 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.37 UJ	0.39 UJ	0.37 UJ	0.38 UJ	0.39 U	0.37 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.37 U	0.39 U	0.37 U	0.38 U	0.39 U	0.37 U	0.37 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-003-06-51 6/2/2015	WO-002-003-12-51 6/2/2015	WO-002-004-00-51 6/2/2015	WO-002-004-00-52 6/2/2015	WO-002-004-06-51 6/2/2015	WO-005-001-00-51 5/19/2015	WO-005-001-00-52 5/19/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.19 UR	0.2 UR	0.19 UR	0.19 UR	0.2 UR	0.19 U	0.19 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.37 U	0.39 U	0.37 U	0.38 U	0.39 U	0.37 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.37 U	0.39 U	0.37 U	0.38 U	0.39 U	0.37 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.19 UR	0.2 UR	0.19 UR	0.19 UR	0.2 UR	0.19 U	0.19 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.37 U	0.39 U	0.37 U	0.38 U	0.39 U	0.37 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.37 U	0.39 U	0.37 U	0.38 U	0.39 U	0.37 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.32**	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.28**	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.57**	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.64**	**0.24**	0.19 U	**0.017 LJ**	**0.19 LJ**	0.19 U	**0.017 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	**0.33**	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	**0.028 LJ**	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.53**	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.19 UR	0.2 UR	0.19 UR	0.19 UR	0.2 UR	0.19 UJ	0.19 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	0.37 U	0.37 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.35**	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.19 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	**0.47**	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.021 LJ**	0.019 U	0.0037 U	**0.00089 LJ**	0.0039 U	**0.0034 LJ**	**0.00077 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	**0.066 LJ**	0.019 U	0.0037 U	0.0038 U	0.0039 U	0.0037 UJ	0.0037 UJ

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West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-003-06-51 6/2/2015	WO-002-003-12-51 6/2/2015	WO-002-004-00-51 6/2/2015	WO-002-004-00-52 6/2/2015	WO-002-004-06-51 6/2/2015	WO-005-001-00-51 5/19/2015	WO-005-001-00-52 5/19/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.048 LJ**	**0.0065 LJ**	**0.0016 LJ**	**0.001 LJ**	0.0039 U	**0.00089 LJ**	**0.00074 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.1**	**0.0055 LJ**	**0.0017 LJ**	**0.0014 LJ**	0.0039 U	**0.0021 LJ**	**0.002 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.02**	**0.006**	**0.0076**	**0.0017 LJ**	**0.0033 LJ**	**0.0026 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	**0.014 LJ**	**0.0054**	**0.0064**	**0.0012 LJ**	**0.0026 LJ**	**0.0019 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**0.03**	**0.011**	**0.014**	**0.002 LJ**	**0.0048 J**	**0.0043 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.06 LJ**	0.019 U	**0.00089 LJ**	**0.00096 LJ**	**0.0011 LJ**	**0.0028 LJ**	**0.0019 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.13**	**0.0084 LJ**	**0.003 LJ**	**0.0037 LJ**	0.0039 U	**0.0013 LJ**	**0.00098 LJ**
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.022**	**0.011**	**0.01**	**0.0038 LJ**	**0.0048 J**	**0.0042 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.057 LJ**	0.019 U	**0.0015 LJ**	**0.0017 LJ**	0.0039 U	**0.00087 LJ**	**0.00092 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	NA	**0.027**	**0.01**	**0.013**	**0.0015 LJ**	**0.0045 J**	**0.0035 LJ**
Fluorene	86-73-7	mg/kg	2300	--	**0.041 LJ**	0.019 U	0.0037 U	0.0038 U	0.0039 U	**0.00075 LJ**	0.0037 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.26**	**0.016 LJ**	**0.0062**	**0.0074**	**0.0011 LJ**	**0.004 J**	**0.0038 J**
Naphthalene	91-20-3	mg/kg	130	--	**0.048 LJ**	0.019 U	**0.00092 LJ**	0.0038 U	**0.00079 LJ**	**0.0019 LJ**	0.0037 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	0.15 U	0.039 U	0.0076 UJ	0.0076 UJ	0.0079 UJv	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	**0.012 LJ**	**0.005**	**0.007**	**0.0027 LJ**	**0.0042 J**	**0.0026 LJ**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.029**	**0.011**	**0.013**	**0.0029 LJ**	**0.0058 J**	**0.0042 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
2-Butanone	78-93-3	mg/kg	27000	--	0.011 U	0.01 U	0.012 U	0.014 U	**0.019**	0.0099 U	0.01 U
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.01 U	0.012 U	0.014 U	0.011 U	0.0099 U	0.01 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.01 U	0.012 U	0.014 U	0.011 U	0.0099 U	0.01 U
Acetone	67-64-1	mg/kg	61000	--	0.011 U	**0.011**	0.012 U	0.014 U	**0.014**	0.0099 U	**0.0048 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Bromoform	75-25-2	mg/kg	1200	--	0.0053 U	0.0052 U	0.0061 U	0.0068 UR	0.0053 U	0.005 U	0.0052 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-002-003-06-51 6/2/2015	WO-002-003-12-51 6/2/2015	WO-002-004-00-51 6/2/2015	WO-002-004-00-52 6/2/2015	WO-002-004-06-51 6/2/2015	WO-005-001-00-51 5/19/2015	WO-005-001-00-52 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Chloroform	67-66-3	mg/kg	32	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Chloromethane	74-87-3	mg/kg	110	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00056 LJ**	**0.00045 LJ**	**0.00025 LJ**	**0.00033 LJ**	0.0053 U	0.005 U	0.0052 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
o-Xylene	95-47-6	mg/kg	650	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Styrene	100-42-5	mg/kg	6000	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Toluene	108-88-3	mg/kg	4900	--	**0.0022 LJ**	**0.0053**	**0.009**	**0.01**	**0.0095**	**0.00022 LJ**	**0.00046 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0053 U	0.0052 U	0.0061 U	0.0068 U	0.0053 U	0.005 U	0.0052 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-001-06-51 5/21/2015	WO-005-001-12-51 5/21/2015	WO-005-001-24-51 5/21/2015	WO-005-001-24-52 5/21/2015	WO-005-002-00-51 5/19/2015	WO-005-002-06-51 5/21/2015	WO-005-002-12-51 5/21/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2020**	**9370**	**6800**	**7240**	**1520**	**3710**	**6650**
Antimony	7440-36-0	mg/kg	31	--	**0.6**	0.6 U	0.5 U	0.5 UJ, U	0.5 U	1.1 UJ	1.1 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2.1**	**3.2**	**2.4**	**2**	**0.9**	**1.5**	**2.6**
Barium	7440-39-3	mg/kg	15000	--	**21.1**	**40.5**	**26.9**	**26.2**	**26**	**37.3**	**93.5**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U	0.53 U	0.55 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U	0.53 U	0.55 U
Calcium	7440-70-2	mg/kg	NP	--	**1600**	**856**	**700**	**560**	**505**	**558**	**570**
Chromium	7440-47-3	mg/kg	NP	--	**4.8**	**9.1**	**9.9**	**6.8**	**3.9**	**7.3**	**11.9**
Cobalt	7440-48-4	mg/kg	23	--	**3.1**	**4.2**	**2.9**	**2.5**	2.1 U	**2.4**	**8.5**
Copper	7440-50-8	mg/kg	3100	--	**2.7**	**6**	**7.7**	**6.8**	2.1 U	**2.8**	**3.9**
Iron	7439-89-6	mg/kg	55000	--	**5390**	**13500**	**13000**	**8380**	**2940**	**6940**	**7730**
Lead	7439-92-1	mg/kg	400	--	**15.5**	**7.4**	**5.7**	**6**	**7.7**	**6.5**	**12.6**
Magnesium	7439-95-4	mg/kg	NP	--	**756**	**757**	**649**	**658**	**229**	515 U	**684**
Manganese	7439-96-5	mg/kg	1800	--	**197**	**40.8**	**27.4**	**29.7**	**175**	**343**	**145**
Mercury	7439-97-6	mg/kg	9.4	--	0.073 U	0.07 U	0.077 U	0.072 U	0.071 U	**0.011 LJ**	**0.01 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**2.1**	**4.3**	**3**	**3.1**	2.1 U	**3.2**	**6**
Potassium	7440-09-7	mg/kg	NP	--	**321**	**699**	**472**	**498**	**279**	515 U	**769**
Selenium	7782-49-2	mg/kg	390	--	1 U	1.1 U	1 U	1.1 U	1.1 U	2.7 U	**0.35 LJ**
Silver	7440-22-4	mg/kg	390	--	1 U	1.1 U	1 U	1.1 U	1.1 U	0.53 U	0.55 U
Sodium	7440-23-5	mg/kg	NP	--	49.7 U	55.1 U	51.7 U	53 U	52.8 U	515 U	522 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U	0.53 U	0.55 U
Vanadium	7440-62-2	mg/kg	390	--	**8.7**	**20.4**	**15.6**	**14.4**	**5.5**	**11.9**	**23.6**
Zinc	7440-66-6	mg/kg	23000	--	**20.2**	**9.1**	**6.6**	**7.9**	**14.2**	**11.7**	**11.5**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.037 U	0.038 U	0.039 U	0.038 U	0.037 U	0.038 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0003 LJ**	0.0038 U	**0.000063 LJ**	**0.000058 LJ**	**0.0008 LJ**	0.0038 U	0.0037 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.0037 U	**0.00063 LJ**	0.0039 U	**0.00026 LJ**	**0.000049 LJ**	**0.00031 LJ**	**0.00026 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0025 LJ**	**0.0011 LJ**	**0.00015 LJ**	**0.00016 LJ**	**0.00051 LJ**	0.0038 U	0.0037 U
Acetophenone	98-86-2	mg/kg	7800	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.0019 U	0.002 U	0.002 U	0.0019 U	**0.00011 LJ**	0.002 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0019 U	**0.000057 LJ**	**0.00004 LJ**	**0.000024 LJ**	0.0019 U	**0.000032 LJ**	**0.000037 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-001-06-51 5/21/2015	WO-005-001-12-51 5/21/2015	WO-005-001-24-51 5/21/2015	WO-005-001-24-52 5/21/2015	WO-005-002-00-51 5/19/2015	WO-005-002-06-51 5/21/2015	WO-005-002-12-51 5/21/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0019 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0019 U	0.002 U	0.002 U	0.0019 U	**0.00082 LJ**	0.002 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0019 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0037 U	0.0038 U	0.0039 U	0.0038 U	0.0037 U	0.0038 U	0.0037 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0019 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0037 U	0.0038 U	0.0039 U	0.0038 U	**0.00013 LJ**	0.0038 U	0.0037 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00028 LJ**	**0.00021 LJ**	0.0039 U	0.0038 U	**0.00013 LJ**	**0.00049 LJ**	0.0037 U
Endrin	72-20-8	mg/kg	18	--	**0.00087 LJ**	**0.0013 LJ**	0.0039 U	**0.001 LJ**	0.0037 U	0.0038 U	0.0037 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0037 U	0.0038 U	0.0039 U	0.0038 U	0.0037 U	0.0038 U	0.0037 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0037 U	0.0038 U	0.0039 U	0.0038 U	**0.00013 LJ**	0.0038 U	0.0037 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.0001 LJ**	**0.000062 LJ**	0.002 U	0.0019 U	**0.00025 LJ**	**0.000021 LJ**	0.0019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.0019 U	0.002 U	0.002 U	0.0019 U	**0.0002 LJ**	0.002 U	0.0019 U
Heptachlor	76-44-8	mg/kg	12	--	0.0019 U	0.002 U	0.002 U	0.0019 U	**0.00027 LJ**	0.002 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.00071 LJ**	**0.00035 LJ**	**0.00037 LJ**	**0.00026 LJ**	0.0019 U	**0.0003 LJ**	**0.00015 LJ**
Methoxychlor	72-43-5	mg/kg	310	--	0.019 U	0.02 U	0.02 U	0.019 U	**0.0018 LJ**	0.02 U	0.019 U
Toxaphene	8001-35-2	mg/kg	48	--	0.19 U	0.2 U	0.2 U	0.19 U	0.19 U	0.2 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 UJv	0.094 UJv	0.094 UJv	0.097 UJv	0.14 U	0.11 UJv	0.091 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.37 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.37 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-001-06-51 5/21/2015	WO-005-001-12-51 5/21/2015	WO-005-001-24-51 5/21/2015	WO-005-001-24-52 5/21/2015	WO-005-002-00-51 5/19/2015	WO-005-002-06-51 5/21/2015	WO-005-002-12-51 5/21/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.19 U	0.2 U	0.2 U	0.2 UR	0.19 UR	0.2 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.37 UJ	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.37 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.19 U	0.2 U	0.2 U	0.2 UR	0.19 UR	0.2 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.37 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.37 U	0.39 U	0.38 U	0.38 U	0.38 U	0.38 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.19 U	0.2 U	0.2 U	0.2 U	**0.017 LJ**	**0.02 LJ**	0.19 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	**0.021 LJ**
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.19 UJ	0.2 U	0.2 U	0.2 UR	0.19 UR	0.2 U	0.19 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.37 U	NA	NA	NA	0.38 U	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.19 U	0.2 U	0.2 U	0.2 U	0.19 U	0.2 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.00076 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0062 J**	0.0038 U	0.0037 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0037 UJ	0.0039 U	0.0038 U	**0.00079 LJ**	**0.0026 LJ**	0.0038 U	0.0037 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-001-06-51 5/21/2015	WO-005-001-12-51 5/21/2015	WO-005-001-24-51 5/21/2015	WO-005-001-24-52 5/21/2015	WO-005-002-00-51 5/19/2015	WO-005-002-06-51 5/21/2015	WO-005-002-12-51 5/21/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0037 UJ	0.0039 U	0.0038 U	0.0038 U	**0.0033 LJ**	**0.00087 LJ**	0.0037 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0019 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0026 LJ**	0.0038 U	0.0037 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.003 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0041 J**	**0.0027 LJ**	0.0037 U
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0022 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0031 LJ**	**0.0021 LJ**	0.0037 U
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0034 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.008 J**	**0.0038 LJ**	0.0037 U
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0018 LJ**	0.0039 U	**0.0011 LJ**	**0.0014 LJ**	**0.00099 LJ**	**0.0018 LJ**	0.0037 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.001 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0025 LJ**	**0.0011 LJ**	0.0037 U
Chrysene	218-01-9	mg/kg	1500	--	**0.0034 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.011 J**	**0.0035 LJ**	**0.00078 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0037 UJ	0.0039 U	0.0038 U	0.0038 U	**0.00099 LJ**	0.0038 U	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0033 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.011 J**	**0.003 LJ**	0.0037 U
Fluorene	86-73-7	mg/kg	2300	--	0.0037 UJ	0.0039 U	0.0038 U	0.0038 U	**0.0028 LJ**	0.0038 U	0.0037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0031 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0044 J**	**0.0025 LJ**	0.0037 U
Naphthalene	91-20-3	mg/kg	130	--	0.0037 UJ	0.0039 U	0.0038 U	0.0038 U	**0.0032 LJ**	0.0038 U	0.0037 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.0078 U	0.0078 U	0.0077 U	NA	0.0077 U	0.0076 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0022 LJ**	0.0039 U	0.0038 U	0.0038 U	**0.0046 J**	**0.0018 LJ**	0.0037 U
Pyrene	129-00-0	mg/kg	1700	--	**0.0041 J**	0.0039 U	0.0038 U	0.0038 U	**0.0094 J**	**0.0039**	0.0037 U
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.0067 LJ**	0.0094 U	**0.0066 LJ**	**0.0032 LJ**	0.014 U	0.011 U	0.0091 U
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	0.0094 U	0.0094 U	0.0097 U	0.014 U	0.011 U	0.0091 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	0.0094 U	0.0094 U	0.0097 U	0.014 U	0.011 U	0.0091 U
Acetone	67-64-1	mg/kg	61000	--	0.01 UM	0.0094 U	0.0094 U	0.0097 U	0.014 U	0.011 U	0.0091 U
Benzene	71-43-2	mg/kg	82	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Bromoform	75-25-2	mg/kg	1200	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-001-06-51 5/21/2015	WO-005-001-12-51 5/21/2015	WO-005-001-24-51 5/21/2015	WO-005-001-24-52 5/21/2015	WO-005-002-00-51 5/19/2015	WO-005-002-06-51 5/21/2015	WO-005-002-12-51 5/21/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Chloroethane	75-00-3	mg/kg	14000	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Chloroform	67-66-3	mg/kg	32	--	**0.00048 LJ**	**0.00045 LJ**	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Chloromethane	74-87-3	mg/kg	110	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Methylene chloride	75-09-2	mg/kg	350	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
o-Xylene	95-47-6	mg/kg	650	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Styrene	100-42-5	mg/kg	6000	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Toluene	108-88-3	mg/kg	4900	--	**0.00061 LJ**	**0.0011 LJ**	**0.00054 LJ**	**0.00041 LJ**	**0.00099 LJ**	**0.0015 LJ**	**0.00038 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.005 U	0.0047 U	0.0047 U	0.0048 U	0.0069 U	0.0054 U	0.0046 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-002-24-51 5/21/2015	WO-005-002-24-52 5/21/2015	WO-005-003-00-51 5/20/2015	WO-005-003-06-51 5/21/2015	WO-005-003-12-51 5/21/2015	WO-005-003-24-51 5/21/2015	WO-005-004-00-51 5/20/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**14300**	**15800**	**3030**	**4990**	**15600**	**8310**	**1840**
Antimony	7440-36-0	mg/kg	31	--	1.1 UJ	1.1 UJ	0.5 UJ, U	0.6 U	1.1 UJ	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**2**	**3.4**	**4.5**	**2.1**	**3.9**	**3.3**	**1.5**
Barium	7440-39-3	mg/kg	15000	--	**73.2**	**82.9**	**26.9**	**32.6**	**49.3**	**31.1**	**26.6**
Beryllium	7440-41-7	mg/kg	160	--	**0.62**	**0.7**	0.5 U	0.6 U	**0.58**	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.57 U	0.55 U	0.5 U	0.6 U	0.55 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**611**	**694**	**6130 J**	**1050**	**804**	**483**	**735**
Chromium	7440-47-3	mg/kg	NP	--	**15.4**	**18.3**	**4.4**	**6.6**	**17.4**	**9.4**	**4.8**
Cobalt	7440-48-4	mg/kg	23	--	**3.8**	**4**	**2.5**	**2.5**	**3.3**	**2.4**	**2.5**
Copper	7440-50-8	mg/kg	3100	--	**6.9**	**6.6**	**4.7**	**3.8**	**6.3**	**3.6**	**2.4**
Iron	7439-89-6	mg/kg	55000	--	**11800**	**12500**	**6030**	**7850**	**14700**	**13400**	**4310**
Lead	7439-92-1	mg/kg	400	--	**5.9**	**7.2**	**11 J**	**5.8**	**7.3**	**5.3**	**6.8**
Magnesium	7439-95-4	mg/kg	NP	--	**1200**	**1360**	**2980**	**523**	**1230**	**633**	**255**
Manganese	7439-96-5	mg/kg	1800	--	**45.4**	**50**	**225 J**	**93.2**	**50.5**	**22.2**	**170**
Mercury	7439-97-6	mg/kg	9.4	--	**0.017 LJ**	**0.013 LJ**	0.071 U	0.074 U	**0.011 LJ**	0.067 U	0.078 U
Nickel	7440-02-0	mg/kg	1500	--	**8.3**	**8.6**	**3.8**	**3.4**	**8.7**	**4.2**	2.1 U
Potassium	7440-09-7	mg/kg	NP	--	**982**	**1120**	**483**	**414**	**1120**	**515**	**289**
Selenium	7782-49-2	mg/kg	390	--	2.9 U	**0.39 LJ**	**1.6**	1.1 U	**0.34 LJ**	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	0.57 U	0.55 U	1.1 U	1.1 U	0.55 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	548 U	582 U	54 U	55.2 U	555 U	53.4 U	53.5 U
Thallium	7440-28-0	mg/kg	0.78	--	0.57 U	0.55 U	0.5 U	0.6 U	0.55 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**28.4**	**34.6**	**9.1**	**12.3**	**32.9**	**20.3**	**8**
Zinc	7440-66-6	mg/kg	23000	--	**16.5**	**18**	**17.7**	**8.9**	**16.4**	**6.7**	**11.8**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.038 U	0.039 U	0.037 U	0.037 U	0.037 U	0.038 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.0038 U	**0.00025 LJ**	**0.0012 LJ**	**0.0004 LJ**	0.0037 U	0.0037 U	0.0038 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.000072 LJ**	0.0038 U	0.0039 U	**0.00028 LJ**	**0.00032 LJ**	**0.00018 LJ**	0.0038 U
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00021 LJ**	**0.00019 LJ**	**0.000052 LJ**	**0.00076 LJ**	**0.00069 LJ**	0.0037 U	**0.00044 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.002 U	0.002 U	**0.000044 LJ**	**0.00002 LJ**	**0.000057 LJ**	**0.000032 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-002-24-51 5/21/2015	WO-005-002-24-52 5/21/2015	WO-005-003-00-51 5/20/2015	WO-005-003-06-51 5/21/2015	WO-005-003-12-51 5/21/2015	WO-005-003-24-51 5/21/2015	WO-005-004-00-51 5/20/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.19 U	0.2 U	0.19 U	**0.016 LJ**	0.19 U	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	0.002 U	**0.00072 LJ**	0.0019 U	0.0019 U	0.0019 U	**0.00023 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.002 U	0.002 U	0.0019 U	0.0019 U	0.0019 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	**0.00031 LJ**	**0.00026 LJ**	0.0039 U	0.0037 U	**0.00035 LJ**	0.0037 U	0.0038 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.002 U	**0.00007 LJ**	0.0019 U	0.0019 U	0.0019 U	**0.00012 LJ**
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00031 LJ**	0.0038 U	**0.0031 LJ**	0.0037 U	**0.000037 LJ**	0.0037 U	0.0038 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00027 LJ**	0.0038 U	**0.0001 LJ**	0.0037 U	**0.00012 LJ**	0.0037 U	**0.00036 LJ**
Endrin	72-20-8	mg/kg	18	--	**0.0017 LJ**	0.0038 U	**0.0014 LJ**	0.0037 U	0.0037 U	**0.00089 LJ**	0.0038 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0038 U	0.0039 U	0.0037 U	0.0037 U	0.0037 U	0.0038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0038 U	0.0038 U	**0.00018 LJ**	0.0037 U	0.0037 U	0.0037 U	**0.00027 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	0.002 U	**0.00025 LJ**	**0.000053 LJ**	**0.00012 LJ**	0.0019 U	**0.0002 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00011 LJ**	**0.00019 LJ**	**0.00019 LJ**	0.0019 U	**0.00016 LJ**	0.0019 U	**0.000099 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.002 U	**0.00011 LJ**	0.0019 U	0.0019 U	0.0019 U	**0.00028 LJ**
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.0021 J**	0.002 U	0.002 U	**0.00028 LJ**	0.0019 U	**0.00028 LJ**	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	0.02 U	0.02 U	**0.0016 LJ**	0.019 U	0.019 U	0.019 U	**0.0014 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.2 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 UJv	0.12 U	0.12 UJv	0.1 UJv	0.098 UJv	0.099 UJv	0.13 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-002-24-51 5/21/2015	WO-005-002-24-52 5/21/2015	WO-005-003-00-51 5/20/2015	WO-005-003-06-51 5/21/2015	WO-005-003-12-51 5/21/2015	WO-005-003-24-51 5/21/2015	WO-005-004-00-51 5/20/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.19 U	0.2 UR	0.19 U	0.19 U	0.19 U	0.2 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.19 U	0.2 UR	0.19 U	0.19 U	0.19 U	0.2 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 U	0.38 U	0.39 U	0.38 U	0.37 U	0.37 U	0.39 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 U	0.19 U	**0.17 LJ**	0.19 U	0.19 U	0.19 U	**0.062 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	**0.13 LJ**
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 U	0.19 U	0.2 UR	0.19 U	0.19 U	0.19 U	0.2 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	0.39 U	NA	NA	NA	0.39 U
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0015 LJ**	**0.0016 LJ**	**0.00094 LJ**	0.0038 U	**0.002 LJ**	0.0037 U	0.0039 UJ
Acenaphthene	83-32-9	mg/kg	3500	--	0.0038 U	0.0038 U	0.0039 UJ	0.0038 U	0.0037 U	0.0037 U	0.0039 UJ

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-002-24-51 5/21/2015	WO-005-002-24-52 5/21/2015	WO-005-003-00-51 5/20/2015	WO-005-003-06-51 5/21/2015	WO-005-003-12-51 5/21/2015	WO-005-003-24-51 5/21/2015	WO-005-004-00-51 5/20/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0038 U	0.0038 U	0.0039 UJ	0.0038 U	0.0037 U	0.0037 U	0.0039 UJ
Anthracene	120-12-7	mg/kg	17000	--	0.0038 U	0.0038 U	**0.0015 LJ**	0.0038 U	0.0037 U	0.0037 U	**0.00086 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	0.0038 U	0.0038 U	**0.0048 J**	**0.0018 LJ**	**0.00089 LJ**	0.0037 U	**0.0068 J**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	0.0038 U	0.0038 U	**0.0037 LJ**	**0.0014 LJ**	0.0037 U	0.0037 U	**0.0039 J**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	0.0038 U	0.0038 U	**0.0074 J**	**0.0024 LJ**	**0.0013 LJ**	0.0037 U	**0.0071 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.0038 U	0.0038 U	**0.0013 LJ**	**0.0017 LJ**	**0.0011 LJ**	0.0037 U	**0.0015 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.0038 U	0.0038 U	**0.002 LJ**	0.0038 U	0.0037 U	0.0037 U	**0.0015 LJ**
Chrysene	218-01-9	mg/kg	1500	--	0.0038 U	0.0038 U	**0.0065 J**	**0.0022 LJ**	**0.0013 LJ**	0.0037 U	**0.012 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0038 U	0.0038 U	**0.0011 LJ**	0.0038 U	0.0037 U	0.0037 U	**0.0019 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	0.0038 U	0.0038 U	**0.0071 J**	**0.0024 LJ**	**0.0013 LJ**	0.0037 U	**0.0044 J**
Fluorene	86-73-7	mg/kg	2300	--	0.0038 U	0.0038 U	0.0039 UJ	0.0038 U	0.0037 U	0.0037 U	0.0039 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	0.0038 U	0.0038 U	**0.0046 J**	**0.0015 LJ**	0.0037 U	0.0037 U	**0.0047 J**
Naphthalene	91-20-3	mg/kg	130	--	**0.0015 LJ**	**0.0016 LJ**	0.0039 UJ	0.0038 U	**0.0018 LJ**	0.0037 U	0.0039 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0078 U	0.0077 U	NA	0.0076 U	0.0075 U	0.0075 U	NA
Phenanthrene	85-01-8	mg/kg	NP	--	0.0038 U	0.0038 U	**0.0047 J**	**0.0013 LJ**	**0.0013 LJ**	0.0037 U	**0.0026 LJ**
Pyrene	129-00-0	mg/kg	1700	--	0.0038 U	0.0038 U	**0.0094 J**	**0.0025 LJ**	**0.0014 LJ**	0.0037 U	**0.0058 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
2-Butanone	78-93-3	mg/kg	27000	--	0.01 U	0.012 U	0.012 U	**0.0028 LJ**	**0.0041 LJ**	**0.0066 LJ**	0.013 U
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	0.012 U	0.012 U	0.01 U	0.0098 U	0.0099 U	0.013 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	0.012 U	0.012 U	0.01 U	0.0098 U	0.0099 U	0.013 U
Acetone	67-64-1	mg/kg	61000	--	**0.0064 LJ**	**0.0028 LJ**	0.012 U	0.01 UM	**0.015**	0.0099 UM	0.013 U
Benzene	71-43-2	mg/kg	82	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Bromoform	75-25-2	mg/kg	1200	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-002-24-51 5/21/2015	WO-005-002-24-52 5/21/2015	WO-005-003-00-51 5/20/2015	WO-005-003-06-51 5/21/2015	WO-005-003-12-51 5/21/2015	WO-005-003-24-51 5/21/2015	WO-005-004-00-51 5/20/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Chloroform	67-66-3	mg/kg	32	--	0.0052 U	**0.00052 LJ**	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Chloromethane	74-87-3	mg/kg	110	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0052 U	0.0058 U	**0.00032 LJ**	0.005 U	0.0049 U	0.0049 U	0.0063 U
o-Xylene	95-47-6	mg/kg	650	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Styrene	100-42-5	mg/kg	6000	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Toluene	108-88-3	mg/kg	4900	--	**0.00026 LJ**	**0.00089 LJ**	**0.00085 LJ**	**0.0012 LJ**	**0.00087 LJ**	**0.001 LJ**	**0.00065 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	**0.00029 LJ**	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0052 U	0.0058 U	0.006 U	0.005 U	0.0049 U	0.0049 U	0.0063 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-004-00-52 5/20/2015	WO-005-004-06-51 5/21/2015	WO-005-004-12-51 5/21/2015	WO-005-004-24-51 5/21/2015	WO-005-005-00-51 5/20/2015	WO-005-005-06-51 5/21/2015	WO-005-005-12-51 5/21/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1800**	**2430**	**5040**	**10600**	**2510**	**9270**	**15700**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	1.1 UJ	0.5 U	1.2 UJ	0.6 U	1.1 UJ	1.1 UJ
Arsenic	7440-38-2	mg/kg	34	--	**0.9**	**1.5**	**2.6**	**3.1**	**1.5**	**4.3**	**4.3**
Barium	7440-39-3	mg/kg	15000	--	**30.6**	**32.4**	**43.7**	**91.6**	**27.2**	**46.7**	**62.2**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.57 U	0.5 U	**0.64**	0.6 U	0.57 U	**0.61**
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.57 U	0.5 U	0.58 U	0.6 U	0.57 U	0.56 U
Calcium	7440-70-2	mg/kg	NP	--	**1080**	**753**	**535**	**594**	**4700**	**5800**	**1780**
Chromium	7440-47-3	mg/kg	NP	--	**3.2**	**6.5**	**9**	**15.5**	**4.6**	**12.9**	**21.5**
Cobalt	7440-48-4	mg/kg	23	--	2.2 U	**2.5**	**4.1**	**8**	2.2 U	**3.1**	**3.4**
Copper	7440-50-8	mg/kg	3100	--	**3**	**3.1**	**3.6**	**7.2**	**4**	**23.2**	**10.4**
Iron	7439-89-6	mg/kg	55000	--	**4080**	**4590**	**9010**	**13400**	**5060**	**12700**	**23500**
Lead	7439-92-1	mg/kg	400	--	**11**	**7**	**6.6**	**6.8**	**16.2**	**14**	**7.6**
Magnesium	7439-95-4	mg/kg	NP	--	**345**	428 U	**509**	**1020**	**1700**	**1550**	**1140**
Manganese	7439-96-5	mg/kg	1800	--	**162**	**150**	**181**	**326**	**194**	**108**	**44.9**
Mercury	7439-97-6	mg/kg	9.4	--	0.066 U	**0.0087 LJ**	0.071 U	**0.013 LJ**	0.067 U	**0.016 LJ**	**0.014 LJ**
Nickel	7440-02-0	mg/kg	1500	--	2.2 U	**3**	**3.2**	**9.1**	**2.4**	**12.5**	**9.9**
Potassium	7440-09-7	mg/kg	NP	--	**355**	428 U	**507**	**811**	**345**	**895**	**1170**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	2.8 U	1 U	2.9 U	1.1 U	2.8 U	**0.35 LJ**
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.57 U	1 U	0.58 U	1.1 U	0.57 U	0.56 U
Sodium	7440-23-5	mg/kg	NP	--	55.8 U	428 U	50.6 U	519 U	55.1 U	479 U	475 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.57 U	0.5 U	0.58 U	0.6 U	0.57 U	0.56 U
Vanadium	7440-62-2	mg/kg	390	--	**5.1**	**10.4**	**15.7**	**31.7**	**8.2**	**18**	**36.2**
Zinc	7440-66-6	mg/kg	23000	--	**14.6**	**14.1**	**6.7**	**15.5**	**20.2**	**28.3**	**14.5**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.037 U	0.038 U	0.038 U	0.044 U	0.039 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00053 LJ**	**0.00019 LJ**	**0.00044 LJ**	0.0038 U	**0.00068 LJ**	**0.0003 LJ**	**0.00016 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	0.0038 U	**0.000075 LJ**	**0.00012 LJ**	**0.000065 LJ**	**0.012**	**0.015**	**0.0065**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.000058 LJ**	**0.00045 LJ**	**0.00026 LJ**	**0.00022 LJ**	**0.001 LJ**	**0.0021 LJ**	**0.00097 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.0019 U	0.0019 U	0.002 U	**0.00033 LJ**	0.002 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.000072 LJ**	**0.000015 LJ**	**0.000019 LJ**	0.002 U	**0.000062 LJ**	**0.00007 LJ**	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-004-00-52 5/20/2015	WO-005-004-06-51 5/21/2015	WO-005-004-12-51 5/21/2015	WO-005-004-24-51 5/21/2015	WO-005-005-00-51 5/20/2015	WO-005-005-06-51 5/21/2015	WO-005-005-12-51 5/21/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0023 U	0.002 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.19 U	0.19 U	**0.018 LJ**	0.22 U	0.4 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	**0.00052 LJ**	0.0019 U	0.0019 U	0.002 U	**0.00058 LJ**	0.002 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0023 U	0.002 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	**0.00035 LJ**	**0.00031 LJ**	**0.00026 LJ**	0.0044 U	**0.00027 LJ**	**0.00035 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	**0.000044 LJ**	0.0019 U	0.0019 U	0.002 U	0.0023 U	0.002 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.0017 LJ**	**0.0011 LJ**	**0.0002 LJ**	**0.00069 LJ**	**0.00031 LJ**	**0.0016 LJ**	**0.0012 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.0007 LJ**	**0.00028 LJ**	0.0038 U	**0.00015 LJ**	0.0044 U	**0.0002 LJ**	0.0037 U
Endrin	72-20-8	mg/kg	18	--	0.0038 U	0.0037 U	**0.00014 LJ**	0.0038 U	0.0044 U	0.0039 U	0.0037 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0037 U	0.0038 U	0.0038 U	0.0044 U	0.0039 U	0.0037 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00027 LJ**	0.0037 U	0.0038 U	0.0038 U	**0.000068 LJ**	0.0039 U	0.0037 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00023 LJ**	**0.0003 LJ**	**0.00017 LJ**	0.002 U	**0.00026 LJ**	**0.00016 LJ**	**0.000077 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00026 LJ**	**0.00013 LJ**	**0.00012 LJ**	**0.00014 LJ**	**0.00013 LJ**	**0.00012 LJ**	**0.00012 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.0019 U	0.0019 U	0.002 U	**0.00048 LJ**	0.002 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.0019 U	0.0019 U	0.002 U	0.0023 U	0.002 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.0011 LJ**	0.019 U	0.019 U	0.02 U	**0.0017 LJ**	0.02 U	0.019 U
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.19 U	0.19 U	0.2 U	0.23 U	0.2 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.18 UJv	0.1 UJv	0.11 UJv	0.096 UJv	0.12 UJv	0.11 UJv	0.11 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 U	0.38 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 U	0.38 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-004-00-52 5/20/2015	WO-005-004-06-51 5/21/2015	WO-005-004-12-51 5/21/2015	WO-005-004-24-51 5/21/2015	WO-005-005-00-51 5/20/2015	WO-005-005-06-51 5/21/2015	WO-005-005-12-51 5/21/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UR	0.19 U	0.19 U	0.2 U	0.22 UR	0.4 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 UJ	0.38 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 U	0.38 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UR	0.19 U	0.19 U	0.2 U	0.22 UR	0.4 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 U	0.38 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 U	0.37 U	0.38 U	0.39 U	0.43 U	0.77 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.026 LJ**	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	**0.019 LJ**	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UR	0.19 U	0.19 U	0.2 U	0.22 UR	0.4 UJ	0.19 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.38 U	NA	NA	NA	0.43 U	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.19 U	0.19 U	0.2 U	0.22 U	0.4 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0038 UJ	**0.0021 LJ**	**0.0018 LJ**	**0.0018 LJ**	0.0043 UJ	**0.0031 LJ**	**0.0025 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0038 UJ	0.0037 U	0.0038 U	0.0039 U	0.0043 UJ	0.0039 UJ	0.0038 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-004-00-52 5/20/2015	WO-005-004-06-51 5/21/2015	WO-005-004-12-51 5/21/2015	WO-005-004-24-51 5/21/2015	WO-005-005-00-51 5/20/2015	WO-005-005-06-51 5/21/2015	WO-005-005-12-51 5/21/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.00098 LJ**	0.0037 U	0.0038 U	0.0039 U	**0.0012 LJ**	**0.002 LJ**	0.0038 UJ
Anthracene	120-12-7	mg/kg	17000	--	**0.001 LJ**	0.0037 U	0.0038 U	0.0039 U	**0.0015 LJ**	**0.0023 LJ**	0.0038 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0033 LJ**	**0.0026 LJ**	**0.0013 LJ**	0.0039 U	**0.0063 J**	**0.01 J**	**0.0017 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0025 LJ**	**0.0023 LJ**	**0.00092 LJ**	0.0039 U	**0.0052 J**	**0.009 J**	**0.0012 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0053 J**	**0.0037 LJ**	**0.0017 LJ**	0.0039 U	**0.0088 J**	**0.014 J**	**0.0021 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.0038 UJ	**0.0025 LJ**	**0.00092 LJ**	0.0039 U	**0.0015 LJ**	**0.0094 J**	**0.0019 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0015 LJ**	**0.0012 LJ**	0.0038 U	0.0039 U	**0.0028 LJ**	**0.0037 LJ**	0.0038 UJ
Chrysene	218-01-9	mg/kg	1500	--	**0.0044 J**	**0.0036 LJ**	**0.0015 LJ**	0.0039 U	**0.0083 J**	**0.012 J**	**0.0027 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.00078 LJ**	0.0037 U	0.0038 U	0.0039 U	**0.0014 LJ**	**0.0019 LJ**	0.0038 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0045 J**	**0.0034 LJ**	**0.0013 LJ**	0.0039 U	**0.0084 J**	**0.015 J**	**0.0019 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0038 UJ	0.0037 U	0.0038 U	0.0039 U	0.0043 UJ	0.0039 UJ	0.0038 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0034 LJ**	**0.0022 LJ**	**0.0011 LJ**	0.0039 U	**0.0054 J**	**0.007 J**	**0.0013 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.00078 LJ**	**0.002 LJ**	**0.0017 LJ**	**0.0018 LJ**	**0.001 LJ**	**0.0022 LJ**	**0.0021 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.0076 U	0.0076 U	0.0078 U	NA	0.0079 UJ	0.0076 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	**0.002 LJ**	**0.0024 LJ**	**0.00095 LJ**	**0.00081 LJ**	**0.0046 J**	**0.0071 J**	**0.0024 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.0049 J**	**0.0041**	**0.0015 LJ**	0.0039 U	**0.0093 J**	**0.014 J**	**0.003 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
2-Butanone	78-93-3	mg/kg	27000	--	0.018 U	0.01 U	0.011 U	0.0096 U	0.012 U	0.011 U	**0.034**
2-Hexanone	591-78-6	mg/kg	200	--	0.018 U	0.01 U	0.011 U	0.0096 U	0.012 U	0.011 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.018 U	0.01 U	0.011 U	0.0096 U	0.012 U	0.011 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	**0.0081 LJ**	**0.0056 LJ**	**0.03**	**0.014**	0.012 U	**0.027**	**0.11**
Benzene	71-43-2	mg/kg	82	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Bromoform	75-25-2	mg/kg	1200	--	0.0088 UR	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-004-00-52 5/20/2015	WO-005-004-06-51 5/21/2015	WO-005-004-12-51 5/21/2015	WO-005-004-24-51 5/21/2015	WO-005-005-00-51 5/20/2015	WO-005-005-06-51 5/21/2015	WO-005-005-12-51 5/21/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Chloroform	67-66-3	mg/kg	32	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Chloromethane	74-87-3	mg/kg	110	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	**0.0004 LJ**	0.0054 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	**0.00093 LJ**	0.0054 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Methylene chloride	75-09-2	mg/kg	350	--	**0.00059 LJ**	0.0051 U	0.0053 U	0.0048 U	**0.00032 LJ**	0.0055 U	0.0054 U
o-Xylene	95-47-6	mg/kg	650	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	**0.00063 LJ**	0.0054 U
Styrene	100-42-5	mg/kg	6000	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Toluene	108-88-3	mg/kg	4900	--	**0.012**	**0.0022 LJ**	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0088 U	0.0051 U	0.0053 U	0.0048 U	0.0062 U	0.0055 U	0.0054 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-006-00-51 5/20/2015	WO-005-006-06-51 5/21/2015	WO-005-006-12-51 5/21/2015	WO-005-006-24-51 5/21/2015	WO-006-001-00-51 5/18/2015	WO-006-001-06-51.R 5/22/2015	WO-006-001-06-51 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2920**	**21000**	**13600**	**13400**	**1960**	NA	**2310**
Antimony	7440-36-0	mg/kg	31	--	0.5 J, U	1.2 UJ	1.2 UJ	1.1 UJ	0.5 U	NA	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**1.7**	**5**	**6.3**	**4.1**	**1.2**	NA	**1.3**
Barium	7440-39-3	mg/kg	15000	--	**25.1**	**58.2**	**52.6**	**53.2**	**25.3**	NA	**26.4**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	**0.7**	**0.74**	**0.61**	0.5 U	NA	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.59 U	0.58 U	0.56 U	0.5 U	NA	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**527**	553 U	**789**	**538**	**481**	NA	**355**
Chromium	7440-47-3	mg/kg	NP	--	**5.6**	**23.1**	**36.7**	**16.4**	**4.8**	NA	**5.6**
Cobalt	7440-48-4	mg/kg	23	--	**2.7**	**5.5**	**5.3**	**6.4**	**2.3**	NA	**2.2**
Copper	7440-50-8	mg/kg	3100	--	**3.2**	**9.7**	**9.8**	**8.8**	2 U	NA	**2.1**
Iron	7439-89-6	mg/kg	55000	--	**5330**	**24300**	**17200**	**21900**	**4450**	NA	**4770**
Lead	7439-92-1	mg/kg	400	--	**10.8**	**6.4**	**8**	**5.8**	**6.5**	NA	**6**
Magnesium	7439-95-4	mg/kg	NP	--	**303**	**1500**	**1090**	**977**	**234**	NA	**228**
Manganese	7439-96-5	mg/kg	1800	--	**130 J**	**49.7**	**119**	**124**	**157**	NA	**145**
Mercury	7439-97-6	mg/kg	9.4	--	0.077 U	**0.015 LJ**	**0.015 LJ**	**0.019 LJ**	0.078 U	NA	0.07 U
Nickel	7440-02-0	mg/kg	1500	--	2.2 U	**11.7**	**9.3**	**8.8**	2 U	NA	2.1 U
Potassium	7440-09-7	mg/kg	NP	--	**362**	**1440**	**1030**	**908**	**257**	NA	**255**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	**0.59 LJ**	**0.65 LJ**	**0.41 LJ**	1 U	NA	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.59 U	0.58 U	0.56 U	1 U	NA	1 U
Sodium	7440-23-5	mg/kg	NP	--	53.9 U	553 U	522 U	394 U	50.9 U	NA	51.5 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.59 U	0.58 U	0.56 U	0.5 U	NA	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**9.3**	**46.8**	**41.5**	**32.8**	**6.8**	NA	**7.8**
Zinc	7440-66-6	mg/kg	23000	--	**12.3**	**19.3**	**14.2**	**12.4**	**11.6**	NA	**7.6**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0446 U	NA	0.0443 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.04 U	0.039 U	0.037 U	0.038 U	0.0223 U	NA	0.0221 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.04 U	0.039 U	0.037 U	0.038 U	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.04 U	0.039 U	0.037 U	0.038 U	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00062 LJ**	**0.00011 LJ**	**0.00017 LJ**	0.0038 U	0.00112 U	NA	0.00111 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.004 U	**0.00012 LJ**	0.0037 U	0.0038 U	0.00112 U	NA	0.00111 U
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00021 LJ**	0.0039 U	**0.00019 LJ**	**0.00022 LJ**	0.00112 U	NA	0.00111 U
Acetophenone	98-86-2	mg/kg	7800	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Aldrin	309-00-2	mg/kg	1.8	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0021 U	**0.000017 LJ**	**0.000036 LJ**	0.0019 U	0.00112 U	NA	0.00111 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-006-00-51 5/20/2015	WO-005-006-06-51 5/21/2015	WO-005-006-12-51 5/21/2015	WO-005-006-24-51 5/21/2015	WO-006-001-00-51 5/18/2015	WO-006-001-06-51.R 5/22/2015	WO-006-001-06-51 5/19/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Atrazine	1912-24-9	mg/kg	230	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
beta-BHC	319-85-7	mg/kg	30	--	**0.00016 LJ**	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Caprolactam	105-60-2	mg/kg	31000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Carbazole	86-74-8	mg/kg	NP	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
delta-BHC	319-86-8	mg/kg	NP	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.004 U	**0.00032 LJ**	**0.0003 LJ**	**0.00028 LJ**	0.00112 U	NA	0.00111 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00088 LJ**	**0.0003 LJ**	**0.000048 LJ**	**0.00063 LJ**	0.00112 U	NA	0.00111 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.004 U	**0.00061 LJ**	**0.00012 LJ**	**0.000052 LJ**	0.00112 U	NA	0.00111 U
Endrin	72-20-8	mg/kg	18	--	**0.001 LJ**	**0.00011 LJ**	0.0037 U	0.0038 U	0.00112 U	NA	0.00111 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.004 U	0.0039 U	0.0037 U	0.0038 U	0.00112 U	NA	0.00111 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00028 LJ**	0.0039 U	0.0037 U	0.0038 U	0.00112 U	NA	0.00111 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00008 LJ**	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00011 LJ**	**0.00013 LJ**	**0.00015 LJ**	**0.00012 LJ**	0.00112 U	NA	0.00111 U
Heptachlor	76-44-8	mg/kg	12	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0021 U	0.002 U	0.0019 U	0.0019 U	0.00112 U	NA	0.00111 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.0013 LJ**	0.02 U	0.019 U	0.019 U	0.00112 U	NA	0.00111 U
Toxaphene	8001-35-2	mg/kg	48	--	0.21 U	0.2 U	0.19 U	0.19 U	0.0335 U	NA	0.0332 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,4-Dioxane	123-91-1	mg/kg	530	--	0.12 UJv	0.11 UJv	0.15 UJv	0.094 UJv	NA	0.12 UJv	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-006-00-51 5/20/2015	WO-005-006-06-51 5/21/2015	WO-005-006-12-51 5/21/2015	WO-005-006-24-51 5/21/2015	WO-006-001-00-51 5/18/2015	WO-006-001-06-51.R 5/22/2015	WO-006-001-06-51 5/19/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.21 UR	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	0.21 UR	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 U	0.39 U	0.37 U	0.37 U	0.37 UJ	NA	0.37 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.21 U	0.2 U	0.19 U	**0.016 LJ**	**0.019 LJ**	NA	0.19 UJ
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.21 UR	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Isophorone	78-59-1	mg/kg	12000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	0.37 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.21 U	0.2 U	0.19 U	0.19 U	0.19 UJ	NA	0.19 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0052 LJ**	**0.004**	**0.0024 LJ**	**0.0016 LJ**	**0.002 LJ**	NA	0.037 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.02 U	0.0039 U	0.0037 U	0.0037 U	0.0074 UJ	NA	0.037 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-006-00-51 5/20/2015	WO-005-006-06-51 5/21/2015	WO-005-006-12-51 5/21/2015	WO-005-006-24-51 5/21/2015	WO-006-001-00-51 5/18/2015	WO-006-001-06-51.R 5/22/2015	WO-006-001-06-51 5/19/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.02 U	0.0039 U	0.0037 U	0.0037 U	**0.006 LJ**	NA	**0.023 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.0061 LJ**	0.0039 U	0.0037 U	0.0037 U	**0.0065 LJ**	NA	**0.028 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.041**	**0.0016 LJ**	**0.00087 LJ**	0.0037 U	**0.031 J**	NA	**0.15**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.021**	**0.0012 LJ**	0.0037 U	0.0037 U	**0.026 J**	NA	**0.11**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.024**	**0.002 LJ**	**0.00096 LJ**	0.0037 U	**0.04 J**	NA	**0.19**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0051 LJ**	**0.00098 LJ**	0.0037 U	0.0037 U	**0.014 J**	NA	**0.063**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0046 LJ**	0.0039 U	0.0037 U	0.0037 U	**0.014 J**	NA	**0.063**
Chrysene	218-01-9	mg/kg	1500	--	**0.066**	**0.0022 LJ**	**0.0011 LJ**	0.0037 U	**0.04 J**	NA	**0.15**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0066 LJ**	0.0039 U	0.0037 U	0.0037 U	**0.006 LJ**	NA	**0.024 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.02**	**0.0018 LJ**	**0.00087 LJ**	0.0037 U	**0.034 J**	NA	**0.17**
Fluorene	86-73-7	mg/kg	2300	--	0.02 U	0.0039 U	0.0037 U	0.0037 U	0.0074 UJ	NA	0.037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.014 LJ**	**0.0013 LJ**	0.0037 U	0.0037 U	**0.026 J**	NA	**0.11**
Naphthalene	91-20-3	mg/kg	130	--	0.02 U	**0.0026 LJ**	**0.0019 LJ**	**0.0017 LJ**	0.0074 UJ	NA	0.037 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.041 U	0.0078 U	0.0076 U	0.0076 U	0.015 UJ	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	**0.074**	**0.0024 LJ**	**0.0013 LJ**	**0.001 LJ**	**0.016 J**	NA	**0.016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.064**	**0.003 LJ**	**0.0012 LJ**	0.0037 U	**0.044 J**	NA	**0.17**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	NA	0.0061 U	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
2-Butanone	78-93-3	mg/kg	27000	--	**0.0071 LJ**	0.011 U	0.015 U	0.0094 U	0.0043 U	0.012 U	NA
2-Hexanone	591-78-6	mg/kg	200	--	0.012 U	0.011 U	0.015 U	0.0094 U	0.0043 U	0.012 U	NA
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.012 U	0.011 U	0.015 U	0.0094 U	0.0043 U	0.012 U	NA
Acetone	67-64-1	mg/kg	61000	--	**0.0097 LJ**	0.011 U	0.015 U	**0.0076 LJ**	0.0087 U	**0.057**	NA
Benzene	71-43-2	mg/kg	82	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Bromochloromethane	74-97-5	mg/kg	150	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	NA	0.0061 U	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Bromoform	75-25-2	mg/kg	1200	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Bromomethane	74-83-9	mg/kg	6.8	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Carbon disulfide	75-15-0	mg/kg	770	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-005-006-00-51 5/20/2015	WO-005-006-06-51 5/21/2015	WO-005-006-12-51 5/21/2015	WO-005-006-24-51 5/21/2015	WO-006-001-00-51 5/18/2015	WO-006-001-06-51.R 5/22/2015	WO-006-001-06-51 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Chlorobenzene	108-90-7	mg/kg	280	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Chloroethane	75-00-3	mg/kg	14000	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Chloroform	67-66-3	mg/kg	32	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Chloromethane	74-87-3	mg/kg	110	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Cyclohexane	110-82-7	mg/kg	6500	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Ethylbenzene	100-41-4	mg/kg	580	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0087 U	0.0061 U	NA
Methyl acetate	79-20-9	mg/kg	78000	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Methylene chloride	75-09-2	mg/kg	350	--	**0.00038 LJ**	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
o-Xylene	95-47-6	mg/kg	650	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Styrene	100-42-5	mg/kg	6000	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Toluene	108-88-3	mg/kg	4900	--	**0.00062 LJ**	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0061 U	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0061 UJv	0.0056 U	0.0073 U	0.0047 U	0.0043 U	0.0061 U	NA

