

**EXPANDED SITE INSPECTION REPORT
WILCOX REFINERY
CREEK COUNTY, OKLAHOMA
EPA CERCLIS ID # OK0001010917**

September 30th, 2011

**STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND PROTECTION DIVISION
SITE ASSESSMENT UNIT**

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Date: September 30th, 2011

Prepared by: Todd Downham, State of Oklahoma DEQ

Site: Wilcox Refinery, Creek County

EPA ID #: OK0001010917

1. **INTRODUCTION**

The State of Oklahoma Department of Environmental Quality (DEQ) under the Multi-Site Cooperative Agreement (CA# V-00645-01) with the U.S. Environmental Protection Agency (EPA), as authorized by CERCLA and as amended by SARA, conducted a Expanded site inspection (ESI) of the Wilcox Refinery Site (CERCLIS # OK0001010917), located in Creek County, Oklahoma (Reference 1).

The purpose of this investigation was to collect information concerning conditions at the site sufficient to assess the threat posed to human health and the environment, to determine the need for additional investigation under CERCLA/SARA, and, if appropriate, support site evaluation using the Hazard Ranking System (HRS) for proposal to the National Priorities List (NPL). This investigation included reviewing information collected during the site visits, sampling environmental media for determination of the presence and extent of hazardous substances on-site and the migration of these substances from the site, evaluating and documenting HRS factors, and collecting additional non-sampling information. The ESI followed the procedures set forth in the *EPA Guidance for Performing Site Inspections Under CERCLA*, Interim Final, EPA 540-R-92-021 and will be used in support of a decision by EPA Region 6 as to whether the site warrants further investigation under CERCLA (Reference 2).

The project followed the procedures set forth in the Quality Assurance Project Plan (QAPP) (Reference 3) and the approved DEQ Quality Management Plan (QMP) for State fiscal year 2011, EPA QTRAK # 11-024 (Reference 4).

2. **SITE DESCRIPTION**

2.1 **Location**

The Site consists of the former Wilcox Refinery located in N ½ of the NW 1/4 of S29 T16N R9E and the SW 1/4 of the SW ¼ of S20 T16N R9E in Creek County, Oklahoma. The site's center has the coordinates 96°22'48.693" West longitude 35°50'26.8966" north latitude. The site covers approximately 125 acres (Reference 5; Figure 1).

2.2 Site Description

The site includes remnants of former oil refining operations and tank farms. The site can be divided into three major former operational areas: two processing areas with surrounding refined product storage 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 northwestern portion of the site, west of the railroad and north of West 221st Street South/Refinery Road, was used as a refined product storage area but is now rural land no longer used for refinery storage purposes. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature (Reference 5)

The southwestern portion of the site, south of Refinery Road, west of the railroad had a processing area and refined product storage. The First Assembly of God Church, playground, and one residence are located where processing and storage occurred. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature (Reference 5).

East of the railroad was a processing and refined product storage areas. Several refined product storage tanks, Refinery-related debris, dilapidated buildings, and structures remain on site. There is one residence in this portion of the site. An intermittent stream (West Tributary) marks the eastern extent of the processing and refined product storage area east of the railroad. This tributary runs north to south and flows into Sand Creek to the south. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature (Reference 5).

To the east of the West Tributary is a former large crude oil storage area/tank farm. 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 (Reference 5).

There are a total of six 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 located on site. The drainage pattern of the site is primarily towards Sand Creek that follows 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, both of which flow into Sand Creek (Reference 5).

There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste of a hydrocarbon nature (Reference 5).

A detailed title search in the Creek County Clerk office confirms that the property was used in oil refinery operations from 1915 until November 1963. Site access is not controlled. There are no fences on the property and there are no schools or day cares located within 200 feet of the site

(Reference 6). During several sampling events, site visits, and based on conversations with property owners, it is believed that there are children living in all six residences on site (Reference 5).

2.3 Previous Investigations and Regulatory History

Multiple investigations have been performed on the site since 1994:

- Preliminary Assessment (PA) was performed at the former Wilcox Refinery Site by the Oklahoma Department of Environmental Quality (ODEQ) in December 1994 (Reference 7).
- Expand Site Inspection (ESI) was performed at the former Wilcox Refinery Site for the Environmental Protection Agency (EPA) in March 1997 (Reference 8).
- Site Assessment (SA) was performed at the former Wilcox Refinery Site by EPA in March 1999 (Reference 9).
- PA was performed at the former Lorraine Refinery Site by ODEQ in September 2008 (Reference 10).
- Site Inspection (SI) was performed at the former Lorraine/Wilcox Refinery Site by ODEQ in August 2009 (Reference 11).
- ESI was performed at the former Lorraine/Wilcox Refinery Site by ODEQ in September 2010 (Reference 12).

Recent investigations (2009-2011) will be discussed briefly in Section 8 of this document.

There is no information of any regulatory measures taking place during refining operations.

2.4 Operational History and Waste Characteristics

The area was once occupied by an oil refinery. The wastes associated with this type of facility include crude oil, tank residues, brine, acid and caustic sludges, heavy metals, petroleum products, coke, sulfur compounds, and solvents. Waste management practices are unknown for this facility (Reference 6).

The Sanborn Insurance Map indicates that the property contained about 65 storage tanks of various sizes, a cooling pond, and around 10 buildings housing refinery operations. The map also indicated that crude oil, fuel oil, gas oil, distillate, kerosene, benzene, and benzene (petroleum ether) were all stored on the property by the Lorraine /Wilcox Refining Company (Reference 14).

There are several areas of stressed vegetation, barren soil, and spots of tarry waste (Reference 5).

3. WASTE/SOURCE SAMPLING

After reviewing a Soil Survey of Creek County (Reference 13), Sanborn maps (Reference 14), previous investigations (References 7, 8, 9, 10, 11, and 12), and Site reconnaissance (Reference 5) samples locations were determined.

3.1 Sample Locations

A total of nine waste samples were collected to identify hazardous substances at the site and investigate whether these substances have been released into the environment, especially a possible migration of the contaminants from the site to the aquifer (Reference 5, 6, 20, and 21).

During the sampling event several deviations from the Sampling and Analysis Plan (SAP) were necessary based on site conditions (References 20 and 21).

Sample collection date/time, locations and justification is depicted in Table 1 and Figures 3 and 4.

3.2 Analytical Results

The collected samples were analyzed for total metals; including Mercury and semi-volatile organic compounds (SVOCs) using Oklahoma State Environmental Laboratory (SEL) methods and procedures (Reference 15 and 16).

During the ESI metals were detected in every waste sample location.

The following waste samples showed elevated levels of metals contaminants when compared to three times background concentrations: Waste samples W-1, 2, 4, 5, 6, 7, and 9 (Reference 16).

The following waste samples showed elevated levels of Semi-Volatile Organic contaminants when compared to three times background concentrations: Waste samples W-3, 4, 7, and 8 (Reference 16).

The analytical data for these samples is shown in Table 6 and Figures 5, 6, and 7.

3.3 Sources

Based on the analytical data presented in Tables 2, 3, 4, 5, 6 and information collected during the sampling event, the location, type, and size of on-site source was determined. The area of contaminated soil was determined by considering samples not only designated specifically as Waste samples. *The area of contaminated soil is considered a waste source for the purposes of this ESI.* Analytical results for other samples included in determining the waste source is discussed in sections 5 and 6.

After triangulating between surface soil sample points SS-2, SS-8, SED-2, W-8, SED-1 and W-1, it was concluded that the contaminated source area is a polygon and covers about 46 acres. Acreage was plotted using Geographic Information System (GIS) mapping software (Reference 19, Figure 7).

Previous investigations and historical documents/maps provide information about location and size of former storage tanks used by the refinery (References 7, 8, 9, 10, 11, 12, and 14).

Widespread waste in locations where refined product and crude oil was stored could potentially be a source of hazardous substances or release to the environment (Figure 2).

3.4 Conclusions

Elevated concentrations of metals and semi-volatile organic compounds collected from samples collected within the site boundary (Surface Soil, Sediment, and Waste sample locations) were detected. The presence of elevated levels of contaminants could be explained by the former refinery activities on the site. The waste is unconfined and could migrate off site via ground water pathway, surface water runoff, or in the air. The presence of elevated metals and organics suggests a potential release of contaminants to off-site surface waters (Reference 16; Figures 5, and 7).

4. GROUND WATER PATHWAY

4.1 Hydrogeology

The Barnsdall Formation is approximately 200 feet thick at the site and consists of massive to thin beds of coarse to fine grain sandstone, irregularly interbedded with sandy to silty shale. Sandstone outcrops of the Barnsdall Formation are common throughout the site, and potentially receive ground water recharge from downward infiltration of direct precipitation at the surface, as well as infiltration from shallow, perched ground water zones. The Barnsdall Formation is a bedrock aquifer but is not considered to be a Principal Ground Water Resource by the Oklahoma State Department of Health (OSDH). However, the site is in close proximity to the Vamoosa-Ada aquifer (References 6 and 8).

The upper part the Barnsdall Formation and Sand Creek alluvial aquifer are unconfined, with shallow water table. The site is in a potential recharge area and thus is susceptible to ground water contamination from petroleum waste or contaminated soils. Depths to seasonal perched water zones area less than 10 feet and the shallowest regional water bearing formation is reportedly less than 25 feet below ground surface (bgs) (References 6 and 8).

4.2 Targets

Of the residences on site, three have private wells that are used for drinking water. There are three residents directly north of the site and two residents south of the site that use ground water from private wells. A total of eight residents on/near the site are considered to be primary targets for the ground water pathway. There are three residences on site that obtain water from

public/municipal wells that are located within 2 miles of the site; these wells are outside the influence of the site (Reference 6 and 17; Figure 2).

The total population served by private wells is described in the table below. The numbers were arrived at by multiplying the number of wells by the estimated average number of persons (2.57) within each household in Creek County, with the exception of the On-site populations which were determined by direct communication with residents (References 5, 6 and

Private/Domestic Wells

| Distance from Site (mi) | # of Wells | Est. Population Served by Private Wells |
|--------------------------------|-------------------|--|
| On-site | 3 | 9 |
| 0 – ¼ | 8 | 24 |
| ¼ - ½ | 0 | 0 |
| ½ - 1 | 4 | 10.28 |
| 1 – 2 | 25 | 64.25 |
| 2 – 3 | 20 | 51.4 |
| 3 – 4 | 29 | 74.53 |
| Total | 89 | 244.75 |

There are five ground water wells, that compromise the City of Bristow public water supply system, located about 1-2 miles west, northwest, and southwest of the site, in the direction opposite and perpendicular to ground water flow. There are no public water wells contributing more than 40% of the total output of the system, which serves an overwhelming majority of the population of the area of interest. The population was calculated by multiplication of the number of households connected to the public water system by the average number of persons per household (References 5, 12, 17, and 22).

It was decided that sampling of the public/municipal ground water wells is not warranted for the purposes of this ESI.

Public Wells

| Distance from Site (mi) | # of Wells | Est. Population Served by Public Wells |
|--------------------------------|-------------------|---|
| On-site | 0 | 0 |
| 0 – ¼ | 0 | 0 |
| ¼ - ½ | 0 | 0 |
| ½ - 1 | 0 | 0 |
| 1 - 2 | 5 | 3869 |
| 2 – 3 | 0 | 0 |
| 3 – 4 | 0 | 0 |
| Total | 5 | 3869 |

4.3 Analytical Results

Ground water samples from private residential wells within the site boundary and adjacent to the site were collected during the Lorraine Refinery ESI in June 2010 (Reference 12). Exceedance for metals: Barium, Chromium, Copper, and Zinc were detected. Every private residential sampled well had an exceedance for at least one constituent (Reference 12).

4.4 Conclusions

During the Lorraine Refinery ESI (2010) investigation/sampling event, primary private target wells within the study area were identified and sampled. Public/municipal wells were determined to be outside the influence of the site and were not sampled. Sample results indicate elevated level of contaminants in all wells sampled (Reference 12).

5. SURFACE WATER PATHWAY

5.1 Hydrology

The drainage pattern for the site is generally to the south. There are five locations where overland flow of surface waters across the site enters perennial waters (Sand Creek). These five locations are likely the most significant probable point of entry (PPE). Sand Creek meanders approximately 2 miles east until it merges with Little Deep Fork Creek, which is the third surface water body within fifteen miles downstream of the PPE (Reference 2; Figure 2).

According to gauging station #07243500 located in the NW ¼ of the SW ¼ of S20 T14N R12E in Okmulgee County, approximately 25 miles southeast from the site, the annual flow rate of the Deep Fork River is 806 cfs. The average annual precipitation in the area is about 37 inches. The 2-year, 24-hour rainfall is about 3.8 inches. The site is not located within the 100-year flood plain (Reference 11).

5.2 Targets

According to the State of Oklahoma, Sand Creek is considered a Habitat Limited Aquatic Community, and a Secondary Body Contact Beneficial Use, as well as having agricultural and aesthetic beneficial uses. Little Deep Fork Creek downstream from Sand Creek is considered a Warm Water Aquatic Community, and a Primary Body Contact Beneficial Use, as well as having agricultural and aesthetic beneficial uses. The Oklahoma Department of Wildlife Conservation lists the Heyburn Wildlife Management Area within the 15-mile target distance. This area and its associated watershed are considered to be sensitive areas (Reference 11).

Several species have been identified within the study area as endangered: American Burying Beetle (*Nicrophorus americanus*), and Interior Least Tern (*Sterna antillarum*). Species identified as threatened or vulnerable are: Woodchuck (*Marmota monax*), Prairie Mole Cricket (*Gryllotalpa major*), and Bachman's Sparrow (*Aimophila aestivalis*). There is no drinking water intakes associated with the surface water pathway (Reference 11).

5.3 Sample Locations

After reviewing a Soil Survey of Creek County, Sanborn maps, site reconnaissance, and previous investigations, sediment sample locations were determined (References 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14; Figure 3).

During the sampling event several deviations from the Sampling and Analysis Plan (SAP) were necessary based on site conditions. Several PPE locations in Sand Creek were not sampled due to access issues (Reference 21).

5.4 Analytical Results

The collected samples were analyzed for total metals; including Mercury and semi-volatile organic compounds (SVOCs) using Oklahoma State Environmental Laboratory (SEL) methods and procedures (Reference 15 and 16).

During the ESI metals were detected in every Sediment sample location. The following Sediment samples showed elevated levels of Metals contaminants when compared to background concentrations (3 x background concentrations): Sediment samples SED- 2, 3, 5, and 11 (Reference 16). The analytical data for these sample exceedances is shown in Table 3.

No SVOC's were detected in Sediment Samples (Reference 16; Figure 6).

5.5 Conclusions

Elevated concentrations of metals from sediment samples collected within the site boundary were detected. The presence of elevated levels of contaminants could be explained by the former refinery activities on the site. The contaminated soil is unconfined and could migrate off site via surface water runoff, or in the air. The presence of elevated metals suggests a potential release of contaminants to off-site surface waters (Figures 2, 3, and 5).

6. SOIL EXPOSURE PATHWAY

6.1 Physical Conditions

The Site consists of the former Wilcox Refinery located in N ½ of the NW 1/4 of S29 T16N R9E and the SW 1/4 of the SW ¼ of S20 T16N R9E in Creek County, Oklahoma. The site's center has the coordinates 96°22'48.693" West longitude 35°50'26.8966" north latitude. The site covers approximately 125 acres (Reference 6).

6.2 Targets

There are six residences and a church located within the site boundary. Sampling for this ESI focused on the middle portion of the site, west of the west tributary, that was the former Wilcox processing, and Refined product storage areas. There are two residents located within this study area (Reference 5; Figure 2).

6.3 Sample Locations

Seven surface soil Samples were collected from within the site boundary and one collected adjacent to the site to the north. A background sample was collected outside the influence of the site. Samples were collected from one residential yard, from locations down gradient, west of the west tributary, and north of Sand Creek (Reference 6 and 21; Figures 2, 3, and 4).

Soil samples were taken in order to determine whether the soil is contaminated and if so, to what extent (References 2).

Surface soil samples locations and justification are described in Table 1 and depicted in Figure 3.

During the sampling event several deviations from the Sampling and Analysis Plan (SAP) were necessary based on site conditions (Reference 21).

6.4 Analytical Results

The collected samples were analyzed for total metals; including Mercury and semi-volatile organic compounds (SVOCs) using Oklahoma State Environmental Laboratory (SEL) methods and procedures (Reference 15 and 16).

During the ESI metals were detected in every surface soil sample location. The following Surface Soil samples showed elevated levels of metals when compared to three times background concentrations: Surface Soil Samples SS-1, 2, 3, 4, 5, 6, 7, and 8.

The following surface soil samples showed elevated levels of SVOCs when compared to three times background concentrations: surface soil samples SS-2, 3, 4 and 8 (Reference 16; Figure 6).

The analytical data for these samples is shown in Tables 2 of this document.

6.5 Conclusions

Elevated concentrations of metals and SVOCs from surface soil samples collected within the site boundary were detected. The presence of elevated levels of contaminants could be explained by the former refinery activities on the site. The contaminated soil is unconfined and could migrate off site via surface water runoff, or in the air. The presence of elevated metals and SVOCs suggests a

potential exposure to residents or release of contaminants to off-site surface waters (Figures 2, 5, 6, and 7).

7. AIR PATHWAY

7.1 Site Conditions

It is likely that air emissions occurred during the operational period of the refinery operations; however, the only emissions of concern currently at the site are contaminated soil particles and semi-volatile organic compounds that could become airborne.

7.2 Targets

The residents living on site are considered the nearest individuals. The estimated population and wetland acreage within four miles of the site is described in the following table (Reference 12).

Estimated Population and Wetland Acreage

| Distance from site (mi) | Estimated Population | Estimated Wetland Acreage |
|--------------------------------|-----------------------------|----------------------------------|
| On-site | 19 | 2 |
| 0 - ¼ | 54 | 4.5 |
| ¼ - ½ | 495 | 7 |
| ½ - 1 | 1,836 | 9 |
| 1 – 2 | 2,691 | 65 |
| 2 – 3 | 1,017 | 145 |
| 3 – 4 | 517 | 112 |
| TOTALS | 6134 | 342.3 |

7.3 Sample Locations/Analytical Results

Since air sampling is outside the scope of an ESI, no formal air monitoring program was conducted and no air samples were collected.

7.4 Conclusions

A release to the air pathway has not been documented at the site, and no odor was detected during the sampling event.

8. SUMMARY AND CONCLUSIONS

Two refinery process facilities and storage tank areas once operated on the site. Recent investigations (2009-2011) indicate the site area contains elevated concentrations of metals and organic compounds in surface soils and sediment. The total area of soil contamination, based on comparison with background levels, is estimated at 62 acres. Elevated levels of metals were detected in three private residential wells on site, and from three wells adjacent to the site. The contamination can be explained by the former refining operations.

A church and six residents are on site. Evidence suggests numerous children residing in every residence, half of which utilize ground water from private wells.

A large volume of visible waste is present where refined product and crude oil storage tanks once stood. The waste is unconfined and could migrate off site via the ground water pathway, surface water runoff, or in the air. Elevated levels of metals in surface soil samples collected may be considered as an indicator of the migration of the contaminants from the site down gradient towards Sand Creek.

Due to limited access to portions of the site and to Sand Creek a final conclusion as to the extent of contamination and migration of contaminants into Sand Creek and beyond requires an additional investigation.

TABLES AND FIGURES

Table 1: Sample Collection

| Sample Number | Sample Type | Location and Justification | Date | Time |
|----------------------|--------------------|--|-------------|-------------|
| LWSS-9 | Surface Soils | Background Sample Location , north of site, outside the influence of the site | 6-9-2010 | 15:15 |
| SS-1 | Surface Soils | North of site, West of west tributary, | 6-28-2011 | 14:41 |
| SS-2 | Surface Soils | Former refined product storage area, Residential yard | 6-28-2011 | 14:11 |
| SS-3 | Surface Soils | Former refined product storage area, West of West Tributary, Waste observed | 6-28-2011 | 13:41 |
| SS-4 | Surface Soils | Former refined product storage area, West of West Tributary, Waste observed | 6-28-2011 | 13:32 |
| SS-5 | Surface Soils | Former refined product storage area, West of West Tributary, Large non-vegetated area, Waste observed | 6-28-2011 | 13:21 |
| SS-6 | Surface Soils | Former refined product storage area, West of West Tributary and pond, Large non-vegetated area, Waste observed | 6-28-2011 | 13:10 |
| SS-7 | Surface Soils | Former refined product storage area, West of West Tributary and pond, Large non-vegetated area, Waste observed | 6-28-2011 | 13:15 |
| SS-8 | Surface Soils | Duplicate Sample of SS-7, Former refined product storage area, adjacent to existing tank , Waste observed | 6-28-2011 | 12:52 |
| SED-1 | Sediment | East Tributary, South site boundary, Downstream of former crude oil storage area | 6-29-2011 | 10:20 |
| SED-2 | Sediment | Drainage channel to Sand Creek, Down gradient of former crude oil storage area, Waste observed | 6-29-2011 | 10:55 |
| SED-3 | Sediment | Drainage channel to Sand Creek, Down gradient of former crude oil storage area, Waste observed | 6-29-2011 | 11:10 |
| SED-4 | Sediment | Drainage channel to Sand Creek, Down gradient of former crude oil storage area, Waste observed | 6-29-2011 | 13:35 |
| SED-5 | Sediment | Duplicate Sample of SED-4, Drainage channel to Sand Creek, Down gradient of former crude oil storage area, Waste | 6-29-2011 | 13:35 |

| | | | | |
|--------|----------|--|-----------|-------|
| | | observed | | |
| SED-7 | Sediment | Sand Creek, Upstream of Site | 6-29-2011 | 14:40 |
| SED-8 | Sediment | West Tributary, Down gradient of former refined product storage area | 6-28-2011 | 13:51 |
| SED-9 | Sediment | West Tributary, North of site | 6-28-2011 | 14:38 |
| SED-10 | Sediment | East Tributary, Upstream of site | 6-29-2011 | 14:15 |
| SED-11 | Sediment | Pond, Southern site boundary, Down gradient of former crude oil storage area | 6-28-2011 | 10:56 |
| W-1 | Waste | Former crude oil storage area, Waste observed | 6-28-2010 | 11:23 |
| W-2 | Waste | Former crude oil storage area, Waste observed | 6-28-2011 | 11:30 |
| W-3 | Waste | Former crude oil storage area, Waste observed | 6-28-2011 | 11:12 |
| W-4 | Waste | Former crude oil storage area, Waste observed. | 6-28-2011 | 11:40 |
| W-5 | Waste | Former crude oil storage area, Waste observed | 6-28-2011 | 10:35 |
| W-6 | Waste | Duplicate Sample of W-5, Former crude oil storage area, Waste observed | 6-28-2011 | 10:37 |
| W-7 | Waste | Former crude oil storage area, Waste observed | 6-29-2011 | 13:25 |
| W-8 | Waste | Former crude oil storage area, Waste observed | 6-28-2011 | 10:15 |
| W-9 | Waste | Former refined product storage area, Waste observed | 6-28-2011 | 14:00 |
| | | | | |

26 Site Characterization Sample Locations

2 Background/Upstream Samples

3 QA/QC Samples

**TABLE 2: ANALYTICAL RESULTS FOR CONTAMINATED SURFACE SOIL
SAMPLES (mg/kg)* COLLECTED DURING THE ESI
SS-#.**

BACKGROUND SAMPLE: LWSS-9.

| Sample ID | LWSS-9 | #2 | # 3 | #4 | #5 | #6 (7) | #8 |
|------------------|--------|------|------|------|-------|------------------|----|
| <i>Substance</i> | | | | | | | |
| Barium | 118 | - | - | - | - | - | - |
| Chromium | 15 | - | - | - | - | - | - |
| Copper | < 5 | 10 | 12.7 | 11.7 | 68.3 | 84 (61) | 11 |
| Lead | 29.7 | 147 | 459 | 366 | 43600 | 50000 (43200) | - |
| Nickel | < 10 | - | - | - | - | 191 | - |
| Zinc | 141 | - | - | - | - | - | - |
| Mercury | < .25 | 1.73 | - | - | - | - | - |

**TABLE 3: ANALYTICAL RESULTS FOR CONTAMINATED SEDIMENT SAMPLES
(mg/kg)* COLLECTED DURING THE ESI
SED-#.**

BACKGROUND SAMPLE: LWSS-9.

| Sample ID | LWSS-9 | #2 | # 3 | #4 (5) | #11 | |
|------------------|--------|------|------|--------|------|--|
| <i>Substance</i> | | | | | | |
| Barium | 118 | - | - | - | - | |
| Chromium | 15 | - | - | - | - | |
| Copper | < 5 | 9.90 | 12.3 | (5.70) | 8.70 | |
| Lead | 29.7 | - | - | - | - | |
| Nickel | < 10 | 18.4 | 17.9 | (12.8) | - | |
| Zinc | 141 | - | - | - | - | |
| Mercury | < .25 | - | - | - | - | |

TABLE 4: ANALYTICAL RESULTS FOR WASTE SAMPLES (mg/kg)* COLLECTED DURING THE ESI.

W-#.

BACKGROUND SAMPLE: LWSS-9

| Sample ID | LWSS-9 | # 1 | # 2 | #4 | # 5 (6) | # 7 | # 9 | |
|------------------|--------|-----|------|------|----------------|------|------|--|
| <i>Substance</i> | | | | | | | | |
| Barium | 118 | - | - | - | - | - | - | |
| Chromium | 15 | - | - | - | - | - | - | |
| Copper | < 5 | - | 5.60 | 7.40 | 7.90 (6.70) | 6.10 | 78.2 | |
| Lead | 29.7 | 122 | 2320 | 254 | 590 (486) | - | 1560 | |
| Nickel | < 10 | - | 153 | - | 7.20 | - | - | |
| Zinc | 141 | - | - | - | - | - | - | |
| Mercury | < .25 | - | - | - | - | - | - | |

**TABLE 5: ANALYTICAL RESULTS FOR CONTAMINATED SURFACE SOIL
SAMPLES (ug/kg)* COLLECTED DURING THE ESI
SS-#.
BACKGROUND SAMPLE: LWSS-9.**

| Sample ID | LWSS-9 | #2 | # 3 | #4 | #8 | |
|-----------------------------|--------|------|------|------|----|--|
| <i>Substance</i> | | | | | | |
| Benzo (b) fluoranthene | < 440 | 520 | - | 1100 | | |
| Fluoranthene | < 440 | - | - | - | | |
| Benzo (a) pyrene | < 440 | 610 | - | 1200 | | |
| Benzo (k) pyrene | < 440 | - | - | - | | |
| Chrysene | < 440 | 1400 | 1900 | 2800 | | |
| Indeno (123cd) pyrene | < 440 | - | - | - | | |
| Phenanthrene | < 440 | 1800 | 2900 | 2700 | | |
| Pyrene | < 440 | 1200 | 2000 | 2800 | | |
| Benzo (ghi) perylene | < 440 | 550 | 1000 | 3200 | | |
| Benzo (a) anthracene | < 440 | 910 | 1100 | 1500 | | |
| Bis (2-ethylhexyl) phtalate | < 440 | - | - | - | | |

**TABLE 6: ANALYTICAL RESULTS FOR CONTAMINATED WASTE SAMPLES
(ug/kg)* COLLECTED DURING THE ESI
W-#. BACKGROUND SAMPLE: LWSS-9.**

| Sample ID | LWSS-9 | #3 | # 4 | #7 | #8 |
|-----------------------------|--------|-----|------|------|-------|
| <i>Substance</i> | | | | | |
| Benzo (b) fluoranthene | < 440 | - | - | 1200 | 1100 |
| Fluoranthene | < 440 | - | - | 1500 | |
| Benzo (a) pyrene | < 440 | - | - | - | 1200 |
| Benzo (k) pyrene | < 440 | - | - | - | |
| Chrysene | < 440 | - | - | - | 2500 |
| Indeno (123cd) pyrene | < 440 | - | - | - | 12000 |
| Phenanthrene | < 440 | | - | - | 2400 |
| Pyrene | < 440 | 490 | 3300 | 1200 | 2600 |
| Benzo (ghi) perylene | < 440 | - | - | - | 3000 |
| Benzo (a) anthracene | < 440 | - | 1800 | - | 1300 |
| Bis (2-ethylhexyl) phtalate | < 440 | - | - | - | 1400 |

* The above information represents samples which showed elevated levels of contaminants (i. e. 3 x backgrounds). The laboratory analyses for all sample points are provided in Reference 16. The detection limits for SEL are provided in its Quality Assurance Plan (Reference 15).