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-001-12-51.R 5/22/2015	WO-006-001-12-51 5/19/2015	WO-006-001-24-51.R 5/22/2015	WO-006-001-24-51 5/19/2015	WO-006-002-00-51 5/18/2015	WO-006-002-06-51.R 5/22/2015	WO-006-002-06-51 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	NA	**6280**	NA	**6090**	**1830**	NA	**1660**
Antimony	7440-36-0	mg/kg	31	--	NA	0.5 U	NA	0.5 UJ, U	0.5 U	NA	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	NA	**1.3**	NA	**1.5**	**1.6**	NA	**1.5**
Barium	7440-39-3	mg/kg	15000	--	NA	**50.8**	NA	**40.9**	**29.4**	NA	**16.8**
Beryllium	7440-41-7	mg/kg	160	--	NA	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	NA	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	NA	**601**	NA	**427**	**994**	NA	**280**
Chromium	7440-47-3	mg/kg	NP	--	NA	**6.1**	NA	**6.1**	**3.9**	NA	**4.4**
Cobalt	7440-48-4	mg/kg	23	--	NA	**2.6**	NA	**3.1**	2.1 U	NA	2 U
Copper	7440-50-8	mg/kg	3100	--	NA	**3**	NA	**3.6**	**2.3**	NA	2 U
Iron	7439-89-6	mg/kg	55000	--	NA	**7520**	NA	**7760**	**4300**	NA	**3890**
Lead	7439-92-1	mg/kg	400	--	NA	**4.7**	NA	**4.1**	**10.4**	NA	**4.8**
Magnesium	7439-95-4	mg/kg	NP	--	NA	**548**	NA	**516**	**445**	NA	**189**
Manganese	7439-96-5	mg/kg	1800	--	NA	**47.1**	NA	**48.5 J**	**203**	NA	**63.7**
Mercury	7439-97-6	mg/kg	9.4	--	NA	0.075 U	NA	0.069 U	0.072 U	NA	0.068 U
Nickel	7440-02-0	mg/kg	1500	--	NA	**3.6**	NA	**3.7**	**2.3**	NA	2 U
Potassium	7440-09-7	mg/kg	NP	--	NA	**385**	NA	**370**	**294**	NA	**186**
Selenium	7782-49-2	mg/kg	390	--	NA	1.1 U	NA	1.1 U	1.1 U	NA	1 U
Silver	7440-22-4	mg/kg	390	--	NA	1.1 U	NA	1.1 UJ, U	1.1 U	NA	1 U
Sodium	7440-23-5	mg/kg	NP	--	NA	54 U	NA	52.9 U	53.6 U	NA	50 U
Thallium	7440-28-0	mg/kg	0.78	--	NA	0.5 U	NA	0.5 U	0.5 U	NA	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	NA	**12.9**	NA	**12.5**	**6.4**	NA	**7**
Zinc	7440-66-6	mg/kg	23000	--	NA	**5.8**	NA	**5**	**19.7**	NA	**6.6**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1221	11104-28-2	mg/kg	15	--	NA	0.0454 U	NA	0.0448 U	0.0463 U	NA	0.0442 U
Aroclor-1232	11141-16-5	mg/kg	15	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1242	53469-21-9	mg/kg	24	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1248	12672-29-6	mg/kg	24	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1260	11096-82-5	mg/kg	24	--	NA	0.0227 U	NA	0.0224 U	0.0232 U	NA	0.0221 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
4,4'-DDE	72-55-9	mg/kg	160	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
4,4'-DDT	50-29-3	mg/kg	36	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Acetophenone	98-86-2	mg/kg	7800	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Aldrin	309-00-2	mg/kg	1.8	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
alpha-BHC	319-84-6	mg/kg	8.5	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-001-12-51.R 5/22/2015	WO-006-001-12-51 5/19/2015	WO-006-001-24-51.R 5/22/2015	WO-006-001-24-51 5/19/2015	WO-006-002-00-51 5/18/2015	WO-006-002-06-51.R 5/22/2015	WO-006-002-06-51 5/19/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Atrazine	1912-24-9	mg/kg	230	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
beta-BHC	319-85-7	mg/kg	30	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Caprolactam	105-60-2	mg/kg	31000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Carbazole	86-74-8	mg/kg	NP	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
delta-BHC	319-86-8	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Dieldrin	60-57-1	mg/kg	3.1	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endosulfan I	959-98-8	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endosulfan II	33213-65-9	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endrin	72-20-8	mg/kg	18	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Endrin ketone	53494-70-5	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Heptachlor	76-44-8	mg/kg	12	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Methoxychlor	72-43-5	mg/kg	310	--	NA	0.00113 U	NA	0.00112 U	0.00116 U	NA	0.00111 U
Toxaphene	8001-35-2	mg/kg	48	--	NA	0.034 U	NA	0.0336 U	0.0348 U	NA	0.0332 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,1'-Biphenyl	92-52-4	mg/kg	47	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
1,4-Dioxane	123-91-1	mg/kg	530	--	0.082 UJv	NA	0.11 UJv	NA	NA	0.097 UJv	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-001-12-51.R 5/22/2015	WO-006-001-12-51 5/19/2015	WO-006-001-24-51.R 5/22/2015	WO-006-001-24-51 5/19/2015	WO-006-002-00-51 5/18/2015	WO-006-002-06-51.R 5/22/2015	WO-006-002-06-51 5/19/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	NA	0.19 U	NA	0.2 U	0.21 UR	NA	0.2 UJ
3-Nitroaniline	99-09-2	mg/kg	NP	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	NA	0.19 U	NA	0.2 U	0.21 UR	NA	0.2 UJ
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	NA	0.38 U	NA	0.38 U	0.41 UJ	NA	0.39 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	NA	0.19 U	NA	0.2 U	**0.023 LJ**	NA	0.2 UJ
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	NA	0.19 U	NA	0.2 U	0.21 UR	NA	0.2 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Isophorone	78-59-1	mg/kg	12000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	0.39 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	NA	0.19 U	NA	0.2 U	0.21 UJ	NA	0.2 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	0.0038 U	NA	**0.001 LJ**	0.041 U	NA	0.0077 UJ
Acenaphthene	83-32-9	mg/kg	3500	--	NA	0.0038 U	NA	0.0038 U	0.041 U	NA	0.0077 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-001-12-51.R 5/22/2015	WO-006-001-12-51 5/19/2015	WO-006-001-24-51.R 5/22/2015	WO-006-001-24-51 5/19/2015	WO-006-002-00-51 5/18/2015	WO-006-002-06-51.R 5/22/2015	WO-006-002-06-51 5/19/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	NA	0.0038 U	NA	0.0038 U	**0.023 LJ**	NA	**0.0063 LJ**
Anthracene	120-12-7	mg/kg	17000	--	NA	0.0038 U	NA	0.0038 U	**0.03 LJ**	NA	**0.0069 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.0021 LJ**	NA	0.0038 U	**0.061**	NA	**0.019 J**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	**0.0014 LJ**	NA	0.0038 U	**0.063**	NA	**0.017 J**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**0.0024 LJ**	NA	0.0038 U	**0.15**	NA	**0.031 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	NA	**0.00087 LJ**	NA	0.0038 U	**0.038 LJ**	NA	**0.011 J**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	NA	**0.00087 LJ**	NA	0.0038 U	**0.044**	NA	**0.0087 J**
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.0022 LJ**	NA	0.0038 U	**0.11**	NA	**0.036 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	NA	0.0038 U	NA	0.0038 U	**0.017 LJ**	NA	**0.0045 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	NA	**0.0022 LJ**	NA	0.0038 U	**0.08**	NA	**0.025 J**
Fluorene	86-73-7	mg/kg	2300	--	NA	0.0038 U	NA	0.0038 U	0.041 U	NA	0.0077 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	NA	**0.0015 LJ**	NA	0.0038 U	**0.08**	NA	**0.02 J**
Naphthalene	91-20-3	mg/kg	130	--	NA	0.0038 U	NA	**0.001 LJ**	0.041 U	NA	0.0077 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.0077 U	NA	0.0077 U	0.082 U	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	0.0038 U	NA	0.0038 U	**0.018 LJ**	NA	**0.0042 LJ**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.0037 LJ**	NA	0.0038 U	**0.086**	NA	**0.025 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0041 U	NA	0.0055 U	NA	NA	0.0048 UR	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
2-Butanone	78-93-3	mg/kg	27000	--	0.0082 U	NA	0.011 U	NA	0.0047 U	0.0097 U	NA
2-Hexanone	591-78-6	mg/kg	200	--	0.0082 U	NA	0.011 U	NA	0.0047 U	0.0097 U	NA
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0082 U	NA	0.011 U	NA	0.0047 U	0.0097 U	NA
Acetone	67-64-1	mg/kg	61000	--	**0.021**	NA	0.011 U	NA	0.0094 U	0.0097 U	NA
Benzene	71-43-2	mg/kg	82	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Bromochloromethane	74-97-5	mg/kg	150	--	0.0041 U	NA	0.0055 U	NA	NA	0.0048 U	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Bromoform	75-25-2	mg/kg	1200	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 UR	NA
Bromomethane	74-83-9	mg/kg	6.8	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Carbon disulfide	75-15-0	mg/kg	770	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-001-12-51.R 5/22/2015	WO-006-001-12-51 5/19/2015	WO-006-001-24-51.R 5/22/2015	WO-006-001-24-51 5/19/2015	WO-006-002-00-51 5/18/2015	WO-006-002-06-51.R 5/22/2015	WO-006-002-06-51 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Chlorobenzene	108-90-7	mg/kg	280	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Chloroethane	75-00-3	mg/kg	14000	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Chloroform	67-66-3	mg/kg	32	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Chloromethane	74-87-3	mg/kg	110	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Cyclohexane	110-82-7	mg/kg	6500	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Ethylbenzene	100-41-4	mg/kg	580	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0041 U	NA	0.0055 U	NA	0.0094 U	0.0048 U	NA
Methyl acetate	79-20-9	mg/kg	78000	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Methylene chloride	75-09-2	mg/kg	350	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
o-Xylene	95-47-6	mg/kg	650	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Styrene	100-42-5	mg/kg	6000	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Toluene	108-88-3	mg/kg	4900	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	**0.023**	NA
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0041 U	NA	0.0055 U	NA	0.0047 U	0.0048 U	NA

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-002-12-51.R 5/22/2015	WO-006-002-12-51 5/19/2015	WO-006-002-24-51 5/19/2015	WO-006-003-00-51 5/18/2015	WO-006-003-06-51 5/19/2015	WO-006-003-12-51 5/19/2015	WO-006-003-24-51 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	NA	**4040**	**5230**	**3250**	**3980**	**4430**	**4240**
Antimony	7440-36-0	mg/kg	31	--	NA	0.5 U	0.5 U	0.6 UJ, U	0.5 U	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	NA	**1.3**	**3**	**3.3**	**3.4**	**1.9**	**2**
Barium	7440-39-3	mg/kg	15000	--	NA	**26.3**	**31.1**	**32**	**34.6**	**24**	**21.3**
Beryllium	7440-41-7	mg/kg	160	--	NA	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	NA	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	NA	**268**	**371**	**701**	**483**	**383**	**355**
Chromium	7440-47-3	mg/kg	NP	--	NA	**5.9**	**8.4**	**7.9**	**8.4**	**5.4**	**5.7**
Cobalt	7440-48-4	mg/kg	23	--	NA	2.1 U	**2.4**	**4.6**	**4.4**	2.1 U	**2.3**
Copper	7440-50-8	mg/kg	3100	--	NA	**2.8**	**2.7**	**9.6 J**	**11.6**	**4.1**	**4.9**
Iron	7439-89-6	mg/kg	55000	--	NA	**6090**	**10200**	**29200**	**30900**	**7130**	**7000**
Lead	7439-92-1	mg/kg	400	--	NA	**4**	**3.2**	**15 J**	**14.3**	**5.4**	**9.1**
Magnesium	7439-95-4	mg/kg	NP	--	NA	**307**	**512**	**343**	**323**	**301**	**293**
Manganese	7439-96-5	mg/kg	1800	--	NA	**56.6**	**25.8**	**326**	**184**	**35.6**	**49.2**
Mercury	7439-97-6	mg/kg	9.4	--	NA	0.071 U	0.066 U	0.066 U	0.071 U	0.068 U	0.065 U
Nickel	7440-02-0	mg/kg	1500	--	NA	**3.1**	**5.5**	**5.7**	**6.8**	**2.5**	**2.4**
Potassium	7440-09-7	mg/kg	NP	--	NA	**283**	**387**	**431**	**339**	**311**	**351**
Selenium	7782-49-2	mg/kg	390	--	NA	1.1 U	1.1 U	1.2 UJ, U	1.1 U	1.1 U	1 U
Silver	7440-22-4	mg/kg	390	--	NA	1.1 U	1.1 U	1.2 UJ, U	1.1 U	1.1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	NA	53.1 U	54.8 U	59.6 U	54.7 U	**78**	**57.3**
Thallium	7440-28-0	mg/kg	0.78	--	NA	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	NA	**9.9**	**13.9**	**8**	**10.5**	**10**	**11.1**
Zinc	7440-66-6	mg/kg	23000	--	NA	**4.6**	**4.7**	**40.5 J**	**18.3**	**8.1**	**10**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1221	11104-28-2	mg/kg	15	--	NA	0.0455 U	0.0474 U	0.0508 U	0.0461 U	0.0446 U	0.0442 U
Aroclor-1232	11141-16-5	mg/kg	15	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1242	53469-21-9	mg/kg	24	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1248	12672-29-6	mg/kg	24	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1260	11096-82-5	mg/kg	24	--	NA	0.0227 U	0.0237 U	0.0254 U	0.0231 U	0.0223 U	0.0221 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
4,4'-DDE	72-55-9	mg/kg	160	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
4,4'-DDT	50-29-3	mg/kg	36	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Acetophenone	98-86-2	mg/kg	7800	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Aldrin	309-00-2	mg/kg	1.8	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
alpha-BHC	319-84-6	mg/kg	8.5	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-002-12-51.R 5/22/2015	WO-006-002-12-51 5/19/2015	WO-006-002-24-51 5/19/2015	WO-006-003-00-51 5/18/2015	WO-006-003-06-51 5/19/2015	WO-006-003-12-51 5/19/2015	WO-006-003-24-51 5/19/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Atrazine	1912-24-9	mg/kg	230	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
beta-BHC	319-85-7	mg/kg	30	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Caprolactam	105-60-2	mg/kg	31000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Carbazole	86-74-8	mg/kg	NP	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
delta-BHC	319-86-8	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Dieldrin	60-57-1	mg/kg	3.1	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endosulfan I	959-98-8	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endosulfan II	33213-65-9	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endrin	72-20-8	mg/kg	18	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Endrin ketone	53494-70-5	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	**0.00166 RL**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Heptachlor	76-44-8	mg/kg	12	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	NA	0.00114 U	0.00118 U	0.00127 U	0.00115 U	0.00112 U	0.00111 U
Methoxychlor	72-43-5	mg/kg	310	--	NA	0.00114 U	0.00118 U	**0.00254 RL**	**0.00231 RL**	**0.00167 RL**	**0.00332 RL**
Toxaphene	8001-35-2	mg/kg	48	--	NA	0.0341 U	0.0355 U	0.0381 U	0.0346 U	0.0335 U	0.0332 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.093 UJv	NA	0.092 U	NA	0.085 U	0.084 U	0.091 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-002-12-51.R 5/22/2015	WO-006-002-12-51 5/19/2015	WO-006-002-24-51 5/19/2015	WO-006-003-00-51 5/18/2015	WO-006-003-06-51 5/19/2015	WO-006-003-12-51 5/19/2015	WO-006-003-24-51 5/19/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
3-Nitroaniline	99-09-2	mg/kg	NP	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	NA	0.41 U	0.38 U	0.4 UJ	0.38 UJ	0.73 UJ	0.75 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	NA	0.21 U	**0.018 LJ**	0.2 UJ	**0.026 LJ**	0.38 UJ	0.39 UJ
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Isophorone	78-59-1	mg/kg	12000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	0.73 UJ	0.75 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	NA	0.21 U	0.2 U	0.2 UJ	0.19 UJ	0.38 UJ	0.39 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	0.0041 U	**0.0036 LJ**	0.04 U	0.038 U	0.0073 UJ	**0.002 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	NA	0.0041 U	0.0038 U	0.04 U	0.038 U	0.0073 UJ	0.0075 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-002-12-51.R 5/22/2015	WO-006-002-12-51 5/19/2015	WO-006-002-24-51 5/19/2015	WO-006-003-00-51 5/18/2015	WO-006-003-06-51 5/19/2015	WO-006-003-12-51 5/19/2015	WO-006-003-24-51 5/19/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	NA	**0.0015 LJ**	0.0038 U	**0.026 LJ**	**0.012 LJ**	**0.0041 LJ**	**0.0057 LJ**
Anthracene	120-12-7	mg/kg	17000	--	NA	**0.0013 LJ**	0.0038 U	**0.035 LJ**	**0.02 LJ**	**0.0033 LJ**	**0.0039 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.0047**	0.0038 U	**0.19**	**0.14**	**0.011 J**	**0.011 J**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	**0.0042**	0.0038 U	**0.17**	**0.12**	**0.01 J**	**0.013 J**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**0.0068**	0.0038 U	**0.27**	**0.19**	**0.017 J**	**0.021 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	NA	**0.0021 LJ**	0.0038 U	**0.085**	**0.048**	**0.0053 LJ**	**0.0056 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	NA	**0.0022 LJ**	0.0038 U	**0.094**	**0.064**	**0.0036 LJ**	**0.0051 LJ**
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.0055**	0.0038 U	**0.21**	**0.14**	**0.037 J**	**0.051 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	NA	**0.00088 LJ**	0.0038 U	**0.04**	**0.03 LJ**	**0.0041 LJ**	**0.004 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	NA	**0.005**	0.0038 U	**0.21**	**0.14**	**0.012 J**	**0.015 J**
Fluorene	86-73-7	mg/kg	2300	--	NA	0.0041 U	0.0038 U	0.04 U	0.038 U	0.0073 UJ	0.0075 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	NA	**0.0043**	0.0038 U	**0.17**	**0.12**	**0.018 J**	**0.02 J**
Naphthalene	91-20-3	mg/kg	130	--	NA	0.0041 U	**0.0015 LJ**	0.04 U	0.038 U	0.0073 UJ	0.0075 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.0082 U	0.0078 U	0.08 U	0.076 U	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	0.0041 U	**0.0013 LJ**	**0.021 LJ**	**0.01 LJ**	**0.0063 LJ**	**0.0071 LJ**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.0067**	0.0038 U	**0.23**	**0.16**	**0.014 J**	**0.017 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0047 U	NA	0.0046 U	NA	0.0043 U	0.0042 U	0.0046 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0093 U	NA	**0.0044 LJ**	**0.0062 B**	0.0085 U	0.0084 U	**0.01**
2-Hexanone	591-78-6	mg/kg	200	--	0.0093 U	NA	0.0092 U	0.0046 U	0.0085 U	0.0084 U	0.0091 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0093 U	NA	0.0092 U	0.0046 U	0.0085 U	0.0084 U	0.0091 U
Acetone	67-64-1	mg/kg	61000	--	0.0093 U	NA	**0.0052 LJ**	**0.0302 B, K**	0.0085 U	**0.0048 LJ**	**0.012**
Benzene	71-43-2	mg/kg	82	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0047 U	NA	0.0046 U	NA	0.0043 U	0.0042 U	0.0046 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Bromoform	75-25-2	mg/kg	1200	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-002-12-51.R 5/22/2015	WO-006-002-12-51 5/19/2015	WO-006-002-24-51 5/19/2015	WO-006-003-00-51 5/18/2015	WO-006-003-06-51 5/19/2015	WO-006-003-12-51 5/19/2015	WO-006-003-24-51 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Chloroform	67-66-3	mg/kg	32	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Chloromethane	74-87-3	mg/kg	110	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0047 U	NA	0.0046 U	0.0092 U	0.0043 U	0.0042 U	0.0046 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
o-Xylene	95-47-6	mg/kg	650	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Styrene	100-42-5	mg/kg	6000	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Toluene	108-88-3	mg/kg	4900	--	0.0047 U	NA	**0.00035 LJ**	0.0046 U	**0.0003 LJ**	**0.00057 LJ**	**0.001 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0047 U	NA	0.0046 U	0.0046 U	0.0043 U	0.0042 U	0.0046 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-003-24-52 5/19/2015	WO-006-004-00-51 5/18/2015	WO-006-004-00-52 5/18/2015	WO-006-004-06-51 5/19/2015	WO-006-004-12-51 5/19/2015	WO-006-004-24-51 5/19/2015	WO-006-005-00-51 5/18/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**4580**	**2620**	**2400**	**2460**	**2670**	**2090**	**2330**
Antimony	7440-36-0	mg/kg	31	--	0.5 U	0.5 U	0.5 UJ, U	0.5 U	0.5 U	0.5 U	0.6 U
Arsenic	7440-38-2	mg/kg	34	--	**2.7**	**1.5**	0.5 UJ	**1.5**	**1.6**	**1**	**3.1**
Barium	7440-39-3	mg/kg	15000	--	**24.3**	**28.6**	**27.4**	**22.6**	**25.8**	**19.7**	**32**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6 U
Calcium	7440-70-2	mg/kg	NP	--	**418**	**790**	**587**	**395**	**351**	**270**	**6620**
Chromium	7440-47-3	mg/kg	NP	--	**5.6**	**4.1**	**4.4**	**5.3**	**4.5**	**3.7**	**4**
Cobalt	7440-48-4	mg/kg	23	--	**2.2**	**2.6**	**2.6**	**2.3**	2.1 U	2.2 U	**4**
Copper	7440-50-8	mg/kg	3100	--	**5.3**	**3.4**	**3.5**	**3.3**	**4.4**	**4.2**	**5.2**
Iron	7439-89-6	mg/kg	55000	--	**9290**	**5400**	**12100**	**5090**	**4220**	**4010**	**11200**
Lead	7439-92-1	mg/kg	400	--	**12**	**8.7**	**12.2 J**	**8.7**	**15.7**	**3.2**	**16.4**
Magnesium	7439-95-4	mg/kg	NP	--	**311**	**349**	**274**	**258**	**220**	**172**	**3340**
Manganese	7439-96-5	mg/kg	1800	--	**50.2**	**166**	**141 J**	**131**	**57.4**	**84.2**	**670**
Mercury	7439-97-6	mg/kg	9.4	--	0.064 U	0.076 U	0.075 U	0.074 U	0.066 U	0.061 U	0.064 U
Nickel	7440-02-0	mg/kg	1500	--	**2.7**	**2.5**	**2.5**	**2.1**	**2.3**	2.2 U	**4.1**
Potassium	7440-09-7	mg/kg	NP	--	**332**	**380**	**303**	**268**	**285**	**241**	**291**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.1 U	1 UJ, U	1 U	1.1 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	1.1 U	1 UJ, U	1 U	1.1 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	**60.5**	53.3 U	52 U	49.9 U	**254**	**90.8**	55.4 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.6 U
Vanadium	7440-62-2	mg/kg	390	--	**10.8**	**7.2**	**7.3**	**7.5**	**8.6**	**5.6**	**7.4**
Zinc	7440-66-6	mg/kg	23000	--	**7.6**	**16.3**	**14.9**	**11.7**	**23.8**	**5**	**78.8**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0447 U	0.0465 U	0.046 U	0.0448 U	0.0921 U	0.0963 U	0.0496 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0224 U	0.0232 U	0.023 U	0.0224 U	0.0461 U	0.0482 U	0.0248 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Aldrin	309-00-2	mg/kg	1.8	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-003-24-52 5/19/2015	WO-006-004-00-51 5/18/2015	WO-006-004-00-52 5/18/2015	WO-006-004-06-51 5/19/2015	WO-006-004-12-51 5/19/2015	WO-006-004-24-51 5/19/2015	WO-006-005-00-51 5/18/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
beta-BHC	319-85-7	mg/kg	30	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	**0.052 LJ**
delta-BHC	319-86-8	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endrin	72-20-8	mg/kg	18	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	**0.00461 RL**	0.00241 U	0.00124 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Heptachlor	76-44-8	mg/kg	12	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00112 U	0.00116 U	0.00115 U	0.00112 U	0.0023 U	0.00241 U	0.00124 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.0028 RL**	0.00116 U	0.00115 U	0.00112 U	**0.00691 RL**	**0.00361 RL**	**0.00248 RL**
Toxaphene	8001-35-2	mg/kg	48	--	0.0336 U	0.0349 U	0.0345 U	0.0336 U	0.0691 U	0.0723 U	0.0372 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.094 U	NA	NA	0.099 U	0.16 U	0.11 U	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-003-24-52 5/19/2015	WO-006-004-00-51 5/18/2015	WO-006-004-00-52 5/18/2015	WO-006-004-06-51 5/19/2015	WO-006-004-12-51 5/19/2015	WO-006-004-24-51 5/19/2015	WO-006-005-00-51 5/18/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 UJ	0.41 UJ	0.4 UJ	0.38 UJ	7.4 U	7.6 U	0.38 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 UJ	**0.035 LJ**	0.21 UJ	**0.024 LJ**	3.8 U	3.9 U	**0.021 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	0.21 UR	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	0.38 UJ	NA	0.4 UJ	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	0.21 UJ	0.21 UJ	0.19 UJ	3.8 U	3.9 U	0.2 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0076 UJ	0.021 UJ	0.016 UJ	0.038 U	**0.94**	**0.72**	**0.051 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0076 UJ	0.021 UJ	0.016 UJ	0.038 U	**0.045 LJ**	**0.033 LJ**	0.12 U

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Wilcox Oil
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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-003-24-52 5/19/2015	WO-006-004-00-51 5/18/2015	WO-006-004-00-52 5/18/2015	WO-006-004-06-51 5/19/2015	WO-006-004-12-51 5/19/2015	WO-006-004-24-51 5/19/2015	WO-006-005-00-51 5/18/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0075 LJ**	**0.022 J**	**0.018 J**	**0.037 LJ**	**0.1 LJ**	**0.084 LJ**	0.12 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0074 LJ**	**0.021 J**	**0.02 J**	**0.036 LJ**	**0.067 LJ**	**0.056 LJ**	**0.051 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.026 J**	**0.068 J**	**0.051 J**	**0.12**	**0.23**	**0.18**	**0.37**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.023 J**	**0.059 J**	**0.043 J**	**0.11**	**0.2**	**0.16**	**0.21**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.039 J**	**0.11 J**	**0.08 J**	**0.18**	**0.31**	**0.24**	**0.2**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0097 J**	**0.04 J**	**0.031 J**	**0.045**	**0.13 LJ**	**0.098 LJ**	**0.15**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.011 J**	**0.029 J**	**0.024 J**	**0.054**	**0.095 LJ**	**0.072 LJ**	**0.037 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.048 J**	**0.12 J**	**0.084 J**	**0.14**	**0.63**	**0.47**	**0.62**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.006 LJ**	**0.016 LJ**	**0.011 LJ**	**0.025 LJ**	**0.051 LJ**	**0.039 LJ**	**0.067 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.034 J**	**0.089 J**	**0.064 J**	**0.16**	**0.28**	**0.22**	**0.14**
Fluorene	86-73-7	mg/kg	2300	--	0.0076 UJ	0.021 UJ	0.016 UJ	0.038 U	**0.12 LJ**	**0.093 LJ**	0.12 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.029 J**	**0.075 J**	**0.051 J**	**0.12**	**0.22**	**0.18**	**0.13**
Naphthalene	91-20-3	mg/kg	130	--	0.0076 UJ	0.021 UJ	0.016 UJ	0.038 U	**0.22**	**0.16**	0.12 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.042 UJ	NA	0.076 U	0.3 U	0.31 U	0.23 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0066 LJ**	**0.016 LJ**	**0.012 LJ**	**0.021 LJ**	**0.58**	**0.45**	**0.78**
Pyrene	129-00-0	mg/kg	1700	--	**0.033 J**	**0.093 J**	**0.063 J**	**0.15**	**0.37**	**0.29**	**0.61**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0047 U	NA	NA	0.005 U	0.008 UR	0.0057 UR	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.0076 LJ**	0.0046 U	0.0047 U	0.0099 U	**0.018**	**0.029**	**0.0052 B**
2-Hexanone	591-78-6	mg/kg	200	--	0.0094 U	0.0046 U	0.0047 U	0.0099 U	0.016 U	0.011 U	0.0042 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0094 U	0.0046 U	0.0047 U	0.0099 U	0.016 U	0.011 U	0.0042 U
Acetone	67-64-1	mg/kg	61000	--	**0.01**	0.0092 U	**0.0095 B**	0.0099 U	**0.036**	**0.06**	**0.0217 B, K**
Benzene	71-43-2	mg/kg	82	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0047 U	NA	NA	0.005 U	0.008 U	0.0057 U	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Bromoform	75-25-2	mg/kg	1200	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 UR	0.0057 UR	0.0042 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-003-24-52 5/19/2015	WO-006-004-00-51 5/18/2015	WO-006-004-00-52 5/18/2015	WO-006-004-06-51 5/19/2015	WO-006-004-12-51 5/19/2015	WO-006-004-24-51 5/19/2015	WO-006-005-00-51 5/18/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Chloroform	67-66-3	mg/kg	32	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Chloromethane	74-87-3	mg/kg	110	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	**0.014 J^**	**0.0048 LJ**	0.0042 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0047 U	0.0092 U	0.0094 U	0.005 U	0.008 U	0.0057 U	0.0083 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	**0.016 J^**	**0.008 J^**	0.0042 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
o-Xylene	95-47-6	mg/kg	650	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Styrene	100-42-5	mg/kg	6000	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Toluene	108-88-3	mg/kg	4900	--	**0.00019 LJ**	0.0046 U	0.0047 U	0.005 U	**0.018**	**0.024**	0.0042 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0047 U	0.0046 U	0.0047 U	0.005 U	0.008 U	0.0057 U	0.0042 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-005-06-51 5/19/2015	WO-006-005-12-51 5/19/2015	WO-006-005-24-51 5/19/2015	WO-006-006-00-51 5/18/2015	WO-006-006-06-51 5/19/2015	WO-006-006-12-51 5/19/2015	WO-006-006-12-52 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**3920**	**5220**	**6180**	**2310**	**2920**	**1700**	**2630**
Antimony	7440-36-0	mg/kg	31	--	0.5 U	0.5 UJ, U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**2.6**	**3.6**	**3.2**	**1.9**	**1.8**	**1.6**	**0.9**
Barium	7440-39-3	mg/kg	15000	--	**25.4**	**21.6**	**19.4**	**31.2**	**30.1**	**21.7**	**26.1**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**650**	**240**	**253**	**953**	**646**	**268**	**350**
Chromium	7440-47-3	mg/kg	NP	--	**8.4**	**6.9**	**6.7**	**3.6**	**5.3**	**2.6**	**3.5**
Cobalt	7440-48-4	mg/kg	23	--	**4.5**	**3.4**	2 U	**3.5**	**3.3**	**2.8**	**2.3**
Copper	7440-50-8	mg/kg	3100	--	**5.5**	**5.7**	**6.1**	**4.5**	**5.2**	**2.2**	**2.7**
Iron	7439-89-6	mg/kg	55000	--	**9250**	**13700**	**11700**	**4890**	**6290**	**7080**	**4820**
Lead	7439-92-1	mg/kg	400	--	**11.5**	**57.1 J**	**43.5**	**9.4**	**6.7**	**6.4**	**18.1**
Magnesium	7439-95-4	mg/kg	NP	--	**405**	**329**	**381**	**367**	**302**	**165**	**251**
Manganese	7439-96-5	mg/kg	1800	--	**192**	**97.2 J**	**24**	**251**	**193**	**152**	**128**
Mercury	7439-97-6	mg/kg	9.4	--	0.072 U	0.075 U	0.076 U	0.067 U	0.069 U	0.075 U	0.077 U
Nickel	7440-02-0	mg/kg	1500	--	**3**	**3.6**	**2.9**	**3**	**2.8**	2.1 U	**2.6**
Potassium	7440-09-7	mg/kg	NP	--	**299**	**311**	**382**	**348**	**298**	**199**	**248**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1 U	1 U	1.1 U	1 U	1 U	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	1 UJ, U	1 U	1.1 U	1 U	1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	53.8 U	51.5 U	51.1 U	54.8 U	**271**	**563**	**782**
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**12.5**	**12.8**	**13.7**	**6.3**	**9**	**4.7**	**7.6**
Zinc	7440-66-6	mg/kg	23000	--	**15.4**	**17.3**	**14.4**	**19.5**	**16.6**	**15**	**19.3**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0463 U	0.0444 U	0.0438 U	0.0474 U	0.0454 U	0.092 U	0.0916 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0231 U	0.0222 U	0.0219 U	0.0237 U	0.0227 U	0.046 U	0.0458 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Acetophenone	98-86-2	mg/kg	7800	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-005-06-51 5/19/2015	WO-006-005-12-51 5/19/2015	WO-006-005-24-51 5/19/2015	WO-006-006-00-51 5/18/2015	WO-006-006-06-51 5/19/2015	WO-006-006-12-51 5/19/2015	WO-006-006-12-52 5/19/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Atrazine	1912-24-9	mg/kg	230	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
beta-BHC	319-85-7	mg/kg	30	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Caprolactam	105-60-2	mg/kg	31000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Carbazole	86-74-8	mg/kg	NP	--	**0.35 LJ**	**0.044 LJ**	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00289 RL**	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00173 RL**	0.00111 U	0.00109 U	**0.00178 RL**	0.00113 U	0.0023 U	0.00229 U
Endrin	72-20-8	mg/kg	18	--	**0.00347 RL**	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	**0.00231 RL**	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00173 RL**	0.00111 U	0.00109 U	**0.00237 RL**	0.00113 U	0.0023 U	0.00229 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Heptachlor	76-44-8	mg/kg	12	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00116 U	0.00111 U	0.00109 U	0.00118 U	0.00113 U	0.0023 U	0.00229 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.00578 RL**	**0.00166 RL**	0.00109 U	**0.00651 RL**	0.00113 U	**0.0046 RL**	**0.00458 RL**
Toxaphene	8001-35-2	mg/kg	48	--	0.0347 U	0.0333 U	0.0328 U	0.0355 U	0.034 U	0.069 U	0.0687 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.099 U	0.1 U	0.11 U	NA	0.096 U	0.096 U	0.087 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
2-Nitroaniline	88-74-4	mg/kg	610	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-005-06-51 5/19/2015	WO-006-005-12-51 5/19/2015	WO-006-005-24-51 5/19/2015	WO-006-006-00-51 5/18/2015	WO-006-006-06-51 5/19/2015	WO-006-006-12-51 5/19/2015	WO-006-006-12-52 5/19/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.79 UJ	0.19 UJ	0.2 UR	0.23 UJ	0.2 UJ	2 U	3.9 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.79 UJ	0.19 UJ	0.2 UR	0.23 UJ	0.2 UJ	2 U	3.9 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
4-Nitroaniline	100-01-6	mg/kg	250	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	1.5 UJ	0.37 UJ	0.38 UJ	0.45 UJ	0.39 UJ	3.8 U	7.6 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**2.1 J**	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.79 UJ	0.19 UJ	**0.016 LJ**	0.23 UJ	**0.04 LJ**	2 U	3.9 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Chrysene	218-01-9	mg/kg	1500	--	**4 J**	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.79 UJ	0.19 UJ	0.2 UR	0.23 UJ	0.2 UJ	2 U	3.9 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Isophorone	78-59-1	mg/kg	12000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	0.38 UJ	NA	0.39 UJ	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	**5.8 J**	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.79 UJ	0.19 UJ	0.2 UJ	0.23 UJ	0.2 UJ	2 U	3.9 U
Pyrene	129-00-0	mg/kg	1700	--	**3.9 J**	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.5**	**0.047 LJ**	**0.0041 J**	**0.0057 LJ**	**0.0052 LJ**	**0.99**	**2.6**
Acenaphthene	83-32-9	mg/kg	3500	--	0.19 U	0.11 U	0.0038 UJ	0.009 UJ	0.0077 UJ	0.19 U	0.38 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-005-06-51 5/19/2015	WO-006-005-12-51 5/19/2015	WO-006-005-24-51 5/19/2015	WO-006-006-00-51 5/18/2015	WO-006-006-06-51 5/19/2015	WO-006-006-12-51 5/19/2015	WO-006-006-12-52 5/19/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.19 U	0.11 U	**0.0013 LJ**	**0.0039 LJ**	**0.0065 LJ**	**0.044 LJ**	**0.1 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.32**	**0.04 LJ**	**0.0028 LJ**	**0.0076 LJ**	**0.0079 J**	0.19 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.31**	**0.015 J**	**0.039 J**	**0.042 J**	**0.085 LJ**	**0.25 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**1.2**	**0.15**	**0.0086 J**	**0.023 J**	**0.03 J**	**0.055 LJ**	**0.17 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.95**	**0.14**	**0.012 J**	**0.029 J**	**0.047 J**	**0.091 LJ**	**0.28 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.96**	**0.077 LJ**	**0.0046 J**	**0.014 J**	**0.011 J**	0.19 U	0.38 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.16 LJ**	0.11 U	**0.003 LJ**	**0.0054 LJ**	**0.012 J**	0.19 U	**0.079 LJ**
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.54**	**0.032 J**	**0.066 J**	**0.059 J**	**0.24**	**0.51**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.44**	**0.062 LJ**	**0.0032 LJ**	**0.0087 LJ**	**0.0089 J**	0.19 U	0.38 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.82**	**0.11 LJ**	**0.01 J**	**0.022 J**	**0.04 J**	**0.1 LJ**	**0.33 LJ**
Fluorene	86-73-7	mg/kg	2300	--	**0.12 LJ**	0.11 U	**0.0009 LJ**	0.009 UJ	0.0077 UJ	**0.097 LJ**	**0.2 LJ**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.62**	**0.087 LJ**	**0.009 J**	**0.02 J**	**0.031 J**	**0.057 LJ**	**0.17 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.12 LJ**	0.11 U	**0.0019 LJ**	**0.0021 LJ**	**0.0019 LJ**	**0.25**	**0.83**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.39 U	0.23 U	NA	0.018 UJ	NA	0.39 U	0.77 U
Phenanthrene	85-01-8	mg/kg	NP	--	NA	**0.67**	**0.026 J**	**0.074 J**	**0.036 J**	**0.4**	**0.82**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.49**	**0.024 J**	**0.066 J**	**0.056 J**	**0.16 LJ**	**0.39**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0049 U	0.0052 U	0.0057 U	NA	0.0048 U	0.0048 U	0.0043 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.011**	**0.022**	**0.0065 LJ**	0.0047 U	0.0096 U	0.0096 U	**0.0055 LJ**
2-Hexanone	591-78-6	mg/kg	200	--	0.0099 U	0.01 U	0.011 U	0.0047 U	0.0096 U	0.0096 U	0.0087 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0099 U	0.01 U	0.011 U	0.0047 U	0.0096 U	0.0096 U	0.0087 U
Acetone	67-64-1	mg/kg	61000	--	**0.02**	**0.029**	**0.013**	**0.0128 B, K**	**0.018**	**0.0055 LJ**	**0.0079 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0049 U	0.0052 U	0.0057 U	NA	0.0048 U	0.0048 U	0.0043 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Bromoform	75-25-2	mg/kg	1200	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-005-06-51 5/19/2015	WO-006-005-12-51 5/19/2015	WO-006-005-24-51 5/19/2015	WO-006-006-00-51 5/18/2015	WO-006-006-06-51 5/19/2015	WO-006-006-12-51 5/19/2015	WO-006-006-12-52 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Chloroform	67-66-3	mg/kg	32	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Chloromethane	74-87-3	mg/kg	110	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0049 U	0.0052 U	0.0057 U	0.0094 U	0.0048 U	0.0048 U	0.0043 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
o-Xylene	95-47-6	mg/kg	650	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Styrene	100-42-5	mg/kg	6000	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Toluene	108-88-3	mg/kg	4900	--	**0.0011 LJ**	**0.0028 LJ**	**0.0012 LJ**	0.0047 U	0.0048 U	0.0048 U	0.0043 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0049 U	0.0052 U	0.0057 U	0.0047 U	0.0048 U	0.0048 U	0.0043 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-006-24-51 5/19/2015	WO-006-007-00-51 5/18/2015	WO-006-007-06-51 5/19/2015	WO-006-007-12-51 5/19/2015	WO-006-007-24-51 5/19/2015	WO-006-008-00-51 5/18/2015	WO-006-008-06-51 5/19/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**3860**	**2460**	**4910**	**3630**	**6600**	**1530**	**2220**
Antimony	7440-36-0	mg/kg	31	--	0.5 U	0.6 U	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**1.7**	**1.4**	**3**	**1.8**	**5.7**	**0.7**	**1.4**
Barium	7440-39-3	mg/kg	15000	--	**42.7**	**34.6**	**27.8**	**34.4**	**50.6**	**23.4**	**23.6**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.6 U	0.5 U	0.5 U	**1**	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.6 U	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**592**	**1070**	**415**	**299**	**1260**	**490**	**406**
Chromium	7440-47-3	mg/kg	NP	--	**8.1**	**4.1**	**13.7**	**7.1**	**14.5**	**2.8**	**5.4**
Cobalt	7440-48-4	mg/kg	23	--	**4**	**3.1**	**4.4**	**5.5**	**12.8**	**2.2**	**2.6**
Copper	7440-50-8	mg/kg	3100	--	**3**	**3.8**	**4.6**	**4.4**	**4.1**	**2.3**	**2.4**
Iron	7439-89-6	mg/kg	55000	--	**10200**	**5140**	**14100**	**9310**	**23000**	**3100**	**4770**
Lead	7439-92-1	mg/kg	400	--	**5.5**	**10.1**	**6.6**	**5.3**	**4.6**	**5.2**	**4.4**
Magnesium	7439-95-4	mg/kg	NP	--	**570**	**383**	**421**	**312**	**1470**	**222**	**319**
Manganese	7439-96-5	mg/kg	1800	--	**123**	**195**	**124**	**243**	**135**	**178**	**142**
Mercury	7439-97-6	mg/kg	9.4	--	0.075 U	0.07 U	0.065 U	0.076 U	0.065 U	0.082 U	0.076 U
Nickel	7440-02-0	mg/kg	1500	--	**8.1**	**2.8**	**4.8**	**4.3**	**34.4**	2.1 U	**4.6**
Potassium	7440-09-7	mg/kg	NP	--	**452**	**411**	**414**	**286**	**906**	**313**	**376**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	1.2 U	1 U	1.1 U	1.1 U	1.1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	**289**	59.7 U	52.5 U	52.6 U	**290**	52.6 U	50.9 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.6 U	0.5 U	0.5 U	0.6 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**13.3**	**6.6**	**17.3**	**12.4**	**25.3**	**4.3**	**7.4**
Zinc	7440-66-6	mg/kg	23000	--	**15**	**20.2**	**7.2**	**6.1**	**10.8**	**19.4**	**7.9**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0912 U	0.0532 U	0.0458 U	0.0449 U	0.0488 U	0.0458 U	0.046 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0456 U	0.0266 U	0.0229 U	0.0224 U	0.0244 U	0.0229 U	0.023 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Acetophenone	98-86-2	mg/kg	7800	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U

Appendix E - Table 3
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Bristow, Creek County, Oklahoma

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alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Atrazine	1912-24-9	mg/kg	230	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	2 U	**0.02 LJ**	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Caprolactam	105-60-2	mg/kg	31000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	2 U	**0.11 LJ**	**0.034 LJ**	0.21 U	0.19 U	0.21 UJ	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00228 U	0.00133 U	**0.00172 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00228 U	0.00133 U	**0.00344 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00228 U	0.00133 U	**0.00286 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endrin	72-20-8	mg/kg	18	--	0.00228 U	0.00133 U	**0.00401 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00228 U	0.00133 U	**0.00344 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00228 U	0.00133 U	**0.00229 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Heptachlor	76-44-8	mg/kg	12	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00228 U	0.00133 U	0.00115 U	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Methoxychlor	72-43-5	mg/kg	310	--	0.00228 U	0.00133 U	**0.00515 RL**	0.00112 U	0.00122 U	0.00114 U	0.00115 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0684 U	0.0399 U	0.0344 U	0.0336 U	0.0366 U	0.0343 U	0.0345 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 U	NA	0.14 U	0.098 U	0.096 U	NA	0.13 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	3.8 U	0.39 UJ	0.37 UR	0.4 U	0.37 UR	0.4 UJ	0.37 UR
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	3.8 U	0.39 UJ	0.37 UR	0.4 U	0.37 UR	0.4 UJ	0.37 UR

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2-Nitrophenol	88-75-5	mg/kg	NP	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UR	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	3.8 U	0.39 UJ	0.37 UR	0.4 U	0.37 UR	0.4 UJ	0.37 UR
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	3.8 U	0.39 UJ	0.37 UJ	0.4 U	0.37 U	0.4 UJ	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UR	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	3.8 U	0.39 UJ	0.37 UR	0.4 U	0.37 UR	0.4 UJ	0.37 UR
4-Nitrophenol	100-02-7	mg/kg	NP	--	3.8 U	0.39 UJ	0.37 UR	0.4 U	0.37 UR	0.4 UJ	0.37 UR
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	2 U	**0.028 LJ**	**0.079 LJ**	**0.029 LJ**	**0.028 LJ**	**0.018 LJ**	**0.045 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	2 U	**0.016 LJ**	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UR	0.19 U
Hexachloroethane	67-72-1	mg/kg	43	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	2 U	0.2 UJ	0.19 UJ	0.21 U	0.19 U	0.21 UJ	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**1.1**	**0.12 LJ**	**0.034 LJ**	**0.0033 LJ**	**0.0015 LJ**	**0.0038 LJ**	**0.013**
Acenaphthene	83-32-9	mg/kg	3500	--	0.19 U	0.19 U	0.11 U	0.008 U	0.0037 U	0.0081 UJ	0.0037 U