Figure 1: Topographic Features, Wilcox Refinery ESI,
Bristow, Oklahoma

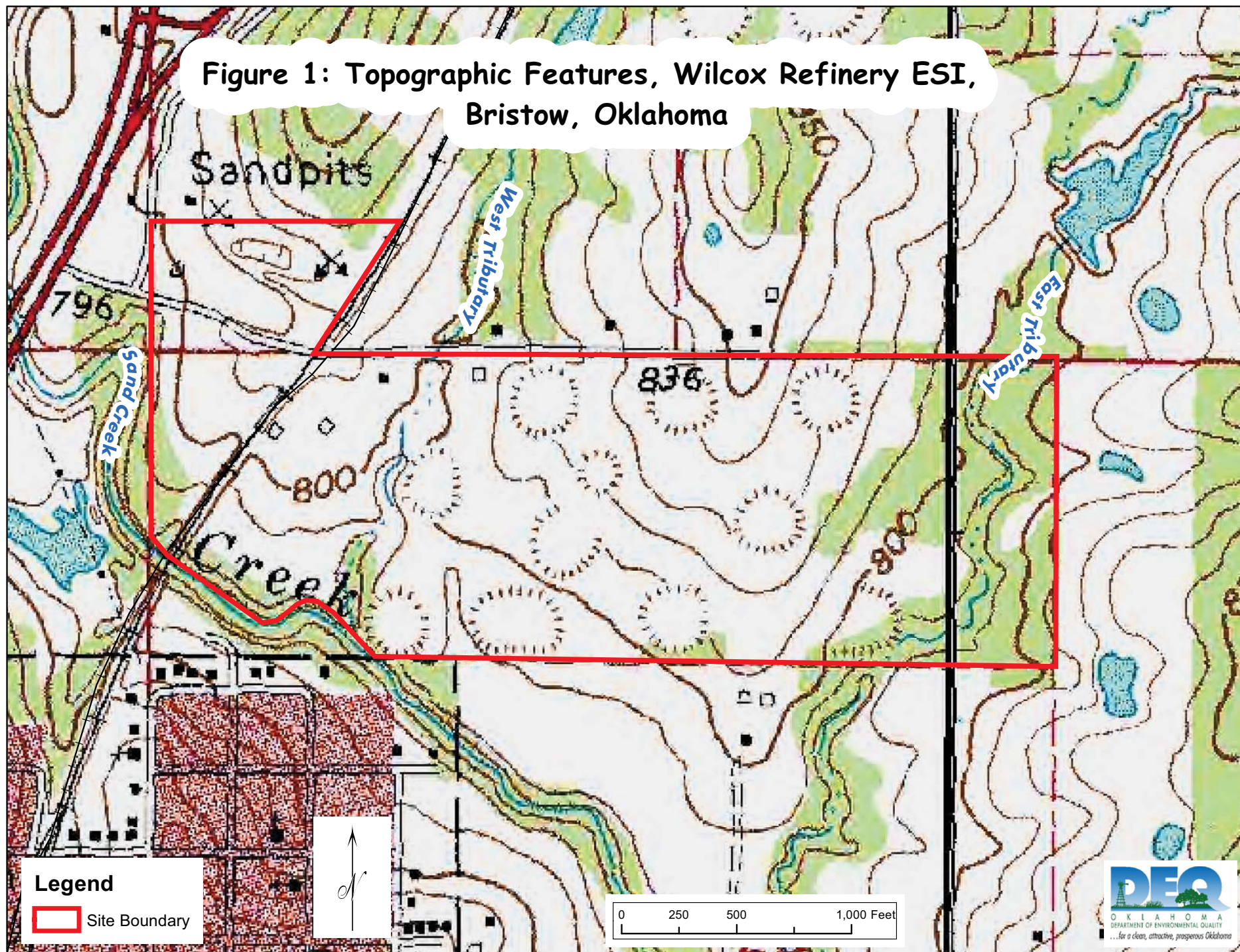


Figure 2: Features of Importance, Wilcox Refinery ESI,
Bristow, Oklahoma

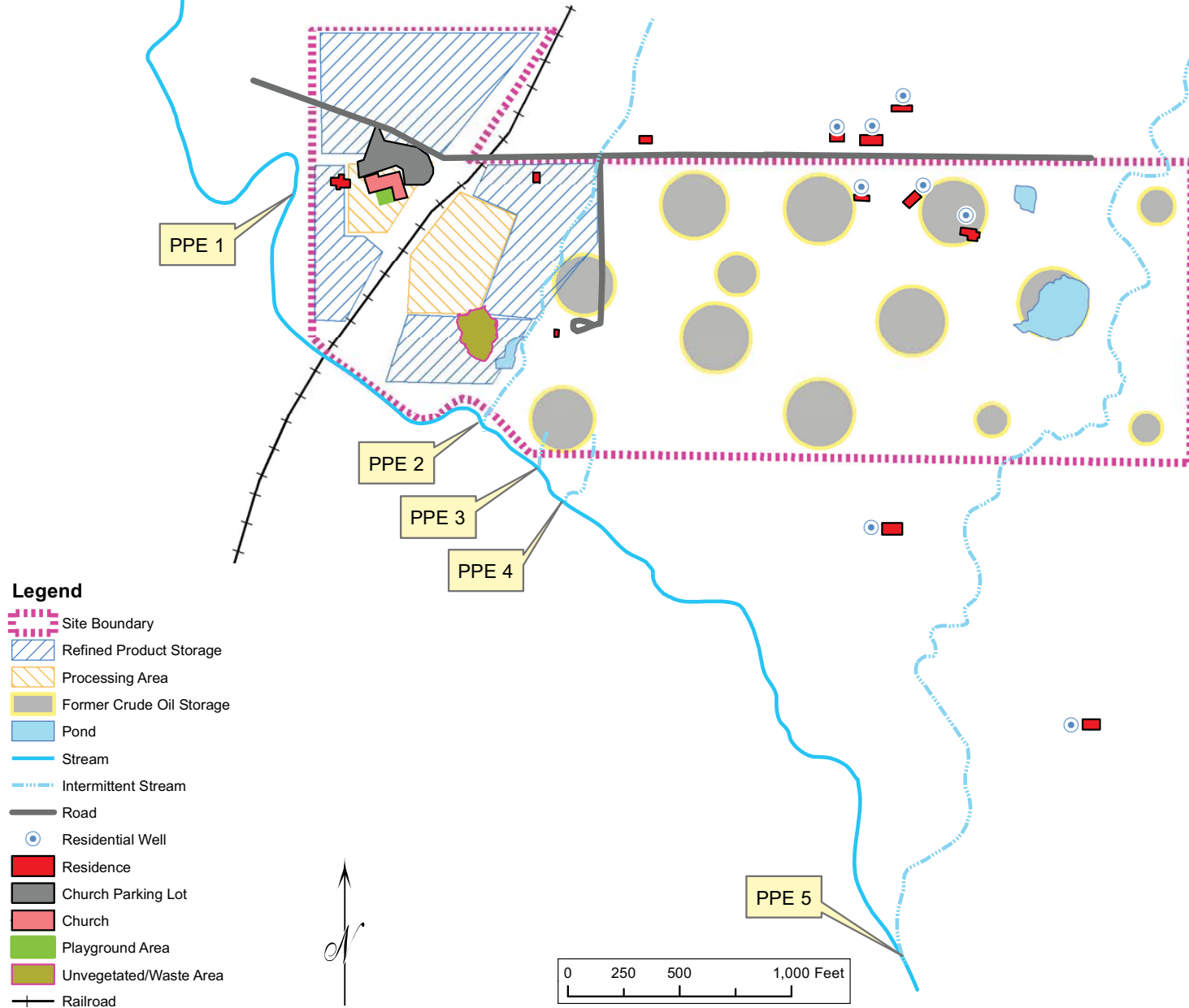


Figure 3: Sample Locations, Wilcox Refinery ESI,
Bristow, Oklahoma

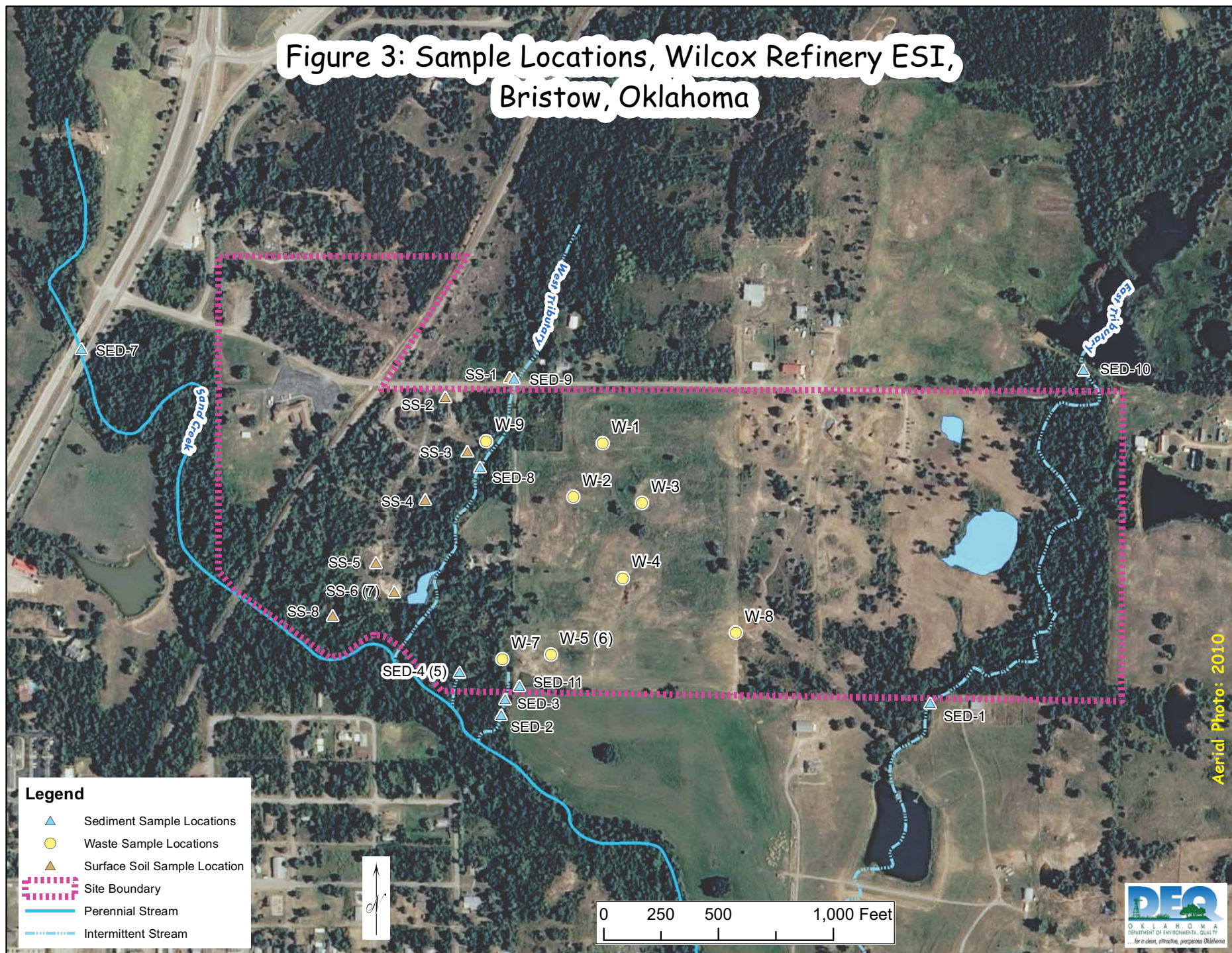


Figure 4: Background Surface Soil Sample Location, Wilcox Refinery ESI, Bristow, Oklahoma

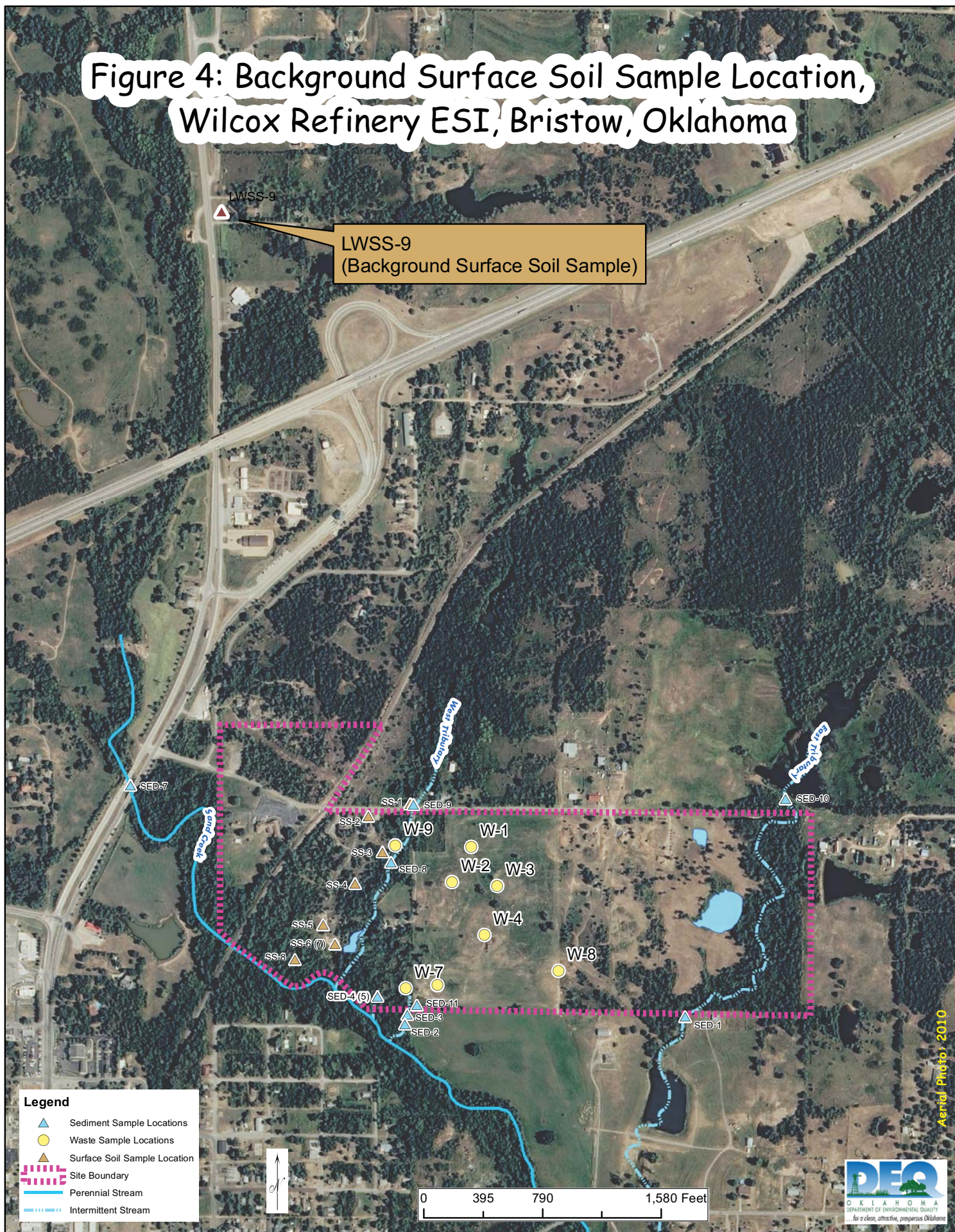
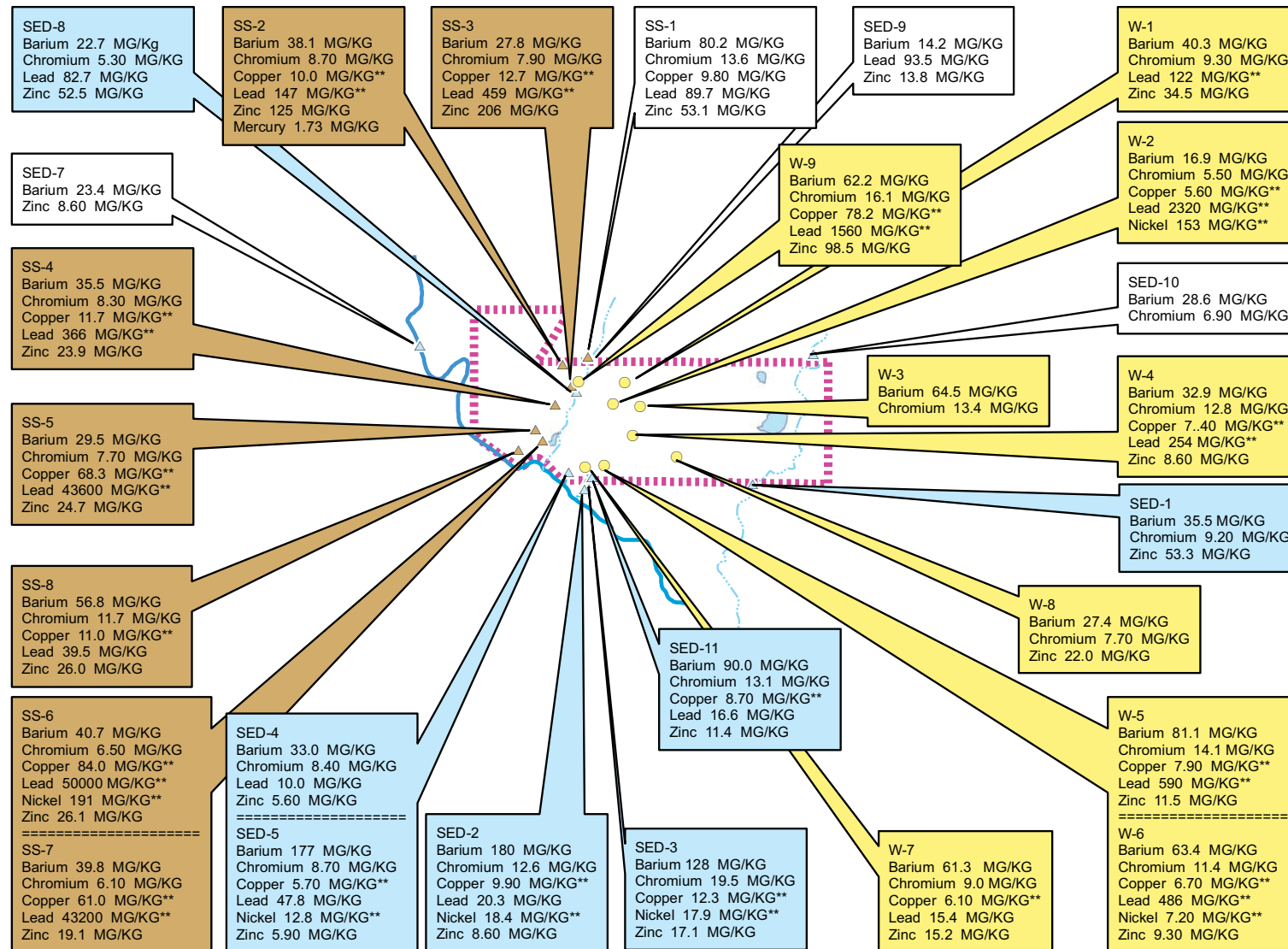


Figure 5: Metals Sample Results,
Wilcox Refinery ESI, Bristow, Oklahoma

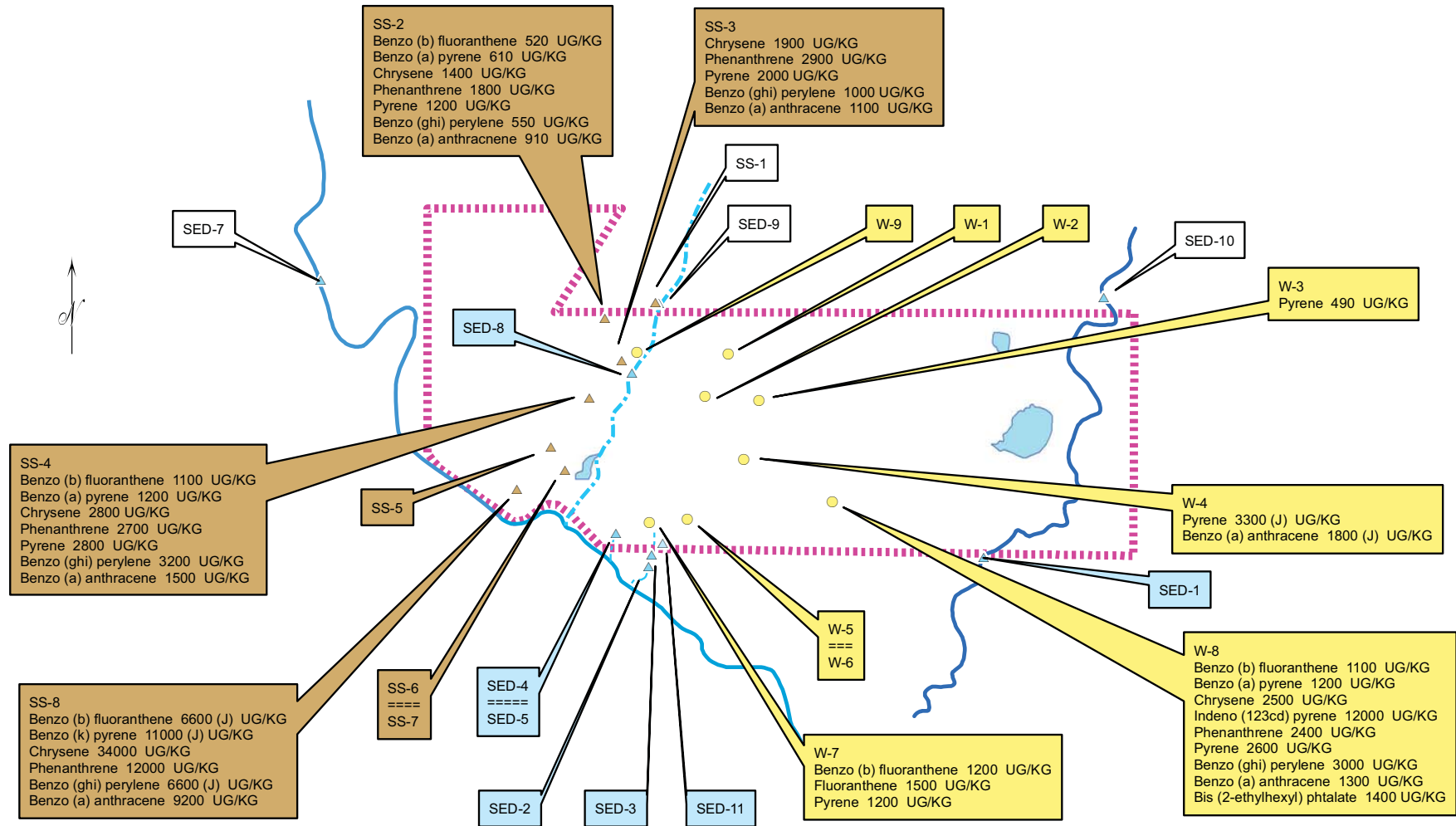


** Greater than 3 x background

Surface Soil Sample Sediment Sample Waste Sample Offsite Sample

0 495 990 1,980 Feet

Figure 6: Semi-Volatile Organic Compounds Sample Results,
Wilcox Refinery ESI, Bristow, Oklahoma



(All results are 3 x greater than background)

Surface Sample **Sediment Sample** **Waste Sample** **Offsite Sample**

0 250 500 1,000 Feet

Figure 7: Area of Contamination, Wilcox Refinery ESI,
Bristow, Oklahoma

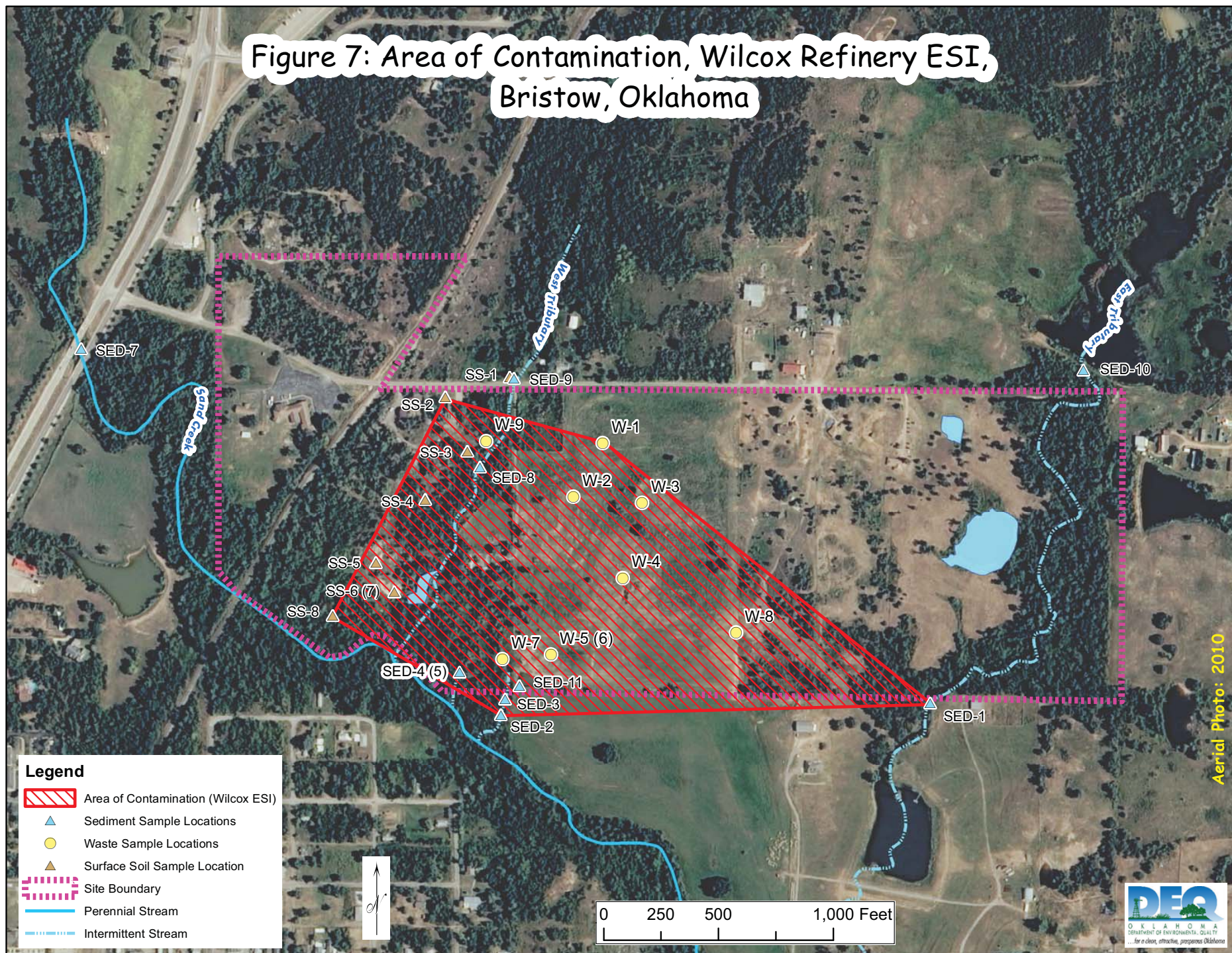


Photo Documentation

Photo #1



Photographer: Todd Downham Date: 6/28/2011 Direction: Southwest Comments: Surface Soil SS-1 location, north of Refinery Road.

Photo #2



Photographer: Todd Downham Date: 6/28/2011 Direction: South Comments: Surface Soil SS-2 location. Residential yard.

Photo #3



Photographer: Todd Downham Date: 6/28/2011 Direction: Southwest Comments: Surface Soil SS-3 location, collected near large horizontal storage tank.

Photo #4



Photographer: Todd Downham Date: 6/28/2011 Direction: West Comments: Surface Soil sample SS-4 location.

Photo #5



Photographer: Todd Downham Date: 6/28/2011 Direction: North Comments: Surface Soil SS-5 location, large impacted area west of west tributary and pond on the (b) property.

Photo #6



Photographer: Todd Downham Date: 6/28/2011 Direction: Northwest Comments: Surface Soil SS-6(7) location, large impacted area west of west tributary and pond on the (b) property.

Photo #7



Photographer: Todd Downham Date: 6/28/2011 Direction: North Comments: Surface Soil SS-8 location, South of existing tank on southern boundary of site.

Photo #8



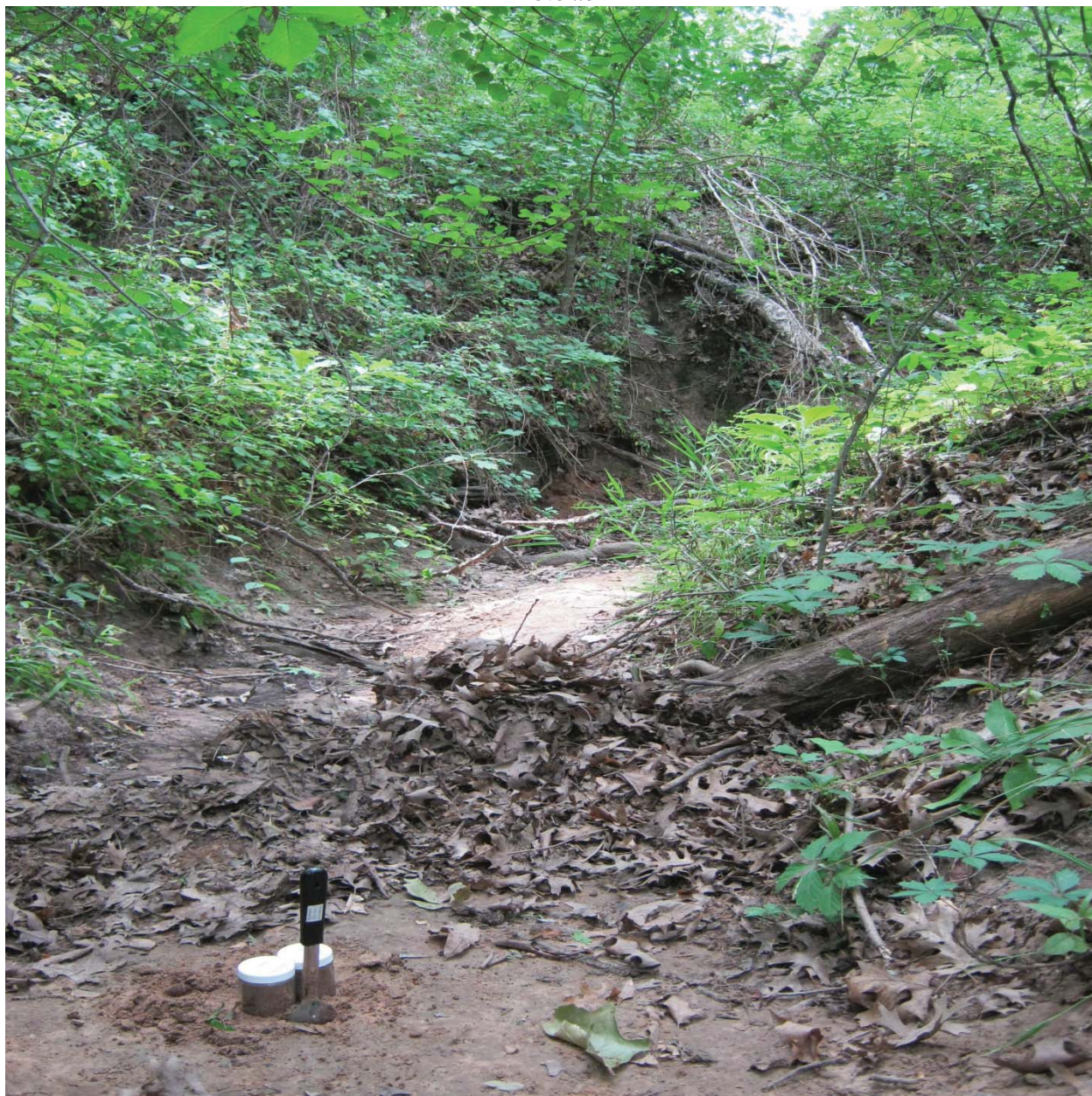
Photographer: Todd Downham Date: 6/29/2011 Direction: North Comments: Sediment Sample SED-1 location, East tributary near southern site boundary.

Photo #9



Photographer: Todd Downham Date: 6/29/2011 Direction: North Comments: Sediment Sample location SED-2, Drainage channel on southern site boundary that empties into Sand Creek.

Photo #9



Photographer: Todd Downham Date: 6/29/2011 Direction: North Comments: Sediment Sample location SED-3, Drainage channel on southern site boundary that empties into Sand Creek.

Photo #10



Photographer: Todd Downham Date: 6/29/2011 Direction: North Comments: Sediment Sample SED- 4(5) location , Drainage channel on southern site boundary that empties into Sand Creek, large amounts of waste observed.

Photo #11



Photographer: Todd Downham Date: 6/29/2011 Direction: Down Comments: Sediment sample SED-7 location, Sand Creek upstream.

Photo #12



Photographer: Todd Downham Date: 6/28/2011 Direction: South Comments: Sediment sample SED-8 location, west tributary, north of (b) property.

Photo #13



Photographer: Todd Downham Date: 6/28/2011 Direction: East Comments: Sediment sample SED-9 location, west tributary, north of Refinery Road.

Photo #14



Photographer: Todd Downham Date: 6/29/2011 Direction: Down Comments: Sediment sample SED-10 location, East tributary, North of Site boundary.

Photo #15



Photographer: Todd Downham Date: 6/28/2011 Direction: East Comments: Sediment sample SED-11 location, Pond near southern boundary.

Photo #16



Photographer: Todd Downham Date: 6/28/2011 Direction: Northwest Comments: Waste sample W-1 location, former tank location.

Photo #17



Photographer: Todd Downham Date: 6/28/2011 Direction: North Comments: Waste sample W-2 location, former tank location.

Photo #18



Photographer: Todd Downham Date: 6/28/2011 Direction: Northeast Comments: Waste sample W-3 location, former tank location.

Photo #19



Photographer: Todd Downham Date: 6/28/2011 Direction: Southeast Comments: Waste sample W-4 location, former tank location, large area of waste.

Photo #20



Photographer: Todd Downham Date: 6/28/2011 Direction: South Comments: Waste sample W-5(6) location.

Photo #21



Photographer: Todd Downham Date: 6/29/2011 Direction: East Comments: Waste sample W-7 location, former tank location, large amounts of waste.

Photo #22



Photographer: Todd Downham Date: 6/28/2011 Direction: North Comments: Waste sample W-8 location, visible waste.

Photo #23



Photographer: Todd Downham Date: 6/29/2011 Direction: Northwest Comments: Waste sample W-9 location, east of west tributary.

REFERENCE LIST

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2. U. S. Environmental Protection Agency. *Guidance for Performing Site Inspections under CERCLA Interim Final*. EPA/540-R-92-021. September 1992.
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21. Downham, T., ODEQ. *Memorandum: Changes from Wilcox ESI Sampling and Analysis Plan (SAP) during the sampling event*. 7/15/2011.
22. U.S. Department of the Commerce, Census Bureau. *Selected Population and Housing Characteristics: 2010*. Creek County, Oklahoma. 2010.

REFERENCES

Reference 1



Superfund

<http://cfpub.epa.gov/supercpad/cursites/csitinfo.cfm?id=0604942>

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WILCOX OIL COMPANY

Site Information

[Site Info](#) | [Aliases](#) | [Operable Units](#) | [Contacts](#)
[Actions](#) | [Contaminants](#) | [Site-Specific Documents](#)

Site Name: WILCOX OIL COMPANY

Street: 75 MILES NE OF BRISTOW

City / State / ZIP: BRISTOW, OK 74010

NPL Status: Not on the NPL

Non-NPL Status: ESI Start Needed

ERS Exclusion: An Eligible Response Site (ERS) Exclusion decision has been made at this site.

EPA ID: OK0001010917

EPA Region: 06

County: CREEK

Federal Facility Flag: Not a Federal Facility

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Reference 2

47United States
Environmental Protection
Agency

Office of Emergency and
Remedial Response
Washington DC 20460

EPA/540-R-92-021
PB92 -963375
September 1992

Superfund

9345.1-05



Guidance for Performing Site Inspections Under CERCLA

Interim Final

Reference 3

**QUALITY ASSURANCE PROJECT PLAN
FOR
SITE ASSESSMENT UNIT
Scope of Work
FFY 2010**

STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND PROTECTION DIVISION
SITE REMEDIATION SECTION
SITE ASSESSMENT UNIT

Quality Management Plan EPA QTRAK # 09-039

Title and Approval Sheet

| | | |
|---|--------------------------|---------------|
| DEQ Site Assessment Unit Leader | _____ Hal Cantwell | _____ Date |
| DEQ Remediation Unit QA Coordinator | _____ Subi John | _____ Date |
| DEQ Quality Assurance Officer | _____ Karen Khalafian | _____ Date |
| DEQ Site Remediation Section Manager | _____ Amy Brittain | _____ Date |
| EPA-Region 6 Site Assessment Manager | _____ Philip Ofosu | _____ Date |

September 4, 2009

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Appendices

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| Appendix 2 | CLP Documents |
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A3. DISTRIBUTION LIST

The following individuals will receive copies of the approved Quality Assurance Project Plan (QAPP).

Site Assessment, Remediation, and Voluntary Cleanup Units Personnel:

Located at: State of Oklahoma
Department of Environmental Quality
707 North Robinson, P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Hal Cantwell, Environmental Programs Specialist IV, (405) 702-5139*
Aron Samwel, Environmental Programs Specialist III, (405) 702-5123
Sara Downard, Environmental Programs Specialist III, (405) 702-5126
Amy Brittain, Environmental Programs Manager II, (405) 702-5133*
Subi John, Environmental Programs Specialist II, (405) 702-5131*
Christa Welch, Environmental Programs Specialist II, (405) 702-5137
Todd Downham, Environmental Programs Specialist II, (405) 702-5136
Jeannine Bennett, Engineer Intern IV, (405) 702-5127
Jonathan Reid, Environmental Programs Specialist III, (405) 702-5121
Kerry Paul, Environmental Programs Specialist I, (405) 702-5143

DEQ Quality Assurance Officer:

Located at: State of Oklahoma
Department of Environmental Quality
707 North Robinson, P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

Karen Khalafian, Environmental Programs Manager I, (405) 702-5116*

EPA Region 6 Personnel:

Located at: U.S. Environmental Protection Agency
Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Philip Ofosu, Site Assessment Manager (6SF-TS), (214) 665-3178*

* indicates approving authority

Reference 4

J.D. STRONG
SECRETARY OF ENVIRONMENT



STATE OF OKLAHOMA
OFFICE OF THE
SECRETARY OF ENVIRONMENT

RECEIVED
BRAD HENRY
GOVERNOR


DEC 01 2010

LAND PROTECTION DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

Memorandum

November 29, 2010

To: Karen Khalafian, Oklahoma Department of Environmental Quality

From: Gayle Bartholomew 

Re: Quality Management Plan (QMP) – QTRAK #11-024


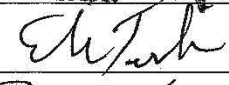
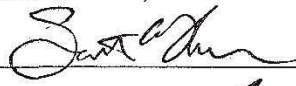

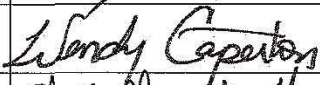
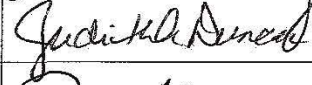
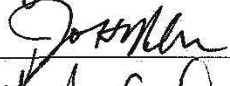
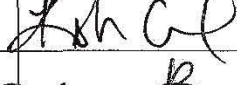
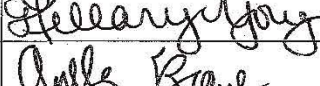
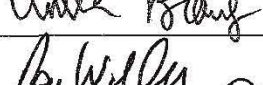


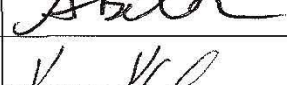
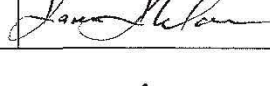
The attached letter from U.S. EPA approves DEQ's updated Quality Management Plan effective November 22, 2010. Also attached are copies of the fully executed signature page for your records. The plan will remain in effect for one year from the date of the approval letter. Updates or a revised plan will be submitted to EPA in October 2011. If you have any questions or need additional information, please do not hesitate to contact me by phone at (405) 530-8996 or email gnbartholomew@environment.ok.gov.

Enc.

3800 North Classen Boulevard Oklahoma City, Oklahoma 73118
(405) 530-8995 fax (405) 530-8999



APPROVALS

| Name | Title | Division | Signature | Date |
|-----------------------|--------------------|---|--|----------|
| Steven A. Thompson | Executive Director | |  | 10/12/10 |
| Eddie Terrell | Division Director | Air Quality |  | 10/12/10 |
| Scott Thompson | Division Director | Land Protection |  | 10-12-10 |
| Gary Collins | Division Director | Environmental Complaints & Local Services |  | 10/12/10 |
| Wendy Caperton | Division Director | Administrative Services |  | 10-12-10 |
| Shellie Chard-McClary | Division Director | Water Quality |  | 10/12/10 |
| Judith A. Duncan | Division Director | Customer Services |  | 10-12-10 |
| Joe Mashburn | QA Coordinator | Air Quality |  | 10/12/10 |
| Keisha Cornelius | QA Coordinator | Land Protection |  | 10/12/10 |
| Jeannine Bennett | QA Coordinator | Land Protection |  | 10/12/10 |
| Hillary Young | QA Coordinator | Land Protection |  | 10-12-10 |
| Amber Brawdy | QA Coordinator | Land Protection |  | 10/12/10 |
| Roy Walker | QA Coordinator | Administrative Services |  | 10/12/10 |
| Karen Miles | QA Coordinator | Water Quality |  | 10/12/10 |
| April Beltz | SEL QA Officer | Customer Services |  | 10/12/10 |
| Karen Khalafian | QA Officer | Land Protection |  | 10/12/10 |

Gayle Bartholomew
Environmental Grants Manager
Office of the Secretary of Environment

Donald L. Johnson
Region 6 Quality Assurance Manager
U. S. Environmental Protection Agency


Signature

10-22-10
Date


Signature

11/22/10
Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6

1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

November 22, 2010

Ms. Gayle Bartholomew
Environmental Grants Administrator
Office of the Secretary of Environment
3800 North Classen Boulevard
Oklahoma City, OK 73118

Dear Ms. Bartholomew:

The Region 6 Quality Assurance Staff has reviewed the updated Quality Management Plan (QMP) for the Oklahoma Department of Environmental Quality (ODEQ), which was assigned the QTRAK number 11-024. Since the QMP has only had minor changes since it was last approved, the QA Staff has recommended that the revised document be approved as submitted.

I have enclosed six originals of the QMP signature page, with my approval signature, for your and ODEQ's records. We appreciate your and ODEQ's efforts in keeping this document current. If you or ODEQ have any questions or concerns, Dr. Romig, who reviewed your QMP, may be reached at (214) 665-8346, or I may be reached at (214) 665-8343.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Don Johnson", is written over the typed name.