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Acenaphthylene	208-96-8	mg/kg	NP	--	**0.049 LJ**	0.19 U	0.11 U	0.008 U	**0.0011 LJ**	**0.0046 LJ**	**0.00089 LJ**
Anthracene	120-12-7	mg/kg	17000	--	0.19 U	**0.1 LJ**	**0.033 LJ**	**0.0031 LJ**	**0.0019 LJ**	**0.0082 J**	0.0037 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.15 LJ**	**0.74**	**0.32**	**0.018**	**0.0085**	**0.034 J**	**0.004**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.095 LJ**	**0.32**	**0.16**	**0.01**	**0.0053**	**0.02 J**	**0.0023 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.14 LJ**	**0.24**	**0.13**	**0.011**	**0.0074**	**0.036 J**	**0.0031 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.042 LJ**	**0.21**	**0.087 LJ**	**0.0033 LJ**	**0.0017 LJ**	**0.012 J**	**0.00093 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.047 LJ**	0.19 U	**0.026 LJ**	**0.0029 LJ**	**0.0019 LJ**	**0.0073 LJ**	**0.00086 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.27**	**1.2**	**0.53**	**0.029**	**0.012**	**0.055 J**	**0.0067**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.19 U	**0.11 LJ**	**0.055 LJ**	**0.0031 LJ**	**0.0014 LJ**	**0.0073 LJ**	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.17 LJ**	**0.22**	**0.099 LJ**	**0.0094**	**0.0064**	**0.022 J**	**0.0031 LJ**
Fluorene	86-73-7	mg/kg	2300	--	**0.1 LJ**	0.19 U	0.11 U	0.008 U	0.0037 U	0.0081 UJ	**0.0011 LJ**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.087 LJ**	**0.15 LJ**	**0.081 LJ**	**0.0071 LJ**	**0.0045**	**0.023 J**	**0.002 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.2**	0.19 U	0.11 U	0.008 U	**0.00083 LJ**	**0.0016 LJ**	**0.0045**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.39 U	0.39 U	0.23 U	0.016 U	0.0076 U	0.016 UJ	0.0075 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.51**	**1.7**	**0.62**	**0.032**	**0.012**	**0.049 J**	**0.0077**
Pyrene	129-00-0	mg/kg	1700	--	**0.22**	**1.1**	**0.48**	**0.029**	**0.014**	**0.052 J**	**0.0068**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0051 U	NA	0.0072 U	0.0049 U	0.0048 U	NA	0.0064 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.0072 LJ**	**0.0118**	0.014 U	0.0098 U	**0.0065 LJ**	0.005 U	0.013 U
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	0.0051 U	0.014 U	0.0098 U	0.0096 U	0.005 U	0.013 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	0.0051 U	0.014 U	0.0098 U	0.0096 U	0.005 U	0.013 U
Acetone	67-64-1	mg/kg	61000	--	**0.012**	**0.0404 B, K**	**0.016**	**0.0092 LJ**	**0.0099**	**0.0107 B, K**	**0.0095 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0051 U	NA	0.0072 U	0.0049 U	0.0048 U	NA	0.0064 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Bromoform	75-25-2	mg/kg	1200	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-006-24-51 5/19/2015	WO-006-007-00-51 5/18/2015	WO-006-007-06-51 5/19/2015	WO-006-007-12-51 5/19/2015	WO-006-007-24-51 5/19/2015	WO-006-008-00-51 5/18/2015	WO-006-008-06-51 5/19/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Chloroform	67-66-3	mg/kg	32	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Chloromethane	74-87-3	mg/kg	110	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0051 U	0.0102 U	0.0072 U	0.0049 U	0.0048 U	0.0101 U	0.0064 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
o-Xylene	95-47-6	mg/kg	650	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Styrene	100-42-5	mg/kg	6000	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Toluene	108-88-3	mg/kg	4900	--	**0.00022 LJ**	0.0051 U	**0.0014 LJ**	**0.00046 LJ**	**0.00062 LJ**	0.005 U	0.0064 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0051 U	0.0051 U	0.0072 U	0.0049 U	0.0048 U	0.005 U	0.0064 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-008-12-51 5/19/2015	WO-006-008-24-51 5/19/2015	WO-008-001-00-51 6/1/2015	WO-008-001-06-51 6/1/2015	WO-008-001-12-51 6/1/2015	WO-008-001-24-51 6/1/2015	WO-008-002-00-51 6/1/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**4420**	**4600**	**5070**	**6760**	**16200**	**12900**	**3820**
Antimony	7440-36-0	mg/kg	31	--	**0.6**	0.5 U	1.3 UJ	0.84 UJ	1 UJ	0.96 UJ	1.2 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2**	**1.7**	**3.5 J**	**2.4 J**	**2.3 J**	**2.2 J**	**5.9 J**
Barium	7440-39-3	mg/kg	15000	--	**31.3**	**30.2**	**41.5**	**48.2**	**73.2**	**64.7**	**53.2**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.5 U	0.67 U	0.42 U	**0.74**	**0.69**	0.61 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.5 U	**80.2 J**	0.42 UJ	0.5 UJ	0.48 UJ	**1.8 J**
Calcium	7440-70-2	mg/kg	NP	--	**435**	**407**	**15300 J**	**2620 J**	**1200 J**	**1050 J**	**21000 J**
Chromium	7440-47-3	mg/kg	NP	--	**13.7**	**7.1**	**18.2 J**	**12.7 J**	**20.3 J**	**17.5 J**	**11.1 J**
Cobalt	7440-48-4	mg/kg	23	--	**3.4**	**3**	**2.5**	**3.1**	**3.5**	**3.4**	**3.1**
Copper	7440-50-8	mg/kg	3100	--	**3.9**	**3.9**	**20.4 J**	**8.2 J**	**7.6 J**	**7.2 J**	**23.8 J**
Iron	7439-89-6	mg/kg	55000	--	**10300**	**9450**	**9940**	**8520**	**14600**	**13200**	**11000**
Lead	7439-92-1	mg/kg	400	--	**3.2**	**3.4**	**235**	**123**	**7.1**	**5.5**	**274**
Magnesium	7439-95-4	mg/kg	NP	--	**398**	**420**	**6970 J**	**1350 J**	**1360 J**	**1110 J**	**9050 J**
Manganese	7439-96-5	mg/kg	1800	--	**80.5**	**45.4**	**444 J**	**170 J**	**110 J**	**69.9 J**	**600 J**
Mercury	7439-97-6	mg/kg	9.4	--	0.066 U	0.079 U	**0.28**	**0.32**	**0.018 LJ**	0.11 U	**0.12**
Nickel	7440-02-0	mg/kg	1500	--	**5.1**	**4.9**	**6.7**	**7.3**	**10.8**	**9.5**	**9.1**
Potassium	7440-09-7	mg/kg	NP	--	**410**	**391**	**743**	**837**	**1760**	**1320**	**753**
Selenium	7782-49-2	mg/kg	390	--	1 U	1.1 U	**1.6 LJ**	2.1 UJ	2.5 UJ	2.4 UJ	3.1 UJ
Silver	7440-22-4	mg/kg	390	--	1 U	1.1 U	0.67 U	0.42 U	0.5 U	0.48 U	0.61 U
Sodium	7440-23-5	mg/kg	NP	--	51.3 U	53.3 U	496 U	420 U	480 U	390 U	613 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.5 U	0.67 U	0.42 U	0.5 U	0.48 U	0.61 U
Vanadium	7440-62-2	mg/kg	390	--	**17.3**	**14.9**	**12.3**	**20.1**	**33.4**	**28.1**	**12.3**
Zinc	7440-66-6	mg/kg	23000	--	**4.7**	**4.2**	**13800 J**	**91.2 J**	**19.2 J**	**18.8 J**	**288 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.046 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.023 U	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	0.038 U	0.42 U	0.4 U	0.039 U	0.038 U	0.4 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00115 U	0.0038 U	**0.016 LJ**	**0.0042 LJ**	**0.00088 LJ**	**0.00037 LJ**	**0.011 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	0.00115 U	**0.00019 LJ**	**0.0069 LJ**	**0.0047 LJ**	0.0039 U	**0.00033 LJ**	**0.01 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	0.00115 U	0.0038 U	**0.018 LJ**	**0.0079 LJ**	**0.00046 LJ**	**0.00036 LJ**	**0.024 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00115 U	0.002 U	0.021 U	0.021 U	0.002 U	0.0019 U	0.021 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00115 U	0.002 U	0.021 U	**0.00058 LJ**	0.002 U	**0.00036 LJ**	**0.0016 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-008-12-51 5/19/2015	WO-006-008-24-51 5/19/2015	WO-008-001-00-51 6/1/2015	WO-008-001-06-51 6/1/2015	WO-008-001-12-51 6/1/2015	WO-008-001-24-51 6/1/2015	WO-008-002-00-51 6/1/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00115 U	0.002 U	0.021 U	0.021 U	0.002 U	0.0019 U	0.021 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
beta-BHC	319-85-7	mg/kg	30	--	0.00115 U	0.002 U	0.021 U	**0.0013 LJ**	0.002 U	**0.00037 LJ**	**0.0017 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00115 U	0.002 U	0.021 U	**0.0012 LJ**	**0.00015 LJ**	**0.00051 LJ**	0.021 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00115 U	0.0038 U	**0.0011 LJ**	**0.0016 LJ**	**0.00017 LJ**	**0.000028 LJ**	**0.0028 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.00115 U	0.002 U	0.021 U	0.021 U	0.002 U	0.0019 U	0.021 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00115 U	0.0038 U	**0.0043 LJ**	**0.00085 LJ**	0.0039 U	**0.00075 LJ**	**0.0019 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00115 U	**0.000072 LJ**	0.042 U	0.04 U	0.0039 U	**0.00045 LJ**	0.04 U
Endrin	72-20-8	mg/kg	18	--	0.00115 U	**0.0011 LJ**	**0.0052 LJ**	**0.00071 LJ**	**0.0005 LJ**	**0.00013 LJ**	**0.00039 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00115 U	0.0038 U	0.042 U	0.04 U	0.0039 U	0.0038 U	0.04 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00115 U	**0.000034 LJ**	**0.014 LJ**	**0.014 LJ**	**0.00049 LJ**	0.0038 U	**0.022 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00115 U	**0.000018 LJ**	0.021 U	**0.00032 LJ**	0.002 U	**0.000074 LJ**	**0.00021 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00115 U	**0.00012 LJ**	**0.016 LJ**	**0.007 LJ**	**0.00014 LJ**	**0.00046 LJ**	**0.014 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.00115 U	0.002 U	0.021 U	0.021 U	0.002 U	**0.0001 LJ**	0.021 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00115 U	0.002 U	0.021 U	0.021 U	0.002 U	**0.00083 LJ**	**0.0036 LJ**
Methoxychlor	72-43-5	mg/kg	310	--	0.00115 U	**0.00029 LJ**	**0.016 LJ**	**0.0076 LJ**	0.02 U	**0.0019 LJ**	**0.02 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.0345 U	0.2 U	2.1 U	2.1 U	0.2 U	0.19 U	2.1 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
1,4-Dioxane	123-91-1	mg/kg	530	--	0.099 U	0.11 U	0.13 U	0.1 UJv	0.1 UJv	0.095 UJv	0.11 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.39 UR	0.38 U	4.1 U	3.9 U	0.39 UJ	1.5 UJ	4 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.39 UR	0.38 U	4.1 U	3.9 U	0.39 U	1.5 U	4 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-008-12-51 5/19/2015	WO-006-008-24-51 5/19/2015	WO-008-001-00-51 6/1/2015	WO-008-001-06-51 6/1/2015	WO-008-001-12-51 6/1/2015	WO-008-001-24-51 6/1/2015	WO-008-002-00-51 6/1/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.39 UR	0.38 U	4.1 U	3.9 U	0.39 U	1.5 U	4 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.39 U	0.38 U	4.1 U	3.9 U	0.39 UJ	1.5 UJ	4 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.39 UR	0.38 U	4.1 U	3.9 U	0.39 U	1.5 U	4 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.39 UR	0.38 U	4.1 U	3.9 U	0.39 U	1.5 U	4 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	**0.24 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.2 U	2.1 U	2 U	0.2 UJ	0.77 UJ	2.1 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 U	0.2 U	2.1 UJ	2 UJ	0.2 UJ	0.77 UJ	2.1 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.2 U	2.1 U	2 U	0.2 U	0.77 U	2.1 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0017 LJ**	0.0038 U	**0.11 LJ**	**0.085**	**0.0059 LJ**	**0.027 LJ**	**0.13 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0039 U	0.0038 U	0.17 U	0.079 U	0.0078 U	0.038 U	0.16 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-008-12-51 5/19/2015	WO-006-008-24-51 5/19/2015	WO-008-001-00-51 6/1/2015	WO-008-001-06-51 6/1/2015	WO-008-001-12-51 6/1/2015	WO-008-001-24-51 6/1/2015	WO-008-002-00-51 6/1/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0013 LJ**	0.0038 U	0.17 U	**0.02 LJ**	0.0078 U	0.038 U	**0.23**
Anthracene	120-12-7	mg/kg	17000	--	**0.0021 LJ**	0.0038 U	**0.094 LJ**	**0.067 LJ**	**0.0031 LJ**	0.038 U	**0.25**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0097**	0.0038 U	**0.8**	**0.42**	**0.019**	**0.033 LJ**	**0.88**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0064**	0.0038 U	**0.46**	**0.25**	**0.0088**	**0.025 LJ**	**0.81**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0089**	0.0038 U	**0.46**	**0.26**	**0.0074 LJ**	**0.023 LJ**	**1.5**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0019 LJ**	0.0038 U	**0.38**	**0.18**	**0.0034 LJ**	0.038 U	**0.66**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0027 LJ**	0.0038 U	**0.066 LJ**	**0.041 LJ**	0.0078 U	0.038 U	**0.38**
Chrysene	218-01-9	mg/kg	1500	--	**0.014**	0.0038 U	**1.4**	**0.74**	**0.033**	**0.068**	**1.3**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0018 LJ**	0.0038 U	**0.15 LJ**	**0.084**	**0.0032 LJ**	0.038 U	**0.2**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0079**	0.0038 U	**0.27**	**0.17**	**0.0065 LJ**	**0.0077 LJ**	**0.81**
Fluorene	86-73-7	mg/kg	2300	--	0.0039 U	0.0038 U	0.17 U	0.079 U	0.0078 U	0.038 U	0.16 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0057**	0.0038 U	**0.26**	**0.16**	**0.0051 LJ**	**0.016 LJ**	**0.77**
Naphthalene	91-20-3	mg/kg	130	--	**0.0012 LJ**	0.0038 U	**0.035 LJ**	**0.028 LJ**	**0.0024 LJ**	**0.013 LJ**	**0.052 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0079 U	0.0077 U	0.34 U	0.16 U	0.016 U	0.076 U	0.32 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.012**	0.0038 U	**1.2**	**0.68**	**0.047**	**0.018 LJ**	**0.81**
Pyrene	129-00-0	mg/kg	1700	--	**0.016**	0.0038 U	**1.1**	**0.6**	**0.032**	**0.14**	**1.2**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0049 U	0.0057 U	0.0067 U	0.005 UJ	0.0051 UJ	0.0048 UJ	0.0053 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
2-Butanone	78-93-3	mg/kg	27000	--	0.0099 U	0.011 U	0.013 U	0.01 U	0.01 U	0.0095 U	0.011 U
2-Hexanone	591-78-6	mg/kg	200	--	0.0099 U	0.011 U	0.013 U	0.01 U	0.01 U	0.0095 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0099 U	0.011 U	0.013 U	0.01 U	0.01 U	0.0095 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	**0.011**	**0.011 LJ**	**0.0032 LJ**	**0.0013 LJ**	**0.0023 LJ**	**0.0063 LJ**	**0.0013 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Bromoform	75-25-2	mg/kg	1200	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 UR
Bromomethane	74-83-9	mg/kg	6.8	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-006-008-12-51 5/19/2015	WO-006-008-24-51 5/19/2015	WO-008-001-00-51 6/1/2015	WO-008-001-06-51 6/1/2015	WO-008-001-12-51 6/1/2015	WO-008-001-24-51 6/1/2015	WO-008-002-00-51 6/1/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Chloroform	67-66-3	mg/kg	32	--	0.0049 U	0.0057 U	**0.00056 LJ**	**0.00046 LJ**	0.0051 U	**0.00039 LJ**	0.0053 U
Chloromethane	74-87-3	mg/kg	110	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
o-Xylene	95-47-6	mg/kg	650	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Styrene	100-42-5	mg/kg	6000	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Toluene	108-88-3	mg/kg	4900	--	**0.00045 LJ**	**0.00024 LJ**	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0049 U	0.0057 U	0.0067 U	0.005 U	0.0051 U	0.0048 U	0.0053 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-002-00-52 6/1/2015	WO-008-002-06-51 6/1/2015	WO-008-002-12-51 6/1/2015	WO-008-002-24-51 6/1/2015	WO-008-003-00-51 6/1/2015	WO-008-003-06-51 6/1/2015	WO-008-003-12-51 6/1/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2690**	**10500**	**8420**	**12000**	**1830**	**3110**	**5490**
Antimony	7440-36-0	mg/kg	31	--	0.95 UJ	1.1 UJ	0.79 UJ	0.79 UJ	0.92 UJ	0.81 UJ	0.78 UJ
Arsenic	7440-38-2	mg/kg	34	--	**5.2 J**	**1.8 J**	**2.3 J**	**2 J**	**1.6 J**	**2.8 J**	**1.5 J**
Barium	7440-39-3	mg/kg	15000	--	**54.6**	**46.8**	**55.7**	**103**	**25.5**	**36.3**	**56.6**
Beryllium	7440-41-7	mg/kg	160	--	0.48 U	0.53 U	**0.55**	**0.66**	0.46 U	0.41 U	0.39 U
Cadmium	7440-43-9	mg/kg	70	--	**1.7 J**	**0.56 J**	0.4 UJ	0.4 UJ	**1.5 J**	0.41 UJ	0.39 UJ
Calcium	7440-70-2	mg/kg	NP	--	**20800 J**	**8020 J**	**942 J**	**657 J**	**117000 J**	**3700 J**	**1170 J**
Chromium	7440-47-3	mg/kg	NP	--	**10.7 J**	**15 J**	**18.9 J**	**19.9 J**	**5.4 J**	**8.1 J**	**9.6 J**
Cobalt	7440-48-4	mg/kg	23	--	**2.9**	**2.8**	**3**	**5.1**	**1.6**	**2.3**	**2.4**
Copper	7440-50-8	mg/kg	3100	--	**21.3 J**	**9 J**	**7.8 J**	**7.1 J**	**10.7 J**	**8.8 J**	**5.4 J**
Iron	7439-89-6	mg/kg	55000	--	**8640**	**15800**	**12500**	**11800**	**7790**	**5910**	**7210**
Lead	7439-92-1	mg/kg	400	--	**248**	**80.4**	**10**	**5.6**	**138**	**66.1**	**72.9**
Magnesium	7439-95-4	mg/kg	NP	--	**9460 J**	**1940 J**	**873 J**	**948 J**	**5770 J**	**1420 J**	**694 J**
Manganese	7439-96-5	mg/kg	1800	--	**563 J**	**140 J**	**65.6 J**	**66.3 J**	**504 J**	**231 J**	**160 J**
Mercury	7439-97-6	mg/kg	9.4	--	**0.18**	**0.43**	**0.033 LJ**	0.098 U	**0.08 LJ**	**0.17**	**0.12**
Nickel	7440-02-0	mg/kg	1500	--	**8.6**	**11.7**	**9.4**	**11.7**	**12**	**4.6**	**5.2**
Potassium	7440-09-7	mg/kg	NP	--	**546**	**1230**	**833**	**1200**	522 U	510 U	**609**
Selenium	7782-49-2	mg/kg	390	--	2.4 UJ	2.7 UJ	2 UJ	2 UJ	2.3 UJ	2 UJ	2 UJ
Silver	7440-22-4	mg/kg	390	--	0.48 U	0.53 U	0.4 U	0.4 U	0.46 U	0.41 U	0.39 U
Sodium	7440-23-5	mg/kg	NP	--	537 U	459 U	512 U	388 U	522 U	510 U	413 U
Thallium	7440-28-0	mg/kg	0.78	--	0.48 U	0.53 U	0.4 U	0.4 U	0.46 U	0.41 U	0.39 U
Vanadium	7440-62-2	mg/kg	390	--	**11.9**	**26.8**	**29.1**	**29.4**	**14.1**	**11.7**	**15.9**
Zinc	7440-66-6	mg/kg	23000	--	**274 J**	**153 J**	**90.6 J**	**16.6 J**	**231 J**	**66.2 J**	**30 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.41 U	0.38 U	0.36 U	0.037 U	0.46 U	0.39 U	0.38 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.021 LJ**	**0.063 LJ**	**0.0043 LJ**	0.018 U	**0.11 LJ**	**0.051 LJ**	0.038 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.012 LJ**	**0.017 LJ**	**0.0017 LJ**	**0.00025 LJ**	**0.0042 LJ**	**0.0017 LJ**	**0.00028 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.029 LJ**	**0.021 LJ**	**0.0025 LJ**	0.018 U	**0.04 LJ**	**0.03 LJ**	**0.0039 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	2.1 U	2 U	1.9 U	**0.081 LJ**	2.3 U	2 U	1.9 U
Aldrin	309-00-2	mg/kg	1.8	--	0.021 U	0.098 U	0.019 U	0.0095 U	0.12 U	0.1 U	0.019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.0011 LJ**	**0.00083 LJ**	**0.0017 LJ**	**0.00061 LJ**	**0.002 LJ**	0.1 U	0.019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-002-00-52 6/1/2015	WO-008-002-06-51 6/1/2015	WO-008-002-12-51 6/1/2015	WO-008-002-24-51 6/1/2015	WO-008-003-00-51 6/1/2015	WO-008-003-06-51 6/1/2015	WO-008-003-12-51 6/1/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.021 U	0.098 U	0.019 U	0.0095 U	0.12 U	0.1 U	0.019 U
Atrazine	1912-24-9	mg/kg	230	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Benzaldehyde	100-52-7	mg/kg	7800	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
beta-BHC	319-85-7	mg/kg	30	--	**0.0026 LJ**	**0.0012 LJ**	**0.0022 LJ**	**0.0004 LJ**	0.12 U	0.1 U	0.019 U
Caprolactam	105-60-2	mg/kg	31000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Carbazole	86-74-8	mg/kg	NP	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
delta-BHC	319-86-8	mg/kg	NP	--	0.021 U	0.098 U	0.019 U	0.0095 U	0.12 U	**0.0024 LJ**	**0.0008 LJ**
Dieldrin	60-57-1	mg/kg	3.1	--	**0.0031 LJ**	0.19 U	**0.0025 LJ**	0.018 U	0.23 U	**0.0075 LJ**	**0.00063 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.021 U	0.098 U	0.019 U	0.0095 U	0.12 U	0.1 U	0.019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.0038 LJ**	**0.018 LJ**	**0.0024 LJ**	**0.00069 LJ**	**0.018 LJ**	**0.0034 LJ**	0.038 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.041 U	**0.003 LJ**	0.036 U	**0.00041 LJ**	**0.015 LJ**	0.19 U	0.038 U
Endrin	72-20-8	mg/kg	18	--	**0.0036 LJ**	**0.016 LJ**	**0.0015 LJ**	0.018 U	**0.029 LJ**	**0.024 LJ**	0.038 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.041 U	0.19 U	0.036 U	0.018 U	0.23 U	0.19 U	0.038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.018 LJ**	**0.045 LJ**	**0.0057 LJ**	0.018 U	**0.069 LJ**	**0.0099 LJ**	**0.0013 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.021 U	0.098 U	**0.00028 LJ**	0.0095 U	0.12 U	0.1 U	0.019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.019 LJ**	0.098 U	**0.0049 LJ**	**0.00037 LJ**	**0.0064 LJ**	**0.022 LJ**	**0.0017 LJ**
Heptachlor	76-44-8	mg/kg	12	--	**0.0031 LJ**	0.098 U	0.019 U	0.0095 U	0.12 U	0.1 U	0.019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.004 LJ**	0.098 U	0.019 U	0.0095 U	**0.0064 LJ**	**0.0011 LJ**	0.019 U
Methoxychlor	72-43-5	mg/kg	310	--	0.21 U	**0.041 LJ**	**0.0093 LJ**	0.095 U	**0.083 LJ**	**0.033 LJ**	0.19 U
Toxaphene	8001-35-2	mg/kg	48	--	2.1 U	9.8 U	1.9 U	0.95 U	12 U	10 U	1.9 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.12 U	0.16 U	11 U	27 U	0.16 U	0.12 UJv	0.11 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	4 U	3.8 UJ	3.6 UJ	1.5 UJ	4.5 U	3.9 UJ	3.8 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2-Chlorophenol	95-57-8	mg/kg	390	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
2-Nitroaniline	88-74-4	mg/kg	610	--	4 U	3.8 U	3.6 U	1.5 U	4.5 U	3.9 U	3.8 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-002-00-52 6/1/2015	WO-008-002-06-51 6/1/2015	WO-008-002-12-51 6/1/2015	WO-008-002-24-51 6/1/2015	WO-008-003-00-51 6/1/2015	WO-008-003-06-51 6/1/2015	WO-008-003-12-51 6/1/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	4 U	3.8 U	3.6 U	1.5 U	4.5 U	3.9 U	3.8 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	4 U	3.8 UJ	3.6 UJ	1.5 UJ	4.5 U	3.9 UJ	3.8 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
4-Chloroaniline	106-47-8	mg/kg	250	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
4-Methylphenol	106-44-5	mg/kg	6200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
4-Nitroaniline	100-01-6	mg/kg	250	--	4 U	3.8 U	3.6 U	1.5 U	4.5 U	3.9 U	3.8 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	4 U	3.8 U	3.6 U	1.5 U	4.5 U	3.9 U	3.8 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	**0.2 LJ**	1.9 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Diethylphthalate	84-66-2	mg/kg	49000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	2.1 U	2 UJ	1.9 UJ	0.76 UJ	2.3 U	2 UJ	1.9 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	2.1 UJ	2 UJ	1.9 UJ	0.76 UJ	2.3 UJ	2 UJ	1.9 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Isophorone	78-59-1	mg/kg	12000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Nitrobenzene	98-95-3	mg/kg	130	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	2.1 U	2 U	1.9 U	0.76 U	2.3 U	2 U	1.9 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.13 LJ**	**0.94**	**1.3 J**	**0.24**	**0.79**	**0.43**	**0.048**
Acenaphthene	83-32-9	mg/kg	3500	--	0.2 U	0.19 U	0.072 U	0.037 U	0.18 U	0.12 U	0.038 U

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Wilcox Oil
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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-002-00-52 6/1/2015	WO-008-002-06-51 6/1/2015	WO-008-002-12-51 6/1/2015	WO-008-002-24-51 6/1/2015	WO-008-003-00-51 6/1/2015	WO-008-003-06-51 6/1/2015	WO-008-003-12-51 6/1/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.27**	0.19 U	0.072 U	0.037 U	**0.042 LJ**	**0.13**	**0.008 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.28**	**0.25**	**0.097**	0.037 U	**0.23**	**0.2**	**0.027 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**1.1**	**0.87**	**0.15**	**0.023 LJ**	**0.68**	**0.64**	**0.15**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.98**	**0.73**	**0.13**	**0.016 LJ**	**0.61**	**0.55**	**0.1**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**1.8**	**0.44**	**0.11**	**0.016 LJ**	**0.48**	**0.79**	**0.089**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.77**	**0.93**	**0.058 LJ**	0.037 U	**0.9**	**0.32**	**0.055**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.53**	**0.053 LJ**	0.072 U	0.037 U	**0.076 LJ**	**0.22**	**0.014 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**1.5**	**1.5**	**0.53**	**0.074**	**1.2**	**0.99**	**0.24**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.24**	**0.22**	**0.044 LJ**	0.037 U	**0.19**	**0.14**	**0.033 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**1**	**0.32**	**0.12**	**0.015 LJ**	**0.32**	**0.47**	**0.047**
Fluorene	86-73-7	mg/kg	2300	--	0.2 U	**0.04 LJ**	**0.13**	**0.024 LJ**	0.18 U	0.12 U	0.038 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.94**	**0.43**	**0.072 LJ**	**0.01 LJ**	**0.42**	**0.43**	**0.059**
Naphthalene	91-20-3	mg/kg	130	--	**0.051 LJ**	**0.25**	**0.36**	**0.11**	**0.22**	**0.19**	**0.019 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.41 U	0.39 U	0.15 U	0.075 U	0.37 U	0.24 U	0.077 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.72**	**1.8**	**0.52**	**0.093**	**1.5**	**0.94**	**0.2**
Pyrene	129-00-0	mg/kg	1700	--	**1.4**	**1.7**	**0.56**	**0.089**	**1.3**	**1**	**0.19**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 UJ	0.0057 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
2-Butanone	78-93-3	mg/kg	27000	--	0.012 U	0.016 U	1.1 U	2.7 U	0.016 U	0.012 U	**0.013**
2-Hexanone	591-78-6	mg/kg	200	--	0.012 U	0.016 U	1.1 U	2.7 U	0.016 U	0.012 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.012 U	0.016 U	1.1 U	2.7 U	0.016 U	0.012 U	**0.0039 LJ**
Acetone	67-64-1	mg/kg	61000	--	0.012 U	0.016 U	1.1 U	2.7 U	**0.0022 LJ**	0.012 U	**0.009 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0058 U	**0.0044 LJ**	**1**	**1.9**	0.0078 U	0.0061 U	0.0057 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Bromoform	75-25-2	mg/kg	1200	--	0.0058 UR	0.0082 UR	0.55 U	1.3 U	0.0078 UR	0.0061 U	0.0057 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-002-00-52 6/1/2015	WO-008-002-06-51 6/1/2015	WO-008-002-12-51 6/1/2015	WO-008-002-24-51 6/1/2015	WO-008-003-00-51 6/1/2015	WO-008-003-06-51 6/1/2015	WO-008-003-12-51 6/1/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Chloroform	67-66-3	mg/kg	32	--	0.0058 U	**0.0023 LJ**	0.55 U	1.3 U	0.0078 U	**0.0005 LJ**	0.0057 U
Chloromethane	74-87-3	mg/kg	110	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0058 U	**0.0018 LJ**	**3.7**	**13**	0.0078 U	0.0061 U	0.0057 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0058 U	0.0082 U	**0.42 LJ**	**2.9**	0.0078 U	0.0061 U	0.0057 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0058 U	0.0082 U	**0.2 LJ**	**1.7**	0.0078 U	0.0061 U	0.0057 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0058 U	0.0082 U	**1.4**	**2.4**	0.0078 U	0.0061 U	0.0057 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0058 U	**0.0011 LJ**	**8.1**	**26**	0.0078 U	0.0061 U	0.0057 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
o-Xylene	95-47-6	mg/kg	650	--	0.0058 U	**0.00039 LJ**	**0.18 LJ**	**0.54 LJ**	**0.00024 LJ**	0.0061 U	**0.0003 LJ**
Styrene	100-42-5	mg/kg	6000	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Toluene	108-88-3	mg/kg	4900	--	0.0058 U	0.0082 U	**0.64**	**0.43 LJ**	**0.01 J^**	0.0061 U	**0.017**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0058 U	0.0082 U	0.55 U	1.3 U	**0.00033 LJ**	0.0061 U	0.0057 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0058 U	0.0082 U	0.55 U	1.3 U	0.0078 U	0.0061 U	0.0057 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-003-24-51 6/1/2015	WO-008-004-00-51 6/1/2015	WO-008-004-06-51 6/1/2015	WO-008-004-12-51 6/1/2015	WO-008-004-24-51 6/1/2015	WO-008-004-24-52 6/1/2015	WO-011-001-00-51 6/1/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**4170**	**4370**	**4150**	**4100**	**12200**	**9010**	**7560**
Antimony	7440-36-0	mg/kg	31	--	0.89 UJ	1 UJ	0.85 UJ	1 UJ	1.1 UJ	0.97 UJ	0.91 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1**	**3.8 J**	**1.4 J**	**2.2 J**	**1.9 J**	**1.8 J**	**2.6 J**
Barium	7440-39-3	mg/kg	15000	--	**42.7**	**49.1**	**34.8**	**41.9**	**61.2**	**71**	**73.4**
Beryllium	7440-41-7	mg/kg	160	--	0.44 U	0.5 U	0.43 U	0.51 U	0.55 U	**0.81**	**0.54**
Cadmium	7440-43-9	mg/kg	70	--	0.44 U	**2.2 J**	0.43 UJ	0.51 UJ	0.55 UJ	0.48 UJ	0.45 UJ
Calcium	7440-70-2	mg/kg	NP	--	**792**	**27000 J**	**10200 J**	**8670 J**	**2250 J**	**2770 J**	**3160 J**
Chromium	7440-47-3	mg/kg	NP	--	**9.2**	**13.6 J**	**8.9 J**	**9.2 J**	**12.3 J**	**19.5 J**	**14.8 J**
Cobalt	7440-48-4	mg/kg	23	--	**2.4**	**2.9**	**2.3**	**2.4**	**5.4**	**6.6**	**4.6**
Copper	7440-50-8	mg/kg	3100	--	**4.6**	**23.1 J**	**5.5 J**	**10 J**	**9.6 J**	**10.6 J**	**8.6 J**
Iron	7439-89-6	mg/kg	55000	--	**5360**	**11700**	**6120**	**6420**	**12600**	**13000**	**14300**
Lead	7439-92-1	mg/kg	400	--	**19**	**235**	**36.9**	**21.2**	**31.5**	**14.1**	**24**
Magnesium	7439-95-4	mg/kg	NP	--	451 U	**6710 J**	**2220 J**	**1030 J**	**903 J**	**1100 J**	**1020 J**
Manganese	7439-96-5	mg/kg	1800	--	**141**	**503 J**	**171 J**	**979 J**	**134 J**	**215 J**	**241 J**
Mercury	7439-97-6	mg/kg	9.4	--	**0.082 LJ**	**0.18**	**0.021 LJ**	**0.071 LJ**	**0.047 LJ**	**0.13**	**0.01 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**5.2**	**10.5**	**6.4**	**7.5**	**10.3**	**12.2**	**8.8**
Potassium	7440-09-7	mg/kg	NP	--	**483**	**880**	**823**	**776**	**1060**	**913**	**1130**
Selenium	7782-49-2	mg/kg	390	--	2.2 U	2.5 UJ	2.1 UJ	2.5 UJ	2.8 UJ	2.4 UJ	2.3 UJ
Silver	7440-22-4	mg/kg	390	--	0.44 U	0.5 U	0.43 U	0.51 U	0.55 U	0.48 U	0.45 U
Sodium	7440-23-5	mg/kg	NP	--	451 U	494 U	392 U	382 U	410 U	378 U	507 U
Thallium	7440-28-0	mg/kg	0.78	--	0.44 U	0.5 U	0.43 U	0.51 U	0.55 U	0.48 U	0.45 U
Vanadium	7440-62-2	mg/kg	390	--	**13.4**	**12.4**	**13.3**	**16.5**	**18.4**	**27.8**	**23.1**
Zinc	7440-66-6	mg/kg	23000	--	**18.6**	**407 J**	**36.9 J**	**19.3 J**	**25.6 J**	**21.3 J**	**61.6 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.39 U	0.37 U	0.37 U	0.37 U	0.036 U	0.042 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0007 LJ**	**0.047 LJ**	**0.069 LJ**	**0.019 LJ**	**0.015 LJ**	**0.0092 LJ**	0.0042 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00024 LJ**	**0.012 LJ**	0.18 U	**0.0016 LJ**	0.19 U	**0.0019 LJ**	**0.00063 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00034 LJ**	**0.022 LJ**	**0.022 LJ**	**0.018 LJ**	**0.016 LJ**	**0.0086 LJ**	**0.00052 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.000039 LJ**	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	0.0022 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	**0.001 LJ**	**0.0016 LJ**	**0.0035 LJ**	0.096 U	**0.00077 LJ**	0.0022 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-003-24-51 6/1/2015	WO-008-004-00-51 6/1/2015	WO-008-004-06-51 6/1/2015	WO-008-004-12-51 6/1/2015	WO-008-004-24-51 6/1/2015	WO-008-004-24-52 6/1/2015	WO-011-001-00-51 6/1/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	0.0022 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	0.1 U	0.095 U	0.096 U	0.096 U	**0.00093 LJ**	**0.00002 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	2 U	1.9 U	3.8 U	**0.46 LJ**	1.9 U	0.22 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	**0.00022 LJ**
Dieldrin	60-57-1	mg/kg	3.1	--	**0.000068 LJ**	**0.001 LJ**	**0.0049 LJ**	0.19 U	0.19 U	0.036 U	**0.0015 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	**0.00019 LJ**	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	0.0022 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00033 LJ**	**0.0054 LJ**	**0.015 LJ**	**0.0063 LJ**	**0.0077 LJ**	**0.0058 LJ**	**0.00076 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00049 LJ**	**0.015 LJ**	**0.017 LJ**	**0.0086 LJ**	0.19 U	**0.0022 LJ**	0.0042 U
Endrin	72-20-8	mg/kg	18	--	**0.00021 LJ**	**0.0083 LJ**	**0.027 LJ**	**0.013 LJ**	**0.0099 LJ**	**0.0019 LJ**	0.0042 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.2 U	0.18 U	0.19 U	0.19 U	0.036 U	0.0042 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0038 U	**0.046 LJ**	**0.033 LJ**	**0.046 LJ**	**0.035 LJ**	**0.017 LJ**	**0.00093 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00032 LJ**	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	**0.00027 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00049 LJ**	**0.05 LJ**	**0.025 LJ**	**0.0044 LJ**	**0.0017 LJ**	**0.0034 LJ**	**0.00068 LJ**
Heptachlor	76-44-8	mg/kg	12	--	**0.00003 LJ**	0.1 U	0.095 U	0.096 U	0.096 U	0.019 U	**0.0003 LJ**
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.1 U	**0.0033 LJ**	**0.0012 LJ**	0.096 U	**0.0031 LJ**	**0.00065 LJ**
Methoxychlor	72-43-5	mg/kg	310	--	**0.00071 LJ**	1 U	0.95 U	0.96 U	**0.031 LJ**	**0.0077 LJ**	0.022 U
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	10 U	9.5 U	9.6 U	9.6 U	1.9 U	0.22 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.16 UR	0.14 UJv	0.089 U	0.1 UJv	6.7 U	0.1 U	0.13 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 UR
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	3.9 U	3.7 UJ	7.5 UJ	3.7 UJ	3.6 UJ	0.42 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	**6.6**	**2.5**	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 UR
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 UJ	3.9 U	3.7 U	7.5 U	3.7 U	3.6 U	0.42 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-003-24-51 6/1/2015	WO-008-004-00-51 6/1/2015	WO-008-004-06-51 6/1/2015	WO-008-004-12-51 6/1/2015	WO-008-004-24-51 6/1/2015	WO-008-004-24-52 6/1/2015	WO-011-001-00-51 6/1/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 UJ	3.9 U	3.7 U	7.5 U	3.7 U	3.6 U	0.42 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 UJ	3.9 U	3.7 UJ	7.5 UJ	3.7 UJ	3.6 UJ	0.42 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 UR
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 UJ	3.9 U	3.7 U	7.5 U	3.7 U	3.6 U	0.42 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 UJ	3.9 U	3.7 U	7.5 U	3.7 U	3.6 U	0.42 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	**2**	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**2.7**	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 UJ	2 U	**0.17 LJ**	3.8 U	1.9 U	1.9 U	0.22 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	**5.2**	**3.9**	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	2 U	1.9 UJ	3.8 UJ	1.9 UJ	1.9 UJ	0.22 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	2 UJ	1.9 UJ	3.8 UJ	1.9 UJ	1.9 UJ	0.22 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	**11**	**6.6**	**2.2**	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	2 U	1.9 U	3.8 U	1.9 U	1.9 U	0.22 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	**9.3**	**5.7**	**2**	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0069 J**	**0.33**	**0.33**	NA	NA	**1.2**	**0.0036 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0038 UJ	0.2 U	0.11 U	0.37 U	**0.17 LJ**	**0.052 LJ**	0.0084 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-003-24-51 6/1/2015	WO-008-004-00-51 6/1/2015	WO-008-004-06-51 6/1/2015	WO-008-004-12-51 6/1/2015	WO-008-004-24-51 6/1/2015	WO-008-004-24-52 6/1/2015	WO-011-001-00-51 6/1/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0038 UJ	**0.55**	**0.13**	0.37 U	0.19 U	0.18 U	**0.0034 LJ**
Anthracene	120-12-7	mg/kg	17000	--	0.0038 UJ	**0.58**	**0.2**	**1.3**	**0.61**	**0.19**	**0.0074 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	0.0038 UJ	**1.6**	**0.59**	**3.6**	NA	**1.1**	**0.026**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	0.0038 UJ	**1.5**	**0.5**	**1.9**	**1.7**	**0.7**	**0.02**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0019 LJ**	NA	**0.83**	**1.6**	**1.4**	**0.6**	**0.031**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0025 LJ**	**1.2**	**0.36**	**1.4**	**1.3**	**0.48**	**0.0057 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.0038 UJ	**0.83**	**0.19**	**0.17 LJ**	**0.11 LJ**	**0.074 LJ**	**0.0074 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.013 J**	**2.1 J**	**0.89**	NA	NA	**2 J**	**0.047**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0038 UJ	**0.37**	**0.15**	**0.67**	**0.6**	**0.25**	**0.0049 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0026 LJ**	**1.5**	**0.42**	**1.8**	**1.1**	**0.4**	**0.032**
Fluorene	86-73-7	mg/kg	2300	--	**0.0022 LJ**	0.2 U	**0.025 LJ**	**1.3**	**0.48**	**0.15 LJ**	0.0084 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0013 LJ**	**1.5**	**0.46**	**1**	**0.91**	**0.39**	**0.014**
Naphthalene	91-20-3	mg/kg	130	--	**0.0042 J**	**0.11 LJ**	**0.13**	**1.6**	**0.84**	**0.68**	**0.0022 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0077 UJ	0.4 U	0.22 U	0.76 U	0.38 U	0.37 U	0.017 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.011 J**	**0.98**	**0.7**	NA	NA	NA	**0.023**
Pyrene	129-00-0	mg/kg	1700	--	**0.0061 J**	**2.2 J**	**0.85**	NA	NA	NA	**0.039**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.008 U	0.0071 UJ	0.0045 U	0.005 UJ	0.34 U	0.0051 U	0.0063 UJ
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.028 J**	0.014 U	0.0089 U	**0.0047 LJ**	0.67 U	0.01 U	0.013 U
2-Hexanone	591-78-6	mg/kg	200	--	0.016 U	0.014 U	0.0089 U	0.01 U	0.67 U	0.01 U	0.013 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.016 U	0.014 U	0.0089 U	0.01 U	0.67 U	0.01 U	0.013 U
Acetone	67-64-1	mg/kg	61000	--	**0.038 J**	**0.0016 LJ**	0.0089 U	**0.0069 LJ**	0.67 U	0.01 U	**0.0021 LJ**
Benzene	71-43-2	mg/kg	82	--	0.008 U	0.0071 U	0.0045 U	0.005 U	**0.058 LJ**	**0.022 J**	0.0063 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Bromoform	75-25-2	mg/kg	1200	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-008-003-24-51 6/1/2015	WO-008-004-00-51 6/1/2015	WO-008-004-06-51 6/1/2015	WO-008-004-12-51 6/1/2015	WO-008-004-24-51 6/1/2015	WO-008-004-24-52 6/1/2015	WO-011-001-00-51 6/1/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Chloroethane	75-00-3	mg/kg	14000	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Chloroform	67-66-3	mg/kg	32	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Chloromethane	74-87-3	mg/kg	110	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.008 U	0.0071 U	0.0045 U	0.005 U	**0.12 LJ**	**1.4 J^**	0.0063 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Ethylbenzene	100-41-4	mg/kg	580	--	**0.00036 LJ**	0.0071 U	0.0045 U	0.005 U	**0.034 LJ**	**0.052 J^**	0.0063 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.008 U	0.0071 U	0.0045 U	0.005 U	**0.11 LJ**	**0.48 J^**	0.0063 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00091 LJ**	0.0071 U	0.0045 U	0.005 U	**0.045 LJ**	**0.034 J^**	0.0063 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.008 U	0.0071 U	**0.00061 LJ**	0.005 U	**0.52**	**2.4 J^**	0.0063 U
Methylene chloride	75-09-2	mg/kg	350	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
o-Xylene	95-47-6	mg/kg	650	--	0.008 U	0.0071 U	**0.00024 LJ**	0.005 U	0.34 U	**0.0095 J^**	0.0063 U
Styrene	100-42-5	mg/kg	6000	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Toluene	108-88-3	mg/kg	4900	--	**0.089 J**	0.0071 U	**0.0047**	0.005 U	**0.039 LJ**	**0.029 J^**	0.0063 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.008 U	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 U	0.0063 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.008 UR	0.0071 U	0.0045 U	0.005 U	0.34 U	0.0051 UJv	0.0063 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-001-06-51 6/2/2015	WO-011-001-12-51 6/2/2015	WO-011-001-24-51 6/2/2015	WO-011-002-00-51 6/1/2015	WO-011-002-06-51 6/2/2015	WO-011-002-12-51 6/2/2015	WO-011-002-24-51 6/2/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**5470 J**	**7500 J**	**6930 J**	**3690**	**3310 J**	**3090 J**	**3330 J**
Antimony	7440-36-0	mg/kg	31	--	0.93 UJ	1.1 UJ	0.8 UJ	1.2 UJ	0.97 UJ	0.93 UJ	0.78 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.2**	**2.9**	**2.1**	**2 J**	**6.5**	**1**	**0.99**
Barium	7440-39-3	mg/kg	15000	--	**48.1 J**	**109 J**	**78.6 J**	**49.8**	**45.6 J**	**45 J**	**29.7 J**
Beryllium	7440-41-7	mg/kg	160	--	0.46 U	**0.76**	**0.7**	0.6 U	**0.57**	0.47 U	0.39 U
Cadmium	7440-43-9	mg/kg	70	--	0.46 U	0.57 U	0.4 U	0.6 UJ	0.49 U	0.47 U	0.39 U
Calcium	7440-70-2	mg/kg	NP	--	**2860**	**6470**	**1520**	**3170 J**	**2050**	**1540**	515 U
Chromium	7440-47-3	mg/kg	NP	--	**9**	**24**	**18.2**	**10.2 J**	**25.9**	**10**	**8.3**
Cobalt	7440-48-4	mg/kg	23	--	**2**	**5.2**	**5.2**	**3**	**4.5**	**2.7**	**1.6**
Copper	7440-50-8	mg/kg	3100	--	**4.9**	**9.9**	**6.6**	**5.8 J**	**8.3**	**5.9**	**4.7**
Iron	7439-89-6	mg/kg	55000	--	**9500 J**	**12200 J**	**10300 J**	**6240**	**6820 J**	**6780 J**	**5210 J**
Lead	7439-92-1	mg/kg	400	--	**6.4**	**9.5**	**7.9**	**23.7**	**17.3**	**5.7**	**2.6**
Magnesium	7439-95-4	mg/kg	NP	--	**835**	**951**	**939**	**1170 J**	**619**	**392 LJ**	**300 LJ**
Manganese	7439-96-5	mg/kg	1800	--	**227**	**134**	**79.7**	**244 J**	**157**	**161**	**23.1**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0023 LJ**	**0.0037 LJ**	0.11 U	**0.012 LJ**	**0.0031 LJ**	0.11 U	0.098 U
Nickel	7440-02-0	mg/kg	1500	--	**4.9**	**14.7**	**10.9**	**5.9**	**7.7**	**5.8**	**4.2**
Potassium	7440-09-7	mg/kg	NP	--	**760**	**739**	**642**	**691**	**571**	**464**	515 U
Selenium	7782-49-2	mg/kg	390	--	**0.3 LJ**	2.8 U	2 U	3 UJ	2.4 U	2.3 U	1.9 U
Silver	7440-22-4	mg/kg	390	--	0.46 U	0.57 U	0.4 U	0.6 U	0.49 U	0.47 U	0.39 U
Sodium	7440-23-5	mg/kg	NP	--	493 U	424 U	441 U	494 U	537 U	448 U	515 U
Thallium	7440-28-0	mg/kg	0.78	--	0.46 U	0.57 U	0.4 U	0.6 U	0.49 U	0.47 U	0.39 U
Vanadium	7440-62-2	mg/kg	390	--	**14.6**	**36.6**	**23.7**	**14.3**	**20.1**	**15.3**	**12**
Zinc	7440-66-6	mg/kg	23000	--	**19 J**	**21.9 J**	**15.4 J**	**22.8 J**	**20.5 J**	**11.5 J**	**10.7 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.043 U	0.039 U	0.041 U	0.041 U	0.04 U	0.037 U	0.038 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.002 LJ**	**0.00047 LJ**	**0.00024 LJ**	**0.0045 LJ**	**0.001 LJ**	**0.00043 LJ**	**0.0017 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00051 LJ**	**0.00051 LJ**	**0.00019 LJ**	**0.00025 LJ**	**0.00059 LJ**	0.0037 U	**0.01 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00085 LJ**	**0.00041 LJ**	**0.00033 LJ**	**0.0016 LJ**	**0.00072 LJ**	**0.0002 LJ**	**0.0086 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.00017 LJ**	**0.00029 LJ**	0.0021 U	0.01 U	**0.00036 LJ**	**0.00029 LJ**	0.0098 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0022 U	0.002 U	0.0021 U	**0.00043 LJ**	0.0021 U	0.0019 U	0.0098 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-001-06-51 6/2/2015	WO-011-001-12-51 6/2/2015	WO-011-001-24-51 6/2/2015	WO-011-002-00-51 6/1/2015	WO-011-002-06-51 6/2/2015	WO-011-002-12-51 6/2/2015	WO-011-002-24-51 6/2/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	**0.00055 LJ**	0.002 U	0.0021 U	0.01 U	**0.00032 LJ**	0.0019 U	0.0098 U
Atrazine	1912-24-9	mg/kg	230	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
beta-BHC	319-85-7	mg/kg	30	--	**0.00049 LJ**	**0.00023 LJ**	**0.00013 LJ**	**0.00014 LJ**	**0.00026 LJ**	**0.00026 LJ**	0.0098 U
Caprolactam	105-60-2	mg/kg	31000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Carbazole	86-74-8	mg/kg	NP	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0022 U	0.002 U	0.0021 U	0.01 U	0.0021 U	0.0019 U	0.0098 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0043 U	0.0039 U	0.0041 U	**0.0011 LJ**	0.004 U	0.0037 U	0.019 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0022 U	0.002 U	0.0021 U	0.01 U	0.0021 U	0.0019 U	**0.0034 LJ**
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0043 U	**0.00016 LJ**	**0.000065 LJ**	**0.002 LJ**	**0.000092 LJ**	**0.000064 LJ**	0.019 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0043 U	0.0039 U	0.0041 U	**0.00047 LJ**	**0.00023 LJ**	**0.000049 LJ**	**0.008 LJ**
Endrin	72-20-8	mg/kg	18	--	**0.000058 LJ**	0.0039 U	**0.0002 LJ**	**0.0033 LJ**	**0.00067 LJ**	**0.00054 LJ**	**0.0044 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0043 U	0.0039 U	0.0041 U	0.02 U	0.004 U	0.0037 U	0.019 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.0012 LJ**	**0.0013 LJ**	**0.00063 LJ**	0.02 U	**0.00052 LJ**	**0.00014 LJ**	**0.016 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.0022 U	0.002 U	0.0021 U	0.01 U	0.0021 U	0.0019 U	0.0098 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.0012 LJ**	**0.00068 LJ**	**0.000069 LJ**	**0.0012 LJ**	**0.0011 LJ**	**0.00022 LJ**	**0.0028 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.0022 U	0.002 U	**0.00015 LJ**	0.01 U	0.0021 U	0.0019 U	0.0098 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0022 U	0.002 U	0.0021 U	**0.00034 LJ**	0.0021 U	0.0019 U	0.0098 U
Methoxychlor	72-43-5	mg/kg	310	--	0.022 U	0.02 U	0.021 U	0.1 U	0.021 U	0.019 U	0.098 U
Toxaphene	8001-35-2	mg/kg	48	--	0.22 U	0.2 U	0.21 U	1 U	0.21 U	0.19 U	0.98 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 U	0.11 U	0.095 U	0.15 U	0.12 U	0.11 U	0.14 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.43 U	0.39 UJ	0.4 UJ	4 UJ	0.4 U	0.38 U	12 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.43 U	0.39 U	0.4 U	4 U	0.4 U	0.38 U	12 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-001-06-51 6/2/2015	WO-011-001-12-51 6/2/2015	WO-011-001-24-51 6/2/2015	WO-011-002-00-51 6/1/2015	WO-011-002-06-51 6/2/2015	WO-011-002-12-51 6/2/2015	WO-011-002-24-51 6/2/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.22 UR	0.2 UR	0.21 U	2.1 U	0.21 UR	0.19 U	6 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.43 U	0.39 U	0.4 U	4 U	0.4 U	0.38 U	12 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.43 U	0.39 U	0.4 U	4 UJ	0.4 U	0.38 U	12 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.22 UR	0.2 UR	0.21 U	2.1 U	0.21 UR	0.19 U	6 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.43 U	0.39 U	0.4 U	4 U	0.4 U	0.38 U	12 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.43 U	0.39 U	0.4 U	4 U	0.4 U	0.38 U	12 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.22 U	0.2 U	0.21 U	2.1 U	**0.03 LJ**	0.19 U	6 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.22 U	0.2 U	0.21 U	2.1 UJ	0.21 U	0.19 U	6 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.22 UR	0.2 UR	0.21 UJ	2.1 UJ	0.21 UR	0.19 U	6 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Isophorone	78-59-1	mg/kg	12000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.22 U	0.2 U	0.21 U	2.1 U	0.21 U	0.19 U	6 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	**19**
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0053 LJ**	0.0078 U	0.004 U	0.04 U	**0.0017 LJ**	0.0075 U	**0.16 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0085 U	0.0078 U	0.004 U	0.04 U	0.0081 U	0.0075 U	**0.73 LJ**