Donald L. Johnson
Region 6 Quality Assurance Manager

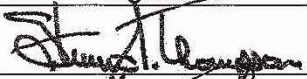

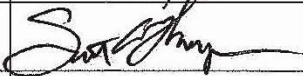

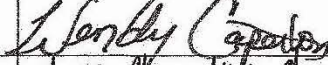
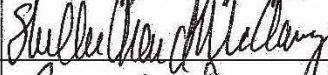
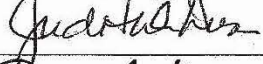
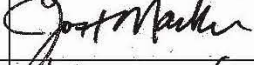
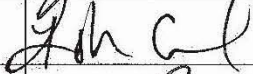

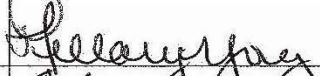


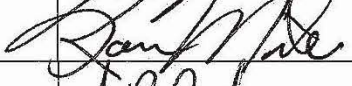
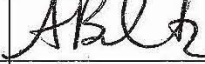

enclosures

cc: Kara Alexander (6WQ-AT)
Mike Vaughan (6WQ-AP)
QA Officers (6PD-D, 6EN-D, 6SF-D)

Internet Address (URL) • <http://www.epa.gov>

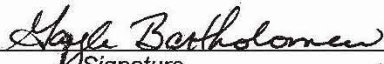
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APPROVALS

| Name | Title | Division | Signature | Date |
|-----------------------|--------------------|---|--|----------|
| Steven A. Thompson | Executive Director | |  | 10/12/10 |
| Eddie Terrell | Division Director | Air Quality |  | 10/12/10 |
| Scott Thompson | Division Director | Land Protection |  | 10-12-10 |
| Gary Collins | Division Director | Environmental Complaints & Local Services |  | 10/12/10 |
| Wendy Caperton | Division Director | Administrative Services |  | 10-12-10 |
| Shellie Chard-McClary | Division Director | Water Quality |  | 10/12/10 |
| Judith A. Duncan | Division Director | Customer Services |  | 10-12-10 |
| Joe Mashburn | QA Coordinator | Air Quality |  | 10/12/10 |
| Keisha Cornelius | QA Coordinator | Land Protection |  | 10/12/10 |
| Jeannine Bennett | QA Coordinator | Land Protection |  | 10/12/10 |
| Hillary Young | QA Coordinator | Land Protection |  | 10-12-10 |
| Amber Brawdy | QA Coordinator | Land Protection |  | 10/12/10 |
| Roy Walker | QA Coordinator | Administrative Services |  | 10/12/10 |
| Karen Miles | QA Coordinator | Water Quality |  | 10/12/10 |
| April Beltz | SEL QA Officer | Customer Services |  | 10/12/10 |
| Karen Khalafian | QA Officer | Land Protection |  | 10/12/10 |

Gayle Bartholomew
Environmental Grants Manager
Office of the Secretary of Environment

Donald L. Johnson
Region 6 Quality Assurance Manager
U. S. Environmental Protection Agency


Signature

Signature

10-22-10
Date

11/22/10
Date



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

October 28, 2010

Gayle Bartholomew,
Environmental Grants Manager
Office of the Secretary of Environment
3800 North Classen Boulevard
Oklahoma City, Oklahoma 73118

Dear Ms. Bartholomew:

We are in receipt of the Quality Management Plan (QMP) for the Oklahoma Department of Environmental Quality. It has been assigned to Randall Romig of our staff for review. This QMP has been assigned the QTRAK number 11-024 for tracking purposes.

Should you have any questions or concerns, please feel free to contact Dr. Romig at (214) 665-8346 or I can be reached at (214) 665-8343.

Sincerely yours,

A handwritten signature in black ink, which appears to read "Don Johnson", is written over the typed name.

Donald L. Johnson
Regional Quality Assurance Manager

cc: Randall Romig (6WQ-D)



STEVEN A. THOMPSON
Executive Director

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

BRAD HENRY
Governor

October 13, 2010

Ms. Gayle Bartholomew
Environmental Grants Manager
Office of the Secretary of Environment
State of Oklahoma
3800 N. Classen Blvd.
Oklahoma City, OK 73118

Dear Ms. Bartholomew:

Enclosed is the revised and updated Quality Management Plan (QMP) for Oklahoma Department of Environmental Quality State FY 2011 - FY 2012.

Please review the enclosed QMP. If you and EPA Region VI approve this document please sign the Approval Form (page 3) and return five originals to me at the address below.

Karen Khalafian
Land Protection Division
Department of Environmental Quality
707 North Robinson, P.O. Box 1677
Oklahoma City, Oklahoma 73101-1677

If you have questions concerning this document, please call me at (405) 702-5116.

Sincerely,

Karen Khalafian
ODEQ QA Officer

Enclosure



ROUTING SLIP

DATE: September 29, 2010.

TO: Steven A. Thompson *ST*
Executive Director

THROUGH: Jimmy Givens *JSA*
~~Acting~~ Deputy Executive Director

THROUGH: Scott Thompson *ST*
LPD Director

FROM: *KK*
Karen Khalafian
DEQ QA Officer

SUBJECT: DEQ Quality Management Plan

REQUEST: Seven signatures, please

RETURN TO: Karen Khalafian

The Department of Environmental Quality complies with EPA Order 5360.1 CHG 1(July, 1998), and 40 CFR 31, "Uniform Administrative Requirements for Grants and Cooperative Agreement to State and Local Governments" by instituting a Quality System as outlined in this Quality Management Plan (QMP). This document has been prepared using EPA Requirements for Quality Managements Plans, QA/R-2, March, 2001.

This Plan is to be used as a reference by management and employees as they plan, execute, and evaluate various environmental tasks and projects in support of the objectives of the Department.

Please return the signed pages to Karen Khalafian for sending the DEQ QMP to EPA Region VI QA Manager for approval.

Reference 5

Memorandum

To: Wilcox Refinery/Lorraine ESI, PA/SI file
Through: Hal Cantwell
From: Todd Downham
Date: 6/17/2011

Subject: Site reconnaissance for the former Wilcox Refinery in Bristow, Creek Co., Oklahoma.

Todd Downham (DEQ) visited the site on 6/16/2011 and met with residents (b) (b) and (b) (6) to become more familiar with the site conditions and to obtain written access to the site. The following observations were made:

Remnants of former oil refining operations in three major former operational areas: Wilcox and Lorraine processing areas, both with surrounding refined product storage 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 northwestern portion of the site, west of the railroad and north of West 221st Street South/Refinery Road, was used as a refined product storage area but is now rural land no longer used for refinery storage purposes. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste.

The southwest part of the site, south of Refinery Road, west of the railroad was the Lorraine Refinery processing area and refined product storage (later acquired by H.F. Wilcox Refining Co.). The First Assembly of God Church, playground, and one residence are located where processing and storage occurred. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste that were observed during the Lorraine SI and are visible from the road.

East of the railroad was the Wilcox Refinery processing and refined product storage areas. Several refined product storage tanks, Refinery-related debris, dilapidated buildings, and structures remain. There is one residence (b) (6) brother of (b) (6) residing in the (b) (6) of Refinery Road. An intermittent stream marks the eastern extent of the processing and refined product storage area east of the railroad. This tributary runs north to south, through the (b) residence (access not provided), flows into a

pond on the (b) property and into Sand Creek to the south. There are multiple areas of stressed vegetation, barren areas, and visible black tarry waste. East of the tributary is the former crude oil storage area/tank farm. 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. A large amount of waste was also observed in several drainage channels near the south property boundary, east of the tributary, southeast of the Lee property, which empty into Sand Creek. It appears that the large storage tank dike was cut and the waste flowed into the drainage channels and possibly into Sand Creek.

Six residences in total on the site, all of which are located on former tank or refinery operations locations. Three of the residences located on the crude oil tank farm portion of the site use water from domestic/private wells. Surface water drainage is towards the tributary, but primarily towards Sand Creek to the south of the site. Another intermittent stream on the eastern-most part of the site and several drainage channels cross the portion of the site east of the railroad, both of which flow into Sand Creek.

Conversations with residents and visual observations indicate that children are living in all six residences on site.

Reference 6

Expanded Site Inspection and Analysis Plan

Wilcox Refinery

Creek County, Oklahoma

CERCLIS #

OKD0001010917

Date:

June 8th, 2011

State of Oklahoma

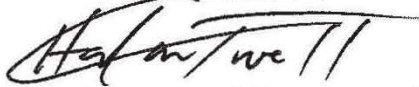
Department of Environmental Quality

Prepared by:



Todd Downham, Environmental Programs Specialist III

Approved by:



Hal Cantwell, Environmental Programs Specialist IV

Approved by:

Philip Ofosu, EPA Region VI Site Assessment Manager

Reference 7

PRELIMINARY ASSESSMENT
of the
WILCOX OIL COMPANY

located in
BRISTOW, CREEK COUNTY, OKLAHOMA

STATE OF OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

Prepared by:



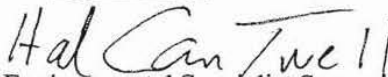
David A. Cates, Environmental Specialist

Reviewed by:



Rita Kottke, Senior Environmental Specialist

Approved by:



Hal Cantwell, Environmental Specialist Supervisor

December 15, 1994

Reference 8

EXPANDED SITE INSPECTION REPORT

**WILCOX OIL COMPANY
BRISTOW, CREEK COUNTY, OK
EPA CERCLA I.D. NO.: OKD001010917**

RECEIVED

FEB 11 1998

**WASTE MANAGEMENT
DIVISION**

Prepared for

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

Contract No.: 68-W9-0015
Work Assignment No.: 56-6JZZ
Document Control No.: 04606-056-0093

Submitted by

Roy F. Weston, Inc.
5599 San Felipe, Suite 700
Houston, TX 77056
(713) 621-1620

March 1997

THIS DOCUMENT WAS PREPARED BY ROY F. WESTON, INC. EXPRESSLY FOR EPA. IT SHALL NOT BE RELEASED OR DISCLOSED IN WHOLE OR IN PART WITHOUT THE EXPRESS, WRITTEN PERMISSION OF EPA.

Reference 9

**Site Assessment Report
for
Wilcox Refinery
Bristow, Creek County,
Oklahoma**

Contract No. 68-W6-0013

March 1999

Prepared for:

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 6**
1445 Ross Avenue
Dallas, Texas 75202



ecology and environment, inc.

International Specialists in the Environment

1999 Bryan Street, Dallas, Texas 75201

Tel: (214) 245-1000, Fax: (214) 245-1001

recycled paper

Reference 10

PRELIMINARY ASSESMENT
of the
LORRAINE REFINERY SITE
Located near
BRISTOW, CREEK COUNTY, OKLAHOMA

September 28, 2008

STATE OF OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

Prepared by:

Vanessa Peterson, Land Protection Division Intern



Pamela Turner, Land Protection Division Intern



Reviewed by:

Karen Khalafan, Environmental Programs Specialist III

Approved by:



Hal Cantwell, Environmental Programs Specialist IV

Reference 11

**SITE INSPECTION REPORT
LORRAINE REFINERY
(Lorraine Refining Company)
CREEK COUNTY, OKLAHOMA
EPA CERCLIS ID # OKN000606909**

August 18th, 2009

**STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND PROTECTION DIVISION
SITE ASSESSMENT UNIT**

Prepared by:

A handwritten signature in black ink, appearing to read "Todd Downham".

Todd Downham, Environmental Programs Specialist II

Reviewed and Approved by:

A handwritten signature in black ink, appearing to read "Hal Cantwell".

Hal Cantwell, Environmental Programs Specialist IV

Reference 12

**EXPANDED SITE INSPECTION REPORT
LORRAINE REFINERY
CREEK COUNTY, OKLAHOMA
EPA CERCLIS ID # OKN000606909**

September 29th, 2010

**STATE OF OKLAHOMA
DEPARTMENT OF ENVIRONMENTAL QUALITY
LAND PROTECTION DIVISION
SITE ASSESSMENT UNIT**

Prepared by:

A handwritten signature in black ink, appearing to read "Todd Downham".

Todd Downham, Environmental Programs Specialist III

Reviewed and Approved by:

A handwritten signature in black ink, appearing to read "Hal Cantwell".

Hal Cantwell, Environmental Programs Specialist IV

Reference 13

Series 1950, No. 5

Issued May 1959

SOIL SURVEY

Creek County Oklahoma



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with the
OKLAHOMA AGRICULTURAL EXPERIMENT STATION

passage to weakly granular structure; friable when moist, very hard and compact when dry; slightly acid.

24 inches, grayish-brown heavy clay, mottled with yellowish red and yellowish brown; weak blocky structure; very compact and very sticky when moist, extremely hard when dry. Very slowly permeable; medium acid.

40 to 42 inches, mottled gray and light olive-brown heavy clay, very sticky and stiff when wet; very slowly permeable, slightly acid in upper part, neutral in lower part.

The thickness of the surface soil ranges from about 3 to 18 inches, and the texture ranges from very fine sandy loam to loam. On a few low sandy mounds the surface soil is fine sandy loam 18 to 30 inches thick. The third layer ranges from dense clay to compact, slowly permeable sandy clay; in places it contains pockets and lenses of sandy loam.

Use and management (Capability unit IIs-1).—This soil is not susceptible to erosion. Fertility is low to moderate. The soil remains wet and cold late in the spring, and when it dries the surface soil crusts and bakes. If the soil is not worked at exactly the right moisture content, large clods form that make it very difficult to maintain a good seedbed.

This soil is not well suited to most common field crops, but it is moderately well suited to native hay or pasture. Most of it is now used for pasture. About one-third of the soil is used for crops, mostly cotton, corn, and sorghums. This soil is in the Claypan prairie range site.

Oil-waste land

Oil-waste land (Oa).—The areas mapped in this miscellaneous land type have been practically ruined for agricultural use by oil and salt-water waste from oil wells. They are more or less gullied and eroded and are almost bare of vegetation. They range in size from about one acre to several acres.

Use and management (Capability unit VIII).—This land is of no value for crops or pasture in its present condition. Some of the less strongly sloping and less severely gullied areas may eventually be revegetated by natural means if no more oil or salt-water waste is dumped on them.

Okemah series

These soils have developed from weakly alkaline shales and clays under a cover of grass in nearly level to gently sloping shallow valleys. They are moderately well drained, dark colored, and slightly acid. They have a dark-colored, crumbly and granular surface soil and upper subsoil. Their lower subsoil is mottled olive-yellow and very compact clay.

Okemah soils are not mapped separately in Creek County. They are closely associated with soils of the Dennis series in some places and with soils of the Woodson series in others, and are mapped in units with soils of one or the other of these series. The Woodson soils differ from the Okemah soils in being dark gray and having a claypan. The Dennis soils, where they are associated with the Okemah soils, lie in slightly higher positions and have developed from less clayey materials. The Dennis soils are browner than the Okemah soils, and they have more rapid runoff and internal drainage.

A profile of an Okemah soil as mapped with the Woodson soils is described under Okemah and Woodson clay loams, and a profile of an Okemah soil as mapped with

Dennis soils is described under Dennis and Okemah loams, gently sloping.

Okemah and Woodson clay loams (0 to 1 percent slopes) (Ob).—These two soils occur intermixed in small areas or separately in areas of several acres. Woodson clay loam occupies the nearly level, usually lower-lying parts of shallow valleys, and Okemah clay loam the gently sloping, slightly higher surrounding areas, but the two soils are so closely associated that it is not practical to map them separately. They merge with little or no difference in surface appearance. The parent materials of both soils are olive or olive and yellow weakly alkaline clays and shales. The mapping unit occurs mostly in shallow valleys near Kiefer, Mounds, and Edna. Runoff is slow to moderate, and internal drainage is very slow. The native vegetation was tall grasses, mainly big bluestem, little bluestem, side-oats grama, and Indiangrass.

Profile of Okemah clay loam near Mounds in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 17, T. 16 N., R. 12 E.:

0 to 15 inches, dark-gray clay loam, lower part slightly mottled with brown; granular and friable when moist, very hard when dry; surface crusts in cultivated fields on drying; slightly acid.

15 to 20 inches, dark grayish-brown silty clay loam, slightly mottled with brownish yellow and strong brown; crumbly and friable when moist, sticky and plastic when wet; moderately permeable; slightly acid.

20 to 35 inches, mottled grayish-brown and light olive-brown heavy clay; very sticky and stiff when wet, extremely hard when dry; compact and very slowly permeable; neutral.

35 to 48 inches+, mottled light-gray and olive-yellow clay; very compact; very slowly permeable; weakly alkaline.

The texture of Okemah clay loam ranges from loam to clay loam. The depth to the heavy clay layer ranges from 18 to 25 inches. A few shotlike concretions of iron oxide occur in the two clay layers.

Profile of Woodson clay loam about 1 mile south of Kiefer in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 17 N., R. 12 E.:

0 to 12 inches, dark-gray clay loam; the 6-inch plow layer is slightly lighter in color; crumbly and friable when moist, very hard when dry; surface crusts on drying; slightly acid.

12 to 22 inches, dark-gray heavy clay, faintly mottled with brown; very compact claypan; very sticky and stiff when wet; very slowly permeable; slightly acid to neutral.

22 to 38 inches, dark grayish-brown clay, mottled with yellowish brown; very compact; extremely hard when dry; very slowly permeable; weakly alkaline.

38 to 46 inches+, mottled gray, olive-brown, and yellowish-brown clay or shaly clay; contains a few crystals of gypsum and small shotlike concretions of iron oxide; alkaline but not calcareous.

The thickness of the surface soil ranges from 10 to 14 inches. Considerable mottling occurs in the upper subsoil in the areas that grade toward the Okemah soil.

Some small areas of Parsons silt loam near Kiefer are included in this mapping unit. These areas have a dark grayish-brown silt loam surface soil 12 inches thick, which rests on a mottled grayish-brown, strong-brown, and pale-yellow claypan subsoil. The Parsons soils are not extensive enough in Creek County to be mapped separately and are not described in this report.