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-001-06-51 6/2/2015	WO-011-001-12-51 6/2/2015	WO-011-001-24-51 6/2/2015	WO-011-002-00-51 6/1/2015	WO-011-002-06-51 6/2/2015	WO-011-002-12-51 6/2/2015	WO-011-002-24-51 6/2/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.003 LJ**	**0.0021 LJ**	0.004 U	0.04 U	**0.0025 LJ**	0.0075 U	0.77 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0098**	**0.0054 LJ**	**0.0016 LJ**	0.04 U	**0.0063 LJ**	**0.0033 LJ**	**2.1**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.02**	**0.017**	**0.0073**	**0.02 LJ**	**0.02**	**0.013**	**1.6**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.015**	**0.014**	**0.0052**	**0.018 LJ**	**0.02**	**0.0089**	**0.94**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.024**	**0.021**	**0.0095**	**0.026 LJ**	**0.026**	**0.016**	**0.51 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.016**	**0.016**	**0.0028 LJ**	**0.014 LJ**	**0.046**	**0.01**	**0.72 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0058 LJ**	**0.0052 LJ**	**0.0015 LJ**	0.04 U	**0.0062 LJ**	**0.0049 LJ**	0.77 U
Chrysene	218-01-9	mg/kg	1500	--	**0.036**	**0.037**	**0.025**	**0.027 LJ**	**0.029**	**0.015**	**1.9**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0048 LJ**	**0.0049 LJ**	**0.0023 LJ**	0.04 U	**0.0069 LJ**	**0.0028 LJ**	0.77 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.022**	**0.015**	**0.0053**	**0.023 LJ**	**0.021**	**0.016**	**1.4**
Fluorene	86-73-7	mg/kg	2300	--	**0.0027 LJ**	0.0078 U	0.004 U	0.04 U	0.0081 U	0.0075 U	**1.5**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.015**	**0.014**	**0.005**	**0.021 LJ**	**0.027**	**0.011**	**0.47 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.0019 LJ**	0.0078 U	0.004 U	0.04 U	0.0081 U	0.0075 U	0.77 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.017 UJ	0.016 UJ	0.0082 UJ	0.082 U	0.016 UJ	0.015 UJ	1.6 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.022**	**0.012**	**0.0068**	**0.014 LJ**	**0.0096**	**0.0032 LJ**	**4.8**
Pyrene	129-00-0	mg/kg	1700	--	**0.061**	**0.024**	**0.012**	**0.029 LJ**	**0.032**	**0.018**	NA
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
2-Butanone	78-93-3	mg/kg	27000	--	0.011 U	**0.0074 LJ**	0.0095 U	0.015 U	**0.017**	**0.0094 LJ**	**0.014 LJ**
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.011 U	0.0095 U	0.015 U	0.012 U	0.011 U	0.014 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.011 U	0.0095 U	0.015 U	0.012 U	0.011 U	0.014 U
Acetone	67-64-1	mg/kg	61000	--	**0.0074 LJ**	**0.0098 LJ**	**0.007 LJ**	**0.0043 LJ**	**0.041**	**0.0092 LJ**	**0.018**
Benzene	71-43-2	mg/kg	82	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Bromoform	75-25-2	mg/kg	1200	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-001-06-51 6/2/2015	WO-011-001-12-51 6/2/2015	WO-011-001-24-51 6/2/2015	WO-011-002-00-51 6/1/2015	WO-011-002-06-51 6/2/2015	WO-011-002-12-51 6/2/2015	WO-011-002-24-51 6/2/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Chloroform	67-66-3	mg/kg	32	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Chloromethane	74-87-3	mg/kg	110	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00027 LJ**	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
o-Xylene	95-47-6	mg/kg	650	--	0.0053 U	0.0054 U	0.0047 U	**0.00025 LJ**	0.0061 U	0.0054 U	0.007 U
Styrene	100-42-5	mg/kg	6000	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Toluene	108-88-3	mg/kg	4900	--	**0.0013 LJ**	**0.0026 LJ**	**0.0014 LJ**	**0.011 J^**	**0.0061**	**0.0015 LJ**	**0.0024 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0053 U	0.0054 U	0.0047 U	0.0077 U	0.0061 U	0.0054 U	0.007 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-002-24-52 6/2/2015	WO-011-003-00-51 6/1/2015	WO-011-003-06-51 6/2/2015	WO-011-003-12-51 6/2/2015	WO-011-003-24-51 6/2/2015	WO-011-004-00-51 6/1/2015	WO-011-004-06-51 6/2/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**4870 J**	**7300**	**10300 J**	**8400 J**	**9990 J**	**4270**	**6110 J**
Antimony	7440-36-0	mg/kg	31	--	0.87 UJ	1.1 UJ	1 UJ	0.84 UJ	0.92 UJ	0.85 UJ	0.99 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.7**	**1.6 J**	**1.9**	**2.1**	**3.7**	**1.4**	**1.5**
Barium	7440-39-3	mg/kg	15000	--	**41.1 J**	**68.4**	**62.5 J**	**96.1 J**	**180 J**	**51.9**	**69.3 J**
Beryllium	7440-41-7	mg/kg	160	--	0.44 U	0.54 U	**0.57**	**0.85**	**1.2**	0.43 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.44 U	0.54 UJ	0.5 U	0.42 U	0.46 U	0.43 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**587**	**20300 J**	**2580**	**2970**	**2660**	**4150**	**5130**
Chromium	7440-47-3	mg/kg	NP	--	**10.6**	**11.3 J**	**14.9**	**23.4**	**29.7**	**10**	**17.7**
Cobalt	7440-48-4	mg/kg	23	--	**2.2**	**3.5**	**4.2**	**5.2**	**8.5**	**2.7**	**3.3**
Copper	7440-50-8	mg/kg	3100	--	**5.5**	**6.4 J**	**6.7**	**11.2**	**9.3**	**7**	**8**
Iron	7439-89-6	mg/kg	55000	--	**8490 J**	**9820**	**16100 J**	**13500 J**	**17900 J**	**7150**	**9340 J**
Lead	7439-92-1	mg/kg	400	--	**4.6**	**21.8**	**15.4**	**15.1**	**6.4**	**28.6**	**15**
Magnesium	7439-95-4	mg/kg	NP	--	**486 LJ**	**1720 J**	**1400**	**1220**	**1470**	**1030**	**965**
Manganese	7439-96-5	mg/kg	1800	--	**57.5**	**133 J**	**102**	**219**	**323**	**158**	**169**
Mercury	7439-97-6	mg/kg	9.4	--	0.1 U	**0.0081 LJ**	0.1 U	0.11 U	0.11 U	**0.027 LJ**	**0.0046 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**6.6**	**7**	**8.7**	**13.6**	**17.2**	**5.8**	**9.3**
Potassium	7440-09-7	mg/kg	NP	--	**618**	**1210**	**1100**	**743**	**729**	**704**	**823**
Selenium	7782-49-2	mg/kg	390	--	2.2 U	2.7 UJ	**0.31 LJ**	2.1 U	2.3 U	**0.44 LJ**	**0.38 LJ**
Silver	7440-22-4	mg/kg	390	--	0.44 U	0.54 U	0.5 U	0.42 U	0.46 U	0.43 U	0.5 U
Sodium	7440-23-5	mg/kg	NP	--	498 U	463 U	505 U	452 U	480 U	490 U	444 U
Thallium	7440-28-0	mg/kg	0.78	--	0.44 U	0.54 U	0.5 U	0.42 U	0.46 U	0.43 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**17.7**	**16.5**	**22.5**	**31.7**	**41.3**	**13.8**	**27.2**
Zinc	7440-66-6	mg/kg	23000	--	**13.9 J**	**33.9 J**	**22.5 J**	**24.1 J**	**24.8 J**	**21.8**	**19.6 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.044 U	0.04 U	0.038 U	0.038 U	0.041 U	0.039 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0019 LJ**	**0.00063 LJ**	**0.0002 LJ**	0.0038 U	**0.00024 LJ**	**0.00095 LJ**	0.0039 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00039 LJ**	**0.00012 LJ**	0.004 U	**0.000055 LJ**	**0.00007 LJ**	**0.00065 LJ**	**0.000086 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00074 LJ**	**0.00018 LJ**	**0.00021 LJ**	**0.00011 LJ**	0.0038 U	**0.00095 LJ**	**0.00027 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.00011 LJ**	0.0023 U	**0.00029 LJ**	0.002 U	0.002 U	**0.00079 LJ**	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	**0.00012 LJ**	0.002 U	0.002 U	0.002 U	0.0021 U	0.002 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-002-24-52 6/2/2015	WO-011-003-00-51 6/1/2015	WO-011-003-06-51 6/2/2015	WO-011-003-12-51 6/2/2015	WO-011-003-24-51 6/2/2015	WO-011-004-00-51 6/1/2015	WO-011-004-06-51 6/2/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0023 U	**0.00041 LJ**	0.002 U	0.002 U	0.0021 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	**0.00031 LJ**	**0.00036 LJ**	0.002 U	0.002 U	**0.0001 LJ**	0.0021 U	**0.000096 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	**0.00014 LJ**	0.002 U	0.002 U	0.002 U	0.0021 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	**0.00048 LJ**	0.004 U	0.0038 U	0.0038 U	**0.00054 LJ**	0.0039 U
Endosulfan I	959-98-8	mg/kg	NP	--	**0.00031 LJ**	0.0023 U	0.002 U	0.002 U	0.002 U	**0.0005 LJ**	0.002 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0038 U	**0.00011 LJ**	**0.000045 LJ**	**0.00019 LJ**	**0.000017 LJ**	**0.000027 LJ**	**0.00066 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00084 LJ**	**0.00076 LJ**	**0.000062 LJ**	**0.000081 LJ**	0.0038 U	0.0041 U	**0.00021 LJ**
Endrin	72-20-8	mg/kg	18	--	**0.00043 LJ**	0.0044 U	**0.00024 LJ**	0.0038 U	**0.00044 LJ**	0.0041 U	**0.00074 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0044 U	0.004 U	0.0038 U	0.0038 U	**0.00022 LJ**	0.0039 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.0013 LJ**	0.0044 U	**0.000078 LJ**	0.0038 U	0.0038 U	0.0041 U	**0.00024 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	**0.00028 LJ**	0.002 U	0.002 U	0.002 U	**0.00033 LJ**	0.002 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00029 LJ**	**0.00026 LJ**	**0.00058 LJ**	**0.0002 LJ**	0.002 U	0.0021 U	**0.00038 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	**0.00061 LJ**	**0.00048 LJ**	0.002 U	0.002 U	**0.00018 LJ**	0.002 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	**0.00063 LJ**	0.002 U	0.002 U	0.002 U	0.0021 U	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	0.02 U	**0.00014 LJ**	0.02 U	0.02 U	0.02 U	0.021 U	0.02 U
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.23 U	0.2 U	0.2 U	0.2 U	0.21 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.16 U	0.22 U	0.097 U	0.093 U	0.096 U	0.12 U	0.11 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.99 U	0.23 UR	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	1.9 U	0.44 UJ	0.4 UJ	0.38 UJ	0.39 UJ	0.41 UJ	0.39 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.99 U	0.23 UR	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	1.9 U	0.44 U	0.4 U	0.38 U	0.39 U	0.41 UJ	0.39 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-002-24-52 6/2/2015	WO-011-003-00-51 6/1/2015	WO-011-003-06-51 6/2/2015	WO-011-003-12-51 6/2/2015	WO-011-003-24-51 6/2/2015	WO-011-004-00-51 6/1/2015	WO-011-004-06-51 6/2/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.99 U	0.23 UR	0.21 UR	0.2 U	0.2 U	0.21 UR	0.2 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	1.9 U	0.44 U	0.4 U	0.38 U	0.39 U	0.41 UJ	0.39 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	1.9 U	0.44 UJ	0.4 U	0.38 U	0.39 U	0.41 UJ	0.39 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.99 U	0.23 UR	0.21 UR	0.2 U	0.2 U	0.21 UR	0.2 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.99 U	0.23 UR	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	1.9 U	0.44 U	0.4 U	0.38 U	0.39 U	0.41 UJ	0.39 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	1.9 U	0.44 U	0.4 U	0.38 U	0.39 U	0.41 UJ	0.39 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.99 U	**0.039 LJ**	**0.019 LJ**	0.2 U	0.2 U	**0.024 LJ**	**0.021 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.99 U	0.23 UJ	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.99 U	0.23 UR	0.21 UR	0.2 UJ	0.2 UJ	0.21 UR	0.2 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.99 U	0.23 U	0.21 U	0.2 U	0.2 U	0.21 UJ	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	**1.3**	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.093 LJ**	**0.0019 LJ**	**0.0011 LJ**	0.0038 U	0.0039 U	**0.0011 LJ**	**0.0033 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	**0.056 LJ**	0.0044 UJ	0.004 U	0.0038 U	0.0039 U	0.0041 UJ	0.0039 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-002-24-52 6/2/2015	WO-011-003-00-51 6/1/2015	WO-011-003-06-51 6/2/2015	WO-011-003-12-51 6/2/2015	WO-011-003-24-51 6/2/2015	WO-011-004-00-51 6/1/2015	WO-011-004-06-51 6/2/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.23 U	0.0044 UJ	0.004 U	0.0038 U	0.0039 U	**0.0025 LJ**	**0.0016 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.13 LJ**	**0.0017 LJ**	**0.002 LJ**	0.0038 U	0.0039 U	**0.0051 J**	**0.0038 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.12 LJ**	**0.0063 J**	**0.0065**	**0.001 LJ**	0.0039 U	**0.012 J**	**0.0095**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.073 LJ**	**0.0046 J**	**0.0042**	0.0038 U	0.0039 U	**0.0092 J**	**0.0067**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	0.23 U	**0.0078 J**	**0.0076**	**0.00096 LJ**	0.0039 U	**0.015 J**	**0.012**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.053 LJ**	**0.0018 LJ**	**0.0025 LJ**	0.0038 U	0.0039 U	**0.0093 J**	**0.0015 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.23 U	**0.0021 LJ**	**0.0018 LJ**	0.0038 U	0.0039 U	**0.0045 J**	**0.0033 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.15 LJ**	**0.0096 J**	**0.0095**	**0.0019 LJ**	0.0039 U	**0.018 J**	**0.015**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.23 U	**0.0012 LJ**	**0.0014 LJ**	0.0038 U	0.0039 U	**0.0028 LJ**	**0.002 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.11 LJ**	**0.0073 J**	**0.007**	**0.00077 LJ**	0.0039 U	**0.014 J**	**0.011**
Fluorene	86-73-7	mg/kg	2300	--	**0.097 LJ**	0.0044 UJ	0.004 U	0.0038 U	0.0039 U	0.0041 UJ	0.0039 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	0.23 U	**0.004 LJ**	**0.0049**	**0.00078 LJ**	0.0039 U	**0.0099 J**	**0.0066**
Naphthalene	91-20-3	mg/kg	130	--	0.23 U	**0.0011 LJ**	**0.00086 LJ**	0.0038 U	0.0039 U	0.0041 UJ	**0.002 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.47 U	0.0089 UJ	0.0081 UJ	0.0077 UJ	0.0078 UJ	0.0083 UJ	0.0078 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	**0.35**	**0.0055 J**	**0.0038 LJ**	**0.0013 LJ**	0.0039 U	**0.0067 J**	**0.0068**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.0096 J**	**0.0093**	**0.0016 LJ**	0.0039 U	**0.018 J**	**0.016**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
2-Butanone	78-93-3	mg/kg	27000	--	0.016 U	0.022 U	0.0097 U	0.0093 U	0.0096 U	0.012 U	0.011 U
2-Hexanone	591-78-6	mg/kg	200	--	0.016 U	0.022 U	0.0097 U	0.0093 U	0.0096 U	0.012 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.016 U	0.022 U	0.0097 U	0.0093 U	0.0096 U	0.012 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	**0.014 LJ**	**0.0052 LJ**	**0.0059 LJ**	0.0093 U	**0.0089 LJ**	**0.01 LJ**	0.011 U
Benzene	71-43-2	mg/kg	82	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Bromoform	75-25-2	mg/kg	1200	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 UR	0.006 UR	0.0056 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-002-24-52 6/2/2015	WO-011-003-00-51 6/1/2015	WO-011-003-06-51 6/2/2015	WO-011-003-12-51 6/2/2015	WO-011-003-24-51 6/2/2015	WO-011-004-00-51 6/1/2015	WO-011-004-06-51 6/2/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Chloroform	67-66-3	mg/kg	32	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Chloromethane	74-87-3	mg/kg	110	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	**0.00025 LJ**	0.006 U	0.0056 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0081 U	0.011 U	**0.00044 LJ**	**0.00022 LJ**	**0.00093 LJ**	**0.00049 LJ**	0.0056 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
o-Xylene	95-47-6	mg/kg	650	--	0.0081 U	**0.00055 LJ**	0.0049 U	0.0047 U	**0.00031 LJ**	0.006 U	0.0056 U
Styrene	100-42-5	mg/kg	6000	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Toluene	108-88-3	mg/kg	4900	--	**0.00079 LJ**	**0.013 J^**	**0.012**	**0.0043 LJ**	**0.02**	**0.011 J**	**0.0029 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0081 U	0.011 U	0.0049 U	0.0047 U	0.0048 U	0.006 U	0.0056 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-004-12-51 6/2/2015	WO-011-004-24-51 6/2/2015	WO-017-001-00-51 5/20/2015	WO-017-001-00-51S 6/8/2015	WO-017-001-06-51 5/21/2015	WO-017-001-06-51S 6/9/2015	WO-017-001-06-52S 6/9/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**12700 J**	**5260 J**	**1630**	**3580**	**2020**	**3100**	**3350**
Antimony	7440-36-0	mg/kg	31	--	0.82 UJ	1.1 UJ	0.6 U	0.92 UJ	0.6 U	0.86 UJ	0.72 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.6**	**1.5**	**0.9**	**2.4**	**1.5**	**2**	**2**
Barium	7440-39-3	mg/kg	15000	--	**88.4 J**	**53.7 J**	**29.8**	**61.9**	**30.8**	**51.3**	**49.3**
Beryllium	7440-41-7	mg/kg	160	--	**0.62**	0.54 U	0.6 U	0.46 U	0.6 U	0.43 U	0.36 U
Cadmium	7440-43-9	mg/kg	70	--	0.41 U	0.54 U	0.6 U	0.46 U	0.6 U	0.43 U	0.36 U
Calcium	7440-70-2	mg/kg	NP	--	**2700**	**1540**	**779**	**1960**	**613**	**1160**	**1240**
Chromium	7440-47-3	mg/kg	NP	--	**14.8**	**11.7**	**3**	**11.3**	**4.1**	**9.2**	**8.3**
Cobalt	7440-48-4	mg/kg	23	--	**6.3**	**3.4**	**3.5**	**3.3**	**3.5**	**3.3**	**3.4**
Copper	7440-50-8	mg/kg	3100	--	**8.6**	**5.3**	**8.4**	**96.8**	**12.8**	**26.2**	**93.7**
Iron	7439-89-6	mg/kg	55000	--	**18100 J**	**10000 J**	**3180**	**7640**	**4720**	**6640**	**7100**
Lead	7439-92-1	mg/kg	400	--	**16.2**	**8**	**16.3**	**43.6**	**14.3**	**36.2**	**33.5**
Magnesium	7439-95-4	mg/kg	NP	--	**1350**	**657**	**248**	**632**	**212**	**470**	**495**
Manganese	7439-96-5	mg/kg	1800	--	**179**	**105**	**184**	**194**	**185**	**202**	**238**
Mercury	7439-97-6	mg/kg	9.4	--	0.11 U	0.1 U	0.071 U	**0.018 LJ**	0.068 U	**0.033 LJ**	**0.031 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**8.9**	**7.4**	2.2 U	**6.7**	**3**	**5.7**	**5.2**
Potassium	7440-09-7	mg/kg	NP	--	**1220**	**563**	**429**	**825**	**336**	**619**	**658**
Selenium	7782-49-2	mg/kg	390	--	**0.4 LJ**	2.7 U	1.1 U	2.3 U	1.1 U	2.1 U	1.8 U
Silver	7440-22-4	mg/kg	390	--	0.41 U	0.54 U	1.1 U	0.46 U	1.1 U	0.43 U	0.36 U
Sodium	7440-23-5	mg/kg	NP	--	433 U	518 U	55 U	388 U	55.1 U	376 U	414 U
Thallium	7440-28-0	mg/kg	0.78	--	0.41 U	0.54 U	0.6 U	0.46 U	0.6 U	0.43 U	0.36 U
Vanadium	7440-62-2	mg/kg	390	--	**22.6**	**17.7**	**4.6**	**14.7**	**5.4**	**12.4**	**11.5**
Zinc	7440-66-6	mg/kg	23000	--	**18.8 J**	**12.9 J**	**47.6**	**83.1**	**49.1**	**64.9**	**81**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.037 U	0.041 U	NA	0.04 U	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00027 LJ**	**0.00079 LJ**	**0.0012 LJ**	NA	**0.0011 LJ**	NA	NA
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00004 LJ**	**0.00025 LJ**	**0.001 LJ**	NA	**0.0032 LJ**	NA	NA
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00023 LJ**	**0.00016 LJ**	**0.0021 LJ**	NA	**0.0022 LJ**	NA	NA
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.0019 U	0.0021 U	NA	0.002 U	NA	NA
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.0019 U	**0.0002 LJ**	NA	0.002 U	NA	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-004-12-51 6/2/2015	WO-011-004-24-51 6/2/2015	WO-017-001-00-51 5/20/2015	WO-017-001-00-51S 6/8/2015	WO-017-001-06-51 5/21/2015	WO-017-001-06-51S 6/9/2015	WO-017-001-06-52S 6/9/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0019 U	0.0021 U	NA	0.002 U	NA	NA
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	**0.00032 LJ**	0.0021 U	NA	0.002 U	NA	NA
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.19 U	**0.051 LJ**	NA	**0.071 LJ**	NA	NA
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.0019 U	0.0021 U	NA	0.002 U	NA	NA
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	0.0037 U	0.0041 U	NA	0.004 U	NA	NA
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.0019 U	0.0021 U	NA	0.002 U	NA	NA
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00026 LJ**	**0.000042 LJ**	**0.00017 LJ**	NA	0.004 U	NA	NA
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0038 U	**0.000057 LJ**	**0.00008 LJ**	NA	0.004 U	NA	NA
Endrin	72-20-8	mg/kg	18	--	**0.00066 LJ**	0.0037 U	**0.00044 LJ**	NA	**0.000079 LJ**	NA	NA
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0037 U	0.0041 U	NA	0.004 U	NA	NA
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0038 U	0.0037 U	**0.00026 LJ**	NA	0.004 U	NA	NA
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	0.0019 U	**0.00079 LJ**	NA	**0.00021 LJ**	NA	NA
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00023 LJ**	**0.000058 LJ**	**0.00024 LJ**	NA	0.002 U	NA	NA
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.0019 U	0.0021 U	NA	0.002 U	NA	NA
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.0019 U	**0.00032 LJ**	NA	**0.00042 LJ**	NA	NA
Methoxychlor	72-43-5	mg/kg	310	--	0.02 U	0.019 U	**0.0008 LJ**	NA	**0.0023 LJ**	NA	NA
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 U	0.1 U	0.12 UJv	NA	0.11 UJv	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	0.37 UJ	0.42 U	NA	0.4 U	NA	NA
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 U	0.37 U	0.42 U	NA	0.4 U	NA	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-004-12-51 6/2/2015	WO-011-004-24-51 6/2/2015	WO-017-001-00-51 5/20/2015	WO-017-001-00-51S 6/8/2015	WO-017-001-06-51 5/21/2015	WO-017-001-06-51S 6/9/2015	WO-017-001-06-52S 6/9/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.19 U	0.21 UR	NA	0.2 U	NA	NA
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 U	0.37 U	0.42 U	NA	0.4 UJ	NA	NA
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 U	0.37 U	0.42 U	NA	0.4 U	NA	NA
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.19 U	0.21 UR	NA	0.2 U	NA	NA
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 U	0.37 U	0.42 U	NA	0.4 U	NA	NA
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 U	0.37 U	0.42 U	NA	0.4 U	NA	NA
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	**0.25**	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	**0.22**	NA	**0.24**	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 U	0.19 U	**0.042 LJ**	NA	**0.059 LJ**	NA	NA
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	**0.26**	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.19 U	**0.023 LJ**	NA	0.2 U	NA	NA
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	**0.28**	NA	**0.73**	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.19 UJ	0.21 UR	NA	0.2 UJ	NA	NA
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	**0.25**	NA	**0.5**	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.19 U	0.21 U	NA	0.2 U	NA	NA
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	**0.24**	NA	**0.57**	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0076 U	0.0037 U	**0.012 LJ**	NA	0.12 U	NA	NA
Acenaphthene	83-32-9	mg/kg	3500	--	0.0076 U	0.0037 U	**0.04 LJ**	NA	**0.043 LJ**	NA	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-004-12-51 6/2/2015	WO-011-004-24-51 6/2/2015	WO-017-001-00-51 5/20/2015	WO-017-001-00-51S 6/8/2015	WO-017-001-06-51 5/21/2015	WO-017-001-06-51S 6/9/2015	WO-017-001-06-52S 6/9/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0042 LJ**	**0.003 LJ**	0.042 U	NA	0.12 U	NA	NA
Anthracene	120-12-7	mg/kg	17000	--	**0.0079**	**0.0039**	**0.061**	NA	**0.094 LJ**	NA	NA
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.024**	**0.013**	**0.2**	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.017**	**0.0084**	**0.17**	NA	**0.17**	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.033**	**0.016**	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0029 LJ**	0.0037 U	**0.033 LJ**	NA	**0.087 LJ**	NA	NA
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0089**	**0.0044**	**0.082**	NA	**0.08 LJ**	NA	NA
Chrysene	218-01-9	mg/kg	1500	--	**0.037**	**0.018**	**0.17**	NA	NA	NA	NA
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0055 LJ**	**0.0025 LJ**	**0.028 LJ**	NA	**0.029 LJ**	NA	NA
Fluoranthene	206-44-0	mg/kg	2300	--	**0.027**	**0.012**	NA	NA	NA	NA	NA
Fluorene	86-73-7	mg/kg	2300	--	0.0076 U	0.0037 U	**0.025 LJ**	NA	**0.027 LJ**	NA	NA
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.019**	**0.0084**	**0.14**	NA	**0.14**	NA	NA
Naphthalene	91-20-3	mg/kg	130	--	0.0076 U	0.0037 U	**0.048**	NA	0.12 U	NA	NA
Pentachlorophenol	87-86-5	mg/kg	99	--	0.015 UJ	0.0075 UJ	0.085 U	NA	0.24 U	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0095**	**0.0055**	NA	NA	NA	NA	NA
Pyrene	129-00-0	mg/kg	1700	--	**0.032**	**0.015**	NA	NA	NA	NA	NA
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
2-Butanone	78-93-3	mg/kg	27000	--	0.01 U	**0.012**	0.012 U	NA	0.011 U	NA	NA
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	0.01 U	0.012 U	NA	0.011 U	NA	NA
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	0.01 U	0.012 U	NA	0.011 U	NA	NA
Acetone	67-64-1	mg/kg	61000	--	**0.01**	**0.0099 LJ**	0.012 U	NA	0.011 U	NA	NA
Benzene	71-43-2	mg/kg	82	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Bromochloromethane	74-97-5	mg/kg	150	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Bromoform	75-25-2	mg/kg	1200	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Bromomethane	74-83-9	mg/kg	6.8	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Carbon disulfide	75-15-0	mg/kg	770	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-011-004-12-51 6/2/2015	WO-011-004-24-51 6/2/2015	WO-017-001-00-51 5/20/2015	WO-017-001-00-51S 6/8/2015	WO-017-001-06-51 5/21/2015	WO-017-001-06-51S 6/9/2015	WO-017-001-06-52S 6/9/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Chlorobenzene	108-90-7	mg/kg	280	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Chloroethane	75-00-3	mg/kg	14000	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Chloroform	67-66-3	mg/kg	32	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Chloromethane	74-87-3	mg/kg	110	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Cyclohexane	110-82-7	mg/kg	6500	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Dibromochloromethane	124-48-1	mg/kg	73	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Ethylbenzene	100-41-4	mg/kg	580	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00027 LJ**	**0.00025 LJ**	0.0062 U	NA	0.0054 U	NA	NA
Methyl acetate	79-20-9	mg/kg	78000	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Methylene chloride	75-09-2	mg/kg	350	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
o-Xylene	95-47-6	mg/kg	650	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Styrene	100-42-5	mg/kg	6000	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Tetrachloroethene	127-18-4	mg/kg	81	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Toluene	108-88-3	mg/kg	4900	--	**0.0021 LJ**	**0.0029 LJ**	**0.00066 LJ**	NA	**0.00022 LJ**	NA	NA
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Trichloroethene	79-01-6	mg/kg	4.1	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.005 U	0.0051 U	0.0062 U	NA	0.0054 U	NA	NA

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-001-12-51 5/21/2015	WO-017-002-00-51 5/20/2015	WO-017-002-00-51S 6/10/2015	WO-017-002-06-51 5/21/2015	WO-017-002-06-51S 6/8/2015	WO-017-002-12-51 5/21/2015	WO-017-002-24-51 5/21/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**3540**	**2680**	**3400**	**3760**	**3010**	**6560**	**7740**
Antimony	7440-36-0	mg/kg	31	--	0.5 U	0.6 U	0.86 UJ	0.5 U	0.89 UJ	0.5 U	0.6 U
Arsenic	7440-38-2	mg/kg	34	--	**2**	**2.5**	**2.1**	**1.9**	**2**	**4.4**	**3.4**
Barium	7440-39-3	mg/kg	15000	--	**34.4**	**32.4**	**45.8**	**42.6**	**43.8**	**57.9**	**67.1**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.6 U	0.43 U	0.5 U	0.45 U	**0.6**	0.6 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.6 U	0.43 U	0.5 U	0.45 U	0.5 U	0.6 U
Calcium	7440-70-2	mg/kg	NP	--	**724**	**1280**	**1620**	**892**	**1090**	**1060**	**1510**
Chromium	7440-47-3	mg/kg	NP	--	**5.9**	**7.2**	**9.7**	**7.3**	**9.1**	**13.8**	**13.1**
Cobalt	7440-48-4	mg/kg	23	--	**3.7**	**5.5**	**2.6**	**3.4**	**2.3**	**3.8**	**3.4**
Copper	7440-50-8	mg/kg	3100	--	**14.2**	**7.9**	**19.7**	**8.2**	**104**	**15.4**	**19.9**
Iron	7439-89-6	mg/kg	55000	--	**7020**	**7400**	**7630**	**7050**	**6460**	**14600**	**12500**
Lead	7439-92-1	mg/kg	400	--	**9**	**11.6**	**22.8**	**13.5**	**19.7**	**6.3**	**8.6**
Magnesium	7439-95-4	mg/kg	NP	--	**304**	**872**	**594**	**664**	**417**	**885**	**1290**
Manganese	7439-96-5	mg/kg	1800	--	**174**	**189**	**134**	**86.2**	**119**	**47**	**33.3**
Mercury	7439-97-6	mg/kg	9.4	--	0.076 U	0.076 U	**0.033 LJ**	0.077 U	**0.053 LJ**	0.08 U	0.079 U
Nickel	7440-02-0	mg/kg	1500	--	**3.6**	**13.5**	**6.6**	**6.9**	**5.3**	**8.8**	**8.4**
Potassium	7440-09-7	mg/kg	NP	--	**371**	**920**	**761**	**512**	**549**	**612**	**816**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.2 U	2.2 U	1.1 U	2.2 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	1.2 U	0.43 U	1.1 U	0.45 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	53.6 U	57.8 U	417 U	54.4 U	390 U	**76.3**	**128**
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.6 U	0.43 U	0.5 U	0.45 U	0.5 U	0.6 U
Vanadium	7440-62-2	mg/kg	390	--	**10.3**	**8.5**	**13.7**	**9.1**	**13.7**	**21.4**	**18.4**
Zinc	7440-66-6	mg/kg	23000	--	**26.1**	**35.1**	**63.7**	**32.2**	**76.2**	**12.4**	**12.3**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.039 U	0.042 U	NA	0.04 U	NA	0.039 U	0.039 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0013 LJ**	0.0042 U	NA	**0.00022 LJ**	NA	0.0039 U	0.0039 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00076 LJ**	**0.0011 LJ**	NA	**0.0037 LJ**	NA	**0.00022 LJ**	**0.00039 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.002 LJ**	**0.0013 LJ**	NA	**0.003 LJ**	NA	**0.00023 LJ**	**0.00026 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.0022 U	NA	0.0021 U	NA	0.002 U	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.000074 LJ**	**0.000042 LJ**	NA	0.0021 U	NA	**0.000024 LJ**	0.002 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-001-12-51 5/21/2015	WO-017-002-00-51 5/20/2015	WO-017-002-00-51S 6/10/2015	WO-017-002-06-51 5/21/2015	WO-017-002-06-51S 6/8/2015	WO-017-002-12-51 5/21/2015	WO-017-002-24-51 5/21/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0022 U	NA	0.0021 U	NA	0.002 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	**0.00083 LJ**	NA	0.0021 U	NA	0.002 U	0.002 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.0022 U	NA	0.0021 U	NA	0.002 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0039 U	0.0042 U	NA	0.004 U	NA	0.0039 U	0.0039 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.0022 U	NA	0.0021 U	NA	0.002 U	0.002 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0039 U	**0.00003 LJ**	NA	0.004 U	NA	0.0039 U	0.0039 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0039 U	**0.000053 LJ**	NA	0.004 U	NA	0.0039 U	0.0039 U
Endrin	72-20-8	mg/kg	18	--	**0.00015 LJ**	0.0042 U	NA	0.004 U	NA	**0.00061 LJ**	**0.00057 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0039 U	0.0042 U	NA	0.004 U	NA	0.0039 U	0.0039 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0039 U	**0.00018 LJ**	NA	0.004 U	NA	0.0039 U	0.0039 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	**0.00055 LJ**	NA	**0.00011 LJ**	NA	**0.000015 LJ**	**0.000053 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.002 U	**0.00018 LJ**	NA	0.0021 U	NA	0.002 U	0.002 U
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.0022 U	NA	0.0021 U	NA	0.002 U	0.002 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.00048 LJ**	**0.00013 LJ**	NA	0.0021 U	NA	0.002 U	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.0012 LJ**	**0.0013 LJ**	NA	**0.00072 LJ**	NA	**0.0013 LJ**	**0.00023 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 UJv	0.15 UJv	NA	0.11 UJv	NA	0.098 UJv	0.088 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.39 U	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.39 U	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-001-12-51 5/21/2015	WO-017-002-00-51 5/20/2015	WO-017-002-00-51S 6/10/2015	WO-017-002-06-51 5/21/2015	WO-017-002-06-51S 6/8/2015	WO-017-002-12-51 5/21/2015	WO-017-002-24-51 5/21/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.22 UR	NA	0.21 U	NA	0.2 U	0.2 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.39 UJ	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.39 U	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.22 UR	NA	0.21 U	NA	0.2 U	0.2 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.39 U	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.39 U	0.43 U	NA	0.41 U	NA	0.39 U	0.39 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.031 LJ**	**0.029 LJ**	NA	0.21 U	NA	0.2 U	**0.018 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.22 UR	NA	0.21 U	NA	0.2 U	0.2 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.39 U	0.43 U	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.22 U	NA	0.21 U	NA	0.2 U	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.00084 LJ**	0.0043 UJ	NA	**0.00082 LJ**	NA	**0.0008 LJ**	0.0039 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0039 UJ	0.0043 UJ	NA	0.0041 U	NA	0.0039 U	**0.01**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-001-12-51 5/21/2015	WO-017-002-00-51 5/20/2015	WO-017-002-00-51S 6/10/2015	WO-017-002-06-51 5/21/2015	WO-017-002-06-51S 6/8/2015	WO-017-002-12-51 5/21/2015	WO-017-002-24-51 5/21/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.00082 LJ**	**0.0039 LJ**	NA	**0.002 LJ**	NA	0.0039 U	0.0039 U
Anthracene	120-12-7	mg/kg	17000	--	0.0039 UJ	**0.004 LJ**	NA	**0.002 LJ**	NA	0.0039 U	0.0039 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0026 LJ**	**0.01 J**	NA	**0.0079**	NA	**0.0012 LJ**	**0.0023 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0021 LJ**	**0.008 J**	NA	**0.006**	NA	0.0039 U	**0.0017 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0041 J**	**0.019 J**	NA	**0.012**	NA	**0.0014 LJ**	**0.0032 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0017 LJ**	**0.0018 LJ**	NA	**0.0041**	NA	0.0039 U	**0.0015 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.001 LJ**	**0.0056 J**	NA	**0.0033 LJ**	NA	0.0039 U	**0.00097 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.0034 LJ**	**0.014 J**	NA	**0.01**	NA	**0.0012 LJ**	**0.0031 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0039 UJ	**0.0023 LJ**	NA	**0.0015 LJ**	NA	0.0039 U	0.0039 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0035 LJ**	**0.015 J**	NA	**0.0096**	NA	**0.0015 LJ**	**0.0031 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0039 UJ	0.0043 UJ	NA	0.0041 U	NA	0.0039 U	0.0039 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0026 LJ**	**0.01 J**	NA	**0.0069**	NA	0.0039 U	**0.0019 LJ**
Naphthalene	91-20-3	mg/kg	130	--	0.0039 UJ	0.0043 UJ	NA	**0.0012 LJ**	NA	**0.00085 LJ**	0.0039 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	**0.001 LJ**	NA	0.0079 U	**0.0034 LJ**
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0026 LJ**	**0.0044 J**	NA	**0.0031 LJ**	NA	**0.0011 LJ**	**0.0016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.0034 LJ**	**0.015 J**	NA	**0.012**	NA	**0.0015 LJ**	**0.0065**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
2-Butanone	78-93-3	mg/kg	27000	--	0.011 U	0.015 U	NA	**0.0075 LJ**	NA	0.0098 U	0.0088 U
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.015 U	NA	0.011 U	NA	0.0098 U	0.0088 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.015 U	NA	0.011 U	NA	0.0098 U	0.0088 U
Acetone	67-64-1	mg/kg	61000	--	0.011 U	0.015 U	NA	0.011 U	NA	0.0098 U	0.0088 U
Benzene	71-43-2	mg/kg	82	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Bromoform	75-25-2	mg/kg	1200	--	0.0053 U	0.0077 UR	NA	0.0055 U	NA	0.0049 U	0.0044 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-001-12-51 5/21/2015	WO-017-002-00-51 5/20/2015	WO-017-002-00-51S 6/10/2015	WO-017-002-06-51 5/21/2015	WO-017-002-06-51S 6/8/2015	WO-017-002-12-51 5/21/2015	WO-017-002-24-51 5/21/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Chloroform	67-66-3	mg/kg	32	--	**0.00046 LJ**	**0.00064 LJ**	NA	0.0055 U	NA	0.0049 U	0.0044 U
Chloromethane	74-87-3	mg/kg	110	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
o-Xylene	95-47-6	mg/kg	650	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Styrene	100-42-5	mg/kg	6000	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Toluene	108-88-3	mg/kg	4900	--	**0.00062 LJ**	**0.0016 LJ**	NA	0.0055 U	NA	**0.00016 LJ**	0.0044 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0053 U	0.0077 U	NA	0.0055 U	NA	0.0049 U	0.0044 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-00-51 5/20/2015	WO-017-003-00-51S 6/10/2015	WO-017-003-00-52 5/20/2015	WO-017-003-06-51 5/21/2015	WO-017-003-06-51S 6/10/2015	WO-017-003-12-51 5/21/2015	WO-017-003-12-52 5/21/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1340**	**2910**	**1510**	**1820**	**3560**	**1500**	**1450**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.81 UJ	0.6 U	0.5 U	0.78 UJ	**0.9**	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**0.9**	**1.8**	**1.3**	**1.8**	**1.8**	**1.5**	**0.9**
Barium	7440-39-3	mg/kg	15000	--	**34.8**	**62.8**	**37.1**	**32.2**	**59.6**	**22.6**	**21.9**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.4 U	0.6 U	0.5 U	0.39 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.4 U	0.6 U	0.5 U	0.39 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**971**	**1990**	**865**	**1110**	**1970**	**441**	**437**
Chromium	7440-47-3	mg/kg	NP	--	**2.9**	**8.5**	**4**	**5.5**	**8.2**	**3.4**	**2.4**
Cobalt	7440-48-4	mg/kg	23	--	**2.6**	**3.6**	**2.8**	**2.7**	**3.5**	**4.9**	**4.2**
Copper	7440-50-8	mg/kg	3100	--	**12.8**	**77.4**	**13.3**	**13.9**	**33.7**	**7.6**	**6.6**
Iron	7439-89-6	mg/kg	55000	--	**2920**	**6070**	**4690**	**5420**	**6510**	**3840**	**2810**
Lead	7439-92-1	mg/kg	400	--	**26.4**	**38.9**	**29.5**	**23.2**	**38.5**	**9.3**	**11.3**
Magnesium	7439-95-4	mg/kg	NP	--	**257**	**538**	**241**	**221**	**569**	**177**	**160**
Manganese	7439-96-5	mg/kg	1800	--	**170**	**235**	**184**	**128**	**250**	**165**	**147**
Mercury	7439-97-6	mg/kg	9.4	--	0.085 U	**0.047 LJ**	0.08 U	0.077 U	**0.052 LJ**	0.074 U	0.069 U
Nickel	7440-02-0	mg/kg	1500	--	2.3 U	**5.3**	2.2 U	**2.3**	**5.2**	2.1 U	2.1 U
Potassium	7440-09-7	mg/kg	NP	--	**330**	**642**	**348**	**279**	**682**	**244**	**226**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	**0.24 LJ**	1.1 U	1.1 U	**0.27 LJ**	1 U	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.4 U	1.1 U	1.1 U	0.39 U	1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	56.5 U	390 U	55.5 U	53.5 U	498 U	51.3 U	52.4 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.4 U	0.6 U	0.5 U	0.39 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**4.1**	**12.4**	**5.3**	**7**	**11.8**	**5.4**	**3.4**
Zinc	7440-66-6	mg/kg	23000	--	**70.9**	**127**	**79.5**	**64.9**	**110 J**	**40.7**	**35.8**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.042 U	NA	0.042 U	0.042 U	NA	0.038 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0012 LJ**	NA	**0.0011 LJ**	**0.00091 LJ**	NA	**0.00083 LJ**	**0.00019 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0052**	NA	**0.0033 LJ**	**0.0029 LJ**	NA	**0.0025 LJ**	**0.0029 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0038 LJ**	NA	**0.0068**	**0.0021 LJ**	NA	**0.0012 LJ**	**0.0032 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.0022 U	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.0002 LJ**	NA	**0.00011 LJ**	0.0022 U	NA	0.0019 U	0.0019 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-00-51 5/20/2015	WO-017-003-00-51S 6/10/2015	WO-017-003-00-52 5/20/2015	WO-017-003-06-51 5/21/2015	WO-017-003-06-51S 6/10/2015	WO-017-003-12-51 5/21/2015	WO-017-003-12-52 5/21/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0022 U	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0022 U	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0022 U	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0042 U	NA	0.0042 U	0.0042 U	NA	0.0038 U	0.0037 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0022 U	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.0011 LJ**	NA	**0.00027 LJ**	0.0042 U	NA	0.0038 U	0.0037 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.000087 LJ**	NA	**0.00008 LJ**	**0.00014 LJ**	NA	0.0038 U	0.0037 U
Endrin	72-20-8	mg/kg	18	--	0.0042 U	NA	**0.00059 LJ**	0.0042 U	NA	0.0038 U	0.0037 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0042 U	NA	0.0042 U	0.0042 U	NA	0.0038 U	0.0037 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00032 LJ**	NA	**0.0004 LJ**	0.0042 U	NA	0.0038 U	0.0037 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.002 LJ**	NA	**0.0013 LJ**	**0.000019 LJ**	NA	0.0019 U	**0.000064 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00066 LJ**	NA	**0.0008 LJ**	0.0022 U	NA	0.0019 U	0.0019 U
Heptachlor	76-44-8	mg/kg	12	--	0.0022 U	NA	**0.00029 LJ**	0.0022 U	NA	0.0019 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.00035 LJ**	NA	0.0021 U	0.0022 U	NA	0.0019 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.001 LJ**	NA	**0.00097 LJ**	**0.00027 LJ**	NA	**0.00091 LJ**	**0.00058 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.22 U	NA	0.21 U	0.22 U	NA	0.19 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.15 UJv	NA	0.14 UJv	0.11 UJv	NA	0.12 UJv	0.11 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.42 U	NA	0.42 U	0.42 U	NA	0.37 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.42 U	NA	0.42 U	0.42 U	NA	0.37 U	0.37 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-00-51 5/20/2015	WO-017-003-00-51S 6/10/2015	WO-017-003-00-52 5/20/2015	WO-017-003-06-51 5/21/2015	WO-017-003-06-51S 6/10/2015	WO-017-003-12-51 5/21/2015	WO-017-003-12-52 5/21/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.22 UR	NA	0.22 UR	0.22 U	NA	0.19 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.42 U	NA	0.42 U	0.42 UJ	NA	0.37 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.42 U	NA	0.42 U	0.42 U	NA	0.37 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.22 UR	NA	0.22 UR	0.22 U	NA	0.19 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.22 U	NA	**0.039 LJ**	0.22 U	NA	0.19 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.42 U	NA	0.42 U	0.42 U	NA	0.37 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.42 U	NA	0.42 U	0.42 U	NA	0.37 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.025 LJ**	NA	**0.18 LJ**	**0.022 LJ**	NA	**0.032 LJ**	**0.026 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.22 UR	NA	0.22 UR	0.22 UJ	NA	0.19 U	0.19 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.42 U	NA	0.42 U	0.42 U	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.22 U	NA	0.22 U	0.22 U	NA	0.19 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0042 UJ	NA	**0.0012 LJ**	0.0042 UJ	NA	**0.00084 LJ**	0.0037 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0042 UJ	NA	0.0042 UJ	0.0042 UJ	NA	0.0037 U	**0.0014 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-00-51 5/20/2015	WO-017-003-00-51S 6/10/2015	WO-017-003-00-52 5/20/2015	WO-017-003-06-51 5/21/2015	WO-017-003-06-51S 6/10/2015	WO-017-003-12-51 5/21/2015	WO-017-003-12-52 5/21/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0023 LJ**	NA	**0.0022 LJ**	**0.0017 LJ**	NA	**0.0012 LJ**	**0.0013 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.0027 LJ**	NA	**0.0029 LJ**	**0.0027 LJ**	NA	**0.0017 LJ**	**0.0012 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.009 J**	NA	**0.0095 J**	**0.0094 J**	NA	**0.0091**	**0.0052**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0083 J**	NA	**0.0085 J**	**0.0073 J**	NA	**0.0061**	**0.0046**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.015 J**	NA	**0.017 J**	**0.013 J**	NA	**0.0092**	**0.0097**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0021 LJ**	NA	**0.0019 LJ**	**0.0065 J**	NA	**0.0051**	**0.0027 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0043 J**	NA	**0.0045 J**	**0.0033 LJ**	NA	**0.0022 LJ**	**0.0024 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.011 J**	NA	**0.012 J**	**0.012 J**	NA	**0.016**	**0.0064**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0021 LJ**	NA	**0.0022 LJ**	**0.0019 LJ**	NA	**0.0017 LJ**	**0.0011 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.01 J**	NA	**0.011 J**	**0.012 J**	NA	**0.0064**	**0.0042**
Fluorene	86-73-7	mg/kg	2300	--	0.0042 UJ	NA	0.0042 UJ	0.0042 UJ	NA	0.0037 U	0.0037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0082 J**	NA	**0.0084 J**	**0.0078 J**	NA	**0.0055**	**0.0047**
Naphthalene	91-20-3	mg/kg	130	--	0.0042 UJ	NA	**0.0012 LJ**	0.0042 UJ	NA	0.0037 U	0.0037 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	0.0076 U	0.0075 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0029 LJ**	NA	**0.0038 LJ**	**0.0092 J**	NA	**0.01**	**0.0016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.012 J**	NA	**0.012 J**	**0.014 J**	NA	**0.014**	**0.006**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
2-Butanone	78-93-3	mg/kg	27000	--	0.015 U	NA	**0.0059 LJ**	**0.014**	NA	0.012 U	0.011 U
2-Hexanone	591-78-6	mg/kg	200	--	0.015 U	NA	0.014 U	0.011 U	NA	0.012 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.015 U	NA	0.014 U	0.011 U	NA	0.012 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	**0.012 LJ**	NA	**0.024**	**0.032**	NA	0.012 U	0.011 U
Benzene	71-43-2	mg/kg	82	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Bromoform	75-25-2	mg/kg	1200	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-00-51 5/20/2015	WO-017-003-00-51S 6/10/2015	WO-017-003-00-52 5/20/2015	WO-017-003-06-51 5/21/2015	WO-017-003-06-51S 6/10/2015	WO-017-003-12-51 5/21/2015	WO-017-003-12-52 5/21/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Chloroform	67-66-3	mg/kg	32	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Chloromethane	74-87-3	mg/kg	110	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Methylene chloride	75-09-2	mg/kg	350	--	**0.0005 LJ**	NA	**0.00059 LJ**	0.0056 U	NA	0.0058 U	0.0056 U
o-Xylene	95-47-6	mg/kg	650	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Styrene	100-42-5	mg/kg	6000	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Toluene	108-88-3	mg/kg	4900	--	**0.0023 LJ**	NA	**0.00093 LJ**	**0.00042 LJ**	NA	**0.00047 LJ**	**0.00041 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0075 U	NA	0.0068 U	0.0056 U	NA	0.0058 U	0.0056 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0075 U	NA	0.0068 UJv	0.0056 U	NA	0.0058 U	0.0056 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-24-51 5/21/2015	WO-017-004-00-51 5/20/2015	WO-017-004-00-51S 6/9/2015	WO-017-004-06-51 5/21/2015	WO-017-004-06-51S 6/10/2015	WO-017-004-12-51 5/21/2015	WO-017-004-24-51 5/21/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**5090**	**1270**	**2930**	**1770**	**3100**	**2400**	**2690**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.6 U	0.94 UJ	0.5 UJ, U	0.95 UJ	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**1.5**	**0.8**	**1.4**	**1.4**	**1.4**	**2.6**	**1.2**
Barium	7440-39-3	mg/kg	15000	--	**29**	**32.2**	**60.4**	**26.2**	**49.9**	**30.8**	**19.9**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.6 U	0.47 U	0.5 U	0.47 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	**0.9**	0.47 U	0.5 U	0.47 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**716**	**914**	**1980**	**1310**	**1510**	**7710**	**487**
Chromium	7440-47-3	mg/kg	NP	--	**6.5**	**3.4**	**7.5**	**3.7**	**6.6**	**3.8**	**2.9**
Cobalt	7440-48-4	mg/kg	23	--	**2.8**	2.2 U	**2.2**	2.1 U	**2**	**2.8**	**3**
Copper	7440-50-8	mg/kg	3100	--	**10.1**	**6.9**	**108**	**7.8**	**18.3**	**3.7**	**2.5**
Iron	7439-89-6	mg/kg	55000	--	**5320**	**4570**	**5340**	**4520**	**4930**	**3450**	**4050**
Lead	7439-92-1	mg/kg	400	--	**10**	**20.3**	**46.9**	**22.7**	**39.1**	**9.4**	**6**
Magnesium	7439-95-4	mg/kg	NP	--	**480**	**237**	**601**	**309**	**523**	**285**	**242**
Manganese	7439-96-5	mg/kg	1800	--	**88.1**	**109**	**176**	**94 J**	**139**	**136**	**70.5**
Mercury	7439-97-6	mg/kg	9.4	--	0.074 U	0.073 U	**0.093 LJ**	0.079 U	**0.07 LJ**	0.07 U	0.07 U
Nickel	7440-02-0	mg/kg	1500	--	**3.9**	**2.7**	**5.3**	**3**	**4.3**	**3.1**	2.1 U
Potassium	7440-09-7	mg/kg	NP	--	**619**	**287**	**553**	**327**	**497**	**322**	**325**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.1 U	2.4 U	1.1 U	2.4 U	1 U	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	1.1 U	0.47 U	1.1 U	0.47 U	1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	**195**	55.4 U	410 U	53.6 U	371 U	52.2 U	52.3 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.6 U	0.47 U	0.5 U	0.47 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**9.4**	**4.5**	**10.3**	**4.4**	**9.7**	**8.1**	**5.4**
Zinc	7440-66-6	mg/kg	23000	--	**29.9**	**78.2**	**153**	**57.4**	**100 J**	**33.2**	**24.4**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.039 U	0.04 U	NA	**0.1**	NA	0.037 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.039 U	0.04 U	NA	0.039 U	NA	0.037 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00045 LJ**	**0.0054 J**	NA	**0.0085 J**	NA	**0.0054**	**0.00075 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0025 LJ**	**0.0021 LJ**	NA	**0.0039 J**	NA	**0.0016 LJ**	**0.00013 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0013 LJ**	**0.0051**	NA	**0.01 J**	NA	**0.0016 LJ**	**0.0013 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.002 U	NA	0.002 U	NA	0.0019 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.002 U	NA	**0.000058 LJ**	NA	**0.000044 LJ**	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-24-51 5/21/2015	WO-017-004-00-51 5/20/2015	WO-017-004-00-51S 6/9/2015	WO-017-004-06-51 5/21/2015	WO-017-004-06-51S 6/10/2015	WO-017-004-12-51 5/21/2015	WO-017-004-24-51 5/21/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	**0.0025 J**	NA	**0.0095 J**	NA	**0.0088 J**	**0.000077 LJ**
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	**0.0017 LJ**	NA	0.002 U	NA	0.0019 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	**0.0022**	NA	0.002 U	NA	0.0019 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0039 U	0.004 U	NA	0.0039 U	NA	0.0037 U	0.0037 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.002 U	NA	0.002 U	NA	0.0019 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0039 U	**0.0013 LJ**	NA	0.0039 U	NA	0.0037 U	0.0037 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0039 U	0.004 U	NA	**0.00019 LJ**	NA	**0.0003 LJ**	0.0037 U
Endrin	72-20-8	mg/kg	18	--	0.0039 U	**0.0014 LJ**	NA	**0.00096 LJ**	NA	**0.0016 LJ**	0.0037 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0039 U	0.004 U	NA	0.0039 U	NA	0.0037 U	0.0037 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0039 U	**0.0012 LJ**	NA	0.0039 U	NA	0.0037 U	0.0037 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	**0.0015 LJ**	NA	**0.00027 LJ**	NA	**0.00011 LJ**	0.0019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.002 U	**0.0035 J**	NA	**0.016 J**	NA	**0.013 J**	0.0019 U
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	**0.00086 LJ**	NA	**0.0031**	NA	0.0019 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	**0.0017 LJ**	NA	**0.008**	NA	**0.0099**	**0.0011 LJ**
Methoxychlor	72-43-5	mg/kg	310	--	0.02 U	**0.00088 LJ**	NA	0.02 U	NA	0.019 U	0.019 U
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.2 U	NA	0.2 U	NA	0.19 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 UJv	0.11 UJv	NA	0.12 UJv	NA	0.087 UJv	0.094 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.39 U	1.2 U	NA	0.38 U	NA	0.37 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.39 U	1.2 U	NA	0.38 U	NA	0.37 U	0.37 U

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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-24-51 5/21/2015	WO-017-004-00-51 5/20/2015	WO-017-004-00-51S 6/9/2015	WO-017-004-06-51 5/21/2015	WO-017-004-06-51S 6/10/2015	WO-017-004-12-51 5/21/2015	WO-017-004-24-51 5/21/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.39 U	1.2 U	NA	0.38 UJ	NA	0.37 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.39 U	1.2 U	NA	0.38 U	NA	0.37 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.39 U	1.2 U	NA	0.38 U	NA	0.37 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.39 U	1.2 U	NA	0.38 U	NA	0.37 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 U	**0.068 LJ**	NA	**0.034 LJ**	NA	0.19 U	0.19 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 U	0.61 UJ	NA	0.2 UJ	NA	0.19 U	0.19 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	1.2 U	NA	0.38 U	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.61 U	NA	0.2 U	NA	0.19 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0039 U	0.012 UJ	NA	**0.001 LJ**	NA	0.0037 U	0.0037 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0039 U	0.012 UJ	NA	**0.00096 LJ**	NA	0.0037 U	0.0037 U

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Wilcox Oil
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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-24-51 5/21/2015	WO-017-004-00-51 5/20/2015	WO-017-004-00-51S 6/9/2015	WO-017-004-06-51 5/21/2015	WO-017-004-06-51S 6/10/2015	WO-017-004-12-51 5/21/2015	WO-017-004-24-51 5/21/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0039 U	**0.012 J**	NA	**0.0035 LJ**	NA	**0.0012 LJ**	0.0037 U
Anthracene	120-12-7	mg/kg	17000	--	0.0039 U	**0.014 J**	NA	**0.005 J**	NA	**0.0013 LJ**	0.0037 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0039**	**0.027 J**	NA	**0.011 J**	NA	**0.0038**	**0.0011 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0034 LJ**	**0.02 J**	NA	**0.009 J**	NA	**0.0029 LJ**	**0.00091 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0054**	**0.065 J**	NA	**0.023 J**	NA	**0.0076**	**0.0016 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0017 LJ**	**0.0046 LJ**	NA	**0.0021 LJ**	NA	0.0037 U	0.0037 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0013 LJ**	**0.015 J**	NA	**0.0055 J**	NA	**0.0023 LJ**	0.0037 U
Chrysene	218-01-9	mg/kg	1500	--	**0.005**	**0.042 J**	NA	**0.016 J**	NA	**0.0056**	**0.0012 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0039 U	**0.0062 LJ**	NA	**0.0032 LJ**	NA	**0.001 LJ**	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.004**	**0.04 J**	NA	**0.011 J**	NA	**0.0031 LJ**	**0.0012 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0039 U	0.012 UJ	NA	0.0038 UJ	NA	0.0037 U	0.0037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0027 LJ**	**0.028 J**	NA	**0.014 J**	NA	**0.0047**	**0.00094 LJ**
Naphthalene	91-20-3	mg/kg	130	--	0.0039 U	0.012 UJ	NA	0.0038 UJ	NA	0.0037 U	0.0037 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0078 U	NA	NA	NA	NA	0.0075 U	0.0076 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0013 LJ**	**0.012 J**	NA	**0.0045 J**	NA	**0.0012 LJ**	0.0037 U
Pyrene	129-00-0	mg/kg	1700	--	**0.0045**	**0.035 J**	NA	**0.012 J**	NA	**0.0049**	**0.0012 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.015**	0.011 U	NA	0.012 U	NA	0.0087 U	**0.023**
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.011 U	NA	0.012 U	NA	0.0087 U	0.0094 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.011 U	NA	0.012 U	NA	0.0087 U	0.0094 U
Acetone	67-64-1	mg/kg	61000	--	0.011 UM	**0.011**	NA	0.012 UM	NA	0.0087 U	**0.049**
Benzene	71-43-2	mg/kg	82	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Bromoform	75-25-2	mg/kg	1200	--	0.0057 U	0.0053 U	NA	0.0058 UR	NA	0.0043 U	0.0047 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-003-24-51 5/21/2015	WO-017-004-00-51 5/20/2015	WO-017-004-00-51S 6/9/2015	WO-017-004-06-51 5/21/2015	WO-017-004-06-51S 6/10/2015	WO-017-004-12-51 5/21/2015	WO-017-004-24-51 5/21/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Chloroform	67-66-3	mg/kg	32	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	**0.00044 LJ**	**0.00044 LJ**
Chloromethane	74-87-3	mg/kg	110	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0057 U	**0.00042 LJ**	NA	0.0058 U	NA	0.0043 U	0.0047 U
o-Xylene	95-47-6	mg/kg	650	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Styrene	100-42-5	mg/kg	6000	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Toluene	108-88-3	mg/kg	4900	--	**0.00084 LJ**	**0.00052 LJ**	NA	**0.0023 LJ**	NA	**0.0007 LJ**	**0.002 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0057 U	0.0053 U	NA	0.0058 U	NA	0.0043 U	0.0047 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-005-00-51 5/20/2015	WO-017-005-00-51S 6/11/2015	WO-017-005-06-51 5/20/2015	WO-017-005-06-51S 6/10/2015	WO-017-005-12-51 5/20/2015	WO-017-005-24-51 5/20/2015	WO-017-006-00-51 5/20/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1580**	**2810**	**1640**	**3460**	**1250**	**5650**	**1430**
Antimony	7440-36-0	mg/kg	31	--	0.6 UJ	0.91 UJ	0.5 U	0.94 UJ	0.5 U	0.6 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**1.5**	**3**	**1.5**	**3.4**	**0.8**	**2**	**1**
Barium	7440-39-3	mg/kg	15000	--	**27.4**	**43.3**	**25.2**	**45.6**	**18**	**21.8**	**19.6**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.45 U	0.5 U	0.47 U	0.5 U	0.6 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.45 U	0.5 U	0.47 U	0.5 U	0.6 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**918**	**6540**	**774**	**6610**	**431**	**540**	**1360**
Chromium	7440-47-3	mg/kg	NP	--	**3.1**	**7.3**	**4.5**	**8.4**	**2.4**	**7.6**	**4.5**
Cobalt	7440-48-4	mg/kg	23	--	2.3 U	**2.6**	2.2 U	**3.2**	2.1 U	2.2 U	2.2 U
Copper	7440-50-8	mg/kg	3100	--	**6.3**	**41.1**	**5.4**	**24.9**	**3.1**	**7.1**	**4.3**
Iron	7439-89-6	mg/kg	55000	--	**3220**	**6500**	**3630**	**7310**	**2280**	**8660**	**2700**
Lead	7439-92-1	mg/kg	400	--	**18.9**	**24.2**	**15.8**	**27**	**8.1**	**3.7**	**12**
Magnesium	7439-95-4	mg/kg	NP	--	**286**	**3030**	**252**	**3260**	**165**	**374**	**613**
Manganese	7439-96-5	mg/kg	1800	--	**161 J**	**289**	**147**	**309**	**106**	**36.5**	**102**
Mercury	7439-97-6	mg/kg	9.4	--	0.077 U	**0.032 LJ**	0.078 U	**0.039 LJ**	0.077 U	0.078 U	0.082 U
Nickel	7440-02-0	mg/kg	1500	--	2.3 U	**4.5**	2.2 U	**5.1**	2.1 U	**2.6**	2.2 U
Potassium	7440-09-7	mg/kg	NP	--	**326**	**579**	**295**	**572**	**204**	**477**	**330**
Selenium	7782-49-2	mg/kg	390	--	1.1 UJ, U	2.3 U	1.1 U	2.3 U	1.1 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.45 U	1.1 U	0.47 U	1.1 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	57 U	408 U	54.9 U	374 U	52.6 U	55.6 U	54.3 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.45 U	0.5 U	0.47 U	0.5 U	0.6 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**4.8**	**11.2**	**6.2**	**13.2**	**4**	**14.4**	**4.6**
Zinc	7440-66-6	mg/kg	23000	--	**55.2**	**65 J**	**41.8**	**68.3**	**19.3**	**7.1**	**31**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.04 U	NA	0.038 U	NA	0.038 U	0.038 U	0.04 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00085 LJ**	NA	**0.00075 LJ**	NA	**0.00023 LJ**	0.0038 U	**0.00063 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0013 LJ**	NA	**0.00068 LJ**	NA	**0.00018 LJ**	**0.00079 LJ**	**0.000079 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0017 LJ**	NA	**0.00099 LJ**	NA	**0.00033 LJ**	**0.000071 LJ**	**0.00028 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	NA	0.002 U	NA	0.002 U	0.002 U	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.00021 LJ**	NA	**0.00033 LJ**	NA	**0.000043 LJ**	**0.000019 LJ**	**0.00036 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-005-00-51 5/20/2015	WO-017-005-00-51S 6/11/2015	WO-017-005-06-51 5/20/2015	WO-017-005-06-51S 6/10/2015	WO-017-005-12-51 5/20/2015	WO-017-005-24-51 5/20/2015	WO-017-006-00-51 5/20/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	NA	0.002 U	NA	0.002 U	0.002 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
beta-BHC	319-85-7	mg/kg	30	--	**0.00052 LJ**	NA	**0.0017 LJ**	NA	**0.00077 LJ**	0.002 U	**0.00059 LJ**
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	NA	0.002 U	NA	0.002 U	0.002 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.004 U	NA	0.0038 U	NA	0.0038 U	**0.00026 LJ**	0.004 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	NA	0.002 U	NA	0.002 U	0.002 U	**0.00012 LJ**
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00066 LJ**	NA	**0.00078 LJ**	NA	**0.000029 LJ**	**0.000053 LJ**	**0.00086 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00014 LJ**	NA	0.0038 U	NA	0.0038 U	**0.00052 LJ**	**0.00099 LJ**
Endrin	72-20-8	mg/kg	18	--	0.004 U	NA	**0.00098 LJ**	NA	**0.00077 LJ**	0.0038 U	0.004 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.004 U	NA	0.0038 U	NA	0.0038 U	0.0038 U	0.004 U
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00035 LJ**	NA	**0.00027 LJ**	NA	**0.00018 LJ**	0.0038 U	**0.00014 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00084 LJ**	NA	**0.00049 LJ**	NA	**0.00015 LJ**	0.002 U	**0.00038 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00015 LJ**	NA	**0.00033 LJ**	NA	**0.0002 LJ**	**0.00015 LJ**	**0.00039 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	NA	**0.0002 LJ**	NA	0.002 U	0.002 U	**0.000085 LJ**
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	NA	0.002 U	NA	0.002 U	0.002 U	**0.00041 LJ**
Methoxychlor	72-43-5	mg/kg	310	--	**0.0014 LJ**	NA	0.02 U	NA	0.02 U	0.02 U	**0.00065 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 UJv	NA	0.11 UJv	NA	0.11 UJv	0.11 UJv	0.094 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-005-00-51 5/20/2015	WO-017-005-00-51S 6/11/2015	WO-017-005-06-51 5/20/2015	WO-017-005-06-51S 6/10/2015	WO-017-005-12-51 5/20/2015	WO-017-005-24-51 5/20/2015	WO-017-006-00-51 5/20/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UR	NA	0.2 UR	NA	0.2 UR	0.2 U	0.81 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UR	NA	0.2 UR	NA	0.2 UR	0.2 U	0.81 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 U	NA	0.38 U	NA	0.38 U	0.39 U	1.6 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.046 LJ**	NA	**0.028 LJ**	NA	0.2 U	0.2 U	**0.21 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	**0.064 LJ**
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UR	NA	0.2 UR	NA	0.2 UR	0.2 U	0.81 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	0.38 U	NA	NA	NA	1.6 U
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	NA	0.2 U	NA	0.2 U	0.2 U	0.81 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0079 UJ	NA	0.015 UJ	NA	0.0038 UJ	**0.0018 LJ**	0.016 UJ
Acenaphthene	83-32-9	mg/kg	3500	--	0.0079 UJ	NA	0.015 UJ	NA	0.0038 UJ	0.0039 U	0.016 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-005-00-51 5/20/2015	WO-017-005-00-51S 6/11/2015	WO-017-005-06-51 5/20/2015	WO-017-005-06-51S 6/10/2015	WO-017-005-12-51 5/20/2015	WO-017-005-24-51 5/20/2015	WO-017-006-00-51 5/20/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0061 LJ**	NA	**0.0069 LJ**	NA	**0.0043 J**	0.0039 U	0.016 UJ
Anthracene	120-12-7	mg/kg	17000	--	**0.0078 LJ**	NA	**0.0077 LJ**	NA	**0.0035 LJ**	0.0039 U	0.016 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.027 J**	NA	**0.054 J**	NA	**0.019 J**	0.0039 U	**0.0077 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.019 J**	NA	**0.037 J**	NA	**0.012 J**	0.0039 U	**0.0067 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.048 J**	NA	**0.07 J**	NA	**0.025 J**	0.0039 U	**0.017 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0057 LJ**	NA	**0.0085 LJ**	NA	**0.0019 LJ**	0.0039 U	0.016 UJ
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.014 J**	NA	**0.022 J**	NA	**0.0079 J**	0.0039 U	**0.0041 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.035 J**	NA	**0.057 J**	NA	**0.021 J**	0.0039 U	**0.013 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0067 LJ**	NA	**0.0086 LJ**	NA	**0.0033 LJ**	0.0039 U	0.016 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	**0.024 J**	NA	**0.071 J**	NA	**0.02 J**	0.0039 U	**0.01 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0079 UJ	NA	0.015 UJ	NA	0.0038 UJ	0.0039 U	0.016 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.027 J**	NA	**0.034 J**	NA	**0.013 J**	0.0039 U	**0.0079 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.0023 LJ**	NA	0.015 UJ	NA	0.0038 UJ	**0.0018 LJ**	0.016 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	**0.0025 LJ**	NA	NA	NA	**0.00098 LJ**	0.0079 U	NA
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0054 LJ**	NA	**0.013 LJ**	NA	**0.0032 LJ**	0.0039 U	0.016 UJ
Pyrene	129-00-0	mg/kg	1700	--	**0.025 J**	NA	**0.065 J**	NA	**0.021 J**	0.0039 U	**0.015 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
2-Butanone	78-93-3	mg/kg	27000	--	0.01 U	NA	0.011 U	NA	0.011 U	0.011 U	**0.0086 LJ**
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	NA	0.011 U	NA	0.011 U	0.011 U	0.0094 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	NA	0.011 U	NA	0.011 U	0.011 U	0.0094 U
Acetone	67-64-1	mg/kg	61000	--	0.01 U	NA	0.011 U	NA	**0.0053 LJ**	**0.0036 LJ**	**0.012**
Benzene	71-43-2	mg/kg	82	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Bromoform	75-25-2	mg/kg	1200	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-005-00-51 5/20/2015	WO-017-005-00-51S 6/11/2015	WO-017-005-06-51 5/20/2015	WO-017-005-06-51S 6/10/2015	WO-017-005-12-51 5/20/2015	WO-017-005-24-51 5/20/2015	WO-017-006-00-51 5/20/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Chloroform	67-66-3	mg/kg	32	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Chloromethane	74-87-3	mg/kg	110	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0052 U	NA	**0.00024 LJ**	NA	**0.00043 LJ**	0.0056 U	**0.00028 LJ**
o-Xylene	95-47-6	mg/kg	650	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Styrene	100-42-5	mg/kg	6000	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Toluene	108-88-3	mg/kg	4900	--	**0.0016 LJ**	NA	**0.0006 LJ**	NA	**0.00093 LJ**	**0.0008 LJ**	**0.0011 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0052 U	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0052 UJv	NA	0.0054 U	NA	0.0057 U	0.0056 U	0.0047 UJv

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-006-00-51S 6/11/2015	WO-017-006-06-51 5/20/2015	WO-017-006-06-51S 6/10/2015	WO-017-006-12-51 5/20/2015	WO-019-001-00-51 6/3/2015	WO-019-001-00-52 6/3/2015	WO-019-001-06-51 6/3/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2860**	**3140**	**2830**	**3070**	**2740**	**2110**	**3800**
Antimony	7440-36-0	mg/kg	31	--	0.77 UJ	0.5 U	0.89 UJ	0.5 U	0.86 UJ	1 UJ	0.79 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.2**	**1.9**	**1.3**	**2.2**	**1.2**	**1.1**	**1.3**
Barium	7440-39-3	mg/kg	15000	--	**28.9**	**18.7**	**31.7**	**23.3**	**31.9**	**40**	**39.6**
Beryllium	7440-41-7	mg/kg	160	--	0.39 U	0.5 U	0.45 U	0.5 U	0.43 U	0.51 U	0.39 U
Cadmium	7440-43-9	mg/kg	70	--	0.39 U	0.5 U	0.45 U	0.5 U	0.43 U	0.51 U	0.39 U
Calcium	7440-70-2	mg/kg	NP	--	**851**	**746**	**768**	**671**	494 U	**558**	**503**
Chromium	7440-47-3	mg/kg	NP	--	**5.9**	**4.5**	**6**	**4.8**	**6.3**	**5.8**	**9.3**
Cobalt	7440-48-4	mg/kg	23	--	**1.9**	**2.3**	**2.2**	**4.6**	**1.8**	**1.4**	**1.7**
Copper	7440-50-8	mg/kg	3100	--	**14**	**3.8**	**27.6**	**5.8**	**2.2**	**2**	**2.3**
Iron	7439-89-6	mg/kg	55000	--	**4390**	**5940**	**4480**	**7940**	**4170**	**3570**	**4710**
Lead	7439-92-1	mg/kg	400	--	**20.3**	**6.9**	**19.2**	**7.4**	**9.6**	**9.2**	**5.2**
Magnesium	7439-95-4	mg/kg	NP	--	**425**	**338**	**382**	**291**	494 U	494 U	432 U
Manganese	7439-96-5	mg/kg	1800	--	**135**	**76.8**	**151**	**190**	**107**	**97.9**	**85.2**
Mercury	7439-97-6	mg/kg	9.4	--	**0.042 LJ**	0.08 U	**0.057 LJ**	0.079 U	**0.016 LJ**	**0.013 LJ**	**0.012 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**3.2**	**2.3**	**3.6**	**2.4**	**3**	**2.6**	**4.4**
Potassium	7440-09-7	mg/kg	NP	--	**457**	**388**	**403**	**332**	494 U	494 U	432 U
Selenium	7782-49-2	mg/kg	390	--	1.9 U	1.1 U	2.2 U	1.1 U	2.2 U	2.6 U	**0.31 LJ**
Silver	7440-22-4	mg/kg	390	--	0.39 U	1.1 U	0.45 U	1.1 U	0.43 U	0.51 U	0.39 U
Sodium	7440-23-5	mg/kg	NP	--	350 U	53.5 U	343 U	53.7 U	494 U	494 U	432 U
Thallium	7440-28-0	mg/kg	0.78	--	0.39 U	0.5 U	0.45 U	0.5 U	0.43 U	0.51 U	0.39 U
Vanadium	7440-62-2	mg/kg	390	--	**8.4**	**9.3**	**9.8**	**11.7**	**10.4**	**9.5**	**15.3**
Zinc	7440-66-6	mg/kg	23000	--	**51.2 J**	**12.2**	**49.5**	**14.7**	**18.4**	**16.5**	**13.9**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1221	11104-28-2	mg/kg	15	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1232	11141-16-5	mg/kg	15	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1242	53469-21-9	mg/kg	24	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1248	12672-29-6	mg/kg	24	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1260	11096-82-5	mg/kg	24	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	0.038 U	NA	0.037 U	0.042 U	0.042 U	0.04 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	NA	**0.00029 LJ**	NA	0.0037 U	**0.00026 LJ**	**0.00027 LJ**	**0.00039 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	NA	**0.00014 LJ**	NA	**0.00012 LJ**	0.0042 U	0.0042 U	0.004 U
4,4'-DDT	50-29-3	mg/kg	36	--	NA	**0.0011 LJ**	NA	**0.00015 LJ**	0.0042 U	**0.00059 LJ**	**0.00017 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Aldrin	309-00-2	mg/kg	1.8	--	NA	0.002 U	NA	0.0019 U	**0.00081 LJ**	0.0022 U	0.0021 U
alpha-BHC	319-84-6	mg/kg	8.5	--	NA	**0.00037 LJ**	NA	**0.000025 LJ**	0.0022 U	0.0022 U	0.0021 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-006-00-51S 6/11/2015	WO-017-006-06-51 5/20/2015	WO-017-006-06-51S 6/10/2015	WO-017-006-12-51 5/20/2015	WO-019-001-00-51 6/3/2015	WO-019-001-00-52 6/3/2015	WO-019-001-06-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	NA	0.002 U	NA	0.0019 U	0.0022 U	0.0022 U	0.0021 U
Atrazine	1912-24-9	mg/kg	230	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
beta-BHC	319-85-7	mg/kg	30	--	NA	**0.00049 LJ**	NA	**0.00053 LJ**	0.0022 U	0.0022 U	0.0021 U
Caprolactam	105-60-2	mg/kg	31000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Carbazole	86-74-8	mg/kg	NP	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
delta-BHC	319-86-8	mg/kg	NP	--	NA	0.002 U	NA	0.0019 U	0.0022 U	0.0022 U	0.0021 U
Dieldrin	60-57-1	mg/kg	3.1	--	NA	0.0038 U	NA	0.0037 U	**0.00026 LJ**	**0.00027 LJ**	**0.00029 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	NA	0.002 U	NA	0.0019 U	0.0022 U	0.0022 U	0.0021 U
Endosulfan II	33213-65-9	mg/kg	NP	--	NA	**0.00027 LJ**	NA	**0.000015 LJ**	**0.000021 LJ**	0.0042 U	0.004 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	NA	0.0038 U	NA	0.0037 U	0.0042 U	0.0042 U	0.004 U
Endrin	72-20-8	mg/kg	18	--	NA	**0.00053 LJ**	NA	**0.00057 LJ**	0.0042 U	**0.00035 LJ**	**0.00083 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	NA	0.0038 U	NA	0.0037 U	**0.00066 LJ**	**0.001 LJ**	**0.00028 LJ**
Endrin ketone	53494-70-5	mg/kg	NP	--	NA	**0.00026 LJ**	NA	**0.00021 LJ**	0.0042 U	0.0042 U	0.004 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	NA	**0.00073 LJ**	NA	**0.00015 LJ**	**0.00023 LJ**	**0.00022 LJ**	**0.00025 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	NA	**0.00017 LJ**	NA	0.0019 U	**0.00017 LJ**	**0.00023 LJ**	**0.00017 LJ**
Heptachlor	76-44-8	mg/kg	12	--	NA	**0.00068 LJ**	NA	0.0019 U	0.0022 U	0.0022 U	0.0021 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	NA	0.002 U	NA	0.0019 U	0.0022 U	0.0022 U	0.0021 U
Methoxychlor	72-43-5	mg/kg	310	--	NA	**0.00087 LJ**	NA	**0.0013 LJ**	**0.00066 LJ**	**0.0023 LJ**	0.021 U
Toxaphene	8001-35-2	mg/kg	48	--	NA	0.2 U	NA	0.19 U	0.22 U	0.22 U	0.21 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	0.094 UJv	NA	0.091 UJv	0.17 U	0.14 U	0.1 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UR
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	NA	0.38 U	NA	0.37 U	0.42 UJ	0.42 UJ	0.4 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UR
2-Nitroaniline	88-74-4	mg/kg	610	--	NA	0.38 U	NA	0.37 U	0.42 UJ	0.42 UJ	0.4 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-006-00-51S 6/11/2015	WO-017-006-06-51 5/20/2015	WO-017-006-06-51S 6/10/2015	WO-017-006-12-51 5/20/2015	WO-019-001-00-51 6/3/2015	WO-019-001-00-52 6/3/2015	WO-019-001-06-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	NA	0.38 U	NA	0.37 U	0.42 UJ	0.42 UJ	0.4 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	NA	0.38 U	NA	0.37 U	0.42 UJ	0.42 UJ	0.4 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	NA	0.2 U	NA	0.19 U	**0.08 LJ**	0.22 UJ	0.21 UR
4-Nitroaniline	100-01-6	mg/kg	250	--	NA	0.38 U	NA	0.37 U	0.42 UJ	**0.052 LJ**	0.4 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	NA	0.38 U	NA	0.37 U	0.42 UJ	0.42 UJ	0.4 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	NA	**0.021 LJ**	NA	0.19 U	0.22 UJ	0.22 UJ	**0.12 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	NA	0.2 UJ	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UR
Hexachloroethane	67-72-1	mg/kg	43	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Isophorone	78-59-1	mg/kg	12000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	0.38 U	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	NA	0.2 U	NA	0.19 U	0.22 UJ	0.22 UJ	0.21 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	**0.002 LJ**	NA	0.0037 U	0.0042 UJ	0.0042 UJ	0.004 UJ
Acenaphthene	83-32-9	mg/kg	3500	--	NA	0.0038 UJ	NA	0.0037 U	0.0042 UJ	0.0042 UJ	0.004 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-006-00-51S 6/11/2015	WO-017-006-06-51 5/20/2015	WO-017-006-06-51S 6/10/2015	WO-017-006-12-51 5/20/2015	WO-019-001-00-51 6/3/2015	WO-019-001-00-52 6/3/2015	WO-019-001-06-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	NA	**0.00088 LJ**	NA	0.0037 U	**0.0021 LJ**	**0.0042 LJ**	0.004 UJ
Anthracene	120-12-7	mg/kg	17000	--	NA	**0.0015 LJ**	NA	0.0037 U	**0.0018 LJ**	**0.0036 LJ**	0.004 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.0032 LJ**	NA	0.0037 U	**0.0065 J**	**0.016 J**	**0.0014 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	**0.0019 LJ**	NA	0.0037 U	**0.005 J**	**0.011 J**	**0.0012 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**0.0045 J**	NA	**0.00092 LJ**	**0.0094 J**	**0.019 J**	**0.0026 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	NA	0.0038 UJ	NA	0.0037 U	**0.0014 LJ**	**0.0022 LJ**	0.004 UJ
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	NA	**0.0013 LJ**	NA	0.0037 U	**0.0031 LJ**	**0.0067 J**	0.004 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.0042 J**	NA	**0.00082 LJ**	**0.0071 J**	**0.014 J**	**0.002 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	NA	0.0038 UJ	NA	0.0037 U	**0.0012 LJ**	**0.0024 LJ**	0.004 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	**0.004 J**	NA	0.0037 U	**0.0083 J**	**0.018 J**	**0.0024 LJ**
Fluorene	86-73-7	mg/kg	2300	--	NA	0.0038 UJ	NA	0.0037 U	0.0042 UJ	0.0042 UJ	0.004 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	NA	**0.0023 LJ**	NA	0.0037 U	**0.0052 J**	**0.01 J**	**0.0015 LJ**
Naphthalene	91-20-3	mg/kg	130	--	NA	**0.0011 LJ**	NA	0.0037 U	0.0042 UJ	0.0042 UJ	0.004 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	0.0075 U	0.0086 UJ	0.0086 UJ	0.0081 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	NA	**0.002 LJ**	NA	0.0037 U	**0.0026 LJ**	**0.0034 LJ**	**0.0015 LJ**
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.0045 J**	NA	0.0037 U	**0.01 J**	**0.019 J**	**0.0025 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
2-Butanone	78-93-3	mg/kg	27000	--	NA	0.0094 U	NA	**0.0089 LJ**	0.017 U	0.014 U	**0.012**
2-Hexanone	591-78-6	mg/kg	200	--	NA	0.0094 U	NA	0.0091 U	0.017 U	0.014 U	0.01 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	NA	0.0094 U	NA	0.0091 U	0.017 U	0.014 U	0.01 U
Acetone	67-64-1	mg/kg	61000	--	NA	0.0094 U	NA	**0.0077 LJ**	**0.015 LJ**	**0.0086 LJ**	**0.025**
Benzene	71-43-2	mg/kg	82	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Bromodichloromethane	75-27-4	mg/kg	29	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Bromoform	75-25-2	mg/kg	1200	--	NA	0.0047 U	NA	0.0045 U	0.0083 UR	0.007 UR	0.005 U
Bromomethane	74-83-9	mg/kg	6.8	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Carbon disulfide	75-15-0	mg/kg	770	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U

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Wilcox Oil
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Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-017-006-00-51S 6/11/2015	WO-017-006-06-51 5/20/2015	WO-017-006-06-51S 6/10/2015	WO-017-006-12-51 5/20/2015	WO-019-001-00-51 6/3/2015	WO-019-001-00-52 6/3/2015	WO-019-001-06-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Chlorobenzene	108-90-7	mg/kg	280	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Chloroethane	75-00-3	mg/kg	14000	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Chloroform	67-66-3	mg/kg	32	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Chloromethane	74-87-3	mg/kg	110	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Cyclohexane	110-82-7	mg/kg	6500	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Dibromochloromethane	124-48-1	mg/kg	73	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Ethylbenzene	100-41-4	mg/kg	580	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	NA	0.0047 U	NA	0.0045 U	**0.0006 LJ**	0.007 U	**0.00023 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Methylene chloride	75-09-2	mg/kg	350	--	NA	0.0047 U	NA	**0.00024 LJ**	0.0083 U	0.007 U	0.005 U
o-Xylene	95-47-6	mg/kg	650	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Styrene	100-42-5	mg/kg	6000	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Tetrachloroethene	127-18-4	mg/kg	81	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Toluene	108-88-3	mg/kg	4900	--	NA	**0.00073 LJ**	NA	**0.00081 LJ**	**0.017 J**	**0.0073**	**0.0017 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Trichloroethene	79-01-6	mg/kg	4.1	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	NA	0.0047 U	NA	0.0045 U	0.0083 U	0.007 U	0.005 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-002-00-51 6/3/2015	WO-019-002-06-51 6/3/2015	WO-019-003-00-51 6/4/2015	WO-019-003-00-52 6/4/2015	WO-019-003-06-51 6/4/2015	WO-019-004-00-51 6/4/2015	WO-019-004-06-51 6/4/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2520**	**5050**	**2610**	**2920**	**2490**	**3640**	**4460**
Antimony	7440-36-0	mg/kg	31	--	1.1 UJ	1.1 UJ	1.1 UJ	0.96 UJ	0.96 UJ	0.88 UJ	0.9 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1**	**1.8**	**1.3 J**	**1.2 J**	**0.87 J**	**1.4 J**	**1.5 J**
Barium	7440-39-3	mg/kg	15000	--	**30.2**	**37.2**	**30.7**	**48.3**	**24.5**	**43.1**	**42.7**
Beryllium	7440-41-7	mg/kg	160	--	0.56 U	0.56 U	0.55 U	0.48 U	0.48 U	0.44 U	0.45 U
Cadmium	7440-43-9	mg/kg	70	--	0.56 U	0.56 U	0.55 U	0.48 U	0.48 U	0.44 U	0.45 U
Calcium	7440-70-2	mg/kg	NP	--	**1340**	**610**	**1220**	**1240**	**1000**	**1300**	**1170**
Chromium	7440-47-3	mg/kg	NP	--	**6.4**	**9.9**	**6.7**	**5.6**	**5**	**7**	**8.9**
Cobalt	7440-48-4	mg/kg	23	--	**1.5**	**2**	**1.5**	**1.3**	**0.99**	**2.1**	**2.1**
Copper	7440-50-8	mg/kg	3100	--	**2.3**	**2.5**	**2.9**	**3.2**	**2.3**	**7.6**	**7.3**
Iron	7439-89-6	mg/kg	55000	--	**72700**	**6500**	**3330**	**3620**	**3100**	**9360**	**5820**
Lead	7439-92-1	mg/kg	400	--	**8.1**	**7.8**	**8.8**	**7.9**	**6.6**	**18.5**	**14.4**
Magnesium	7439-95-4	mg/kg	NP	--	442 U	**483**	**339 LJ**	**386 LJ**	**374 LJ**	**531**	**509 LJ**
Manganese	7439-96-5	mg/kg	1800	--	**335**	**87.8**	**69.1**	**83**	**65.3**	**1530**	**98.3**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0095 LJ**	**0.01 LJ**	**0.011 LJ**	**0.0081 LJ**	**0.0096 LJ**	**0.01 LJ**	**0.011 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**3.5**	**4.7**	**3**	**2.7**	**2.3**	**4.8**	**4.9**
Potassium	7440-09-7	mg/kg	NP	--	442 U	**477**	518 U	**448**	394 U	**498**	559 U
Selenium	7782-49-2	mg/kg	390	--	2.8 U	**0.37 LJ**	2.7 U	2.4 U	2.4 U	2.2 U	2.2 U
Silver	7440-22-4	mg/kg	390	--	0.56 U	0.56 U	0.55 U	0.48 U	0.48 U	0.44 U	0.45 U
Sodium	7440-23-5	mg/kg	NP	--	442 U	441 U	518 U	402 U	394 U	429 U	559 U
Thallium	7440-28-0	mg/kg	0.78	--	0.56 U	0.56 U	0.55 U	0.48 U	0.48 U	0.44 U	0.45 U
Vanadium	7440-62-2	mg/kg	390	--	**10.3**	**16.9**	**10**	**8.3**	**6.9**	**11.1**	**14.6**
Zinc	7440-66-6	mg/kg	23000	--	**16.7**	**19.5**	**34.3**	**35.4**	**28.1**	**61.1**	**58.3**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.04 U	0.038 U	0.041 U	0.041 U	0.041 U	0.041 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00022 LJ**	**0.0017 LJ**	0.0041 U	0.0041 U	**0.00078 LJ**	**0.00071 LJ**	0.0037 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00029 LJ**	**0.00036 LJ**	0.0041 U	**0.000028 LJ**	**0.00015 LJ**	**0.0022 LJ**	**0.00033 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.00038 LJ**	**0.00065 LJ**	**0.00048 LJ**	**0.00072 LJ**	**0.0012 LJ**	**0.0024 LJ**	**0.00019 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.0021 U	0.002 U	**0.0005 LJ**	0.0021 U	0.0021 U	**0.0031 J**	**0.00025 LJ**
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0021 U	0.002 U	**0.00012 LJ**	**0.000082 LJ**	**0.000084 LJ**	**0.00011 LJ**	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-002-00-51 6/3/2015	WO-019-002-06-51 6/3/2015	WO-019-003-00-51 6/4/2015	WO-019-003-00-52 6/4/2015	WO-019-003-06-51 6/4/2015	WO-019-004-00-51 6/4/2015	WO-019-004-06-51 6/4/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0021 U	0.002 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0021 U	**0.0036 J**	**0.0001 LJ**	**0.00036 LJ**	**0.002 LJ**	**0.0051**	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0021 U	0.002 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	**0.00015 LJ**	**0.00026 LJ**	**0.00032 LJ**	**0.0003 LJ**	**0.00007 LJ**	**0.00027 LJ**	**0.00024 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.0021 U	0.002 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00026 LJ**	0.0038 U	**0.000089 LJ**	0.0041 U	0.0041 U	0.0041 U	0.0037 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.004 U	0.0038 U	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0037 U
Endrin	72-20-8	mg/kg	18	--	**0.0021 LJ**	**0.00056 LJ**	**0.0013 LJ**	**0.00084 LJ**	**0.0028 LJ**	**0.0034 LJ**	**0.0007 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	**0.001 LJ**	**0.0002 LJ**	**0.00045 LJ**	**0.0006 LJ**	**0.00057 LJ**	**0.0011 LJ**	**0.00031 LJ**
Endrin ketone	53494-70-5	mg/kg	NP	--	0.004 U	0.0038 U	**0.00008 LJ**	**0.00025 LJ**	**0.00094 LJ**	**0.0016 LJ**	0.0037 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00015 LJ**	**0.00025 LJ**	0.0021 U	**0.000099 LJ**	0.0021 U	**0.00052 LJ**	0.0019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00019 LJ**	**0.00017 LJ**	0.0021 U	0.0021 U	0.0021 U	**0.00014 LJ**	0.0019 U
Heptachlor	76-44-8	mg/kg	12	--	0.0021 U	0.002 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0021 U	0.002 U	0.0021 U	0.0021 U	0.0021 U	0.0021 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.0026 LJ**	**0.0017 LJ**	**0.00065 LJ**	**0.00049 LJ**	0.021 U	**0.00029 LJ**	**0.0013 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.21 U	0.2 U	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 U	0.11 U	0.12 U	0.14 U	0.13 U	0.17 U	0.11 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UR	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 UJ	0.38 UJ	0.41 UJ	0.41 UJ	0.41 UJ	0.41 U	0.38 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UR	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 UJ	0.38 UJ	0.41 U	0.41 U	0.41 U	0.41 U	0.38 U