Use and management (Capability unit I-4).—The two soils in this mapping unit are the darkest colored and finest textured soils of the prairies. They are the most fertile and productive soils for common field crops that occur in the uplands of this county. Okemah clay loam is slightly more productive than Woodson clay loam. Both soils have a moderately high water-holding capacity

These inclusions consist of 10 to 18 inches of light-brown fine sandy loam over dark grayish-brown silt loam or clay loam, overlain by recent deposits of lighter colored, sandier soil materials.

Use and management (Capability unit IIIw-1).—This soil is moderately productive. It is easily worked and fairly resistant to drought. It is not susceptible to erosion, but some material may be deposited on the surface by flood waters. Cropping is hazardous because most areas are flooded several times a year.

This soil is moderately well suited to crops and, in spite of the flood hazard, about one-fifth of the area is cropped. Cotton, corn, and sorghums are the chief crops. This soil is well suited to pasture, and about one-third is used for this purpose. Nearly half has been left in native forest. The soil is in the Loamy bottom-land range site.

Reinach series

Soils of the Reinach series developed from alkaline to calcareous, reddish, silty to moderately sandy alluvium on low, nearly level stream terraces. They are moderately productive soils and easily worked. They are well suited to all general crops of this area, including alfalfa.

The Reinach soils have a brown to reddish-brown friable surface soil and a silty to moderately sandy subsoil. They are similar to the Yahola soils that occur on the present flood plains, but the Reinach soils lie a little higher and are above ordinary overflow. Their surface soil is darker than the Yahola surface soil, and is alkaline, though usually noncalcareous. Only one Reinach soil is mapped in Creek County.

Reinach very fine sandy loam (0 to 1 percent slopes) (Ra).—This soil occurs on low terraces or benches a few feet higher than the flood plains of the Cimarron River. It developed from reddish, silty to moderately sandy, alkaline, calcareous alluvial sediments. Prairie grasses and scattered elm, hackberry, pecan, and oak trees were the native vegetation. Runoff is slow, and internal drainage is moderate to rapid.

Profile of Reinach very fine sandy loam about 3½ miles north of Drumright on a low terrace of the Cimarron River:

0 to 14 inches, reddish-brown very fine sandy loam; the 6-inch plow layer is light reddish brown; weak granular structure; very friable; neutral.

14 to 46 inches+, light reddish-brown very fine sandy loam that contains thin strata of reddish-brown and brown silt loam in lower part; friable; very permeable; neutral.

The surface soil ranges from brown to light reddish brown in color and from fine sandy loam to silt loam in texture. Some small areas next to more strongly sloping Teller soils have an overwash of light-brown, slightly acid fine sandy loam, 4 to 10 inches thick.

Use and management (Capability unit I-1).—This soil is well suited to crops and pasture. Most of it is cultivated. Corn, cotton, sorghums, and alfalfa are the principal crops. This soil is easily worked and is not susceptible to erosion. It is in the Loamy bottom-land range site.

Roebuck series

Soils of this series consist of only slightly modified clayey alluvium washed from prairie soils that developed over redbeds. The alluvial deposits are alkaline to weakly calcareous. The native vegetation was forest. Both

runoff and internal drainage are slow to very slow. Most areas are too poorly drained or too frequently flooded to be suitable for cropping unless artificially drained and protected from floods.

The surface soil is reddish brown. The subsoil is reddish clay, slightly mottled with brown and grayish brown. Roebuck clay is the only soil of this series that is mapped in Creek County.

Roebuck clay (0 to 1 percent slopes) (Rb).—This soil occupies parts of the flood plain of the Deep Fork River, where the channel is choked or partly filled by silting. It developed from clayey and silty, alkaline or calcareous, reddish alluvium. A native forest of elm, hackberry, oak, willow, pecan, and cottonwood covers these areas.

This is a poorly drained soil. Both runoff and internal drainage are very slow. The level flood plains are subject to frequent floods. This soil is not susceptible to erosion, but most areas are rapidly being covered with silt.

Profile of Roebuck clay:

0 to 20 inches, reddish-brown clay; moderately crumbly when moist, very sticky and plastic when wet; weakly alkaline.

20 to 45 inches+, reddish-brown heavy clay, slightly mottled with other shades of brown and some grayish brown; very sticky and stiff when wet, very hard when dry; slowly permeable; weakly calcareous.

Small areas have recent deposits of reddish-brown or brown, alkaline or calcareous, somewhat stratified clay loam and clay, 5 to 15 inches thick. In some places the subsoil below about 30 inches is stratified with brown clay loam and dark-gray calcareous clay.

Use and management (Capability unit Vw-1).—Nearly all of this soil is still in woodland. It is very fertile and would be highly productive if it were drained and protected from flooding, but drainage and flood protection are so difficult as to be almost impossible. Clearing underbrush and culling trees to allow native pecan orchards and bermudagrass pastures to develop may be practical. This soil is in the Heavy bottom-land range site.

Stephenville series

Soils of this series are of medium depth over the parent materials of soft reddish sandstone or interbedded sandstone and sandy shale. They developed under a scrubby forest of mixed blackjack oak and post oak. Scattered coarse grasses grew in open areas.

These soils are slightly acid. They have a light-colored friable sandy surface layer and a yellowish-red or red friable sandy clay loam subsoil. The subsoil grades into the parent material, usually at a depth of less than 3 feet.

The Stephenville soils occupy nearly level to moderately sloping areas and are closely associated with the very shallow Darnell soils. The two soils are similar in surface appearance, but the Stephenville soils are 20 to 36 inches deep and the Darnell soils are 5 to 20 inches deep over sandstone. Sandstone outcrops are common in both.

In this county, the Stephenville soils are mapped only in units with the Darnell soils. The two series have similar uses and are about equal in productivity.

Stephenville and Darnell fine sandy loams, gently sloping (2 to 4 percent slopes) (Sa).—Stephenville fine sandy loam occupies about 70 percent of this mapping unit. Small areas of Darnell fine sandy loam make up the other 30 percent. This unit is very extensive in the central, southern, and western parts of the county.

These shallow to moderately deep upland soils developed over reddish-yellow to red sandstone or interbedded sandstone and sandy shale. The parent materials were slightly acid to neutral. The native vegetation was a thin to moderately thick forest of scrubby blackjack oak and post oak, and a thin ground cover of bluestem grasses. Both soils are well drained. Runoff is slow to moderate, but internal drainage is moderate to rapid.

Profile of Stephenville fine sandy loam, gently sloping, under a moderately thick cover of scrubby post oak and blackjack oak and bluestem grasses, about 2 miles east of Depew in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 9, T. 15 N., R. 8 E.:

- 0 to 4 inches, grayish-brown fine sandy loam; in plowed fields this layer is pale brown; weak granular structure; very friable; slightly acid.
- 4 to 12 inches, pale-brown light fine sandy loam; very friable when moist, nearly loose when dry; slightly acid.
- 12 to 28 inches, yellowish-red sandy clay loam; massive structure; crumbly and friable when moist, slightly sticky when wet; porous and permeable; medium acid.
- 28 to 35 inches, yellowish-red sandy clay loam, mottled with red; friable; permeable; contains small soft fragments of partly weathered sandstone; medium to slightly acid.
- 35 inches +, yellowish-red sandstone bedrock; slightly acid to neutral.

The depth to bedrock ranges from about 20 to 40 inches; normally it is less than 30 inches. A few small outcrops of the sandstone bedrock occur.

Profile of Darnell fine sandy loam in a cultivated field of about 2 percent slope, in the NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 16, T. 15 N., R. 8 E.:

- 0 to 10 inches, pale-brown light fine sandy loam; structureless; very friable when moist, nearly loose when dry; slightly acid.
- 10 to 16 inches, reddish-yellow fine sandy loam, slightly heavier in lower part; structureless; friable; lower part contains small fragments of partly weathered sandstone; medium acid.
- 16 inches +, reddish-yellow sandstone bedrock; neutral.

The depth of the Darnell soil ranges from about 5 to 20 inches. Most areas are between 8 and 15 inches deep. Small outcrops of sandstone bedrock occur here and there. The transition between the deeper Stephenville soil and the shallower Darnell soil is hardly noticeable; there is no change in slope or in color of the surface soil. Another profile of Darnell soil, as it typically occurs when associated with soils of the Pottsville series, is described under Darnell and Pottsville soils, sloping.

Use and management (Capability unit IIIe-2).—These soils are droughty and low in fertility. They are slightly to moderately susceptible to erosion if cultivated. Most of the cleared acreage has lost up to 20 percent of its surface soil through erosion. Some shallow gullies occur on the more strongly sloping cleared areas.

These soils are moderately well suited to crops and pasture. Yields are moderate under good management. Intensive management is needed to maintain or increase productivity.

About half of this mapping unit is cleared. Most of the cleared acreage has been abandoned for cropping, and it is now used for pasture. Cotton, peanuts, sorghums, corn, cowpeas, and sweetpotatoes are the principal crops. The pastures have a thin cover of three-awn grasses, bluestem grasses, and weeds. This unit is in the Sandy savanna range site. Nearly half of it is native woodland.

Stephenville and Darnell fine sandy loams, sloping (4 to 7 percent slopes) (Sb).—These soils are like Stephenville

and Darnell fine sandy loams, gently sloping, except that the surface soil is somewhat thinner, the bedrock is nearer the surface, and outcrops of sandstone are more common. About 60 percent of the acreage consists of Stephenville soils and about 40 percent of Darnell soils.

Use and management (Capability unit VIe-1).—This land is not well suited to crops. It is droughty, low in natural productivity, and highly erodible if cultivated. Moderate yields of common field crops are produced when the soils are first cultivated, but yields decline rapidly.

More than half of this mapping unit is still in woodland. The remainder has been cleared, but little is still used for crops. Cotton, corn, sorghums, peanuts, and cowpeas are grown. Yields are about three-fourths as much as on the gently sloping soils. Most of the acreage that was cleared, cultivated, and abandoned is now in pasture. The vegetation is three-awn grass and weeds. This unit is in the Sandy savanna range site.

If these soils are cultivated, very careful management is needed. They should be terraced, stripcropped, and contour-cultivated, and erosion-resistant crops should be planted. Areas where the soils are too shallow to be terraced should be used for pasture.

Stephenville and Darnell fine sandy loams, sloping, severely eroded (4 to 7 percent slopes) (Sc).—The soils in this mapping unit have been so severely eroded that they are worthless for crops. Originally, they were like Stephenville and Darnell fine sandy loams, sloping, but erosion has removed much of the surface soil. Numerous gullies are now active; some cannot be crossed with tillage implements.

Use and management (Capability unit VIIe-2).—These soils were never well suited to crops, and now they are of no value for crops. All of the acreage has been cultivated, but most of it is now idle or in pasture. A thin stand of annual grasses and weeds furnishes poor grazing. It would take careful management to establish even moderately good pastures. Cotton, corn, sorghums, cowpeas, and peanuts are still grown on a few acres, but yields are low. This mapping unit is in the Eroded savanna range site.

Stidham series

The Stidham soils developed from acid sandy old alluvium on stream terraces under a mixed hardwood forest. They are low in natural fertility, but they are very responsive to management. They are well suited to fruits, special crops, and field crops.

Soils of this series have a light brownish-gray to pale-brown, friable, acid surface soil. The subsoil is yellowish-brown friable sandy clay loam, mottled with light gray and strong brown in the lower part.

Stidham soils are closely associated with Dougherty soils, which have a reddish subsoil, and with Eufaula soils, which have no loamy subsoil within 4 feet of the surface. In Creek County, the Stidham soils are not mapped separately. They are mapped in units with soils of the Dougherty series. A profile of a Stidham soil is described under Dougherty and Stidham fine sandy loams, nearly level.

Talihina series

The Talihina soils developed from beds of slightly acid to neutral, gray, brown, and olive shale that included a little sandstone. They are very shallow, slightly acid

grasses and scattered elm, hackberry, and mesquite trees grew on these soils. Runoff is slow, and internal drainage is moderate. This soil is closely associated with Teller silt loam, nearly level, but it has a darker colored surface soil and a brown or yellowish-brown, instead of a red, subsoil.

Profile of Vanoss silt loam, nearly level, in a cultivated field about 3 miles east of Oilton in the NE $\frac{1}{4}$ sec. 34, T. 19 N., R. 7 E.:

- 0 to 16 inches, dark grayish-brown silt loam; the 6-inch plow layer is slightly lighter in color; moderate granular structure; friable when moist, hard when dry; neutral.
- 16 to 28 inches, dark-brown clay loam; medium granular structure; crumbly and friable when moist, hard when dry; permeable; neutral.
- 28 to 38 inches, brown clay loam, faintly mottled with strong brown; crumbly and friable; permeable; neutral.
- 38 to 48 inches +, yellowish-brown clay loam; slightly more friable and noticeably more sandy than layer above; neutral to weakly alkaline.

The surface soil ranges in color from very dark grayish brown in undisturbed areas to grayish brown in cultivated fields, and in texture from very fine sandy loam to heavy silt loam. In areas where this soil grades toward the Teller soils, the upper subsoil is brown and the lower subsoil is strong brown to reddish brown.

A few small level areas of Brewer silt loam are included in this mapping unit. These areas have a dark-gray silt loam surface soil 14 inches thick over a dark-gray crumbly clay subsoil. Brewer soils are not mapped separately in Creek County, and they are not described in this report.

Use and management (Capability unit I-3).—This is a moderately productive, easily worked soil. It responds well to good management, and it is not susceptible to erosion.

This soil is excellent for crops and well suited to pasture. About three-fourths of it is cultivated. The principal crops are cotton, corn, sorghums, and oats. The rest is used for pasture. This soil is in the Loamy prairie range site.

Vanoss silt loam, gently sloping (2 to 4 percent slopes) (Va).—This soil is similar to Vanoss silt loam, nearly level, but its slope makes it slightly susceptible to erosion if cultivated. It occurs in small areas in association with nearly level Vanoss and Teller soils.

Use and management (Capability unit IIe-1).—More than half of this soil is used for crops. The same crops are grown as on Vanoss silt loam, nearly level, but yields are slightly lower. Eroded areas are 10 to 20 percent less productive than the normal soil. Good management would restore the original productivity in 2 or 3 years. This soil is in the Loamy prairie range site.

Verdigris series

These soils occupy the flood plains of streams. The alluvium from which they developed came mostly from dark soils of the prairies; some came from light-colored soils. Soils of this series are moderately well drained, but they are flooded occasionally to frequently. The periodic floods do not prevent successful cultivation except in the narrow flood plains of small streams.

These soils have a dark grayish-brown, friable, slightly acid surface soil and a dark grayish-brown clay loam subsoil. The subsoil is slightly mottled and somewhat finer textured in the lower part. Verdigris soils are

darker colored than the Pulaski soils and have more retentive, less sandy subsoils. They are similar to the Mason soils, which lie slightly higher and are above ordinary overflow.

Verdigris fine sandy loam (0 to 1 percent slopes) (Vd).—This soil occupies parts of narrow flood plains, mainly in the central and western parts of the county. The parent materials were slightly acid to weakly alkaline alluvial sediments, most of which were washed from dark soils of the prairie; some were derived from light-colored soils of forested areas. Runoff is slow, and internal drainage is moderate. These soils are flooded for short period several times a year. Fresh alluvial sediments are deposited on most areas during floods. Native forests of elm, hackberry, oak, pecan, and cottonwood grew on these soils, and some coarse grasses and shrubs covered the ground.

Profile of Verdigris fine sandy loam:

- 0 to 14 inches, grayish-brown fine sandy loam, weakly stratified in lower part with dark grayish-brown silt loam; very friable when moist; slightly acid.
- 14 to 32 inches, dark grayish-brown clay loam; crumbly and friable when moist, moderately sticky when wet; slightly acid to neutral.
- 32 to 50 inches +, dark grayish-brown clay loam, mottled or splotted with light brown; contains thin seams or lenses of light-brown fine sandy loam below about 40 inches; neutral.

Most areas of this soil are covered by recent alluvium, 5 to 15 inches thick. This alluvium ranges from brown to dark grayish brown in color. The texture is fine sandy loam. It is somewhat stratified below plow depth. The clay loam subsoil is dark gray or dark grayish brown in most places.

Use and management (Capability unit I-2).—This is a moderately productive soil. It is likely to be flooded late in spring; consequently, cropping is uncertain. This soil does not erode, but a considerable amount of soil material is deposited by floodwater. Areas where floods are least frequent are well suited to crops. Corn, cotton, and sorghums are the most common crops. The soil is also well suited to pasture. Two-thirds of the acreage has been cleared for crops and pasture, and one-third is still under native forest. This soil is in the Loamy bottom-land range site.

Verdigris silt loam (0 to 1 percent slopes) (Ve).—This soil is mapped on flood plains of streams throughout the county. The parent material consisted of slightly acid to weakly alkaline alluvial sediments washed from dark soils of the prairies. The native vegetation was a hardwood forest of elm, oak, hackberry, cottonwood, and pecan trees, and scattered coarse grasses. Runoff is slow, and internal drainage is moderate. This soil is flooded one to three times a year; nevertheless, most of it can be successfully cropped.

Profile of Verdigris silt loam in a cultivated field about 4 miles west of Bristow in the SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 34, T. 16 N., R. 8 E.:

- 0 to 16 inches, dark grayish-brown silt loam; friable and easily worked when moist, hard when dry; slightly acid.
- 16 to 36 inches, dark grayish-brown clay loam, faintly mottled with brown in the lower part; crumbly and friable when moist, hard when dry; porous and permeable; slightly acid to neutral.
- 36 to 46 inches +, dark grayish-brown clay loam, splotted or mottled with brown and gray; friable; permeable; weakly alkaline.

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The surface layer is 10 to 20 inches thick. In some places the lower part of this layer is weakly stratified with fine sandy loam and clay loam. The subsoil is slightly acid to weakly alkaline. Stratified darker colored and lighter colored sediments may occur in the lowest layer.

Use and management (Capability unit I-2).—This soil is well suited to crops or pasture. It is somewhat more productive than Verdigris fine sandy loam. It is not susceptible to erosion, but soil material may be deposited on the surface by floods. The flood-deposited material replenishes the supply of plant nutrients. About one-fourth of this soil is still under native forest. Half of the remainder is cropped, mostly to corn, cotton, sorghums, and alfalfa. Yields range from almost complete failures to very high yields. Some of the soil is in pasture. This soil is in the Loamy bottom-land range site.