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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-002-00-51 6/3/2015	WO-019-002-06-51 6/3/2015	WO-019-003-00-51 6/4/2015	WO-019-003-00-52 6/4/2015	WO-019-003-06-51 6/4/2015	WO-019-004-00-51 6/4/2015	WO-019-004-06-51 6/4/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.21 UR	0.21 UR	0.19 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 UJ	0.38 UJ	0.41 UJ	0.41 UJ	0.41 UJ	0.41 U	0.38 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 UJ	0.38 UJ	0.41 UJ	0.41 UJ	0.41 UJ	0.41 U	0.38 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.21 UR	0.21 UR	0.19 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UR	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 UJ	0.38 UJ	0.41 U	0.41 U	0.41 U	0.41 U	0.38 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 UJ	0.38 UJ	0.41 U	0.41 U	0.41 U	0.41 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 UJ	**0.11 LJ**	0.21 U	0.21 U	**0.37**	0.21 U	**0.15 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	0.2 UJ	0.21 UJ	0.21 UJ	0.21 UJ	0.21 U	0.19 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UR	0.2 UR	0.21 UR	0.21 UR	0.21 UR	0.21 UR	0.19 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	0.2 UJ	0.21 U	0.21 U	0.21 U	0.21 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.004 UJ	0.0038 UJ	**0.00098 LJ**	0.0041 U	**0.0013 LJ**	**0.0011 LJ**	0.0038 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.004 UJ	0.0038 UJ	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0038 U

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West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-002-00-51 6/3/2015	WO-019-002-06-51 6/3/2015	WO-019-003-00-51 6/4/2015	WO-019-003-00-52 6/4/2015	WO-019-003-06-51 6/4/2015	WO-019-004-00-51 6/4/2015	WO-019-004-06-51 6/4/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.004 UJ	0.0038 UJ	**0.0029 LJ**	**0.0018 LJ**	**0.0034 LJ**	**0.00099 LJ**	0.0038 U
Anthracene	120-12-7	mg/kg	17000	--	0.004 UJ	0.0038 UJ	**0.0037 LJ**	**0.0027 LJ**	**0.0054**	**0.0011 LJ**	0.0038 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0023 LJ**	**0.00087 LJ**	**0.007**	**0.0041 LJ**	**0.0082**	**0.0037 LJ**	**0.0021 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0017 LJ**	0.0038 UJ	**0.006**	**0.0042**	**0.0069**	**0.0034 LJ**	**0.0019 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.003 LJ**	**0.0012 LJ**	**0.014**	**0.01**	**0.021**	**0.0067**	**0.0042**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.004 UJ	0.0038 UJ	**0.0048**	0.0041 U	**0.0038 LJ**	**0.00096 LJ**	**0.0022 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.00095 LJ**	0.0038 UJ	**0.004 LJ**	**0.0029 LJ**	**0.0055**	**0.0018 LJ**	**0.00098 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.0028 LJ**	**0.0013 LJ**	**0.01**	**0.0064**	**0.017**	**0.0063**	**0.0033 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.004 UJ	0.0038 UJ	**0.0015 LJ**	**0.0011 LJ**	**0.0019 LJ**	**0.0011 LJ**	0.0038 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0037 LJ**	**0.0013 LJ**	**0.011**	**0.0065**	**0.029**	**0.0055**	**0.0032 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.004 UJ	0.0038 UJ	0.0041 U	0.0041 U	0.0041 U	0.0041 U	0.0038 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0018 LJ**	**0.00079 LJ**	**0.0068**	**0.005**	**0.0086**	**0.0044**	**0.0024 LJ**
Naphthalene	91-20-3	mg/kg	130	--	0.004 UJ	**0.00088 LJ**	0.0041 U	0.0041 U	**0.00089 LJ**	**0.0009 LJ**	0.0038 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.008 UJ	0.0077 UJ	0.0082 UJv	0.0084 UJv	**0.0014 LJ**	0.0083 U	0.0076 UJv
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0021 LJ**	**0.001 LJ**	**0.0031 LJ**	**0.0023 LJ**	**0.0061**	**0.0043**	**0.0018 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.0037 LJ**	**0.0014 LJ**	**0.012**	**0.0075**	**0.024**	**0.0079**	**0.0043**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
2-Butanone	78-93-3	mg/kg	27000	--	0.011 U	0.011 U	0.012 U	0.014 U	0.013 U	0.017 U	0.011 U
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.011 U	0.012 U	0.014 U	0.013 U	0.017 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.011 U	0.012 U	0.014 U	0.013 U	0.017 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	**0.011 LJ**	**0.02**	0.012 U	**0.013 LJ**	0.013 U	**0.012 LJ**	0.011 U
Benzene	71-43-2	mg/kg	82	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Bromoform	75-25-2	mg/kg	1200	--	0.0055 U	0.0053 U	0.0062 U	NA	0.0065 U	0.0087 U	0.0055 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-002-00-51 6/3/2015	WO-019-002-06-51 6/3/2015	WO-019-003-00-51 6/4/2015	WO-019-003-00-52 6/4/2015	WO-019-003-06-51 6/4/2015	WO-019-004-00-51 6/4/2015	WO-019-004-06-51 6/4/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Chloroform	67-66-3	mg/kg	32	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Chloromethane	74-87-3	mg/kg	110	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0055 U	0.0053 U	0.0062 U	**0.00037 LJ**	0.0065 U	**0.00075 LJ**	0.0055 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
o-Xylene	95-47-6	mg/kg	650	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Styrene	100-42-5	mg/kg	6000	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Toluene	108-88-3	mg/kg	4900	--	**0.0011 LJ**	**0.0067**	**0.0018 LJ**	**0.011 J**	**0.0055 LJ**	**0.0044 LJ**	**0.0042 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0055 U	0.0053 U	0.0062 U	0.0072 U	0.0065 U	0.0087 U	0.0055 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-005-00-51 6/4/2015	WO-019-005-00-52 6/4/2015	WO-019-005-06-51 6/4/2015	WO-019-005-12-51 6/4/2015	WO-019-005-24-51 6/4/2015	WO-019-006-00-51 6/4/2015	WO-019-006-06-51 6/4/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**3150**	**3790**	**4500**	**4320**	**2640**	**4630**	**4330**
Antimony	7440-36-0	mg/kg	31	--	0.77 UJ	0.71 UJ	0.87 UJ	1.1 UJ	1 UJ	0.96 UJ	0.89 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2.4 J**	**2 J**	**1.1 J**	**1.2 J**	**1.2 J**	**3.2 J**	**2.1 J**
Barium	7440-39-3	mg/kg	15000	--	**37.6**	**39**	**29.1**	**37.8**	**30.6**	**43.6**	**47.6**
Beryllium	7440-41-7	mg/kg	160	--	0.39 U	0.35 U	0.43 U	0.53 U	0.52 U	0.48 U	0.45 U
Cadmium	7440-43-9	mg/kg	70	--	0.39 U	0.35 U	0.43 U	0.53 U	0.52 U	0.48 U	0.45 U
Calcium	7440-70-2	mg/kg	NP	--	**12100**	**17500**	**1550**	**1140**	**6990**	**1100**	**1110**
Chromium	7440-47-3	mg/kg	NP	--	**8.1**	**8.3**	**5.7**	**7.6**	**6.2**	**8**	**8.3**
Cobalt	7440-48-4	mg/kg	23	--	**2.7**	**2.4**	**1.7**	**2.4**	**1.9**	**2.3**	**2.4**
Copper	7440-50-8	mg/kg	3100	--	**4.8**	**4.4**	**3**	**3.1**	**4.1**	**4.8**	**5.5**
Iron	7439-89-6	mg/kg	55000	--	**6690**	**7780**	**4640**	**5530**	**4270**	**5970**	**6230**
Lead	7439-92-1	mg/kg	400	--	**9.2**	**13.6**	**9.1**	**6.2**	**10.4**	**17.6**	**21.7**
Magnesium	7439-95-4	mg/kg	NP	--	**704**	**916**	**479**	**579**	**337 LJ**	**581**	**530**
Manganese	7439-96-5	mg/kg	1800	--	**152**	**157**	**76.1**	**113**	**105**	**126**	**127**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0047 LJ**	**0.0026 LJ**	**0.0034 LJ**	**0.0073 LJ**	**0.0049 LJ**	**0.014 LJ**	**0.037 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**5.7**	**5.4**	**3.2**	**4.6**	**3.4**	**4.5**	**4.8**
Potassium	7440-09-7	mg/kg	NP	--	**575**	**572**	**546**	**578**	430 U	**785**	**661**
Selenium	7782-49-2	mg/kg	390	--	1.9 U	1.8 U	2.2 U	2.7 U	2.6 U	2.4 U	2.2 U
Silver	7440-22-4	mg/kg	390	--	0.39 U	0.35 U	0.43 U	0.53 U	0.52 U	0.48 U	0.45 U
Sodium	7440-23-5	mg/kg	NP	--	367 U	353 U	377 U	544 U	430 U	446 U	459 U
Thallium	7440-28-0	mg/kg	0.78	--	0.39 U	0.35 U	0.43 U	0.53 U	0.52 U	0.48 U	0.45 U
Vanadium	7440-62-2	mg/kg	390	--	**12.1**	**12.5**	**8.2**	**11**	**9.1**	**11.6**	**12.6**
Zinc	7440-66-6	mg/kg	23000	--	**35.3**	**41**	**30.1**	**25.5**	**29.3**	**40.9**	**58.4**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.035 U	0.034 U	0.037 U	0.036 U	0.037 U	0.037 U	0.041 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.0035 U	**0.00015 LJ**	0.0037 U	0.0036 U	**0.0003 LJ**	0.0037 U	**0.00012 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00048 LJ**	**0.00033 LJ**	**0.0001 LJ**	**0.00023 LJ**	**0.000024 LJ**	**0.000093 LJ**	**0.0004 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0011 LJ**	**0.00031 LJ**	**0.00086 LJ**	**0.0004 LJ**	**0.00064 LJ**	**0.00061 LJ**	**0.00081 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.000073 LJ**	**0.00035 LJ**	**0.0011 LJ**	**0.0014 LJ**	**0.0012 LJ**	0.0019 U	**0.0022 J**
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0018 U	**0.000042 LJ**	0.0019 U	**0.000081 LJ**	**0.000063 LJ**	0.0019 U	**0.000066 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-005-00-51 6/4/2015	WO-019-005-00-52 6/4/2015	WO-019-005-06-51 6/4/2015	WO-019-005-12-51 6/4/2015	WO-019-005-24-51 6/4/2015	WO-019-006-00-51 6/4/2015	WO-019-006-06-51 6/4/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0018 U	**0.00017 LJ**	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0021 U
Atrazine	1912-24-9	mg/kg	230	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
beta-BHC	319-85-7	mg/kg	30	--	0.0018 U	**0.00011 LJ**	**0.00069 LJ**	**0.001 LJ**	**0.0016 LJ**	**0.00018 LJ**	**0.0033**
Caprolactam	105-60-2	mg/kg	31000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Carbazole	86-74-8	mg/kg	NP	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0018 U	0.0018 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0021 U
Dieldrin	60-57-1	mg/kg	3.1	--	**0.00036 LJ**	**0.00042 LJ**	**0.00015 LJ**	**0.00011 LJ**	**0.00013 LJ**	**0.0002 LJ**	**0.00051 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.0018 U	0.0018 U	0.0019 U	0.0019 U	0.0019 U	0.0019 U	0.0021 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00024 LJ**	**0.00017 LJ**	0.0037 U	0.0036 U	0.0037 U	**0.00003 LJ**	0.0041 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.000035 LJ**	0.0034 U	0.0037 U	0.0036 U	0.0037 U	**0.00051 LJ**	0.0041 U
Endrin	72-20-8	mg/kg	18	--	**0.00086 LJ**	**0.00056 LJ**	**0.00057 LJ**	**0.00091 LJ**	**0.0016 LJ**	**0.00044 LJ**	**0.00088 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	**0.00039 LJ**	**0.00017 LJ**	**0.00056 LJ**	**0.00019 LJ**	**0.00017 LJ**	**0.00035 LJ**	**0.00019 LJ**
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00047 LJ**	**0.00029 LJ**	**0.00025 LJ**	**0.0013 LJ**	**0.00029 LJ**	**0.00021 LJ**	**0.00099 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.000086 LJ**	**0.00015 LJ**	0.0019 U	0.0019 U	0.0019 U	**0.00041 LJ**	0.0021 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00015 LJ**	**0.00012 LJ**	**0.00015 LJ**	0.0019 U	0.0019 U	0.0019 U	**0.0003 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.0018 U	0.0018 U	**0.000069 LJ**	0.0019 U	0.0019 U	0.0019 U	0.0021 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0018 U	0.0018 U	0.0019 U	0.0019 U	0.0019 U	**0.0001 LJ**	0.0021 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.00096 LJ**	0.018 U	0.019 U	0.019 U	**0.0013 LJ**	0.019 U	**0.0022 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.16 U	0.099 U	0.11 U	0.12 U	0.13 U	0.19 U	0.13 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.34 UJ	0.35 UJ	0.37 UJ	0.36 UJ	0.36 UJ	0.37 UJ	0.41 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.34 U	0.35 U	0.37 U	0.36 U	0.36 U	0.37 U	0.41 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-005-00-51 6/4/2015	WO-019-005-00-52 6/4/2015	WO-019-005-06-51 6/4/2015	WO-019-005-12-51 6/4/2015	WO-019-005-24-51 6/4/2015	WO-019-006-00-51 6/4/2015	WO-019-006-06-51 6/4/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.18 UR	0.18 UR	0.19 UR	0.19 U	0.19 U	0.19 UR	0.21 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.34 UJ	0.35 U	0.37 U	0.36 UJ	0.36 UJ	0.37 U	0.41 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.34 UJ	0.35 U	0.37 U	0.36 UJ	0.36 UJ	0.37 U	0.41 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.18 UR	0.18 UR	0.19 UR	0.19 U	0.19 U	0.19 UR	0.21 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.34 U	0.35 U	0.37 U	0.36 U	0.36 U	0.37 U	0.41 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.34 U	0.35 U	0.37 U	0.36 U	0.36 U	0.37 U	0.41 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.025 LJ**	0.18 U	**0.14 LJ**	**0.12 LJ**	**0.13 LJ**	0.19 U	**0.21**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.18 U	**0.015 LJ**	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.18 UJ	0.18 U	0.19 U	0.19 UJ	0.19 UJ	0.19 U	0.21 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.18 UR	0.18 UR	0.19 UR	0.19 UJ	0.19 UJ	0.19 UR	0.21 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Isophorone	78-59-1	mg/kg	12000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.18 U	0.18 U	0.19 U	0.19 U	0.19 U	0.19 U	0.21 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0019 LJ**	**0.001 LJ**	**0.0011 LJ**	**0.00097 LJ**	**0.00084 LJ**	**0.0011 LJ**	**0.0085 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0034 U	0.0035 U	0.0037 U	0.0036 U	0.0036 U	0.0037 U	0.017 U

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Wilcox Oil
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West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-005-00-51 6/4/2015	WO-019-005-00-52 6/4/2015	WO-019-005-06-51 6/4/2015	WO-019-005-12-51 6/4/2015	WO-019-005-24-51 6/4/2015	WO-019-006-00-51 6/4/2015	WO-019-006-06-51 6/4/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.001 LJ**	**0.0013 LJ**	0.0037 U	**0.0011 LJ**	**0.0013 LJ**	**0.0014 LJ**	0.017 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0049**	**0.003 LJ**	**0.0011 LJ**	**0.0017 LJ**	**0.002 LJ**	**0.0023 LJ**	**0.0074 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0045**	**0.0053**	**0.0023 LJ**	**0.0029 LJ**	**0.0036 LJ**	**0.0053**	**0.037**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0052**	**0.0044**	**0.002 LJ**	**0.0023 LJ**	**0.003 LJ**	**0.0042**	**0.018**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.012**	**0.0093**	**0.0044**	**0.0061**	**0.0078**	**0.0087**	**0.024**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.016**	**0.0057**	**0.0015 LJ**	**0.00079 LJ**	**0.00076 LJ**	**0.0014 LJ**	**0.0042 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.002 LJ**	**0.0023 LJ**	**0.0011 LJ**	**0.0018 LJ**	**0.002 LJ**	0.0037 U	**0.0059 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.0097**	**0.0067**	**0.0036 LJ**	**0.0043**	**0.0047**	**0.0091**	**0.058**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0026 LJ**	**0.0013 LJ**	0.0037 U	0.0036 U	0.0036 U	**0.001 LJ**	**0.006 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.006**	**0.0062**	**0.0032 LJ**	**0.0051**	**0.0043**	**0.0068**	**0.024**
Fluorene	86-73-7	mg/kg	2300	--	0.0034 U	0.0035 U	0.0037 U	0.0036 U	0.0036 U	0.0037 U	0.017 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0077**	**0.0042**	**0.002 LJ**	**0.0021 LJ**	**0.0026 LJ**	**0.0035 LJ**	**0.015 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.0011 LJ**	**0.00075 LJ**	**0.00082 LJ**	**0.00074 LJ**	0.0036 U	**0.0008 LJ**	0.017 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.007 UJv	0.007 UJv	0.0074 UJv	0.0074 UJv	0.0074 UJv	0.0075 UJv	**0.0047 LJ**
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0044**	**0.0026 LJ**	**0.0019 LJ**	**0.0024 LJ**	**0.0018 LJ**	**0.0046**	**0.1**
Pyrene	129-00-0	mg/kg	1700	--	**0.0091**	**0.0073**	**0.0045**	**0.0054**	**0.006**	**0.0092**	**0.068**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
2-Butanone	78-93-3	mg/kg	27000	--	0.016 U	0.0099 U	0.011 U	0.012 U	0.013 U	0.019 U	0.013 U
2-Hexanone	591-78-6	mg/kg	200	--	0.016 U	0.0099 U	0.011 U	0.012 U	0.013 U	0.019 U	0.013 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.016 U	0.0099 U	0.011 U	0.012 U	0.013 U	0.019 U	0.013 U
Acetone	67-64-1	mg/kg	61000	--	0.016 U	**0.0059 LJ**	0.011 U	**0.0079 LJ**	**0.016**	**0.025**	**0.008 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Bromoform	75-25-2	mg/kg	1200	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	NA	0.0067 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U

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Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Chloroform	67-66-3	mg/kg	32	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Chloromethane	74-87-3	mg/kg	110	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	**0.00045 LJ**	**0.00027 LJ**
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0081 U	0.0049 U	**0.00033 LJ**	0.0058 U	0.0066 U	**0.0017 LJ**	**0.00071 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
o-Xylene	95-47-6	mg/kg	650	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	**0.00064 LJ**	0.0067 U
Styrene	100-42-5	mg/kg	6000	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Toluene	108-88-3	mg/kg	4900	--	**0.0022 LJ**	**0.003 LJ**	**0.0072**	0.0058 U	**0.0011 LJ**	**0.03**	**0.018**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0081 U	0.0049 U	0.0057 U	0.0058 U	0.0066 U	0.0096 U	0.0067 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-007-00-51 6/4/2015	WO-019-007-06-51 6/4/2015	WO-019-007-12-51 6/4/2015	WO-019-007-24-51 6/4/2015	WO-019-008-00-51 6/4/2015	WO-019-008-06-51 6/4/2015	WO-019-008-12-51 6/4/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**2420**	**4730**	**10100**	**4840**	**3000**	**4290**	**5410**
Antimony	7440-36-0	mg/kg	31	--	0.99 UJ	0.92 UJ	1 UJ	1 UJ	0.96 UJ	0.92 UJ	0.88 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2 J**	**2.4 J**	**2.6 J**	**1.7 J**	**4.7 J**	**2.7 J**	**2.1 J**
Barium	7440-39-3	mg/kg	15000	--	**33.1**	**46.7**	**52.7**	**37.1**	**37.5**	**51.1**	**61.8**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.46 U	0.51 U	0.5 U	0.48 U	0.46 U	0.44 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.46 U	0.51 U	0.5 U	0.48 U	0.46 U	0.44 U
Calcium	7440-70-2	mg/kg	NP	--	**2750**	**2900**	**1360**	**2800**	**801**	**953**	**1010**
Chromium	7440-47-3	mg/kg	NP	--	**7.5**	**9.2**	**17.8**	**8.6**	**7.1**	**9.2**	**11**
Cobalt	7440-48-4	mg/kg	23	--	**2.2**	**3.2**	**3.1**	**2.1**	**2.4**	**3.5**	**5**
Copper	7440-50-8	mg/kg	3100	--	**3.2**	**3.6**	**6.5**	**4.5**	**3.5**	**4.3**	**4.8**
Iron	7439-89-6	mg/kg	55000	--	**5520**	**8050**	**11200**	**8210**	**6090**	**6950**	**8920**
Lead	7439-92-1	mg/kg	400	--	**6**	**6.5**	**7.8**	**10.2**	**9.6**	**8.7**	**7.9**
Magnesium	7439-95-4	mg/kg	NP	--	**431**	**659**	**946**	**1390**	**450**	**587**	**675**
Manganese	7439-96-5	mg/kg	1800	--	**135**	**169**	**81.9**	**124**	**140**	**155**	**206**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0041 LJ**	**0.0042 LJ**	**0.0026 LJ**	**0.0039 LJ**	**0.023 LJ**	**0.0056 LJ**	**0.005 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**4.1**	**6**	**8.9**	**5**	**4.3**	**5.7**	**7.2**
Potassium	7440-09-7	mg/kg	NP	--	**490**	**791**	**1050**	**642**	**528**	**783**	**754**
Selenium	7782-49-2	mg/kg	390	--	2.5 U	2.3 U	**0.31 LJ**	2.5 U	2.4 U	2.3 U	2.2 U
Silver	7440-22-4	mg/kg	390	--	0.5 U	0.46 U	0.51 U	0.5 U	0.48 U	0.46 U	0.44 U
Sodium	7440-23-5	mg/kg	NP	--	407 U	444 U	470 U	437 U	441 U	467 U	466 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.46 U	0.51 U	0.5 U	0.48 U	0.46 U	0.44 U
Vanadium	7440-62-2	mg/kg	390	--	**9.8**	**13.7**	**25.3**	**13.1**	**10.5**	**13.9**	**17.4**
Zinc	7440-66-6	mg/kg	23000	--	**19.8**	**17.3**	**25.9**	**33.9**	**26.5**	**23.8**	**21.7**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.036 U	0.037 U	0.037 U	0.036 U	0.036 U	0.039 U	0.037 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.0036 U	0.0037 U	0.0037 U	0.0036 U	**0.00027 LJ**	0.0039 U	0.0037 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0003 LJ**	**0.000061 LJ**	**0.00018 LJ**	0.0036 U	**0.00055 LJ**	**0.00064 LJ**	0.0037 U
4,4'-DDT	50-29-3	mg/kg	36	--	**0.0029 LJ**	**0.00024 LJ**	**0.00064 LJ**	**0.00073 LJ**	**0.0021 LJ**	**0.00093 LJ**	**0.00022 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	**0.00061 LJ**	**0.00057 LJ**	**0.00014 LJ**	**0.0003 LJ**	**0.002 J**	**0.00024 LJ**	**0.00057 LJ**
alpha-BHC	319-84-6	mg/kg	8.5	--	**0.00016 LJ**	**0.000055 LJ**	**0.000068 LJ**	**0.000054 LJ**	**0.00013 LJ**	**0.000095 LJ**	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-007-00-51 6/4/2015	WO-019-007-06-51 6/4/2015	WO-019-007-12-51 6/4/2015	WO-019-007-24-51 6/4/2015	WO-019-008-00-51 6/4/2015	WO-019-008-06-51 6/4/2015	WO-019-008-12-51 6/4/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0019 U	0.0019 U	0.0019 U	0.0018 U	0.0019 U	0.002 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0019 U	0.0019 U	0.0019 U	0.0018 U	**0.0014 LJ**	0.002 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0019 U	0.0019 U	0.0019 U	0.0018 U	0.0019 U	0.002 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	**0.00026 LJ**	**0.00024 LJ**	0.0037 U	**0.00017 LJ**	**0.00018 LJ**	**0.00038 LJ**	**0.00029 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.0019 U	0.0019 U	0.0019 U	0.0018 U	0.0019 U	0.002 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00023 LJ**	**0.00017 LJ**	**0.0002 LJ**	**0.00034 LJ**	0.0036 U	0.0039 U	0.0037 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.00041 LJ**	**0.00014 LJ**	**0.000087 LJ**	**0.00047 LJ**	0.0036 U	**0.0007 LJ**	**0.00018 LJ**
Endrin	72-20-8	mg/kg	18	--	**0.00094 LJ**	**0.001 LJ**	**0.00095 LJ**	**0.0011 LJ**	**0.00076 LJ**	**0.0031 LJ**	**0.00066 LJ**
Endrin aldehyde	7421-93-4	mg/kg	NP	--	**0.00021 LJ**	**0.00019 LJ**	**0.00024 LJ**	**0.00016 LJ**	**0.00025 LJ**	**0.0012 LJ**	**0.00016 LJ**
Endrin ketone	53494-70-5	mg/kg	NP	--	**0.00018 LJ**	**0.000024 LJ**	**0.00015 LJ**	**0.00019 LJ**	**0.0018 LJ**	**0.0008 LJ**	**0.00034 LJ**
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	**0.00011 LJ**	0.0019 U	0.0019 U	**0.00023 LJ**	0.0019 U	0.002 U	**0.00014 LJ**
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00012 LJ**	**0.00011 LJ**	**0.00012 LJ**	**0.000051 LJ**	0.0019 U	0.002 U	0.0019 U
Heptachlor	76-44-8	mg/kg	12	--	0.0019 U	0.0019 U	0.0019 U	0.0018 U	0.0019 U	0.002 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0019 U	0.0019 U	0.0019 U	**0.00033 LJ**	0.0019 U	0.002 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.001 LJ**	**0.0012 LJ**	0.019 U	**0.00044 LJ**	**0.0028 LJ**	0.02 U	**0.001 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.19 U	0.19 U	0.19 U	0.18 U	0.19 U	0.2 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.11 U	0.11 U	0.088 U	0.089 U	0.12 U	0.15 U	0.12 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.36 UJ	0.38 UJ	0.37 UJ	0.36 UJ	0.36 UJ	0.38 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.36 U	0.38 U	0.37 U	0.36 U	0.36 U	0.38 U	0.37 U

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Wilcox Oil
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West 221st Street South/Refinery Road
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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-007-00-51 6/4/2015	WO-019-007-06-51 6/4/2015	WO-019-007-12-51 6/4/2015	WO-019-007-24-51 6/4/2015	WO-019-008-00-51 6/4/2015	WO-019-008-06-51 6/4/2015	WO-019-008-12-51 6/4/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.19 UR	0.19 UR	0.19 U	0.18 U	0.18 UR	0.2 UR	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.36 U	0.38 U	0.37 UJ	0.36 U	0.36 U	0.38 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.36 U	0.38 U	0.37 UJ	0.36 U	0.36 U	0.38 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.19 UR	0.19 UR	0.19 U	0.18 U	0.18 UR	0.2 UR	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.36 U	0.38 U	0.37 U	0.36 U	0.36 U	0.38 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.36 U	0.38 U	0.37 U	0.36 U	0.36 U	0.38 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.032 LJ**	**0.26**	**0.09 LJ**	**0.12 LJ**	0.18 U	**0.22**	**0.039 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.19 U	0.19 U	0.19 UJ	0.18 U	0.18 U	0.2 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.19 UR	0.19 UR	0.19 UJ	0.18 UJ	0.18 UR	0.2 UR	0.19 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.19 U	0.19 U	0.19 U	0.18 U	0.18 U	0.2 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0042**	**0.0075**	0.0037 U	**0.00087 LJ**	**0.00075 LJ**	0.0038 U	0.0037 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0036 U	0.0038 U	0.0037 U	0.0036 U	0.0036 U	0.0038 U	0.0037 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-007-00-51 6/4/2015	WO-019-007-06-51 6/4/2015	WO-019-007-12-51 6/4/2015	WO-019-007-24-51 6/4/2015	WO-019-008-00-51 6/4/2015	WO-019-008-06-51 6/4/2015	WO-019-008-12-51 6/4/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.00093 LJ**	**0.00083 LJ**	**0.0029 LJ**	**0.0012 LJ**	**0.00075 LJ**	**0.00088 LJ**	0.0037 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0011 LJ**	**0.001 LJ**	**0.0031 LJ**	**0.0013 LJ**	**0.0016 LJ**	**0.00097 LJ**	0.0037 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0028 LJ**	**0.0027 LJ**	**0.0081**	**0.0051**	**0.0024 LJ**	**0.0036 LJ**	**0.0018 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0026 LJ**	**0.0018 LJ**	**0.007**	**0.0043**	**0.0018 LJ**	**0.0031 LJ**	**0.0014 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.006**	**0.0051**	**0.016**	**0.0089**	**0.0045**	**0.0055**	**0.0033 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0017 LJ**	0.0038 U	**0.00099 LJ**	0.0036 U	**0.00096 LJ**	0.0038 U	0.0037 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0017 LJ**	**0.0015 LJ**	**0.0052**	**0.0027 LJ**	**0.0012 LJ**	**0.0016 LJ**	**0.00094 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.0043**	**0.0036 LJ**	**0.0097**	**0.0069**	**0.0044**	**0.0056**	**0.0025 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0036 U	0.0038 U	**0.0014 LJ**	**0.00077 LJ**	0.0036 U	**0.00092 LJ**	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0035 LJ**	**0.0034 LJ**	**0.009**	**0.0065**	**0.0032 LJ**	**0.0047**	**0.0027 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0036 U	0.0038 U	0.0037 U	0.0036 U	0.0036 U	0.0038 U	0.0037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0025 LJ**	**0.0016 LJ**	**0.0056**	**0.0028 LJ**	**0.0018 LJ**	**0.0033 LJ**	**0.0017 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.0017 LJ**	**0.0036 LJ**	0.0037 U	0.0036 U	0.0036 U	0.0038 U	0.0037 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0074 UJv	0.0076 UJv	0.0076 UJv	0.0072 UJv	0.0072 UJv	0.0078 U	0.0075 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0018 LJ**	**0.0029 LJ**	**0.0026 LJ**	**0.003 LJ**	**0.0024 LJ**	**0.0026 LJ**	**0.0016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.005**	**0.0049**	**0.0098**	**0.0078**	**0.0049**	**0.007**	**0.0042**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
2-Butanone	78-93-3	mg/kg	27000	--	0.011 U	0.011 U	0.0088 U	0.0089 U	0.012 U	0.015 U	0.012 U
2-Hexanone	591-78-6	mg/kg	200	--	0.011 U	0.011 U	0.0088 U	0.0089 U	0.012 U	0.015 U	0.012 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.011 U	0.011 U	0.0088 U	0.0089 U	0.012 U	0.015 U	0.012 U
Acetone	67-64-1	mg/kg	61000	--	0.011 U	**0.0081 LJ**	**0.0076 LJ**	**0.01**	**0.007 LJ**	0.015 U	**0.0055 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Bromoform	75-25-2	mg/kg	1200	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-019-007-00-51 6/4/2015	WO-019-007-06-51 6/4/2015	WO-019-007-12-51 6/4/2015	WO-019-007-24-51 6/4/2015	WO-019-008-00-51 6/4/2015	WO-019-008-06-51 6/4/2015	WO-019-008-12-51 6/4/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Chloroform	67-66-3	mg/kg	32	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Chloromethane	74-87-3	mg/kg	110	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0054 U	**0.00023 LJ**	0.0044 U	0.0044 U	0.0059 U	**0.00047 LJ**	**0.00046 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
o-Xylene	95-47-6	mg/kg	650	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Styrene	100-42-5	mg/kg	6000	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Toluene	108-88-3	mg/kg	4900	--	**0.0029 LJ**	**0.0036 LJ**	**0.0047**	**0.0041 LJ**	**0.0046 LJ**	**0.0055 LJ**	**0.0077**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0054 U	0.0055 U	0.0044 U	0.0044 U	0.0059 U	0.0073 U	0.0058 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-001-00-51 5/18/2015	WO-020-001-00-51S 6/11/2015	WO-020-001-06-51 5/18/2015	WO-020-001-06-51S 6/11/2015	WO-020-001-12-51 5/18/2015	WO-020-001-24-51 5/18/2015	WO-020-001-24-52 5/18/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1760**	**3540**	**3640**	**3650**	**7140**	**3690**	**7250**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.96 UJ	0.5 U	0.75 UJ	0.5 U	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**0.8**	**1.6**	**1.8**	**1.3**	**2.4**	**1.9**	**2.9**
Barium	7440-39-3	mg/kg	15000	--	**33.3**	**57.1**	**82.9**	**46.9**	**49.1**	**52.4**	**42.1**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.48 U	0.5 U	0.38 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.48 U	0.5 U	0.38 U	0.5 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**761**	**985**	**775**	**745**	**1220**	**793**	**1720**
Chromium	7440-47-3	mg/kg	NP	--	**3.4**	**9.5**	**8.2**	**8.3**	**10**	**7.3**	**12.9**
Cobalt	7440-48-4	mg/kg	23	--	**2.4**	**2.7**	**8.4**	**2.5**	**4.1**	**3**	**3.6**
Copper	7440-50-8	mg/kg	3100	--	**8.5**	**27.8**	**10.9**	**10.3**	**17.8**	**9**	**46.8**
Iron	7439-89-6	mg/kg	55000	--	**4140**	**8060**	**8470**	**7260**	**11600**	**8860**	**17100**
Lead	7439-92-1	mg/kg	400	--	**10.4**	**14.5**	**9.9**	**12.7**	**6.5**	**4.3**	**6.7**
Magnesium	7439-95-4	mg/kg	NP	--	**304**	**504**	**516**	**442 LJ**	**708**	**1050**	**1500**
Manganese	7439-96-5	mg/kg	1800	--	**140**	**147**	**166**	**145**	**57.4**	**56.6**	**54.3**
Mercury	7439-97-6	mg/kg	9.4	--	0.067 U	**0.013 LJ**	0.082 U	**0.015 LJ**	0.074 U	0.081 U	0.077 U
Nickel	7440-02-0	mg/kg	1500	--	**2.7**	**5.4**	**4.6**	**4.9**	**5.1**	**7.5**	**6.4**
Potassium	7440-09-7	mg/kg	NP	--	**551**	**810**	**451**	**691**	**955**	**305**	**660**
Selenium	7782-49-2	mg/kg	390	--	1.2 U	2.4 U	1.1 U	1.9 U	1.1 U	1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.2 U	0.48 U	1.1 U	0.38 U	1.1 U	1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	58 U	392 U	**143**	470 U	**113**	**815**	**484**
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.48 U	0.5 U	0.38 U	0.5 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**4.6**	**13.8**	**11.6**	**12.4**	**19.8**	**10.6**	**23.7**
Zinc	7440-66-6	mg/kg	23000	--	**40.6**	**54.9 J**	**22.5**	**41.3 J**	**23.5**	**6.6**	**7.4**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0516 U	NA	0.0474 U	NA	0.0456 U	0.0448 U	0.046 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0258 U	NA	0.0237 U	NA	0.0228 U	0.0224 U	0.023 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Acetophenone	98-86-2	mg/kg	7800	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U

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Wilcox Oil
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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-001-00-51 5/18/2015	WO-020-001-00-51S 6/11/2015	WO-020-001-06-51 5/18/2015	WO-020-001-06-51S 6/11/2015	WO-020-001-12-51 5/18/2015	WO-020-001-24-51 5/18/2015	WO-020-001-24-52 5/18/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Atrazine	1912-24-9	mg/kg	230	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Caprolactam	105-60-2	mg/kg	31000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endrin	72-20-8	mg/kg	18	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Heptachlor	76-44-8	mg/kg	12	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Methoxychlor	72-43-5	mg/kg	310	--	0.00129 U	NA	0.00119 U	NA	0.00114 U	0.00112 U	0.00115 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0387 U	NA	0.0356 U	NA	0.0342 U	0.0336 U	0.0345 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-001-00-51 5/18/2015	WO-020-001-00-51S 6/11/2015	WO-020-001-06-51 5/18/2015	WO-020-001-06-51S 6/11/2015	WO-020-001-12-51 5/18/2015	WO-020-001-24-51 5/18/2015	WO-020-001-24-52 5/18/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.45 UJ	NA	0.39 U	NA	0.39 U	0.4 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.2 LJ**	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.23 UJ	NA	0.2 U	NA	0.2 U	0.21 U	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.045 U	NA	**0.0008 LJ**	NA	0.0039 U	0.004 U	0.0038 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.045 U	NA	0.0039 U	NA	0.0039 U	0.004 U	0.0038 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-001-00-51 5/18/2015	WO-020-001-00-51S 6/11/2015	WO-020-001-06-51 5/18/2015	WO-020-001-06-51S 6/11/2015	WO-020-001-12-51 5/18/2015	WO-020-001-24-51 5/18/2015	WO-020-001-24-52 5/18/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.045 U	NA	0.0039 U	NA	0.0039 U	0.004 U	0.0038 U
Anthracene	120-12-7	mg/kg	17000	--	**0.017 LJ**	NA	**0.00094 LJ**	NA	0.0039 U	0.004 U	0.0038 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.085**	NA	**0.0039 LJ**	NA	**0.0017 LJ**	0.004 U	**0.0022 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.05**	NA	**0.0026 LJ**	NA	**0.0014 LJ**	0.004 U	**0.0013 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.078**	NA	**0.0058**	NA	**0.0025 LJ**	0.004 U	**0.0024 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.018 LJ**	NA	**0.0014 LJ**	NA	**0.00094 LJ**	0.004 U	0.0038 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.025 LJ**	NA	**0.0018 LJ**	NA	0.0039 U	0.004 U	**0.00078 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.082**	NA	**0.0052**	NA	**0.0024 LJ**	0.004 U	**0.0023 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0095 LJ**	NA	**0.00085 LJ**	NA	0.0039 U	0.004 U	0.0038 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.18**	NA	**0.007**	NA	**0.0019 LJ**	0.004 U	**0.0029 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.045 U	NA	0.0039 U	NA	0.0039 U	0.004 U	0.0038 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.04 LJ**	NA	**0.0036 LJ**	NA	**0.0015 LJ**	0.004 U	**0.0013 LJ**
Naphthalene	91-20-3	mg/kg	130	--	0.045 U	NA	**0.00084 LJ**	NA	0.0039 U	0.004 U	0.0038 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.091 U	NA	**0.00087 LJ**	NA	0.008 U	0.0081 U	0.0077 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.069**	NA	**0.0028 LJ**	NA	**0.00095 LJ**	**0.0014 LJ**	0.0038 U
Pyrene	129-00-0	mg/kg	1700	--	**0.13**	NA	**0.0076**	NA	**0.0038 LJ**	**0.0021 LJ**	**0.0042**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
2-Hexanone	591-78-6	mg/kg	200	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Acetone	67-64-1	mg/kg	61000	--	**0.0142 B, K**	NA	0.0082 U	NA	**0.0073**	0.0087 U	0.008 U
Benzene	71-43-2	mg/kg	82	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Bromoform	75-25-2	mg/kg	1200	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-001-00-51 5/18/2015	WO-020-001-00-51S 6/11/2015	WO-020-001-06-51 5/18/2015	WO-020-001-06-51S 6/11/2015	WO-020-001-12-51 5/18/2015	WO-020-001-24-51 5/18/2015	WO-020-001-24-52 5/18/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Chloroform	67-66-3	mg/kg	32	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Chloromethane	74-87-3	mg/kg	110	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0103 U	NA	0.0082 U	NA	0.0072 U	0.0087 U	0.008 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
o-Xylene	95-47-6	mg/kg	650	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Styrene	100-42-5	mg/kg	6000	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Toluene	108-88-3	mg/kg	4900	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0051 U	NA	0.0041 U	NA	0.0036 U	0.0044 U	0.004 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-002-00-51 5/18/2015	WO-020-002-00-51S 6/11/2015	WO-020-002-06-51 5/18/2015	WO-020-002-06-51S 6/8/2015	WO-020-002-06-52S 6/8/2015	WO-020-002-12-51 5/18/2015	WO-020-002-24-51 5/18/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1120**	**2350**	**1280**	**2520**	**2450**	**1940**	**2650**
Antimony	7440-36-0	mg/kg	31	--	0.5 U	0.71 UJ	0.5 U	0.89 UJ	0.75 UJ	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**0.6**	**1.3**	**1**	**1.5**	**1.5**	**1.3**	**2**
Barium	7440-39-3	mg/kg	15000	--	**26.2**	**31.7**	**22.2**	**35.9**	**36**	**26.5**	**27.8**
Beryllium	7440-41-7	mg/kg	160	--	0.5 U	0.36 U	0.5 U	0.45 U	0.37 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.5 U	0.36 U	0.5 U	0.45 U	0.37 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**627**	**601**	**387**	**595**	**640**	**409**	**503**
Chromium	7440-47-3	mg/kg	NP	--	**2.1**	**5.3**	**2.4**	**6.2**	**6.3**	**3.8**	**6.4**
Cobalt	7440-48-4	mg/kg	23	--	**2.2**	**2.7**	**2.8**	**2.9**	**3.2**	**6.3**	**8.4**
Copper	7440-50-8	mg/kg	3100	--	**4.6**	**8.4**	**4**	**24.6**	**48.5**	**7.5**	**8.5**
Iron	7439-89-6	mg/kg	55000	--	**2210**	**5370**	**2890**	**7770**	**6240**	**4720**	**7930**
Lead	7439-92-1	mg/kg	400	--	**9.4**	**11.8**	**8.9**	**13.2**	**13.2**	**3**	**5.4**
Magnesium	7439-95-4	mg/kg	NP	--	**209**	**287 LJ**	**155**	401 U	442 U	**142**	**205**
Manganese	7439-96-5	mg/kg	1800	--	**188**	**219**	**189**	**225**	**242**	**397**	**389**
Mercury	7439-97-6	mg/kg	9.4	--	0.063 U	**0.02 LJ**	0.07 U	**0.023 LJ**	**0.026 LJ**	0.077 U	0.076 U
Nickel	7440-02-0	mg/kg	1500	--	2.1 U	**2.9**	2.1 U	**3.3**	**3.2**	**2.2**	**2.4**
Potassium	7440-09-7	mg/kg	NP	--	**329**	**499**	**296**	**510**	**525**	**253**	**410**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.8 U	1.1 U	2.2 U	1.9 U	1.1 U	1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.36 U	1.1 U	0.45 U	0.37 U	1.1 U	1 U
Sodium	7440-23-5	mg/kg	NP	--	53.4 U	390 U	53.2 U	401 U	442 U	52.6 U	51 U
Thallium	7440-28-0	mg/kg	0.78	--	0.5 U	0.36 U	0.5 U	0.45 U	0.37 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**2.9**	**7.9**	**4**	**8.8**	**8.7**	**8**	**11.4**
Zinc	7440-66-6	mg/kg	23000	--	**35**	**62.9 J**	**24.4**	**54.2**	**65.3**	**8.2**	**12**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0489 U	NA	0.0465 U	NA	NA	0.0433 U	0.0435 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0244 U	NA	0.0233 U	NA	NA	0.0216 U	0.0217 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-002-00-51 5/18/2015	WO-020-002-00-51S 6/11/2015	WO-020-002-06-51 5/18/2015	WO-020-002-06-51S 6/8/2015	WO-020-002-06-52S 6/8/2015	WO-020-002-12-51 5/18/2015	WO-020-002-24-51 5/18/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	NA	**0.026 LJ**	NA	NA	0.19 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endrin	72-20-8	mg/kg	18	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Heptachlor	76-44-8	mg/kg	12	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Methoxychlor	72-43-5	mg/kg	310	--	0.00122 U	NA	0.00116 U	NA	NA	0.00108 U	0.00109 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0367 U	NA	0.0349 U	NA	NA	0.0325 U	0.0326 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	NA	NA	NA	NA	0.19 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U

Appendix E - Table 3
Wilcox Oil
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Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-002-00-51 5/18/2015	WO-020-002-00-51S 6/11/2015	WO-020-002-06-51 5/18/2015	WO-020-002-06-51S 6/8/2015	WO-020-002-06-52S 6/8/2015	WO-020-002-12-51 5/18/2015	WO-020-002-24-51 5/18/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 UJ	NA	0.39 UJ	NA	NA	0.37 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.036 LJ**	NA	**0.022 LJ**	NA	NA	0.19 U	0.19 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	NA	0.2 UJ	NA	NA	0.19 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.004 UJ	NA	0.0078 UJ	NA	NA	0.0037 U	**0.0023 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.004 UJ	NA	0.0078 UJ	NA	NA	0.0037 U	**0.0018 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-002-00-51 5/18/2015	WO-020-002-00-51S 6/11/2015	WO-020-002-06-51 5/18/2015	WO-020-002-06-51S 6/8/2015	WO-020-002-06-52S 6/8/2015	WO-020-002-12-51 5/18/2015	WO-020-002-24-51 5/18/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0022 LJ**	NA	**0.0016 LJ**	NA	NA	0.0037 U	**0.0022 LJ**
Anthracene	120-12-7	mg/kg	17000	--	**0.0031 LJ**	NA	**0.0055 LJ**	NA	NA	0.0037 U	**0.002 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0078 J**	NA	**0.021 J**	NA	NA	0.0037 U	**0.0019 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0062 J**	NA	**0.015 J**	NA	NA	0.0037 U	**0.0015 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.013 J**	NA	**0.027 J**	NA	NA	0.0037 U	**0.0028 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0044 J**	NA	**0.007 LJ**	NA	NA	0.0037 U	**0.00077 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0036 LJ**	NA	**0.0075 LJ**	NA	NA	0.0037 U	**0.00088 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.01 J**	NA	**0.02 J**	NA	NA	0.0037 U	**0.0024 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0023 LJ**	NA	**0.0037 LJ**	NA	NA	0.0037 U	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.011 J**	NA	**0.038 J**	NA	NA	0.0037 U	**0.0023 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.004 UJ	NA	0.0078 UJ	NA	NA	0.0037 U	**0.002 LJ**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0079 J**	NA	**0.016 J**	NA	NA	0.0037 U	**0.0017 LJ**
Naphthalene	91-20-3	mg/kg	130	--	0.004 UJ	NA	0.0078 UJ	NA	NA	0.0037 U	**0.0013 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0081 UJ	NA	0.016 UJ	NA	NA	0.0075 U	**0.0014 LJ**
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0033 LJ**	NA	**0.018 J**	NA	NA	0.0037 U	**0.0016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.0099 J**	NA	**0.03 J**	NA	NA	0.0037 U	**0.0037 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	**0.0041 B**
2-Hexanone	591-78-6	mg/kg	200	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Acetone	67-64-1	mg/kg	61000	--	**0.0201 B**	NA	**0.0135 B**	NA	NA	**0.037 B**	**0.0412 B**
Benzene	71-43-2	mg/kg	82	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Bromoform	75-25-2	mg/kg	1200	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-002-00-51 5/18/2015	WO-020-002-00-51S 6/11/2015	WO-020-002-06-51 5/18/2015	WO-020-002-06-51S 6/8/2015	WO-020-002-06-52S 6/8/2015	WO-020-002-12-51 5/18/2015	WO-020-002-24-51 5/18/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Chloroform	67-66-3	mg/kg	32	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Chloromethane	74-87-3	mg/kg	110	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0093 U	NA	0.009 U	NA	NA	0.0083 U	0.008 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
o-Xylene	95-47-6	mg/kg	650	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Styrene	100-42-5	mg/kg	6000	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Toluene	108-88-3	mg/kg	4900	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0047 U	NA	0.0045 U	NA	NA	0.0042 U	0.004 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-003-00-51 5/18/2015	WO-020-003-00-51S 6/11/2015	WO-020-003-00-52 5/18/2015	WO-020-003-06-51 5/18/2015	WO-020-003-06-51S 6/12/2015	WO-020-003-12-51 5/18/2015	WO-020-003-24-51 5/18/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1850**	**3580**	**1910**	**4290**	**3000**	**9040**	**11200**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.74 UJ	0.6 U	0.5 U	0.87 UJ	0.5 U	0.5 UJ, U
Arsenic	7440-38-2	mg/kg	34	--	**1.2**	**2.3**	**1.6**	**1.9**	**1.5**	**2.6**	**5.2**
Barium	7440-39-3	mg/kg	15000	--	**37.8**	**37**	**39.7**	**28.4**	**35.8**	**24.2**	**24.7**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.37 U	0.6 U	0.5 U	0.43 U	**0.6**	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.37 U	0.6 U	0.5 U	0.43 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**1210**	**3770**	**1070**	**848**	**1710**	**1120**	**1560**
Chromium	7440-47-3	mg/kg	NP	--	**3.8**	**7.2**	**4.8**	**7**	**7**	**10.5**	**19.6**
Cobalt	7440-48-4	mg/kg	23	--	2.2 U	**2.5**	2.2 U	2.2 U	**2.8**	**3.4**	**3.6**
Copper	7440-50-8	mg/kg	3100	--	**7.4**	**11.2**	**10.2**	**5.9**	**11.5**	**6.8**	**26.6**
Iron	7439-89-6	mg/kg	55000	--	**4350**	**6680**	**5670**	**7360**	**6800**	**13400**	**25900**
Lead	7439-92-1	mg/kg	400	--	**18.5**	**19.4**	**17**	**11.8**	**16.7**	**7.3**	**5.3**
Magnesium	7439-95-4	mg/kg	NP	--	**345**	**1870**	**365**	**418**	**827**	**875**	**2070**
Manganese	7439-96-5	mg/kg	1800	--	**168**	**217**	**151**	**89.1**	**203**	**57.1**	**32.4 J**
Mercury	7439-97-6	mg/kg	9.4	--	0.066 U	**0.018 LJ**	0.064 U	0.07 U	**0.018 LJ**	0.071 U	0.072 U
Nickel	7440-02-0	mg/kg	1500	--	2.2 U	**4.5**	**3.4**	**2.9**	**4**	**5.3**	**8.3**
Potassium	7440-09-7	mg/kg	NP	--	**559**	**849**	**543**	**578**	**684**	**1160**	**953**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.8 U	1.1 U	1.1 U	2.2 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.37 U	1.1 U	1.1 U	0.43 U	1.1 U	1.1 UJ, U
Sodium	7440-23-5	mg/kg	NP	--	55.3 U	470 U	55.7 U	54.3 U	478 U	54.6 U	**226**
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.37 U	0.6 U	0.5 U	0.43 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**5.5**	**10.7**	**5.6**	**12.5**	**10.9**	**20.4**	**31**
Zinc	7440-66-6	mg/kg	23000	--	**52.1**	**53.4 J**	**48.6**	**25.4**	**42.6 J**	**13.2**	**9.2**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0475 U	NA	0.0475 U	0.0461 U	NA	0.0445 U	0.0462 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0238 U	NA	0.0238 U	0.023 U	NA	0.0223 U	0.0231 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Acetophenone	98-86-2	mg/kg	7800	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-003-00-51 5/18/2015	WO-020-003-00-51S 6/11/2015	WO-020-003-00-52 5/18/2015	WO-020-003-06-51 5/18/2015	WO-020-003-06-51S 6/12/2015	WO-020-003-12-51 5/18/2015	WO-020-003-24-51 5/18/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	**0.00375**	NA	**0.00671**	**0.00161**	NA	0.00111 U	0.00116 U
Atrazine	1912-24-9	mg/kg	230	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
beta-BHC	319-85-7	mg/kg	30	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Caprolactam	105-60-2	mg/kg	31000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Carbazole	86-74-8	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endrin	72-20-8	mg/kg	18	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00577**	NA	**0.00865**	**0.00279**	NA	0.00111 U	0.00116 U
Heptachlor	76-44-8	mg/kg	12	--	0.00119 U	NA	**0.00413**	0.00115 U	NA	0.00111 U	0.00116 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.00787**	NA	**0.0139**	**0.00209**	NA	0.00111 U	0.00116 U
Methoxychlor	72-43-5	mg/kg	310	--	0.00119 U	NA	0.00119 U	0.00115 U	NA	0.00111 U	0.00116 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0357 U	NA	0.0356 U	0.0346 U	NA	0.0334 U	0.0347 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-003-00-51 5/18/2015	WO-020-003-00-51S 6/11/2015	WO-020-003-00-52 5/18/2015	WO-020-003-06-51 5/18/2015	WO-020-003-06-51S 6/12/2015	WO-020-003-12-51 5/18/2015	WO-020-003-24-51 5/18/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.41 UJ	NA	0.4 UJ	0.39 U	NA	0.39 U	0.39 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.022 LJ**	NA	0.21 UJ	**0.021 LJ**	NA	0.2 U	0.2 U
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	**0.017 LJ**	NA	**0.016 LJ**	0.2 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Isophorone	78-59-1	mg/kg	12000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.21 UJ	NA	0.21 UJ	0.2 U	NA	0.2 U	0.2 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0029 LJ**	NA	**0.0017 LJ**	0.0039 U	NA	0.0039 U	0.0039 U
Acenaphthene	83-32-9	mg/kg	3500	--	0.0041 UJ	NA	0.004 UJ	0.0039 U	NA	0.0039 U	0.0039 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-003-00-51 5/18/2015	WO-020-003-00-51S 6/11/2015	WO-020-003-00-52 5/18/2015	WO-020-003-06-51 5/18/2015	WO-020-003-06-51S 6/12/2015	WO-020-003-12-51 5/18/2015	WO-020-003-24-51 5/18/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0017 LJ**	NA	**0.0018 LJ**	**0.00079 LJ**	NA	0.0039 U	0.0039 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0022 LJ**	NA	**0.0025 LJ**	0.0039 U	NA	0.0039 U	0.0039 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0069 J**	NA	**0.0063 J**	**0.003 LJ**	NA	**0.0011 LJ**	0.0039 U
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0062 J**	NA	**0.0059 J**	**0.0024 LJ**	NA	0.0039 U	0.0039 U
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.011 J**	NA	**0.011 J**	**0.0045**	NA	**0.0015 LJ**	0.0039 U
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0035 LJ**	NA	**0.0039 LJ**	**0.00098 LJ**	NA	0.0039 U	0.0039 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0027 LJ**	NA	**0.0025 LJ**	**0.0011 LJ**	NA	0.0039 U	0.0039 U
Chrysene	218-01-9	mg/kg	1500	--	**0.0094 J**	NA	**0.0091 J**	**0.004**	NA	**0.0014 LJ**	0.0039 U
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0016 LJ**	NA	**0.0015 LJ**	0.0039 U	NA	0.0039 U	0.0039 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0094 J**	NA	**0.0082 J**	**0.0036 LJ**	NA	**0.0018 LJ**	0.0039 U
Fluorene	86-73-7	mg/kg	2300	--	0.0041 UJ	NA	0.004 UJ	0.0039 U	NA	0.0039 U	0.0039 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0064 J**	NA	**0.0055 J**	**0.0025 LJ**	NA	**0.00086 LJ**	0.0039 U
Naphthalene	91-20-3	mg/kg	130	--	**0.0015 LJ**	NA	**0.0013 LJ**	0.0039 U	NA	0.0039 U	0.0039 U
Pentachlorophenol	87-86-5	mg/kg	99	--	**0.0023 LJ**	NA	**0.0012 LJ**	**0.0011 LJ**	NA	0.0079 U	0.008 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0039 LJ**	NA	**0.0025 LJ**	**0.0024 LJ**	NA	**0.0033 LJ**	0.0039 U
Pyrene	129-00-0	mg/kg	1700	--	**0.01 J**	NA	**0.0079 J**	**0.0053**	NA	**0.0032 LJ**	0.0039 U
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.0053 B**	NA	0.0065 U	**0.0045 B**	NA	**0.0045 B**	0.0035 U
2-Hexanone	591-78-6	mg/kg	200	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Acetone	67-64-1	mg/kg	61000	--	**0.0257 B**	NA	**0.0214 B, K**	**0.0234 B**	NA	**0.0288 B**	**0.0114 B**
Benzene	71-43-2	mg/kg	82	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Bromoform	75-25-2	mg/kg	1200	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-003-00-51 5/18/2015	WO-020-003-00-51S 6/11/2015	WO-020-003-00-52 5/18/2015	WO-020-003-06-51 5/18/2015	WO-020-003-06-51S 6/12/2015	WO-020-003-12-51 5/18/2015	WO-020-003-24-51 5/18/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Chloroform	67-66-3	mg/kg	32	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Chloromethane	74-87-3	mg/kg	110	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0104 U	NA	0.0129 U	0.0087 U	NA	0.0075 U	0.0071 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
o-Xylene	95-47-6	mg/kg	650	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Styrene	100-42-5	mg/kg	6000	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Toluene	108-88-3	mg/kg	4900	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0052 U	NA	0.0065 U	0.0044 U	NA	0.0037 U	0.0035 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-004-00-51 5/18/2015	WO-020-004-00-51S 6/11/2015	WO-020-004-06-51 5/18/2015	WO-020-004-06-51S 6/11/2015	WO-020-004-12-51 5/18/2015	WO-020-004-24-51 5/18/2015	WO-020-005-00-51 5/18/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1260**	**2000**	**1470**	**2100**	**3620**	**3950**	**1140**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.7 UJ	0.5 U	0.88 UJ	0.5 U	0.5 U	0.5 U
Arsenic	7440-38-2	mg/kg	34	--	**0.9**	**1.2**	**1.2**	**1.3**	**2**	**1.5**	**1**
Barium	7440-39-3	mg/kg	15000	--	**27.2**	**30.3**	**22.4**	**31.5**	**25.6**	**18.7**	**23.5**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.35 U	0.5 U	0.44 U	0.5 U	0.5 U	0.5 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.35 U	0.5 U	0.44 U	0.5 U	0.5 U	0.5 U
Calcium	7440-70-2	mg/kg	NP	--	**821**	**643**	**550**	**586**	**610**	**657**	**2460**
Chromium	7440-47-3	mg/kg	NP	--	**2.4**	**4.8**	**2.7**	**5.3**	**5.6**	**5.7**	**2.4**
Cobalt	7440-48-4	mg/kg	23	--	2.3 U	**2.2**	2.2 U	**2.4**	**2.6**	2.1 U	2.2 U
Copper	7440-50-8	mg/kg	3100	--	**6.1**	**10.8**	**5.5**	**23.9**	**7.6**	**7.5**	**5.2**
Iron	7439-89-6	mg/kg	55000	--	**2540**	**4230**	**2950**	**4810**	**6670**	**7630**	**2450**
Lead	7439-92-1	mg/kg	400	--	**10.7**	**11.5**	**8.4**	**12.5**	**6.4**	**5.8**	**28.9**
Magnesium	7439-95-4	mg/kg	NP	--	**219**	**272 LJ**	**179**	**255 LJ**	**289**	**284**	**1120**
Manganese	7439-96-5	mg/kg	1800	--	**150**	**178**	**127**	**192**	**132**	**102**	**171**
Mercury	7439-97-6	mg/kg	9.4	--	0.06 U	**0.015 LJ**	0.072 U	**0.018 LJ**	0.069 U	0.078 U	0.072 U
Nickel	7440-02-0	mg/kg	1500	--	2.3 U	**2.6**	2.2 U	**2.8**	**2.2**	2.1 U	2.2 U
Potassium	7440-09-7	mg/kg	NP	--	**431**	**462**	**316**	**426 LJ**	**414**	**402**	**293**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	1.8 U	1.1 U	2.2 U	1.1 U	1.1 U	1.1 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.35 U	1.1 U	0.44 U	1.1 U	1.1 U	1.1 U
Sodium	7440-23-5	mg/kg	NP	--	56.8 U	380 U	54.1 U	499 U	54.7 U	53.6 U	54.3 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.35 U	0.5 U	0.44 U	0.5 U	0.5 U	0.5 U
Vanadium	7440-62-2	mg/kg	390	--	**2.8**	**7.5**	**4**	**8.3**	**10.9**	**10.2**	**3**
Zinc	7440-66-6	mg/kg	23000	--	**30.2**	**30.4 J**	**19.5**	**34.7 J**	**10.6**	**11.5**	**50.6**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0497 U	NA	0.0477 U	NA	0.0474 U	0.0443 U	0.0467 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0249 U	NA	0.0238 U	NA	0.0237 U	0.0222 U	0.0233 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	**0.00151**
4,4'-DDT	50-29-3	mg/kg	36	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	**0.00137**
Acetophenone	98-86-2	mg/kg	7800	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Aldrin	309-00-2	mg/kg	1.8	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-004-00-51 5/18/2015	WO-020-004-00-51S 6/11/2015	WO-020-004-06-51 5/18/2015	WO-020-004-06-51S 6/11/2015	WO-020-004-12-51 5/18/2015	WO-020-004-24-51 5/18/2015	WO-020-005-00-51 5/18/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	**0.00141**	NA	0.00119 U	NA	0.00118 U	0.00111 U	**0.00495**
Atrazine	1912-24-9	mg/kg	230	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
beta-BHC	319-85-7	mg/kg	30	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Caprolactam	105-60-2	mg/kg	31000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Carbazole	86-74-8	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
delta-BHC	319-86-8	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endrin	72-20-8	mg/kg	18	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00239**	NA	**0.00161**	NA	0.00118 U	0.00111 U	**0.00787**
Heptachlor	76-44-8	mg/kg	12	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	**0.0016**
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	**0.00241**	NA	0.00119 U	NA	0.00118 U	0.00111 U	**0.00852**
Methoxychlor	72-43-5	mg/kg	310	--	0.00124 U	NA	0.00119 U	NA	0.00118 U	0.00111 U	0.00117 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0373 U	NA	0.0357 U	NA	0.0355 U	0.0332 U	0.035 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-004-00-51 5/18/2015	WO-020-004-00-51S 6/11/2015	WO-020-004-06-51 5/18/2015	WO-020-004-06-51S 6/11/2015	WO-020-004-12-51 5/18/2015	WO-020-004-24-51 5/18/2015	WO-020-005-00-51 5/18/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.21 UR	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	0.21 UR	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.41 UJ	NA	0.4 UJ	NA	0.37 U	0.39 U	0.39 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.21 UJ	NA	**0.023 LJ**	NA	**0.021 LJ**	0.2 U	**0.046 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.21 UR	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Isophorone	78-59-1	mg/kg	12000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.21 UJ	NA	0.21 UJ	NA	0.19 U	0.2 U	0.2 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0041 UJ	NA	**0.0043 J**	NA	**0.0023 LJ**	**0.0015 LJ**	**0.0044 J**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0041 UJ	NA	**0.002 LJ**	NA	0.0037 U	0.0039 U	**0.0017 LJ**

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-004-00-51 5/18/2015	WO-020-004-00-51S 6/11/2015	WO-020-004-06-51 5/18/2015	WO-020-004-06-51S 6/11/2015	WO-020-004-12-51 5/18/2015	WO-020-004-24-51 5/18/2015	WO-020-005-00-51 5/18/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0012 LJ**	NA	**0.0028 LJ**	NA	0.0037 U	0.0039 U	**0.0051 J**
Anthracene	120-12-7	mg/kg	17000	--	**0.0016 LJ**	NA	**0.003 LJ**	NA	0.0037 U	0.0039 U	**0.0075 J**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0063 J**	NA	**0.0063 J**	NA	**0.0008 LJ**	**0.0015 LJ**	**0.016 J**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0061 J**	NA	**0.0055 J**	NA	0.0037 U	**0.0013 LJ**	**0.014 J**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.0093 J**	NA	**0.0099 J**	NA	**0.0012 LJ**	**0.0023 LJ**	**0.023 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0031 LJ**	NA	**0.0039 LJ**	NA	0.0037 U	0.0039 U	**0.012 J**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0027 LJ**	NA	**0.0025 LJ**	NA	0.0037 U	0.0039 U	**0.0067 J**
Chrysene	218-01-9	mg/kg	1500	--	**0.0087 J**	NA	**0.0081 J**	NA	**0.0012 LJ**	**0.0018 LJ**	**0.022 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0015 LJ**	NA	**0.0014 LJ**	NA	0.0037 U	0.0039 U	**0.0036 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0083 J**	NA	**0.0093 J**	NA	**0.0011 LJ**	**0.0015 LJ**	**0.016 J**
Fluorene	86-73-7	mg/kg	2300	--	0.0041 UJ	NA	**0.0021 LJ**	NA	**0.0011 LJ**	0.0039 U	**0.0025 LJ**
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0057 J**	NA	**0.0058 J**	NA	0.0037 U	**0.0013 LJ**	**0.013 J**
Naphthalene	91-20-3	mg/kg	130	--	0.0041 UJ	NA	**0.0023 LJ**	NA	**0.0015 LJ**	**0.0014 LJ**	**0.0023 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	**0.0051 LJ**	NA	**0.0014 LJ**	NA	0.0075 U	0.0079 U	**0.0044 LJ**
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0031 LJ**	NA	**0.0047 J**	NA	**0.0036 LJ**	**0.0011 LJ**	**0.015 J**
Pyrene	129-00-0	mg/kg	1700	--	**0.0082 J**	NA	**0.0084 J**	NA	**0.0013 LJ**	**0.0017 LJ**	**0.024 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0048 U	NA	**0.0072 B**	NA	**0.0076 B**	0.004 U	0.0044 U
2-Hexanone	591-78-6	mg/kg	200	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Acetone	67-64-1	mg/kg	61000	--	**0.011 B**	NA	**0.0289 B, K**	NA	**0.022 B**	**0.0111 B**	**0.0114 B**
Benzene	71-43-2	mg/kg	82	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Bromoform	75-25-2	mg/kg	1200	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-004-00-51 5/18/2015	WO-020-004-00-51S 6/11/2015	WO-020-004-06-51 5/18/2015	WO-020-004-06-51S 6/11/2015	WO-020-004-12-51 5/18/2015	WO-020-004-24-51 5/18/2015	WO-020-005-00-51 5/18/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Chloroform	67-66-3	mg/kg	32	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Chloromethane	74-87-3	mg/kg	110	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0096 U	NA	0.0087 U	NA	0.0077 U	0.008 U	0.0088 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
o-Xylene	95-47-6	mg/kg	650	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Styrene	100-42-5	mg/kg	6000	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Toluene	108-88-3	mg/kg	4900	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0048 U	NA	0.0044 U	NA	0.0039 U	0.004 U	0.0044 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-005-00-51S 6/8/2015	WO-020-005-06-51 5/18/2015	WO-020-005-06-51S 6/8/2015	WO-020-005-12-51 5/18/2015	WO-020-005-24-51 5/18/2015	WO-020-006-00-51 5/18/2015	WO-020-006-00-51S 6/11/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1910**	**1620**	**2200**	**2020**	**2010**	**1730**	**2190**
Antimony	7440-36-0	mg/kg	31	--	0.93 UJ	0.5 U	0.84 UJ	0.5 U	0.5 U	0.6 UJ, U	0.72 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.5**	**2.8**	**1.5**	**1.1**	**1.2**	**2**	**1.3**
Barium	7440-39-3	mg/kg	15000	--	**38.2**	**30**	**40**	**23.8**	**17.7**	**31.5**	**41**
Beryllium	7440-41-7	mg/kg	160	--	0.46 U	0.5 U	0.42 U	0.5 U	0.5 U	0.6 U	0.36 U
Cadmium	7440-43-9	mg/kg	70	--	0.46 U	0.5 U	0.42 U	0.5 U	0.5 U	0.6 U	0.36 U
Calcium	7440-70-2	mg/kg	NP	--	**3340**	**1250**	**4210**	**538**	**1390**	**2380**	**1050**
Chromium	7440-47-3	mg/kg	NP	--	**5.3**	**6.9**	**5.5**	**3.1**	**3**	**4.4**	**6.3**
Cobalt	7440-48-4	mg/kg	23	--	**1.5**	**2.5**	**1.6**	**2.1**	2 U	**2.4**	**2.3**
Copper	7440-50-8	mg/kg	3100	--	**9.2**	**6.7**	**8.8**	**3.8**	**3.5**	**8.5**	**11**
Iron	7439-89-6	mg/kg	55000	--	**3690**	**6500**	**4170**	**3290**	**3680**	**5330**	**4920**
Lead	7439-92-1	mg/kg	400	--	**34.5**	**22.8**	**31.6**	**11.4**	**5.8**	**39.2 J**	**30.2**
Magnesium	7439-95-4	mg/kg	NP	--	**1500**	**553**	**1960**	**247**	**697**	**1020**	**382 LJ**
Manganese	7439-96-5	mg/kg	1800	--	**193**	**230**	**208**	**115**	**76.9**	**225**	**200**
Mercury	7439-97-6	mg/kg	9.4	--	**0.1**	0.076 U	**0.06 LJ**	0.077 U	0.078 U	0.065 U	**0.032 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**3.1**	2 U	**3.4**	2.1 U	2 U	**3**	**3.6**
Potassium	7440-09-7	mg/kg	NP	--	468 U	**238**	**431**	**248**	**209**	**440**	**516**
Selenium	7782-49-2	mg/kg	390	--	2.3 U	1 U	2.1 U	1 U	1 U	1.1 U	1.8 U
Silver	7440-22-4	mg/kg	390	--	0.46 U	1 U	0.42 U	1 U	1 U	1.1 U	0.36 U
Sodium	7440-23-5	mg/kg	NP	--	468 U	50.2 U	410 U	51.9 U	51.2 U	56.7 U	405 U
Thallium	7440-28-0	mg/kg	0.78	--	0.46 U	0.5 U	0.42 U	0.5 U	0.5 U	0.6 U	0.36 U
Vanadium	7440-62-2	mg/kg	390	--	**7**	**11.4**	**7.4**	**5.4**	**5.6**	**5.4**	**8.1**
Zinc	7440-66-6	mg/kg	23000	--	**66.3**	**46.2**	**65.4**	**24.1**	**14.3**	**122 J**	**92.5 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1221	11104-28-2	mg/kg	15	--	NA	0.0434 U	NA	0.0446 U	0.0441 U	0.0477 U	NA
Aroclor-1232	11141-16-5	mg/kg	15	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1242	53469-21-9	mg/kg	24	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1248	12672-29-6	mg/kg	24	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1254	11097-69-1	mg/kg	1.1	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1260	11096-82-5	mg/kg	24	--	NA	0.0217 U	NA	0.0223 U	0.022 U	0.0239 U	NA
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
4,4'-DDE	72-55-9	mg/kg	160	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
4,4'-DDT	50-29-3	mg/kg	36	--	NA	**0.00111**	NA	0.00111 U	0.0011 U	0.00119 U	NA
Acetophenone	98-86-2	mg/kg	7800	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Aldrin	309-00-2	mg/kg	1.8	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
alpha-BHC	319-84-6	mg/kg	8.5	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-005-00-51S 6/8/2015	WO-020-005-06-51 5/18/2015	WO-020-005-06-51S 6/8/2015	WO-020-005-12-51 5/18/2015	WO-020-005-24-51 5/18/2015	WO-020-006-00-51 5/18/2015	WO-020-006-00-51S 6/11/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	NA	**0.00322**	NA	0.00111 U	0.0011 U	0.00119 U	NA
Atrazine	1912-24-9	mg/kg	230	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Benzaldehyde	100-52-7	mg/kg	7800	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
beta-BHC	319-85-7	mg/kg	30	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Caprolactam	105-60-2	mg/kg	31000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Carbazole	86-74-8	mg/kg	NP	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
delta-BHC	319-86-8	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Dieldrin	60-57-1	mg/kg	3.1	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endosulfan I	959-98-8	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endosulfan II	33213-65-9	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endrin	72-20-8	mg/kg	18	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endrin aldehyde	7421-93-4	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Endrin ketone	53494-70-5	mg/kg	NP	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
gamma-Chlordane	5103-74-2	mg/kg	NP	--	NA	**0.00539**	NA	0.00111 U	0.0011 U	**0.00273**	NA
Heptachlor	76-44-8	mg/kg	12	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	NA	**0.00676**	NA	0.00111 U	0.0011 U	**0.00125**	NA
Methoxychlor	72-43-5	mg/kg	310	--	NA	0.00108 U	NA	0.00111 U	0.0011 U	0.00119 U	NA
Toxaphene	8001-35-2	mg/kg	48	--	NA	0.0325 U	NA	0.0334 U	0.0331 U	0.0358 U	NA
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,1'-Biphenyl	92-52-4	mg/kg	47	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2-Chlorophenol	95-57-8	mg/kg	390	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
2-Nitroaniline	88-74-4	mg/kg	610	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA

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West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-005-00-51S 6/8/2015	WO-020-005-06-51 5/18/2015	WO-020-005-06-51S 6/8/2015	WO-020-005-12-51 5/18/2015	WO-020-005-24-51 5/18/2015	WO-020-006-00-51 5/18/2015	WO-020-006-00-51S 6/11/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
3-Nitroaniline	99-09-2	mg/kg	NP	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
4-Chloroaniline	106-47-8	mg/kg	250	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
4-Methylphenol	106-44-5	mg/kg	6200	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
4-Nitroaniline	100-01-6	mg/kg	250	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA
4-Nitrophenol	100-02-7	mg/kg	NP	--	NA	0.37 UJ	NA	0.37 UJ	0.37 U	0.4 UJ	NA
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	NA	**0.018 LJ**	NA	0.19 UJ	0.19 U	**0.078 LJ**	NA
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Diethylphthalate	84-66-2	mg/kg	49000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Dimethylphthalate	131-11-3	mg/kg	NP	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Di-n-octylphthalate	117-84-0	mg/kg	620	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Hexachlorobutadiene	87-68-3	mg/kg	62	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Hexachloroethane	67-72-1	mg/kg	43	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Isophorone	78-59-1	mg/kg	12000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Nitrobenzene	98-95-3	mg/kg	130	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	0.37 UJ	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	NA	0.19 UJ	NA	0.19 UJ	0.19 U	0.21 UJ	NA
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	**0.0031 LJ**	NA	**0.0022 LJ**	**0.0012 LJ**	0.004 UJ	NA
Acenaphthene	83-32-9	mg/kg	3500	--	NA	0.0037 UJ	NA	0.0037 UJ	0.0037 U	0.004 UJ	NA

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-005-00-51S 6/8/2015	WO-020-005-06-51 5/18/2015	WO-020-005-06-51S 6/8/2015	WO-020-005-12-51 5/18/2015	WO-020-005-24-51 5/18/2015	WO-020-006-00-51 5/18/2015	WO-020-006-00-51S 6/11/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	NA	**0.004 J**	NA	**0.0026 LJ**	**0.001 LJ**	**0.0015 LJ**	NA
Anthracene	120-12-7	mg/kg	17000	--	NA	**0.0062 J**	NA	**0.0033 LJ**	**0.0012 LJ**	**0.0023 LJ**	NA
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	**0.022 J**	NA	**0.0084 J**	**0.0039**	**0.0072 J**	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	**0.015 J**	NA	**0.0072 J**	**0.0025 LJ**	**0.012 J**	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	**0.024 J**	NA	**0.013 J**	**0.004**	**0.012 J**	NA
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	NA	**0.011 J**	NA	**0.0041 J**	**0.0017 LJ**	**0.019 J**	NA
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	NA	**0.0065 J**	NA	**0.0038 J**	**0.0012 LJ**	**0.0026 LJ**	NA
Chrysene	218-01-9	mg/kg	1500	--	NA	**0.032 J**	NA	**0.01 J**	**0.0058**	**0.011 J**	NA
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	NA	**0.0046 J**	NA	**0.0018 LJ**	0.0037 U	**0.0037 LJ**	NA
Fluoranthene	206-44-0	mg/kg	2300	--	NA	**0.018 J**	NA	**0.0084 J**	**0.0034 LJ**	**0.0077 J**	NA
Fluorene	86-73-7	mg/kg	2300	--	NA	**0.00084 LJ**	NA	**0.00076 LJ**	0.0037 U	0.004 UJ	NA
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	NA	**0.014 J**	NA	**0.007 J**	**0.0024 LJ**	**0.0097 J**	NA
Naphthalene	91-20-3	mg/kg	130	--	NA	**0.0017 LJ**	NA	**0.0017 LJ**	**0.00081 LJ**	**0.00083 LJ**	NA
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	**0.00085 LJ**	NA	NA	0.0075 U	**0.0014 LJ**	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	**0.025 J**	NA	**0.0046 J**	**0.0054**	**0.0027 LJ**	NA
Pyrene	129-00-0	mg/kg	1700	--	NA	**0.033 J**	NA	**0.011 J**	**0.0074**	**0.0086 J**	NA
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,1-Dichloroethane	75-34-3	mg/kg	360	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,1-Dichloroethene	75-35-4	mg/kg	230	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,2-Dichloroethane	107-06-2	mg/kg	31	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,2-Dichloropropane	78-87-5	mg/kg	16	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
2-Butanone	78-93-3	mg/kg	27000	--	NA	**0.0046 B**	NA	0.0041 U	0.005 U	0.0049 U	NA
2-Hexanone	591-78-6	mg/kg	200	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Acetone	67-64-1	mg/kg	61000	--	NA	**0.0164 B**	NA	**0.0123 B**	**0.0178 B**	**0.0104 B**	NA
Benzene	71-43-2	mg/kg	82	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	75-27-4	mg/kg	29	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Bromoform	75-25-2	mg/kg	1200	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Bromomethane	74-83-9	mg/kg	6.8	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Carbon disulfide	75-15-0	mg/kg	770	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA

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West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-005-00-51S 6/8/2015	WO-020-005-06-51 5/18/2015	WO-020-005-06-51S 6/8/2015	WO-020-005-12-51 5/18/2015	WO-020-005-24-51 5/18/2015	WO-020-006-00-51 5/18/2015	WO-020-006-00-51S 6/11/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Chlorobenzene	108-90-7	mg/kg	280	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Chloroethane	75-00-3	mg/kg	14000	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Chloroform	67-66-3	mg/kg	32	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Chloromethane	74-87-3	mg/kg	110	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Cyclohexane	110-82-7	mg/kg	6500	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Dibromochloromethane	124-48-1	mg/kg	73	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Ethylbenzene	100-41-4	mg/kg	580	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Isopropylbenzene	98-82-8	mg/kg	1900	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	NA	0.0088 U	NA	0.0082 U	0.01 U	0.0099 U	NA
Methyl acetate	79-20-9	mg/kg	78000	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Methylcyclohexane	108-87-2	mg/kg	NP	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Methylene chloride	75-09-2	mg/kg	350	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
o-Xylene	95-47-6	mg/kg	650	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Styrene	100-42-5	mg/kg	6000	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Tetrachloroethene	127-18-4	mg/kg	81	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Toluene	108-88-3	mg/kg	4900	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Trichloroethene	79-01-6	mg/kg	4.1	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Trichlorofluoromethane	75-69-4	mg/kg	730	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA
Vinyl chloride	75-01-4	mg/kg	5.9	--	NA	0.0044 U	NA	0.0041 U	0.005 U	0.0049 U	NA

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-006-06-51 5/18/2015	WO-020-006-06-51S 6/12/2015	WO-020-006-12-51 5/18/2015	WO-020-006-24-51 5/18/2015	WO-021-001-00-51 6/3/2015	WO-021-001-06-51 6/3/2015	WO-021-001-12-51 6/3/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**1790**	**2220**	**5010**	**7880**	**3420**	**4540**	**5140**
Antimony	7440-36-0	mg/kg	31	--	0.6 U	0.82 UJ	0.5 U	0.5 U	0.89 UJ	0.93 UJ	0.88 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.2**	**1.3**	**1.8**	**2.3**	**1.8**	**1.6**	**1.3**
Barium	7440-39-3	mg/kg	15000	--	**34.1**	**38.3**	**38.8**	**39**	**33.8**	**31.5**	**40.1**
Beryllium	7440-41-7	mg/kg	160	--	0.6 U	0.41 U	0.5 U	0.5 U	0.45 U	0.46 U	0.44 U
Cadmium	7440-43-9	mg/kg	70	--	0.6 U	0.41 U	0.5 U	0.5 U	0.45 U	0.46 U	0.44 U
Calcium	7440-70-2	mg/kg	NP	--	**899**	**786**	**688**	**1070**	**1110**	**945**	**1500**
Chromium	7440-47-3	mg/kg	NP	--	**3.8**	**6.3**	**6.3**	**10.8**	**9.6**	**10.6**	**13.1**
Cobalt	7440-48-4	mg/kg	23	--	**3.1**	**2.4**	**2.4**	2.1 U	**1.8**	**1.6**	**1.6**
Copper	7440-50-8	mg/kg	3100	--	**7.4**	**11.5**	**5.3**	**6.9**	**4**	**3.8**	**4.2**
Iron	7439-89-6	mg/kg	55000	--	**4070**	**4550**	**8290**	**14000**	**6260**	**6630**	**8010**
Lead	7439-92-1	mg/kg	400	--	**31.3**	**29.4**	**6.3**	**3.7**	**9**	**4.3**	**3.9**
Magnesium	7439-95-4	mg/kg	NP	--	**293**	**316 LJ**	**453**	**548**	**502**	**641**	**973**
Manganese	7439-96-5	mg/kg	1800	--	**232**	**175**	**69.7**	**15.4**	**127 J**	**69.6 J**	**72.1 J**
Mercury	7439-97-6	mg/kg	9.4	--	0.063 U	**0.12**	0.074 U	0.07 U	**0.007 LJ**	**0.0024 LJ**	**0.0016 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**2.4**	**3.6**	**3**	**3**	**5.1**	**5.6**	**6.4**
Potassium	7440-09-7	mg/kg	NP	--	**378**	**430**	**517**	**510**	**718**	**724**	**634**
Selenium	7782-49-2	mg/kg	390	--	1.1 U	2.1 U	1 U	1.1 U	2.2 U	2.3 U	2.2 U
Silver	7440-22-4	mg/kg	390	--	1.1 U	0.41 U	1 U	1.1 U	0.45 U	0.46 U	0.44 U
Sodium	7440-23-5	mg/kg	NP	--	56.8 U	430 U	52 U	52.8 U	484 U	573 U	508 U
Thallium	7440-28-0	mg/kg	0.78	--	0.6 U	0.41 U	0.5 U	0.5 U	0.45 U	0.46 U	0.44 U
Vanadium	7440-62-2	mg/kg	390	--	**5**	**8**	**13.2**	**18.4**	**11.7**	**12.6**	**15.4**
Zinc	7440-66-6	mg/kg	23000	--	**73.2**	**83.2 J**	**15.5**	**5**	**11 J**	**6.5 J**	**6.8 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.0489 U	NA	0.0457 U	0.0456 U	0.04 U	0.04 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.0245 U	NA	0.0228 U	0.0228 U	0.04 U	0.04 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	NA	NA	NA	NA	0.04 U	0.04 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	NA	NA	NA	NA	0.04 U	0.04 U	0.038 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	0.00122 U	NA	0.00114 U	0.00114 U	**0.00022 LJ**	**0.00083 LJ**	0.0038 U
4,4'-DDE	72-55-9	mg/kg	160	--	0.00122 U	NA	**0.00199**	0.00114 U	**0.000027 LJ**	**0.000079 LJ**	0.0038 U
4,4'-DDT	50-29-3	mg/kg	36	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	0.004 U	0.0038 U
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.00122 U	NA	0.00114 U	0.00114 U	**0.0002 LJ**	0.002 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-006-06-51 5/18/2015	WO-020-006-06-51S 6/12/2015	WO-020-006-12-51 5/18/2015	WO-020-006-24-51 5/18/2015	WO-021-001-00-51 6/3/2015	WO-021-001-06-51 6/3/2015	WO-021-001-12-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	0.004 U	0.0038 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	**0.00011 LJ**	**0.0004 LJ**	**0.00027 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	**0.000058 LJ**	0.0038 U
Endrin	72-20-8	mg/kg	18	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	0.004 U	0.0038 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	0.004 U	0.0038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.00122 U	NA	0.00114 U	0.00114 U	0.004 U	0.004 U	0.0038 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00193**	NA	0.00114 U	0.00114 U	**0.00018 LJ**	**0.000048 LJ**	**0.00019 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.00122 U	NA	0.00114 U	0.00114 U	0.0021 U	0.002 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	0.00122 U	NA	0.00114 U	0.00114 U	**0.00052 LJ**	**0.00023 LJ**	0.019 U
Toxaphene	8001-35-2	mg/kg	48	--	0.0367 U	NA	0.0343 U	0.0342 U	0.21 U	0.2 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,4-Dioxane	123-91-1	mg/kg	530	--	NA	NA	NA	NA	0.12 UJv	0.11 UJv	0.12 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 UJ	0.38 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 U	0.38 U

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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-006-06-51 5/18/2015	WO-020-006-06-51S 6/12/2015	WO-020-006-12-51 5/18/2015	WO-020-006-24-51 5/18/2015	WO-021-001-00-51 6/3/2015	WO-021-001-06-51 6/3/2015	WO-021-001-12-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 UR	0.2 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 U	0.38 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 U	0.38 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 UR	0.2 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 U	0.38 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 UJ	NA	0.38 U	0.38 U	0.4 U	0.4 U	0.38 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	**0.12 LJ**	**0.034 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 UR	0.2 UJ	0.19 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	0.38 UJ	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	NA	0.19 U	0.2 U	0.21 U	0.2 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0033 LJ**	NA	0.0038 U	**0.0027 LJ**	0.004 U	0.004 U	**0.00086 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	**0.0013 LJ**	NA	0.0038 U	**0.0016 LJ**	0.004 U	0.004 U	0.0038 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-006-06-51 5/18/2015	WO-020-006-06-51S 6/12/2015	WO-020-006-12-51 5/18/2015	WO-020-006-24-51 5/18/2015	WO-021-001-00-51 6/3/2015	WO-021-001-06-51 6/3/2015	WO-021-001-12-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	**0.0026 LJ**	NA	0.0038 U	**0.0015 LJ**	0.004 U	0.004 U	0.0038 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0031 LJ**	NA	0.0038 U	**0.0016 LJ**	0.004 U	0.004 U	0.0038 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.006 J**	NA	0.0038 U	0.0038 U	**0.0034 LJ**	**0.0022 LJ**	0.0038 U
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0056 J**	NA	0.0038 U	0.0038 U	**0.0027 LJ**	**0.0016 LJ**	**0.0026 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.01 J**	NA	0.0038 U	0.0038 U	**0.004 LJ**	**0.0025 LJ**	0.0038 U
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0065 J**	NA	0.0038 U	0.0038 U	**0.003 LJ**	**0.0015 LJ**	0.0038 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0026 LJ**	NA	0.0038 U	0.0038 U	**0.00085 LJ**	0.004 U	0.0038 U
Chrysene	218-01-9	mg/kg	1500	--	**0.008 J**	NA	0.0038 U	0.0038 U	**0.0075**	**0.0047**	**0.00089 LJ**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0016 LJ**	NA	0.0038 U	0.0038 U	**0.00094 LJ**	0.004 U	0.0038 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.008 J**	NA	0.0038 U	**0.00096 LJ**	**0.003 LJ**	**0.0018 LJ**	0.0038 U
Fluorene	86-73-7	mg/kg	2300	--	**0.0015 LJ**	NA	0.0038 U	**0.002 LJ**	0.004 U	0.004 U	0.0038 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0059 J**	NA	0.0038 U	0.0038 U	**0.0024 LJ**	**0.0015 LJ**	0.0038 U
Naphthalene	91-20-3	mg/kg	130	--	**0.0021 LJ**	NA	0.0038 U	**0.0019 LJ**	0.004 U	0.004 U	0.0038 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	0.0077 U	**0.0015 LJ**	0.0082 UJv	0.008 UJv	0.0076 UJv
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0043 J**	NA	0.0038 U	**0.0026 LJ**	**0.0049**	**0.0034 LJ**	**0.0016 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.0096 J**	NA	0.0038 U	0.0038 U	**0.0059**	**0.0039 LJ**	0.0038 U
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	NA	NA	NA	NA	0.0058 U	0.0055 U	0.0058 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0042 U	NA	0.0044 U	**0.0064 B**	**0.0056 LJ**	0.011 U	0.012 U
2-Hexanone	591-78-6	mg/kg	200	--	0.0042 U	NA	0.0044 U	0.0043 U	0.012 U	0.011 U	0.012 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0042 U	NA	0.0044 U	0.0043 U	0.012 U	0.011 U	0.012 U
Acetone	67-64-1	mg/kg	61000	--	0.0084 U	NA	**0.0198 B**	**0.0264 B**	0.012 U	0.011 U	0.012 U
Benzene	71-43-2	mg/kg	82	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Bromochloromethane	74-97-5	mg/kg	150	--	NA	NA	NA	NA	0.0058 U	0.0055 U	0.0058 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Bromoform	75-25-2	mg/kg	1200	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-020-006-06-51 5/18/2015	WO-020-006-06-51S 6/12/2015	WO-020-006-12-51 5/18/2015	WO-020-006-24-51 5/18/2015	WO-021-001-00-51 6/3/2015	WO-021-001-06-51 6/3/2015	WO-021-001-12-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Chloroform	67-66-3	mg/kg	32	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Chloromethane	74-87-3	mg/kg	110	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0084 U	NA	0.0088 U	0.0087 U	**0.00032 LJ**	**0.00037 LJ**	0.0058 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
o-Xylene	95-47-6	mg/kg	650	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	**0.00018 LJ**	0.0058 U
Styrene	100-42-5	mg/kg	6000	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Toluene	108-88-3	mg/kg	4900	--	0.0042 U	NA	0.0044 U	0.0043 U	**0.0014 LJ**	**0.0017 LJ**	**0.0011 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0042 U	NA	0.0044 U	0.0043 U	0.0058 U	0.0055 U	0.0058 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-001-24-51 6/3/2015	WO-021-003-00-51 6/3/2015	WO-021-003-00-52 6/3/2015	WO-021-003-06-51 6/3/2015	WO-021-003-12-51 6/3/2015	WO-021-003-24-51 6/3/2015	WO-021-004-00-51 6/3/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**6630**	**3160**	**4330**	**3870**	**3610**	**5220**	**3920**
Antimony	7440-36-0	mg/kg	31	--	0.8 UJ	0.85 UJ	0.93 UJ	1.2 UJ	1 UJ	0.88 UJ	0.88 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2.3**	**1.6**	**3**	**2.6**	**2**	**7.9**	**1.5**
Barium	7440-39-3	mg/kg	15000	--	**42.1**	**29.6**	**40.3**	**34.6**	**31.8**	**65**	**57.3**
Beryllium	7440-41-7	mg/kg	160	--	**0.46**	0.43 U	**0.58**	0.58 U	0.52 U	**0.79**	0.44 U
Cadmium	7440-43-9	mg/kg	70	--	0.4 U	0.43 U	0.46 U	0.58 U	0.52 U	0.44 U	0.44 U
Calcium	7440-70-2	mg/kg	NP	--	**922**	**1300**	**3270**	**1510**	**826**	**747**	**1860**
Chromium	7440-47-3	mg/kg	NP	--	**14.9**	**9.4**	**14.1**	**12.8**	**12.4**	**22.9**	**9.6**
Cobalt	7440-48-4	mg/kg	23	--	**1.9**	**1.7**	**3.3**	**2.2**	**1.8**	**6**	**2**
Copper	7440-50-8	mg/kg	3100	--	**4.5**	**4.3**	**5**	**4.7**	**4.3**	**7.7**	**7.6**
Iron	7439-89-6	mg/kg	55000	--	**20000**	**5940**	**10200**	**7160**	**6210**	**32000**	**5360**
Lead	7439-92-1	mg/kg	400	--	**2.5**	**8.2**	**9.6**	**8.8**	**4.7**	**5.9**	**50.7**
Magnesium	7439-95-4	mg/kg	NP	--	**743**	**597**	**957**	**665**	**552**	**553**	**614**
Manganese	7439-96-5	mg/kg	1800	--	**1690 J**	**103 J**	**129 J**	**257 J**	**54.8 J**	**1880 J**	**200 J**
Mercury	7439-97-6	mg/kg	9.4	--	0.1 U	**0.0077 LJ**	**0.006 LJ**	**0.008 LJ**	**0.0036 LJ**	**0.0028 LJ**	**0.018 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**7.4**	**5.4**	**13.3**	**7.7**	**6.3**	**14.9**	**4.7**
Potassium	7440-09-7	mg/kg	NP	--	**711**	**668**	**932**	**659**	**537**	**528**	**713**
Selenium	7782-49-2	mg/kg	390	--	**0.29 LJ**	**0.26 LJ**	2.3 U	2.9 U	2.6 U	2.2 U	2.2 U
Silver	7440-22-4	mg/kg	390	--	0.4 U	0.43 U	0.46 U	0.58 U	0.52 U	0.44 U	0.44 U
Sodium	7440-23-5	mg/kg	NP	--	510 U	589 U	546 U	452 U	500 U	461 U	559 U
Thallium	7440-28-0	mg/kg	0.78	--	0.4 U	0.43 U	0.46 U	0.58 U	0.52 U	0.44 U	0.44 U
Vanadium	7440-62-2	mg/kg	390	--	**18.7**	**10.6**	**16.3**	**14.2**	**13.5**	**29.9**	**12.4**
Zinc	7440-66-6	mg/kg	23000	--	**6.4 J**	**13.1 J**	**16.8 J**	**11.7 J**	**7.1 J**	**9.2 J**	**37.4 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.043 U	0.042 U	0.04 U	0.039 U	0.038 U	0.041 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.000049 LJ**	**0.00022 LJ**	**0.0003 LJ**	**0.00078 LJ**	**0.00006 LJ**	**0.00011 LJ**	**0.001 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	0.0038 U	**0.00015 LJ**	**0.00012 LJ**	**0.00035 LJ**	**0.00011 LJ**	0.0038 U	**0.0022 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	**0.00013 LJ**
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-001-24-51 6/3/2015	WO-021-003-00-51 6/3/2015	WO-021-003-00-52 6/3/2015	WO-021-003-06-51 6/3/2015	WO-021-003-12-51 6/3/2015	WO-021-003-24-51 6/3/2015	WO-021-004-00-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	0.0022 U	**0.000034 LJ**	0.0021 U	0.002 U	0.0019 U	0.0021 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.0015 LJ**	**0.00014 LJ**	**0.000074 LJ**	**0.0011 LJ**	**0.000086 LJ**	**0.000087 LJ**	**0.00076 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	**0.000053 LJ**	0.0043 U	**0.00011 LJ**	0.004 U	0.0039 U	0.0038 U	0.0041 U
Endrin	72-20-8	mg/kg	18	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.0001 LJ**	**0.000068 LJ**	**0.000083 LJ**	0.0021 U	**0.000089 LJ**	**0.00011 LJ**	0.0021 U
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.0022 U	0.0022 U	0.0021 U	0.002 U	0.0019 U	0.0021 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.00044 LJ**	**0.00071 LJ**	**0.00061 LJ**	**0.00042 LJ**	**0.00035 LJ**	0.019 U	**0.00064 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.1 UJv	0.13 UJv	0.16 UJv	0.11 UJv	0.098 UJv	0.095 UJv	0.12 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	0.43 U	0.42 U	0.4 UJ	0.39 UJ	0.38 UJ	0.41 U
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 U	0.43 U	0.42 U	0.4 U	0.39 U	0.38 U	0.41 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-001-24-51 6/3/2015	WO-021-003-00-51 6/3/2015	WO-021-003-00-52 6/3/2015	WO-021-003-06-51 6/3/2015	WO-021-003-12-51 6/3/2015	WO-021-003-24-51 6/3/2015	WO-021-004-00-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.22 U	0.22 UR	0.21 U	0.2 U	0.19 U	0.21 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 U	0.43 U	0.42 U	0.4 U	0.39 U	0.38 U	0.41 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 U	0.43 U	0.42 U	0.4 U	0.39 U	0.38 U	0.41 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.22 U	0.22 UR	0.21 U	0.2 U	0.19 U	0.21 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 U	0.43 U	0.42 U	0.4 U	0.39 U	0.38 U	0.41 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 U	0.43 U	0.42 U	0.4 U	0.39 U	0.38 U	0.41 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.066 LJ**	0.22 U	0.22 U	**0.98**	**0.13 LJ**	**0.093 LJ**	**0.041 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.22 U	0.22 UR	0.21 UJ	0.2 UJ	0.19 UJ	0.21 U
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.22 U	0.22 U	0.21 U	0.2 U	0.19 U	0.21 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	**0.0017 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-001-24-51 6/3/2015	WO-021-003-00-51 6/3/2015	WO-021-003-00-52 6/3/2015	WO-021-003-06-51 6/3/2015	WO-021-003-12-51 6/3/2015	WO-021-003-24-51 6/3/2015	WO-021-004-00-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Anthracene	120-12-7	mg/kg	17000	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	**0.0012 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	0.0038 U	**0.0023 LJ**	**0.0025 LJ**	**0.0026 LJ**	**0.00098 LJ**	**0.0014 LJ**	**0.0071**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0032 LJ**	**0.0019 LJ**	**0.002 LJ**	**0.0019 LJ**	**0.0019 LJ**	**0.0011 LJ**	**0.0065**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	0.0038 U	**0.0029 LJ**	**0.0031 LJ**	**0.0032 LJ**	**0.001 LJ**	**0.0017 LJ**	**0.011**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	**0.0066**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	**0.0025 LJ**
Chrysene	218-01-9	mg/kg	1500	--	0.0038 U	**0.0049**	**0.0049**	**0.0054**	**0.0018 LJ**	**0.0031 LJ**	**0.014**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0038 U	0.0043 U	**0.00093 LJ**	0.004 U	0.0039 U	**0.0011 LJ**	**0.0019 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	0.0038 U	**0.0022 LJ**	**0.0029 LJ**	**0.0032 LJ**	**0.00086 LJ**	**0.0013 LJ**	**0.0084**
Fluorene	86-73-7	mg/kg	2300	--	0.0038 U	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	0.0041 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	0.0038 U	**0.0018 LJ**	**0.002 LJ**	**0.002 LJ**	0.0039 U	**0.0011 LJ**	**0.0065**
Naphthalene	91-20-3	mg/kg	130	--	**0.0008 LJ**	0.0043 U	0.0042 U	0.004 U	0.0039 U	0.0038 U	**0.0009 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0077 UJv	0.0087 UJv	0.0086 UJv	0.0082 UJv	0.0079 UJv	0.0077 UJv	0.0083 UJv
Phenanthrene	85-01-8	mg/kg	NP	--	0.0038 U	**0.0032 LJ**	**0.0036 LJ**	**0.0048**	**0.0016 LJ**	**0.0021 LJ**	**0.0091**
Pyrene	129-00-0	mg/kg	1700	--	0.0038 U	**0.0041 LJ**	**0.0045**	**0.0054**	**0.0016 LJ**	**0.0025 LJ**	**0.013**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
2-Butanone	78-93-3	mg/kg	27000	--	**0.0061 LJ**	**0.022**	**0.039**	**0.066**	0.0098 U	0.0095 U	**0.028 J**
2-Hexanone	591-78-6	mg/kg	200	--	0.01 U	0.013 U	0.016 U	0.011 U	0.0098 U	0.0095 U	0.012 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.01 U	0.013 U	0.016 U	**0.0033 LJ**	0.0098 U	0.0095 U	**0.0058 LJ**
Acetone	67-64-1	mg/kg	61000	--	0.01 UM	**0.052**	**0.14**	**0.1**	0.0098 U	0.0095 U	**0.21**
Benzene	71-43-2	mg/kg	82	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Bromoform	75-25-2	mg/kg	1200	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0052 U	**0.00038 LJ**	**0.00055 LJ**	**0.00059 LJ**	0.0049 U	0.0047 U	0.0061 U