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Verdigris clay loam (0 to 1 percent slopes) (Vc).—This soil occurs on the wider flood plains of the larger creeks of the county. The alluvial sediments from which it developed are slightly acid to weakly alkaline. They were washed from dark-colored soils of the prairies. Runoff is slow, and internal drainage is moderate. The native vegetation was a forest of elm, hackberry, ash, oak, pecan, and cottonwood, and coarse grasses.

Profile of Verdigris clay loam about $\frac{1}{2}$ mile southeast of Sapulpa in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 6, T. 17 N., R. 12 E.:

- 0 to 20 inches, dark grayish-brown clay loam; moderately granular structure; crumbly and friable when moist, hard when dry; porous; slightly acid.
- 20 to 38 inches, grayish-brown clay loam, slightly mottled with brown and some pale brown; friable; permeable; slightly acid.
- 38 to 46 inches +, grayish-brown clay loam, mottled with other shades of brown; contains pockets and thin seams of brown fine sandy loam; slightly acid.

The color of the surface layer ranges from very dark brown in undisturbed areas to dark grayish brown or dark brown where cultivated. Small areas have a 3- to 5-inch layer of grayish-brown loam that has been deposited on the surface by floodwaters.

Use and management (Capability unit I-2).—This is a highly productive soil. Most of the areas are flooded one to three times a year, but this does not prevent their use for cultivated crops. This soil is not susceptible to erosion, but on most areas soil material is deposited during floods.

About one-third of this soil is cultivated. Corn, cotton, and sorghums are the principal crops. About one-fourth is in woodland. The rest is idle or used for pasture. This soil is in the Loamy bottom-land range site.

Woodson series

These are claypan soils that developed from alkaline or weakly calcareous shales and clays on nearly level to gently sloping prairies. They occupy small nearly level areas in gently sloping shallow valleys. These soils are dark grayish brown to dark gray. They are slightly acid.

Woodson soils are closely associated with soils of the Okemah series. The two series differ little in surface appearance. The Woodson soils have a thinner and more granular surface soil than the Okemah soils, and they have a dark-gray claypan subsoil. Woodson soils are not mapped separately in this county. Areas of Woodson clay loam are included in Okemah and Woodson clay loams, and a profile of the Woodson soil is described under that unit.

Yahola series

These soils occur on the flood plains of the Deep Fork and Cimarron Rivers and other large streams. The parent material was alluvium derived from grassland soils underlain by redbeds. Soils of the Yahola series have a reddish-brown alkaline or calcareous surface soil and a moderately sandy subsoil.

These soils are moderately to highly productive. Areas that are not flooded too often are well suited to general field crops. Yahola soils are similar to Port soils in surface appearance, but they have a sandier subsoil. They are more alkaline than Pulaski soils. Yahola soils have a sandier subsoil and more rapid internal drainage than the Roebuck soils.

Yahola very fine sandy loam (0 to 1 percent slopes) (Yb).—This soil occurs on the flood plains of the Cimarron and Deep Fork Rivers. It developed from calcareous or alkaline sandy alluvial sediments washed from prairies underlain by redbeds. Runoff is slow to moderate, and internal drainage is moderate to rapid. All areas of this soil are periodically flooded. Those on the flood plain of the Deep Fork River are too frequently flooded to be suitable for crops, and they have been left in native hardwood forest. The native vegetation was a forest of elm, ash, oak, cottonwood, and pecan trees. Coarse grasses grew where the forest was thin.

Profile of Yahola very fine sandy loam about $\frac{1}{2}$ mile north of Oilton in the NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 28, T. 19 N., R. 7 E.

- 0 to 16 inches, reddish-brown very fine sandy loam; structureless; very friable; alkaline but not calcareous.
- 16 to 46 inches +, reddish-yellow light fine sandy loam, weakly stratified in the lower part with loamy fine sand; very friable and freely permeable; alkaline but not calcareous.

The surface soil is alkaline or calcareous. In color it ranges from light brown to reddish brown and in texture from fine sandy loam to silt loam. Small areas where floodwaters have recently deposited sediments may be weakly stratified.

Use and management (Capability unit I-2).—This soil is easily worked and moderately productive. Areas that are not flooded too often are well suited to crops. The soil is not susceptible to erosion. It receives fresh deposits of soil material during floods.

All of the cropland is on the flood plain of the Cimarron River. Cotton, corn, and sorghums are the principal crops. This soil is in the Loamy bottom-land range site.

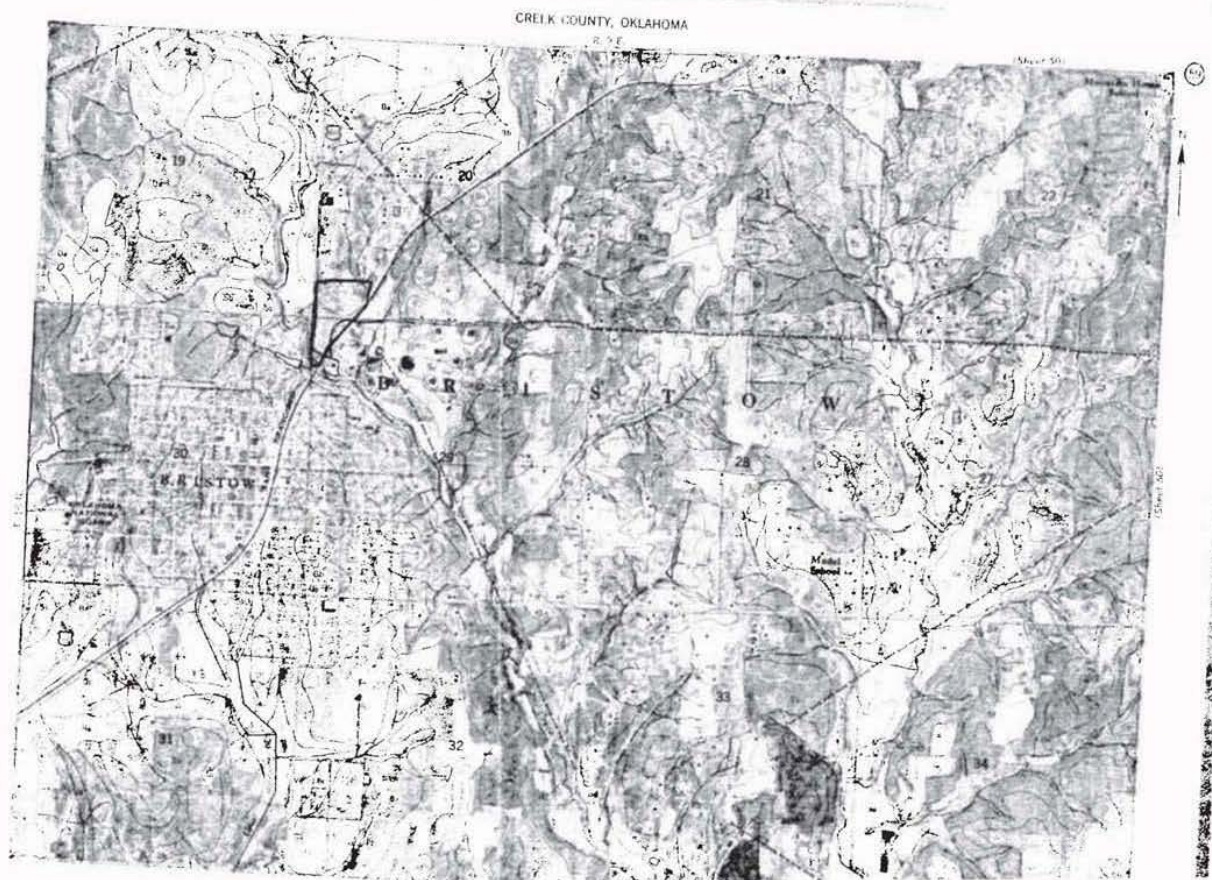
Yahola clay loam (0 to 1 percent slopes) (Ya).—This soil developed from reddish, calcareous, sandy alluvium on the flood plains of the Deep Fork and Cimarron Rivers. The native vegetation was a forest of elm, hackberry, oak, pecan, cottonwood, and ash. Coarse grasses grew where the forest was thin. Runoff is slow but internal drainage is rapid through the sand; substratum.

This soil is associated with Yahola very fine sandy loam. It is like that soil except for having a finer textured surface soil.

Profile of Yahola clay loam:

- 0 to 14 inches, reddish-brown clay loam; crumbly and friable when moist, moderately sticky when wet; alkaline or weakly calcareous.
- 14 to 45 inches +, reddish-yellow very fine sandy loam, weakly stratified in lower part with loamy sands and clay loam; very permeable; weakly calcareous.

- Ca
- Ve
- Sb



WORKS AND

SOILS LEGEND

SYMBOL

NAME

| | |
|----|---|
| Ba | Bates fine sandy loam, gently sloping |
| Bb | Bates fine sandy loam, sloping |
| Bc | Bates fine sandy loam, sloping, severely eroded |
| Bd | Broken or gullied sandy upland |
| Ca | Choteau very fine sandy loam, gently sloping |
| Cb | Choteau very fine sandy loam, nearly level |
| Cc | Cleburnes fine sandy loam |
| Cd | Collinsville and Bates soils, gently sloping |
| Ce | Collinsville and Talihina soils, sloping |
| Cf | Collinsville and Talihina soils, strongly sloping |
| Da | Darnell and Pottsville soils, sloping |
| Db | Darnell and Pottsville soils, strongly sloping |
| Dc | Dennis and Okemah loams, gently sloping |
| Dd | Dennis and Okemah loams, sloping |
| De | Dennis and Okemah loams, sloping, severely eroded |
| Df | Dougherty and Stidham fine sandy loams, gently sloping |
| Dg | Dougherty and Stidham fine sandy loams, nearly level |
| Dh | Dougherty and Stidham fine sandy loams, sloping |
| Ok | Dougherty and Stidham loamy fine sands, gently sloping |
| Ol | Dougherty and Stidham loamy fine sands, nearly level |
| Ea | Eufaula loamy fine sand, gently sloping |
| Eb | Eufaula loamy fine sand, strongly sloping |
| Ga | Gullied bottom land |
| Ma | Mason clay loam |
| Mb | Mason silt loam |
| Na | Neosho silt loam |
| Ob | Oil-waste land |
| Ob | Okemah and Woodson clay loams |
| Pa | Port clay loam |
| Pb | Pulaski fine sandy loam |
| Ra | Reinach very fine sandy loam |
| Rb | Roebuck clay |
| Sa | Stephenville and Darnell fine sandy loams, gently sloping |
| Sb | Stephenville and Darnell fine sandy loams, sloping |
| Sc | Stephenville and Darnell fine sandy loams, sloping, severely eroded |
| Ta | Teller silt loam, gently sloping |
| Tb | Teller silt loam, nearly level |
| Tc | Teller silt loam, sloping |
| Va | Vanoss silt loam, gently sloping |
| Vb | Vanoss silt loam, nearly level |
| Vc | Verdigris clay loam |
| Vd | Verdigris fine sandy loam |
| Ve | Verdigris silt loam |
| Wa | Riverwash |
| Ya | Yahola clay loam |
| Yb | Yahola very fine sandy loam |

Roads

Good motor

Poor motor

Trail

Marker, U. S.

Railroads

Single track

Multiple track

Abandoned

Bridges and crossings

Road

Trail, foot

Railroad

Ferry

Ford

Grade

R. R. over

R. R. under

Tunnel

Buildings

School

Church

Station

Mine and Quarry

Shaft

Dump

Prospect

Pits, gravel or other

Power line

Pipeline

Cemetery

Dam

Levee

Tank

Oil well

Windmill

Canal lock (point upstream)

Soils surveyed 1940-1949 by O. H. Brensing, Dale Scriven, E. C. Talley, Oklahoma Agricultural Experiment Station; H. P. Mikles, Soil Conservation Service, and H. M. Galloway, Oklahoma Agricultural Experiment Station and U. S. Department of Agriculture.
Correlation by James Thorp, U. S. Department of Agriculture.

Soil map constructed by Cartographic Division, Soil Conservation Service, USDA, from 1949 aerial photographs. Controlled mosaic based on polyconic projection, 1927 North American datum.

Reference 14

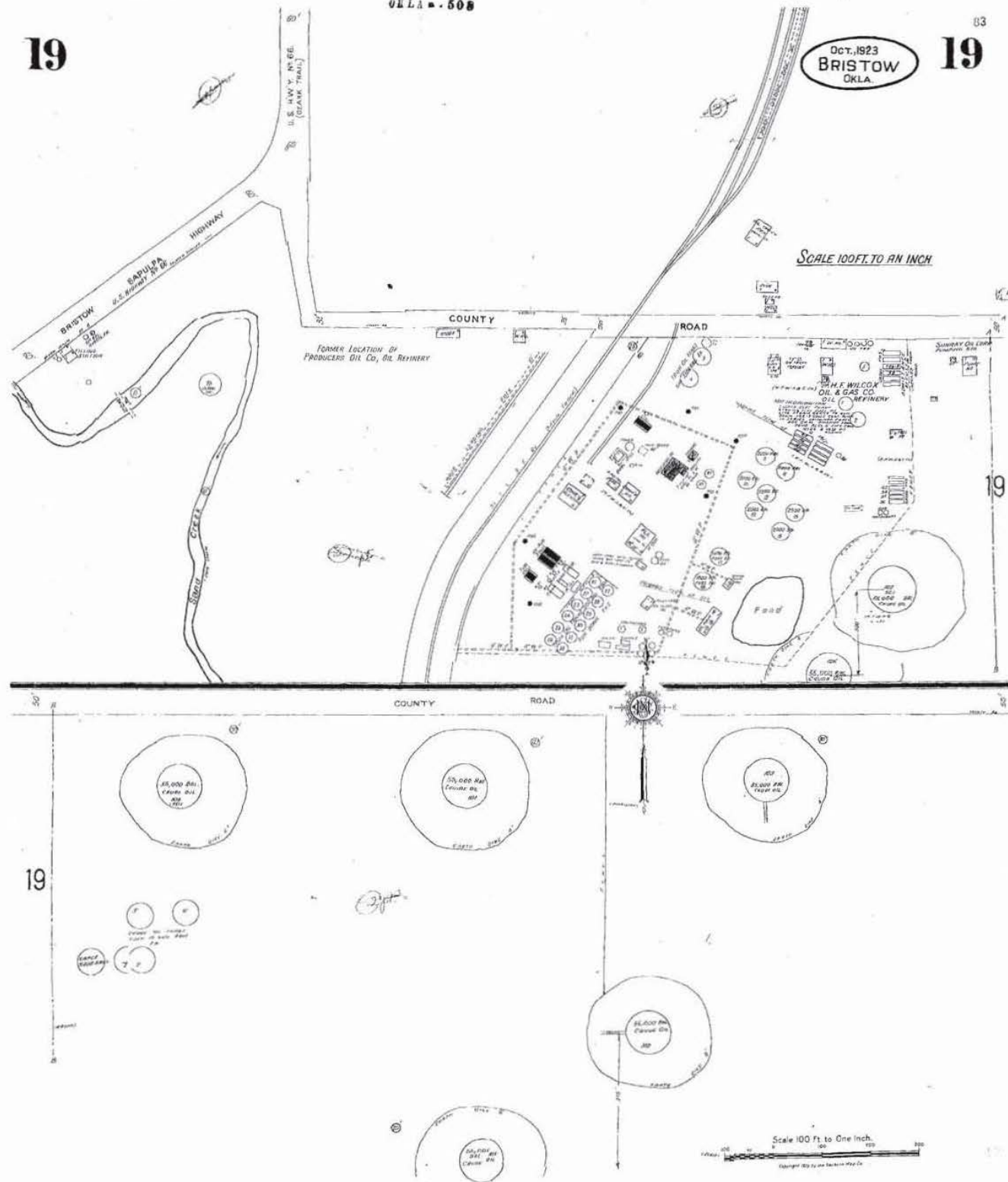
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OKLA. - 508

OCT., 1923
BRISTOW
OKLA.