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Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-001-24-51 6/3/2015	WO-021-003-00-51 6/3/2015	WO-021-003-00-52 6/3/2015	WO-021-003-06-51 6/3/2015	WO-021-003-12-51 6/3/2015	WO-021-003-24-51 6/3/2015	WO-021-004-00-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Chloroform	67-66-3	mg/kg	32	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Chloromethane	74-87-3	mg/kg	110	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0052 U	0.0064 U	0.0078 U	**0.00029 LJ**	0.0049 U	0.0047 U	**0.0003 LJ**
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00029 LJ**	**0.00065 LJ**	**0.00062 LJ**	**0.00055 LJ**	**0.00016 LJ**	0.0047 U	**0.00059 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
o-Xylene	95-47-6	mg/kg	650	--	0.0052 U	**0.00026 LJ**	**0.00027 LJ**	**0.00017 LJ**	0.0049 U	0.0047 U	**0.00022 LJ**
Styrene	100-42-5	mg/kg	6000	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Toluene	108-88-3	mg/kg	4900	--	**0.0013 LJ**	**0.0031 LJ**	**0.0026 LJ**	**0.0027 LJ**	**0.00097 LJ**	**0.00061 LJ**	**0.0052 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0052 U	0.0064 U	0.0078 U	0.0054 U	0.0049 U	0.0047 U	0.0061 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-004-00-52 6/3/2015	WO-021-004-06-51 6/3/2015	WO-021-004-12-51 6/3/2015	WO-021-004-24-51 6/3/2015	WO-021-005-00-51 6/3/2015	WO-021-005-06-51 6/3/2015	WO-021-005-12-51 6/3/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**3900**	**3840**	**3540**	**5440**	**3980**	**4330**	**4060**
Antimony	7440-36-0	mg/kg	31	--	1.1 UJ	1.1 UJ	0.79 UJ	0.87 UJ	1 UJ	0.88 UJ	0.8 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.6**	**1.5**	**1.4**	**1.8**	**1.7**	**2.3**	**19.2**
Barium	7440-39-3	mg/kg	15000	--	**50.4**	**46.3**	**44**	**56.5**	**42.4**	**459**	**157**
Beryllium	7440-41-7	mg/kg	160	--	0.54 U	0.53 U	0.4 U	**0.48**	0.52 U	**0.81**	**2.1**
Cadmium	7440-43-9	mg/kg	70	--	0.54 U	0.53 U	0.4 U	0.44 U	0.52 U	0.44 U	0.4 U
Calcium	7440-70-2	mg/kg	NP	--	**2110**	**1810**	**2670**	**1010**	**1610**	**1310**	**955**
Chromium	7440-47-3	mg/kg	NP	--	**8.7**	**8.8**	**10**	**13.3**	**10.8**	**15.5**	**95**
Cobalt	7440-48-4	mg/kg	23	--	**1.7**	**1.7**	**1.6**	**3.6**	**1.7**	**61.2**	**10.9**
Copper	7440-50-8	mg/kg	3100	--	**7.4**	**5.4**	**4**	**4.7**	**5.4**	**5.7**	**11.7**
Iron	7439-89-6	mg/kg	55000	--	**6110**	**5660**	**5310**	**7100**	**5700**	**6010**	**5820**
Lead	7439-92-1	mg/kg	400	--	**30.3**	**31.6**	**40.9**	**14.5**	**14.1**	**8.9**	**12.5**
Magnesium	7439-95-4	mg/kg	NP	--	**661**	**595**	**502**	**636**	**621**	**617**	**550**
Manganese	7439-96-5	mg/kg	1800	--	**218 J**	**169**	**132**	**113**	**162 J**	**116 J**	**102 J**
Mercury	7439-97-6	mg/kg	9.4	--	**0.018 LJ**	**0.015 LJ**	**0.012 LJ**	**0.0062 LJ**	**0.013 LJ**	**0.012 LJ**	**0.0051 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**4.3**	**4.3**	**4.2**	**6**	**5**	**32.4**	**15**
Potassium	7440-09-7	mg/kg	NP	--	**707**	**597**	492 U	**606**	**740**	**624**	491 U
Selenium	7782-49-2	mg/kg	390	--	2.7 U	**0.33 LJ**	**0.3 LJ**	2.2 U	**0.32 LJ**	**0.47 LJ**	**0.46 LJ**
Silver	7440-22-4	mg/kg	390	--	0.54 U	0.53 U	0.4 U	0.44 U	0.52 U	0.44 U	0.4 U
Sodium	7440-23-5	mg/kg	NP	--	470 U	403 U	492 U	448 U	483 U	420 U	491 U
Thallium	7440-28-0	mg/kg	0.78	--	0.54 U	0.53 U	0.4 U	0.44 U	0.52 U	0.44 U	0.4 U
Vanadium	7440-62-2	mg/kg	390	--	**11.3**	**11.8**	**13.1**	**19.4**	**13.2**	**27.3**	**52.2**
Zinc	7440-66-6	mg/kg	23000	--	**48 J**	**21.5**	**8.6**	**9.4**	**26.9 J**	**9.9 J**	**8.6 J**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.041 U	0.039 U	0.038 U	0.039 U	0.042 U	0.039 U	0.038 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.0012 LJ**	**0.0011 LJ**	**0.0012 LJ**	**0.0002 LJ**	**0.000079 LJ**	**0.00051 LJ**	**0.00026 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	**0.0018 LJ**	**0.00024 LJ**	**0.00031 LJ**	**0.000046 LJ**	0.0042 U	0.0039 U	**0.00013 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	0.0041 U	**0.00036 LJ**	**0.00017 LJ**	0.0039 U	0.0042 U	0.0039 U	0.0038 U
Acetophenone	98-86-2	mg/kg	7800	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Aldrin	309-00-2	mg/kg	1.8	--	0.0021 U	**0.00018 LJ**	**0.000083 LJ**	0.002 U	**0.000066 LJ**	0.002 U	0.0019 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.0021 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-004-00-52 6/3/2015	WO-021-004-06-51 6/3/2015	WO-021-004-12-51 6/3/2015	WO-021-004-24-51 6/3/2015	WO-021-005-00-51 6/3/2015	WO-021-005-06-51 6/3/2015	WO-021-005-12-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.0021 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U
Atrazine	1912-24-9	mg/kg	230	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Benzaldehyde	100-52-7	mg/kg	7800	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
beta-BHC	319-85-7	mg/kg	30	--	0.0021 U	0.002 U	0.002 U	0.002 U	0.0022 U	**0.00036 LJ**	0.0019 U
Caprolactam	105-60-2	mg/kg	31000	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Carbazole	86-74-8	mg/kg	NP	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
delta-BHC	319-86-8	mg/kg	NP	--	0.0021 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0041 U	**0.00034 LJ**	**0.00036 LJ**	**0.00026 LJ**	0.0042 U	0.0039 U	0.0038 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.0021 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U
Endosulfan II	33213-65-9	mg/kg	NP	--	**0.00081 LJ**	0.0039 U	**0.000022 LJ**	**0.000083 LJ**	**0.00041 LJ**	**0.00038 LJ**	**0.00022 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0041 U	0.0039 U	**0.00093 LJ**	**0.00013 LJ**	**0.00035 LJ**	0.0039 U	0.0038 U
Endrin	72-20-8	mg/kg	18	--	0.0041 U	**0.0013 LJ**	**0.0013 LJ**	0.0039 U	0.0042 U	0.0039 U	0.0038 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0041 U	**0.00025 LJ**	**0.000041 LJ**	**0.000037 LJ**	0.0042 U	0.0039 U	0.0038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0041 U	0.0039 U	0.0038 U	0.0039 U	0.0042 U	0.0039 U	0.0038 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.0021 U	**0.00041 LJ**	**0.00026 LJ**	0.002 U	0.0022 U	0.002 U	0.0019 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.0003 LJ**	0.002 U	0.002 U	**0.0001 LJ**	**0.00025 LJ**	**0.000095 LJ**	**0.000089 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.0021 U	**0.0003 LJ**	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.0021 U	**0.00041 LJ**	0.002 U	0.002 U	0.0022 U	0.002 U	0.0019 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.00047 LJ**	0.02 U	0.02 U	**0.00069 LJ**	**0.00088 LJ**	0.02 U	0.019 U
Toxaphene	8001-35-2	mg/kg	48	--	0.21 U	0.2 U	0.2 U	0.2 U	0.22 U	0.2 U	0.19 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.12 UJv	0.097 U	0.11 U	0.11 U	0.13 UJv	0.1 UJv	0.096 UJv
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 UJ	0.37 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2-Chlorophenol	95-57-8	mg/kg	390	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
2-Nitroaniline	88-74-4	mg/kg	610	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 U	0.37 U

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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-004-00-52 6/3/2015	WO-021-004-06-51 6/3/2015	WO-021-004-12-51 6/3/2015	WO-021-004-24-51 6/3/2015	WO-021-005-00-51 6/3/2015	WO-021-005-06-51 6/3/2015	WO-021-005-12-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.21 UR	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 U	0.37 U
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 U	0.37 U
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
4-Chloroaniline	106-47-8	mg/kg	250	--	0.21 UR	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
4-Methylphenol	106-44-5	mg/kg	6200	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
4-Nitroaniline	100-01-6	mg/kg	250	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 U	0.37 U
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.41 U	0.39 UJ	0.38 UJ	0.39 UJ	0.42 U	0.38 U	0.37 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.027 LJ**	**0.48 Jv**	**0.034 LJ**	0.2 UJ	**0.021 LJ**	**0.47**	**0.072 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Diethylphthalate	84-66-2	mg/kg	49000	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.21 U	0.2 UJv	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.21 UR	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 UJ	0.19 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Isophorone	78-59-1	mg/kg	12000	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Nitrobenzene	98-95-3	mg/kg	130	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.21 U	0.2 UJ	0.2 UJ	0.2 UJ	0.22 U	0.2 U	0.19 U
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	**0.0018 LJ**	**0.0013 LJ**	**0.00097 LJ**	0.0039 UJ	**0.00096 LJ**	**0.002 LJ**	**0.00082 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0041 U	0.0039 UJ	0.0038 UJ	0.0039 UJ	0.0042 U	0.0038 U	0.0037 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-004-00-52 6/3/2015	WO-021-004-06-51 6/3/2015	WO-021-004-12-51 6/3/2015	WO-021-004-24-51 6/3/2015	WO-021-005-00-51 6/3/2015	WO-021-005-06-51 6/3/2015	WO-021-005-12-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0041 U	0.0039 UJ	0.0038 UJ	0.0039 UJ	0.0042 U	**0.0012 LJ**	0.0037 U
Anthracene	120-12-7	mg/kg	17000	--	**0.0013 LJ**	**0.0011 LJ**	0.0038 UJ	0.0039 UJ	**0.001 LJ**	**0.0016 LJ**	0.0037 U
Benzo(a)anthracene	56-55-3	mg/kg	15	--	**0.0091**	**0.0053 J**	**0.0029 LJ**	0.0039 UJ	**0.0051**	**0.0082**	**0.0022 LJ**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.007**	**0.0046 J**	**0.0023 LJ**	0.0039 UJ	**0.0046**	**0.0056**	**0.0015 LJ**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	**0.012**	**0.0072 J**	**0.0032 LJ**	0.0039 UJ	**0.0099**	**0.011**	**0.0026 LJ**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	**0.0072**	**0.0038 LJ**	**0.0019 LJ**	0.0039 UJ	**0.0068**	**0.0017 LJ**	0.0037 U
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	**0.0026 LJ**	**0.0018 LJ**	0.0038 UJ	0.0039 UJ	**0.0023 LJ**	**0.0025 LJ**	0.0037 U
Chrysene	218-01-9	mg/kg	1500	--	**0.015**	**0.0088 J**	**0.006 J**	0.0039 UJ	**0.0091**	**0.014**	**0.0044**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	**0.0022 LJ**	**0.0013 LJ**	**0.00082 LJ**	0.0039 UJ	**0.0018 LJ**	**0.0022 LJ**	0.0037 U
Fluoranthene	206-44-0	mg/kg	2300	--	**0.0099**	**0.0062 J**	**0.0027 LJ**	0.0039 UJ	**0.006**	**0.0091**	**0.0017 LJ**
Fluorene	86-73-7	mg/kg	2300	--	0.0041 U	0.0039 UJ	0.0038 UJ	0.0039 UJ	0.0042 U	0.0038 U	0.0037 U
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	**0.0071**	**0.0043 J**	**0.0019 LJ**	0.0039 UJ	**0.0075**	**0.0068**	**0.0016 LJ**
Naphthalene	91-20-3	mg/kg	130	--	**0.001 LJ**	0.0039 UJ	0.0038 UJ	0.0039 UJ	0.0042 U	**0.0013 LJ**	**0.0009 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0083 UJv	0.0079 UJ	0.0078 UJ	0.0078 UJ	0.0086 UJv	0.0078 UJv	0.0076 U
Phenanthrene	85-01-8	mg/kg	NP	--	**0.011**	**0.0063 J**	**0.0049 J**	0.0039 UJ	**0.0049**	**0.0087**	**0.003 LJ**
Pyrene	129-00-0	mg/kg	1700	--	**0.015**	**0.01 J**	**0.0067 J**	0.0039 UJ	**0.0084**	**0.013**	**0.0033 LJ**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
2-Butanone	78-93-3	mg/kg	27000	--	0.012 U	0.0097 U	**0.0081 LJ**	**0.0085 LJ**	0.013 U	**0.022**	0.0096 U
2-Hexanone	591-78-6	mg/kg	200	--	0.012 U	0.0097 U	0.011 U	0.011 U	0.013 U	0.01 U	0.0096 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.012 U	0.0097 U	0.011 U	0.011 U	0.013 U	**0.0027 LJ**	0.0096 U
Acetone	67-64-1	mg/kg	61000	--	0.012 U	**0.0061 LJ**	**0.022**	**0.015**	0.013 U	**0.13**	0.0096 U
Benzene	71-43-2	mg/kg	82	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Bromoform	75-25-2	mg/kg	1200	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-004-00-52 6/3/2015	WO-021-004-06-51 6/3/2015	WO-021-004-12-51 6/3/2015	WO-021-004-24-51 6/3/2015	WO-021-005-00-51 6/3/2015	WO-021-005-06-51 6/3/2015	WO-021-005-12-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Chloroform	67-66-3	mg/kg	32	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Chloromethane	74-87-3	mg/kg	110	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	**0.00021 LJ**	0.0048 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00023 LJ**	**0.00022 LJ**	**0.00023 LJ**	0.0057 U	**0.00036 LJ**	**0.00047 LJ**	**0.00035 LJ**
Methyl acetate	79-20-9	mg/kg	78000	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
o-Xylene	95-47-6	mg/kg	650	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	**0.00017 LJ**	**0.00015 LJ**
Styrene	100-42-5	mg/kg	6000	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Toluene	108-88-3	mg/kg	4900	--	**0.0023 LJ**	**0.0018 LJ**	**0.0062**	**0.00075 LJ**	**0.0055 LJ**	**0.001 LJ**	**0.0024 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0058 U	0.0048 U	0.0053 U	0.0057 U	0.0063 U	0.0051 U	0.0048 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-005-24-51 6/3/2015	WO-021-006-00-51 6/3/2015	WO-021-006-06-51 6/3/2015	WO-021-006-12-51 6/3/2015	WO-021-006-24-51 6/3/2015	WO-021-007-00-51 6/3/2015	WO-021-007-06-51 6/3/2015
Metals											
Aluminum	7429-90-5	mg/kg	77000	--	**5210**	**2640**	**2910**	**4050**	**3790**	**4030**	**2730**
Antimony	7440-36-0	mg/kg	31	--	0.92 UJ	1.1 UJ	1 UJ	0.98 UJ	0.94 UJ	1.2 UJ	1 UJ
Arsenic	7440-38-2	mg/kg	34	--	**2.7**	**2**	**1**	**1.4**	**1.5**	**1.8**	**1.8**
Barium	7440-39-3	mg/kg	15000	--	**120**	**43.9**	**36**	**45.8**	**43.7**	**37.6**	**36.6**
Beryllium	7440-41-7	mg/kg	160	--	**0.48**	0.56 U	0.51 U	0.49 U	0.47 U	0.59 U	0.51 U
Cadmium	7440-43-9	mg/kg	70	--	0.46 U	0.56 U	0.51 U	0.49 U	0.47 U	0.59 U	0.51 U
Calcium	7440-70-2	mg/kg	NP	--	**888**	**4350**	**2810**	**1170**	**699**	**1880**	**995**
Chromium	7440-47-3	mg/kg	NP	--	**15.7**	**7.2**	**7.3**	**8.7**	**11.8**	**8.9**	**9.6**
Cobalt	7440-48-4	mg/kg	23	--	**8.4**	**1.8**	**1.3**	**2.1**	**1.5**	**1.9**	**1.8**
Copper	7440-50-8	mg/kg	3100	--	**4.2**	**5**	**3.7**	**3.9**	**3.8**	**4**	**3.7**
Iron	7439-89-6	mg/kg	55000	--	**9630**	**4740**	**4750**	**5360**	**6140**	**6250**	**5100**
Lead	7439-92-1	mg/kg	400	--	**4**	**21.6**	**9.9**	**8.8**	**4**	**10.4**	**11.1**
Magnesium	7439-95-4	mg/kg	NP	--	**632**	**1790**	**1280**	**680**	**458 LJ**	**669**	**480**
Manganese	7439-96-5	mg/kg	1800	--	**118 J**	**264 J**	**263 J**	**147 J**	**111 J**	**156 J**	**167**
Mercury	7439-97-6	mg/kg	9.4	--	0.11 U	**0.018 LJ**	**0.011 LJ**	**0.0045 LJ**	0.11 U	**0.0091 LJ**	**0.011 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**8.4**	**3.9**	**3.5**	**4.3**	**4.4**	**4.6**	**4.1**
Potassium	7440-09-7	mg/kg	NP	--	**531**	**513**	**498**	**591**	**498**	**686**	412 U
Selenium	7782-49-2	mg/kg	390	--	2.3 U	2.8 U	2.6 U	2.5 U	2.4 U	**0.39 LJ**	2.6 U
Silver	7440-22-4	mg/kg	390	--	0.46 U	0.56 U	0.51 U	0.49 U	0.47 U	0.59 U	0.51 U
Sodium	7440-23-5	mg/kg	NP	--	428 U	451 U	447 U	458 U	458 U	541 U	412 U
Thallium	7440-28-0	mg/kg	0.78	--	0.46 U	0.56 U	0.51 U	0.49 U	0.47 U	0.59 U	0.51 U
Vanadium	7440-62-2	mg/kg	390	--	**21.4**	**9.6**	**9.4**	**12.6**	**15.1**	**11.6**	**12.6**
Zinc	7440-66-6	mg/kg	23000	--	**7 J**	**39.3 J**	**15.6 J**	**11.8 J**	**6.8 J**	**23 J**	**24.9**
PCB											
Aroclor-1016	12674-11-2	mg/kg	4	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.038 U	0.042 U	0.038 U	0.039 U	0.039 U	0.042 U	0.039 U
Pesticides											
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00063 LJ**	**0.00094 LJ**	**0.0011 LJ**	**0.00096 LJ**	**0.00017 LJ**	**0.00054 LJ**	**0.00016 LJ**
4,4'-DDE	72-55-9	mg/kg	160	--	0.0038 U	**0.00036 LJ**	**0.00023 LJ**	**0.00011 LJ**	**0.00016 LJ**	0.0042 U	**0.00011 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	**0.00009 LJ**
Acetophenone	98-86-2	mg/kg	7800	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	**0.0002 LJ**	**0.00019 LJ**	**0.00026 LJ**	0.002 U	**0.00022 LJ**	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U

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Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-005-24-51 6/3/2015	WO-021-006-00-51 6/3/2015	WO-021-006-06-51 6/3/2015	WO-021-006-12-51 6/3/2015	WO-021-006-24-51 6/3/2015	WO-021-007-00-51 6/3/2015	WO-021-007-06-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	0.0022 U	0.002 U	**0.00068 LJ**	0.002 U	0.0022 U	0.002 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Carbazole	86-74-8	mg/kg	NP	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	0.0039 U
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0038 U	**0.00086 LJ**	**0.00049 LJ**	**0.0011 LJ**	**0.00024 LJ**	**0.000042 LJ**	**0.00019 LJ**
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	**0.000083 LJ**	0.0039 U
Endrin	72-20-8	mg/kg	18	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	0.0039 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	**0.00072 LJ**
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	0.0039 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.00011 LJ**	0.0022 U	0.002 U	0.002 U	**0.000064 LJ**	**0.000073 LJ**	**0.0001 LJ**
Heptachlor	76-44-8	mg/kg	12	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.0022 U	0.002 U	0.002 U	0.002 U	0.0022 U	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	**0.00087 LJ**	**0.00043 LJ**	0.02 U	0.02 U	**0.00034 LJ**	**0.00061 LJ**	**0.0007 LJ**
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.22 U	0.2 U	0.2 U	0.2 U	0.22 U	0.2 U
SVOA											
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.087 UJv	0.12 UJv	0.11 UJv	0.11 UJv	0.11 UJv	0.12 UJv	0.11 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.38 UJ	0.42 UJ	0.38 UJ	0.39 UJ	0.39 UJ	0.42 UJ	0.4 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	0.38 U	0.42 U	0.38 U	0.39 U	0.39 U	0.42 U	0.4 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-005-24-51 6/3/2015	WO-021-006-00-51 6/3/2015	WO-021-006-06-51 6/3/2015	WO-021-006-12-51 6/3/2015	WO-021-006-24-51 6/3/2015	WO-021-007-00-51 6/3/2015	WO-021-007-06-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 U	0.22 U	0.19 UR	0.2 U	0.2 U	0.22 U	0.2 UR
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.38 U	0.42 U	0.38 U	0.39 U	0.39 U	0.42 U	0.4 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.38 U	0.42 U	0.38 U	0.39 U	0.39 U	0.42 U	0.4 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 U	0.22 U	0.19 UR	0.2 U	0.2 U	0.22 U	0.2 UR
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	0.38 U	0.42 U	0.38 U	0.39 U	0.39 U	0.42 U	0.4 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.38 U	0.42 U	0.38 U	0.39 U	0.39 U	0.42 U	0.4 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.032 LJ**	**0.036 LJ**	**0.16 LJ**	**0.025 LJ**	**0.034 LJ**	**0.026 LJ**	**0.68 J**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.22 UJ	0.19 UR	0.2 UJ	0.2 UJ	0.22 UJ	0.2 UR
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Isophorone	78-59-1	mg/kg	12000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA	NA	NA	NA	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 U	0.22 U	0.19 U	0.2 U	0.2 U	0.22 U	0.2 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA	NA	NA	NA	NA	NA
SVOA (SIM)											
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.0038 U	**0.005**	**0.0065**	0.0039 U	0.0039 U	**0.0015 LJ**	**0.002 LJ**
Acenaphthene	83-32-9	mg/kg	3500	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	0.004 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-005-24-51 6/3/2015	WO-021-006-00-51 6/3/2015	WO-021-006-06-51 6/3/2015	WO-021-006-12-51 6/3/2015	WO-021-006-24-51 6/3/2015	WO-021-007-00-51 6/3/2015	WO-021-007-06-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.0038 U	**0.0017 LJ**	**0.0039**	0.0039 U	0.0039 U	0.0042 U	**0.0018 LJ**
Anthracene	120-12-7	mg/kg	17000	--	0.0038 U	**0.0033 LJ**	**0.0054**	0.0039 U	0.0039 U	0.0042 U	**0.0027 LJ**
Benzo(a)anthracene	56-55-3	mg/kg	15	--	0.0038 U	**0.019**	**0.019**	0.0039 U	0.0039 U	**0.0035 LJ**	**0.0061 J**
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	**0.0029 LJ**	**0.018**	**0.019**	0.0039 U	**0.0017 LJ**	**0.0026 LJ**	**0.005 J**
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	0.0038 U	**0.026**	**0.029**	0.0039 U	**0.00093 LJ**	**0.0046**	**0.0081 J**
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.0038 U	**0.012**	**0.004**	0.0039 U	0.0039 U	**0.0029 LJ**	**0.0028 LJ**
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.0038 U	**0.0068**	**0.0076**	0.0039 U	0.0039 U	**0.0011 LJ**	**0.0016 LJ**
Chrysene	218-01-9	mg/kg	1500	--	**0.0008 LJ**	**0.035**	**0.031**	0.0039 U	**0.0014 LJ**	**0.0063**	**0.014 J**
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.0038 U	**0.0053**	**0.0054**	0.0039 U	0.0039 U	**0.00091 LJ**	**0.0017 LJ**
Fluoranthene	206-44-0	mg/kg	2300	--	0.0038 U	**0.023**	**0.019**	0.0039 U	0.0039 U	**0.0041 LJ**	**0.0048 J**
Fluorene	86-73-7	mg/kg	2300	--	0.0038 U	0.0042 U	0.0038 U	0.0039 U	0.0039 U	0.0042 U	0.004 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	0.0038 U	**0.016**	**0.018**	0.0039 U	0.0039 U	**0.0028 LJ**	**0.0047 J**
Naphthalene	91-20-3	mg/kg	130	--	0.0038 U	**0.0021 LJ**	**0.003 LJ**	0.0039 U	0.0039 U	**0.00087 LJ**	**0.0012 LJ**
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0078 U	0.0085 UJv	0.0077 U	0.0079 U	0.008 U	0.0086 UJv	0.008 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	0.0038 U	**0.023**	**0.023**	0.0039 U	**0.0012 LJ**	**0.0051**	**0.0081 J**
Pyrene	129-00-0	mg/kg	1700	--	0.0038 U	**0.035**	**0.032**	0.0039 U	**0.00088 LJ**	**0.0063**	**0.011 J**
VOA											
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0087 U	0.012 U	0.011 U	0.011 U	**0.0047 LJ**	**0.014**	**0.017**
2-Hexanone	591-78-6	mg/kg	200	--	0.0087 U	0.012 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0087 U	0.012 U	0.011 U	0.011 U	0.011 U	0.012 U	0.011 U
Acetone	67-64-1	mg/kg	61000	--	0.0087 U	0.012 U	0.011 U	0.011 U	0.011 U	**0.053**	**0.04**
Benzene	71-43-2	mg/kg	82	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Bromoform	75-25-2	mg/kg	1200	--	0.0044 U	0.006 UR	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U

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Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-005-24-51 6/3/2015	WO-021-006-00-51 6/3/2015	WO-021-006-06-51 6/3/2015	WO-021-006-12-51 6/3/2015	WO-021-006-24-51 6/3/2015	WO-021-007-00-51 6/3/2015	WO-021-007-06-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Chloroform	67-66-3	mg/kg	32	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Chloromethane	74-87-3	mg/kg	110	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0044 U	**0.0002 LJ**	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	**0.00014 LJ**	**0.00061 LJ**	0.0054 U	**0.00029 LJ**	0.0055 U	**0.00054 LJ**	0.0053 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
o-Xylene	95-47-6	mg/kg	650	--	0.0044 U	**0.00034 LJ**	0.0054 U	0.0054 U	0.0055 U	**0.00025 LJ**	0.0053 U
Styrene	100-42-5	mg/kg	6000	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Toluene	108-88-3	mg/kg	4900	--	**0.00029 LJ**	**0.0079**	**0.001 LJ**	**0.0014 LJ**	**0.0007 LJ**	**0.017**	**0.0022 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0044 U	0.006 U	0.0054 U	0.0054 U	0.0055 U	0.0058 U	0.0053 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-007-12-51 6/3/2015	WO-021-007-24-51 6/3/2015
Metals						
Aluminum	7429-90-5	mg/kg	77000	--	**4300**	**5710**
Antimony	7440-36-0	mg/kg	31	--	1.2 UJ	1 UJ
Arsenic	7440-38-2	mg/kg	34	--	**1.5**	**1.9**
Barium	7440-39-3	mg/kg	15000	--	**35.5**	**44.9**
Beryllium	7440-41-7	mg/kg	160	--	0.59 U	0.52 U
Cadmium	7440-43-9	mg/kg	70	--	0.59 U	0.52 U
Calcium	7440-70-2	mg/kg	NP	--	**723**	**809**
Chromium	7440-47-3	mg/kg	NP	--	**10.7**	**14.2**
Cobalt	7440-48-4	mg/kg	23	--	**1.5**	**2.3**
Copper	7440-50-8	mg/kg	3100	--	**3.2**	**3.9**
Iron	7439-89-6	mg/kg	55000	--	**7290**	**9170**
Lead	7439-92-1	mg/kg	400	--	**4.1**	**3.6**
Magnesium	7439-95-4	mg/kg	NP	--	**497**	**625**
Manganese	7439-96-5	mg/kg	1800	--	**83.7**	**59.7**
Mercury	7439-97-6	mg/kg	9.4	--	**0.0045 LJ**	**0.003 LJ**
Nickel	7440-02-0	mg/kg	1500	--	**4.7**	**7.1**
Potassium	7440-09-7	mg/kg	NP	--	460 U	**494**
Selenium	7782-49-2	mg/kg	390	--	3 U	2.6 U
Silver	7440-22-4	mg/kg	390	--	0.59 U	0.52 U
Sodium	7440-23-5	mg/kg	NP	--	460 U	424 U
Thallium	7440-28-0	mg/kg	0.78	--	0.59 U	0.52 U
Vanadium	7440-62-2	mg/kg	390	--	**14.7**	**18.3**
Zinc	7440-66-6	mg/kg	23000	--	**8.6**	**7.9**
PCB						
Aroclor-1016	12674-11-2	mg/kg	4	--	0.039 U	0.038 U
Aroclor-1221	11104-28-2	mg/kg	15	--	0.039 U	0.038 U
Aroclor-1232	11141-16-5	mg/kg	15	--	0.039 U	0.038 U
Aroclor-1242	53469-21-9	mg/kg	24	--	0.039 U	0.038 U
Aroclor-1248	12672-29-6	mg/kg	24	--	0.039 U	0.038 U
Aroclor-1254	11097-69-1	mg/kg	1.1	--	0.039 U	0.038 U
Aroclor-1260	11096-82-5	mg/kg	24	--	0.039 U	0.038 U
Aroclor-1262	37324-23-5	mg/kg	NP	--	0.039 U	0.038 U
Aroclor-1268	11100-14-4	mg/kg	NP	--	0.039 U	0.038 U
Pesticides						
4,4'-DDD	72-54-8	mg/kg	220	--	**0.00021 LJ**	0.0038 U
4,4'-DDE	72-55-9	mg/kg	160	--	**0.00015 LJ**	**0.00015 LJ**
4,4'-DDT	50-29-3	mg/kg	36	--	0.0039 U	0.0038 U
Acetophenone	98-86-2	mg/kg	7800	--	0.2 UJ	0.2 UJ
Aldrin	309-00-2	mg/kg	1.8	--	0.002 U	0.002 U
alpha-BHC	319-84-6	mg/kg	8.5	--	0.002 U	0.002 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-007-12-51 6/3/2015	WO-021-007-24-51 6/3/2015
alpha-Chlordane	5103-71-9	mg/kg	NP	--	0.002 U	0.002 U
Atrazine	1912-24-9	mg/kg	230	--	0.2 UJ	0.2 UJ
Benzaldehyde	100-52-7	mg/kg	7800	--	0.2 UJ	0.2 UJ
beta-BHC	319-85-7	mg/kg	30	--	0.002 U	0.002 U
Caprolactam	105-60-2	mg/kg	31000	--	0.2 UJ	0.2 UJ
Carbazole	86-74-8	mg/kg	NP	--	0.2 UJ	0.2 UJ
delta-BHC	319-86-8	mg/kg	NP	--	0.002 U	0.002 U
Dieldrin	60-57-1	mg/kg	3.1	--	**0.00026 LJ**	**0.00028 LJ**
Endosulfan I	959-98-8	mg/kg	NP	--	0.002 U	0.002 U
Endosulfan II	33213-65-9	mg/kg	NP	--	0.0039 U	0.0038 U
Endosulfan sulfate	1031-07-8	mg/kg	NP	--	0.0039 U	0.0038 U
Endrin	72-20-8	mg/kg	18	--	**0.0014 LJ**	0.0038 U
Endrin aldehyde	7421-93-4	mg/kg	NP	--	0.0039 U	0.0038 U
Endrin ketone	53494-70-5	mg/kg	NP	--	0.0039 U	0.0038 U
gamma-BHC (Lindane)	58-89-9	mg/kg	21	--	0.002 U	0.002 U
gamma-Chlordane	5103-74-2	mg/kg	NP	--	**0.0001 LJ**	**0.0001 LJ**
Heptachlor	76-44-8	mg/kg	12	--	**0.000022 LJ**	0.002 U
Heptachlor epoxide	1024-57-3	mg/kg	0.8	--	0.002 U	0.002 U
Methoxychlor	72-43-5	mg/kg	310	--	0.02 U	0.02 U
Toxaphene	8001-35-2	mg/kg	48	--	0.2 U	0.2 U
SVOA						
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	mg/kg	40000	--	0.0048 U	0.005 U
1,1'-Biphenyl	92-52-4	mg/kg	47	--	0.2 UJ	0.2 UJ
1,2,4,5-Tetrachlorobenzene	95-94-3	mg/kg	18	--	0.2 UJ	0.2 UJ
1,2,4-Trichlorobenzene	120-82-1	mg/kg	58	--	0.0048 U	0.005 U
1,4-Dioxane	123-91-1	mg/kg	530	--	0.097 U	0.099 U
2,2'-Oxybis(1-chloropropane)	108-60-1	mg/kg	490	--	0.2 UJ	0.2 UJ
2,3,4,6-Tetrachlorophenol	58-90-2	mg/kg	1800	--	0.2 UJ	0.2 UJ
2,4,5-Trichlorophenol	95-95-4	mg/kg	6200	--	0.2 UJ	0.2 UJ
2,4,6-Trichlorophenol	88-06-2	mg/kg	62	--	0.2 UJ	0.2 UJ
2,4-Dichlorophenol	120-83-2	mg/kg	180	--	0.2 UJ	0.2 UJ
2,4-Dimethylphenol	105-67-9	mg/kg	1200	--	0.2 UJ	0.2 UJ
2,4-Dinitrophenol	51-28-5	mg/kg	120	--	0.4 UJ	0.39 UJ
2,4-Dinitrotoluene	121-14-2	mg/kg	120	--	0.2 UJ	0.2 UJ
2,6-Dinitrotoluene	606-20-2	mg/kg	19	--	0.2 UJ	0.2 UJ
2-Chloronaphthalene	91-58-7	mg/kg	6300	--	0.2 UJ	0.2 UJ
2-Chlorophenol	95-57-8	mg/kg	390	--	0.2 UJ	0.2 UJ
2-Methylnaphthalene	91-57-6	mg/kg	230	--	NA	NA
2-Methylphenol	95-48-7	mg/kg	3100	--	0.2 UJ	0.2 UJ
2-Nitroaniline	88-74-4	mg/kg	610	--	0.4 UJ	0.39 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-007-12-51 6/3/2015	WO-021-007-24-51 6/3/2015
2-Nitrophenol	88-75-5	mg/kg	NP	--	0.2 UJ	0.2 UJ
3,3'-Dichlorobenzidine	91-94-1	mg/kg	120	--	0.2 UJ	0.2 UJ
3-Nitroaniline	99-09-2	mg/kg	NP	--	0.4 UJ	0.39 UJ
4,6-Dinitro-2-methylphenol	534-52-1	mg/kg	4.9	--	0.4 UJ	0.39 UJ
4-Bromophenyl-phenylether	101-55-3	mg/kg	NP	--	0.2 UJ	0.2 UJ
4-Chloro-3-methylphenol	59-50-7	mg/kg	6200	--	0.2 UJ	0.2 UJ
4-Chloroaniline	106-47-8	mg/kg	250	--	0.2 UJ	0.2 UJ
4-Chlorophenyl-phenylether	7005-72-3	mg/kg	NP	--	0.2 UJ	0.2 UJ
4-Methylphenol	106-44-5	mg/kg	6200	--	0.2 UJ	0.2 UJ
4-Nitroaniline	100-01-6	mg/kg	250	--	0.4 UJ	0.39 UJ
4-Nitrophenol	100-02-7	mg/kg	NP	--	0.4 UJ	0.39 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	NA	NA
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	NA	NA
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	NA	NA
Bis(2-chloroethoxy)methane	111-91-1	mg/kg	180	--	0.2 UJ	0.2 UJ
Bis(2-chloroethyl)ether	111-44-4	mg/kg	23	--	0.2 UJ	0.2 UJ
Bis(2-ethylhexyl)phthalate	117-81-7	mg/kg	1200	--	**0.058 LJ**	**0.018 LJ**
Butylbenzylphthalate	85-68-7	mg/kg	12000	--	0.2 UJ	0.2 UJ
Chrysene	218-01-9	mg/kg	1500	--	NA	NA
Dibenzofuran	132-64-9	mg/kg	72	--	0.2 UJ	0.2 UJ
Diethylphthalate	84-66-2	mg/kg	49000	--	0.2 UJ	0.2 UJ
Dimethylphthalate	131-11-3	mg/kg	NP	--	0.2 UJ	0.2 UJ
Di-n-butylphthalate	84-74-2	mg/kg	6200	--	0.2 UJ	0.2 UJ
Di-n-octylphthalate	117-84-0	mg/kg	620	--	0.2 UJ	0.2 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	NA	NA
Hexachlorobenzene	118-74-1	mg/kg	33	--	0.2 UJ	0.2 UJ
Hexachlorobutadiene	87-68-3	mg/kg	62	--	0.2 UJ	0.2 UJ
Hexachlorocyclopentadiene	77-47-4	mg/kg	370	--	0.2 UJ	0.2 UJ
Hexachloroethane	67-72-1	mg/kg	43	--	0.2 UJ	0.2 UJ
Isophorone	78-59-1	mg/kg	12000	--	0.2 UJ	0.2 UJ
Nitrobenzene	98-95-3	mg/kg	130	--	0.2 UJ	0.2 UJ
N-Nitroso-di-n-propylamine	621-64-7	mg/kg	7.6	--	0.2 UJ	0.2 UJ
N-Nitrosodiphenylamine	86-30-6	mg/kg	11000	--	0.2 UJ	0.2 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	NA	NA
Phenanthrene	85-01-8	mg/kg	NP	--	NA	NA
Phenol	108-95-2	mg/kg	18000	--	0.2 UJ	0.2 UJ
Pyrene	129-00-0	mg/kg	1700	--	NA	NA
SVOA (SIM)						
2-Methylnaphthalene	91-57-6	mg/kg	230	--	0.004 UJ	0.0039 UJ
Acenaphthene	83-32-9	mg/kg	3500	--	0.004 UJ	0.0039 UJ

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-007-12-51 6/3/2015	WO-021-007-24-51 6/3/2015
Acenaphthylene	208-96-8	mg/kg	NP	--	0.004 UJ	0.0039 UJ
Anthracene	120-12-7	mg/kg	17000	--	0.004 UJ	0.0039 UJ
Benzo(a)anthracene	56-55-3	mg/kg	15	--	0.004 UJ	0.0039 UJ
Benzo(a)pyrene	50-32-8	mg/kg	1.5	--	0.004 UJ	0.0039 UJ
Benzo(b)fluoranthene	205-99-2	mg/kg	15	--	0.004 UJ	0.0039 UJ
Benzo(g,h,i)perylene	191-24-2	mg/kg	NP	--	0.004 UJ	0.0039 UJ
Benzo(k)fluoranthene	207-08-9	mg/kg	150	--	0.004 UJ	0.0039 UJ
Chrysene	218-01-9	mg/kg	1500	--	**0.0016 LJ**	0.0039 UJ
Dibenzo(a,h)anthracene	53-70-3	mg/kg	1.5	--	0.004 UJ	0.0039 UJ
Fluoranthene	206-44-0	mg/kg	2300	--	0.004 UJ	0.0039 UJ
Fluorene	86-73-7	mg/kg	2300	--	0.004 UJ	0.0039 UJ
Indeno(1,2,3-cd)pyrene	193-39-5	mg/kg	15	--	0.004 UJ	0.0039 UJ
Naphthalene	91-20-3	mg/kg	130	--	0.004 UJ	0.0039 UJ
Pentachlorophenol	87-86-5	mg/kg	99	--	0.0081 UJ	0.0078 UJ
Phenanthrene	85-01-8	mg/kg	NP	--	**0.0019 LJ**	0.0039 UJ
Pyrene	129-00-0	mg/kg	1700	--	**0.0016 LJ**	0.0039 UJ
VOA						
1,1,1-Trichloroethane	71-55-6	mg/kg	8100	--	0.0048 U	0.005 U
1,1,2,2-Tetrachloroethane	79-34-5	mg/kg	60	--	0.0048 U	0.005 U
1,1,2-Trichloroethane	79-00-5	mg/kg	1.5	--	0.0048 U	0.005 U
1,1-Dichloroethane	75-34-3	mg/kg	360	--	0.0048 U	0.005 U
1,1-Dichloroethene	75-35-4	mg/kg	230	--	0.0048 U	0.005 U
1,2,3-Trichlorobenzene	87-61-6	mg/kg	49	--	0.0048 U	0.005 U
1,2-Dibromo-3-chloropropane	96-12-8	mg/kg	0.53	--	0.0048 U	0.005 U
1,2-Dibromoethane	106-93-4	mg/kg	3.6	--	0.0048 U	0.005 U
1,2-Dichlorobenzene	95-50-1	mg/kg	1800	--	0.0048 U	0.005 U
1,2-Dichloroethane	107-06-2	mg/kg	31	--	0.0048 U	0.005 U
1,2-Dichloropropane	78-87-5	mg/kg	16	--	0.0048 U	0.005 U
1,3-Dichlorobenzene	541-73-1	mg/kg	NP	--	0.0048 U	0.005 U
1,4-Dichlorobenzene	106-46-7	mg/kg	260	--	0.0048 U	0.005 U
2-Butanone	78-93-3	mg/kg	27000	--	0.0097 U	**0.0082 LJ**
2-Hexanone	591-78-6	mg/kg	200	--	0.0097 U	0.0099 U
4-Methyl-2-Pentanone	108-10-1	mg/kg	5300	--	0.0097 U	0.0099 U
Acetone	67-64-1	mg/kg	61000	--	**0.01**	**0.0088 LJ**
Benzene	71-43-2	mg/kg	82	--	0.0048 U	0.005 U
Bromochloromethane	74-97-5	mg/kg	150	--	0.0048 U	0.005 U
Bromodichloromethane	75-27-4	mg/kg	29	--	0.0048 U	0.005 U
Bromoform	75-25-2	mg/kg	1200	--	0.0048 U	0.005 U
Bromomethane	74-83-9	mg/kg	6.8	--	0.0048 U	0.005 U
Carbon disulfide	75-15-0	mg/kg	770	--	0.0048 U	0.005 U

Appendix E - Table 3
Wilcox Oil
Phase 2 Soil Analytical Data
West 221st Street South/Refinery Road
Bristow, Creek County, Oklahoma

Analyte	CAS.NO	Units	Residential Soil RML	Sample ID Date	WO-021-007-12-51 6/3/2015	WO-021-007-24-51 6/3/2015
Carbon tetrachloride	56-23-5	mg/kg	65	--	0.0048 U	0.005 U
Chlorobenzene	108-90-7	mg/kg	280	--	0.0048 U	0.005 U
Chloroethane	75-00-3	mg/kg	14000	--	0.0048 U	0.005 U
Chloroform	67-66-3	mg/kg	32	--	0.0048 U	0.005 U
Chloromethane	74-87-3	mg/kg	110	--	0.0048 U	0.005 U
cis-1,2-Dichloroethene	156-59-2	mg/kg	160	--	0.0048 U	0.005 U
cis-1,3-Dichloropropene	10061-01-5	mg/kg	NP	--	0.0048 U	0.005 U
Cyclohexane	110-82-7	mg/kg	6500	--	0.0048 U	0.005 U
Dibromochloromethane	124-48-1	mg/kg	73	--	0.0048 U	0.005 U
Dichlorodifluoromethane	75-71-8	mg/kg	87	--	0.0048 U	0.005 U
Ethylbenzene	100-41-4	mg/kg	580	--	0.0048 U	0.005 U
Isopropylbenzene	98-82-8	mg/kg	1900	--	0.0048 U	0.005 U
m,p-Xylene	108-38-3/106-42-3	mg/kg	550	--	0.0048 U	0.005 U
Methyl acetate	79-20-9	mg/kg	78000	--	0.0048 U	0.005 U
Methyl tert-butyl ether	1634-04-4	mg/kg	4700	--	0.0048 U	0.005 U
Methylcyclohexane	108-87-2	mg/kg	NP	--	0.0048 U	0.005 U
Methylene chloride	75-09-2	mg/kg	350	--	0.0048 U	0.005 U
o-Xylene	95-47-6	mg/kg	650	--	0.0048 U	0.005 U
Styrene	100-42-5	mg/kg	6000	--	0.0048 U	0.005 U
Tetrachloroethene	127-18-4	mg/kg	81	--	0.0048 U	0.005 U
Toluene	108-88-3	mg/kg	4900	--	**0.0012 LJ**	**0.00098 LJ**
trans-1,2-Dichloroethene	156-60-5	mg/kg	1600	--	0.0048 U	0.005 U
trans-1,3-Dichloropropene	10061-02-6	mg/kg	NP	--	0.0048 U	0.005 U
Trichloroethene	79-01-6	mg/kg	4.1	--	0.0048 U	0.005 U
Trichlorofluoromethane	75-69-4	mg/kg	730	--	0.0048 U	0.005 U
Vinyl chloride	75-01-4	mg/kg	5.9	--	0.0048 U	0.005 U

Residential Soil RML - January 2015 EPA Residential Soil RML

NA - Not Analyzed

NP - Not Published

J - Estimated Value

U - Not Detected at reported quantitation limit

L - Reported concentration is below the CRQL

R - Unusable

Yellow highlighted cells exceed RML