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SCALE 100 FT. TO AN INCH



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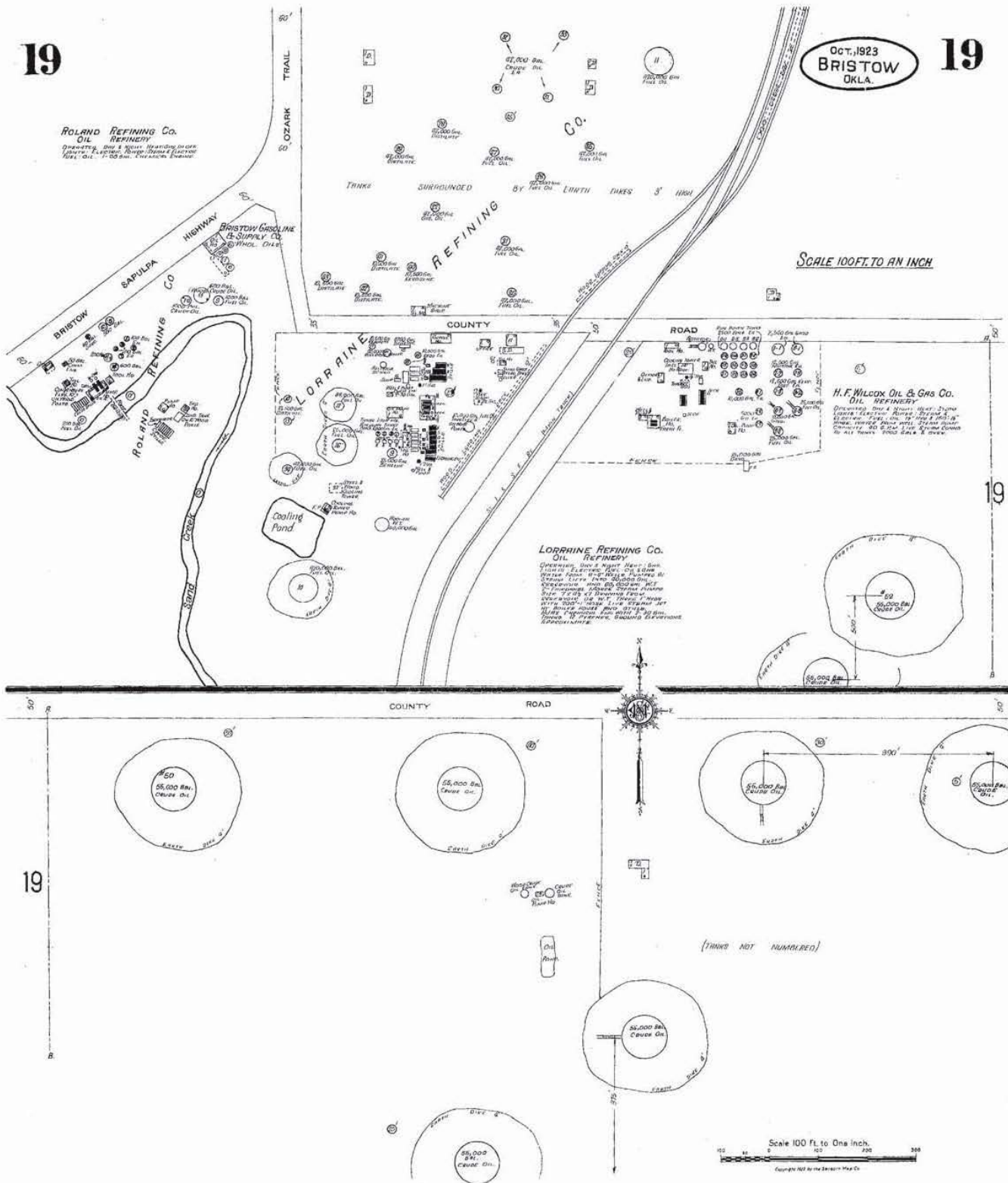
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**BRISTOW GASOLINE
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Highway, Gasoline, Oil, & Supplies.

OCT. 1923
**BRISTOW
OKLA.**

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SCALE 100 FT. TO AN INCH



Reference 15

QUALITY ASSURANCE PLAN

STATE ENVIRONMENTAL LABORATORY
DEPARTMENT OF ENVIRONMENTAL QUALITY



Effective February 15, 2010

707 N. ROBINSON, P.O. BOX 1677
OKLAHOMA CITY, OK 73101-1677
(405) 702-1000



QUALITY ASSURANCE PLAN

STATE ENVIRONMENTAL LABORATORY DEPARTMENT OF ENVIRONMENTAL QUALITY

Effective: February 15, 2010

Release Date: February 15, 2010



**707 N. ROBINSON
P.O. BOX 1677
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APPENDIX D- CERTIFICATIONS OF DEMONSTRATION OF CAPABILITY

APPENDIX E- MAJOR INSTRUMENTATION

APPENDIX F- PROGRAM ANALYTE LISTS AND QUANTITATION LIMITS

METHOD, CONTAINER, PRESERVATIVE, AND HOLDING TIMES

- 4-1: Inorganics and Metals, Drinking Water Program
- 4-2: Inorganics and Metals, Non-Drinking Water Program
- 4-3: Microbiology
- 4-4: Organic Contaminants, Drinking Water Program
- 4-5: Organic Contaminants, Non- Drinking Water Program

METHOD REFERENCES

- 7-2: Inorganics
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- 7-4: Metals
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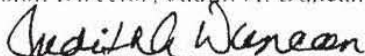
APPENDIX I- METHOD AND PARAMETER TABLES

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PLAN APPROVAL SIGNATURES

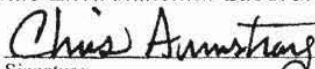
CUSTOMER SERVICES DIVISION

Division Director, Judith A. Duncan


Signature

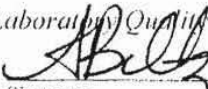
2/24/10
Date

State Environmental Laboratory Manager, Chris Armstrong


Signature

2/23/10
Date

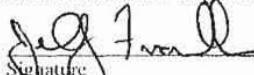
Laboratory Quality Assurance Officer, April Beltz


Signature

2/23/2010
Date

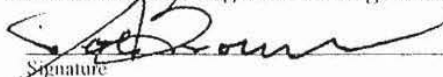
STATE ENVIRONMENTAL LABORATORY

Environmental Programs Manager, Inorganics Group, Jeff Franklin


Signature

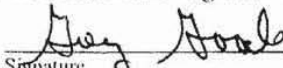
2-24-10
Date

Environmental Programs Manager, Organics Group, Joe Brown


Signature

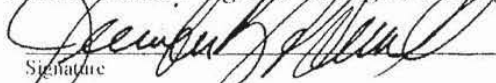
2/24/2010
Date

Environmental Programs Manager, Microbiology/Metals/Radiochemistry, Greg Goode


Signature

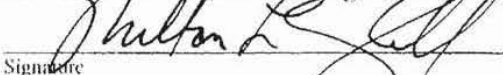
02-25-10
Date

Environmental Programs Manager, GC Organics Section, Jennifer Baughn-Fennell


Signature


2/24/2010
Date

Environmental Programs Manager, GC Metals Section, Milton L. Campbell


Signature

2-23-2010
Date

Environmental Programs Manager, General Chemistry Section, Susan Mensik


Signature

2/23/10
Date

LABORATORY CUSTOMER ASSISTANCE

Environmental Programs Manager, Laboratory Customer Assistance, Roche Amonette


Signature

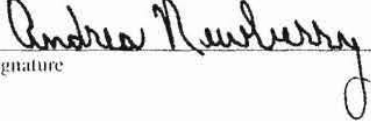
2/23/10
Date

Environmental Programs Manager, Laboratory Customer Assistance, Jay Wright


Signature

2/25/10
Date

Administrative Programs Officer, Statewide Sample Management Unit, Andrea Newberry


Signature

2/23/10
Date

Reference 16

Sample Number: 505872
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1015
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 27.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 22.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 94.5 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

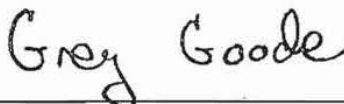
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-8 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST



Greg Goode
State Environmental Laboratory

Sample Number: 505873
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 81.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 14.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 7.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 590 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 11.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-5 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505874
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1056
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 90.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 16.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 11.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 75.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

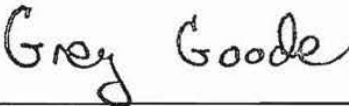
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-11

ANALYST'S COMMENTS:

*

* ANALYST



Greg Goode
State Environmental Laboratory

Sample Number: 505875
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1112
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 64.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 93.7 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-3 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505876
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1123
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 40.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 122 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 34.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-1 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505877
Project Code: SW-SE,
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1130
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 16.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 5.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 5.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 2320 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 153 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 97.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-2 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 32.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 12.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 7.40 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 254 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 97.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-4 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505879
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1252
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 56.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 11.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 11.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 39.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 26.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 83.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-8

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 40.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 84.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 50000 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 191 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 26.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 90.7 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-6

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 39.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.10 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 61.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 43200 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 19.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.0 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

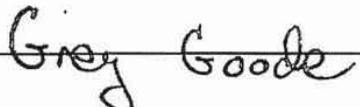
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-7

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505882
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1321
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 29.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 68.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 43600 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 24.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 94.4 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-5

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505883
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1332
Date Received: 6/29/2011
Date Completed: 08/31/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/31/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Barium, Sediment | | 35.5 | MG/KG | 08/25/11 | 6010 | |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | |
| Chromium, Sediment | | 8.30 | MG/KG | 08/25/11 | 6010 | |
| Copper, Sediment | | 11.7 | MG/KG | 08/25/11 | 6010 | |
| Lead, Sediment | | 366 | MG/KG | 08/25/11 | 6010 | |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | |
| Zinc, Sediment | | 23.9 | MG/KG | 08/25/11 | 6010 | |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | |
| % Solids | | 99.2 | % | 07/12/11 | CLP 5.4 | |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-4

ANALYST'S COMMENTS:

Greg Goode
Greg Goode
State Environmental Laboratory

*

* ANALYST

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 27.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 12.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 459 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 206 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-3

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505885
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1351
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 22.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 5.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 82.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 52.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-8

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505886
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1400
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 62.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 16.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 78.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 1560 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 22.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 98.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

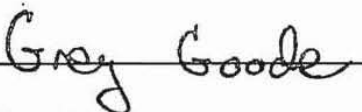
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-9 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505887
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1411
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/13/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 38.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 147 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 125 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | | 1.73 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 93.4 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-2

ANALYST'S COMMENTS:

(CF) Corrected final report. The Mercury result was corrected from 0.40 to 1.73.

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505888
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1438
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 14.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 93.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 13.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

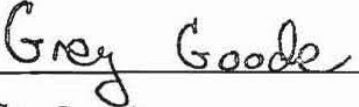
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-9

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505889
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1441
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 80.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 9.80 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 89.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 53.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 96.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-1

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505890
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 63.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 11.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 6.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 486 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 7.20 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 9.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-6 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505989
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1020
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 77.3 | | | | |
| Acenaphthylene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505989
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1020
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 57.1 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| PHENOL-D5 | | 76 |
| NITROBENZENE-D5 | | 77 |

Sample Number: 505989
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1020
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 86 |
| 2,4,6-TRIBROMOPHENOL | | 93 |
| 2-FLUOROPHENOL | | 68 |
| 2-FLUOROBIPHENYL | | 75 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| beta-Amyrin | | 2100 | µg/kg |
| gamma-Sitosterol | | 3600 | µg/kg |
| Lup-20(29)-en-3-one | | 1200 | µg/kg |
| Nonacosane | | 1200 | µg/kg |
| Stigmastanol | | 1400 | µg/kg |
| cyclic octaatomic sulfur | | 1300 | µg.kg |
| 4,4,6a,6b,8a,11,11,14b-Octameth | | 1400 | µg/kg |
| alpha-Amyrin | | 2300 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-1

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

4,4,6a,6b,8a,11,11,14b-Octamethyl-1,4,4a,5,6,6a,6b,7,8,8a,9,10,11,12,12a,14,14a,14b-octadecah;

* * ANALYST Cassandra Kontas

Sample Number: 505990
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1055
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 37.5 | | | | |
| Acenaphthylene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505990
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1055
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 750 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 11. | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 76 |
| 2,4,6-TRIBROMOPHENOL | | 120 |

Sample Number: 505990
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1055
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 88 |
| P-TERPHENYL-D14 | | 111 |
| 2-FLUOROBIPHENYL | | 92 |
| NITROBENZENE-D5 | | 93 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-2

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505991
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1110
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 36.6 | | | | |
| Acenaphthylene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe: | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | MI < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505991
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1110
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | MI < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 730 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | MI < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcóhol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 8.90 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 81 |
| 2,4,6-TRIBROMOPHENOL | | 97 |

Sample Number: 505991
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1110
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 81 |
| P-TERPHENYL-D14 | | 95 |
| 2-FLUOROBIPHENYL | | 78 |
| 2-FLUOROPHENOL | | 72 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-3

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

(MI) a Matrix Interference was indicated for these compounds by the matrix spike and matrix spike duplicate samples.

*

* ANALYST

Cassandra Kontas

Sample Number: 505992
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1325
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 99.6 | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | | 1500 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505992
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1325
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 0.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| NITROBENZENE-D5 | | 72 |
| 2-FLUOROPHENOL | | 63 |

Sample Number: 505992
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1325
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 87 |
| PHENOL-D5 | | 69 |
| 2-FLUOROBIPHENYL | | 73 |
| 2,4,6-TRIBROMOPHENOL | | 77 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-7 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505993
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 105. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505993
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.8 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| P-TERPHENYL-D14 | | 72 |

Sample Number: 505993
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 62 |
| NITROBENZENE-D5 | | 69 |
| 2,4,6-TRIBROMOPHENOL | | 76 |
| 2-FLUOROPHENOL | | 58 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-4

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505994
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 104. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505994
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| P-TERPHENYL-D14 | | 87 |
| PHENOL-D5 | | 77 |

Sample Number: 505994
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 81 |
| NITROBENZENE-D5 | | 80 |
| 2,4,6-TRIBROMOPHENOL | | 97 |
| 2-FLUOROPHENOL | | 70 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|------------------|---|-------|-------|
| Hexatriacontane | | 9800 | µg/kg |
| Pentatriacontane | | 5700 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-5

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

* * ANALYST Cassandra Kontas

Sample Number: 505995
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1415
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 41.9 | | | | |
| Acenaphthylene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505995
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1415
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 840 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 21.2 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 76 |
| 2-FLUOROBIPHENYL | | 72 |

Sample Number: 505995
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1415
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 75 |
| P-TERPHENYL-D14 | | 91 |
| 2-FLUOROPHENOL | | 67 |
| 2,4,6-TRIBROMOPHENOL | | 91 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-10

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST Cassandra Kontas

Sample Number: 505996
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1440
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractabl | | 41.5 | | | | |
| Acenaphthylene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505996
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1440
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 830 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 20 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 78 |
| 2-FLUOROPHENOL | | 68 |

Sample Number: 505996
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1440
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 82 |
| 2,4,6-TRIBROMOPHENOL | | 92 |
| P-TERPHENYL-D14 | | 100 |
| 2-FLUOROBIPHENYL | | 79 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-7

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505997
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 33.3 | | | | |
| Acenaphthylene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505997
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 670 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 56 |
| PHENOL-D5 | | 59 |

Sample Number: 505997
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected:
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 59 |
| NITROBENZENE-D5 | | 62 |
| 2,4,6-TRIBROMOPHENOL | | 60 |
| P-TERPHENYL-D14 | | 66 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

LAB BLANK

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505989
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1020
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 35.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.20 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 53.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 60.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-1

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505990
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1055
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 180 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 12.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 9.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 20.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 18.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 89.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-2

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505991
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1110
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 128 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 19.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 12.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 17.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 17.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 89.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-3

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505992
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1325
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 61.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 6.10 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 15.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 6.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 15.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-7 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505993
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 33.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.40 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 5.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 96.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-4

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505994
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 177 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 5.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 47.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 12.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 5.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-5

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505995
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1415
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 28.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 73.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

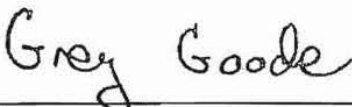
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-10

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505996
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1440
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 23.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 80.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-7

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505872
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1015
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

To: TODD DOWNHAM/LPD

CC: FILE COPY

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 104. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 2500 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 2400 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 2600 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 3000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 1300 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505872
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1015
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | | 1400 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 6.3 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 53 |
| 2-FLUOROPHENOL | | 52 |

Sample Number: 505872
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1015
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 51 |
| 2,4,6-TRIBROMOPHENOL | | 58 |
| NITROBENZENE-D5 | | 61 |
| P-TERPHENYL-D14 | | 57 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benzo[e]pyrene | | 5300 | µg/kg |
| Phenanthrene, 1-methyl- | | 2300 | µg/kg |
| Phenanthrene, 2-methyl- | | 1500 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1500 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1600 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-8 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Pyrene, methyl- (non-specific isomer #1)

Pyrene, methyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505873
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 34.6 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505873
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.70 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 63 |
| 2-FLUOROBIPHENYL | | 73 |

Sample Number: 505873
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 69 |
| P-TERPHENYL-D14 | | 93 |
| NITROBENZENE-D5 | | 71 |
| 2,4,6-TRIBROMOPHENOL | | 87 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Oleanonic aldehyde | | 1200 | µg/kg |
| Hexadecanoic acid, 2-hydroxy-1- | | 750 | µg/kg |
| Totarol | | 470 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-5 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1- (hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505874
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1056
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|---|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | | 45.3 | | | | |
| Acenaphthylene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b)fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k)fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | | < | 450 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505874
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1056
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|--------|-------|----------|--------|-----------|
| Di-n-octylphthalate | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | | < 910 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | MI | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | MI | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | MI | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | | < 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | | < 450 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 26. | % | 07/01/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 81 |
| 2-FLUOROBIPHENYL | | 67 |

Sample Number: 505874
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1056
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 70 |
| 2,4,6-TRIBROMOPHENOL | | 80 |
| 2-FLUOROPHENOL | | 66 |
| NITROBENZENE-D5 | | 73 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| LUPEOL | | 1000 | µg/kg |
| D:B-FRIEDO-B':A'-NEOGAMMACER-5- | | 460 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-11

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(MI) a Matrix Interference was indicated for these compounds by the matrix spike and matrix spike duplicate samples.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

D:B-FRIEDO-B':A'-NEOGAMMACER-5-EN-3-OL, (3-BETA)-

*

* ANALYST

Cassandra Kontas

Sample Number: 505875
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1112
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 35.2 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Pyrene | | 490 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |

Sample Number: 505875
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1112
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 700 | UG/KG | 08/09/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.7 | % | 08/09/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 62 |
| 2-FLUOROBIPHENYL | | 64 |

Sample Number: 505875
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1112
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 65 |
| 2,4,6-TRIBROMOPHENOL | | 69 |
| P-TERPHENYL-D14 | | 65 |
| 2-FLUOROPHENOL | | 52 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Dotriacontane | | 840 | µg/kg |
| Nonatriacontane | | 1100 | µg/kg |
| Octatriacontane | | 1400 | µg/kg |
| Tricontane | | 430 | µg/kg |
| Heptatriacontane | | 1400 | µg/kg |
| Hexatriacontane | | 1200 | µg/kg |
| Anthracene, 1-methyl- | | 360 | µg/kg |
| Benzene, 1-methyl-2-(2-phenylet | | 350 | µg/kg |
| Pentatriacontane | | 1500 | µg/kg |
| Eicosane | | 370 | µg/kg |
| Hentriacontane | | 1000 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 920 | µg/kg |
| Tetratricosane | | 1300 | µg/kg |
| Tritriacontane | | 1100 | µg/kg |
| Nonacosane | | 390 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 800 | µg/kg |
| Pristane | | 560 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505875
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1112
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA, 73102-6010
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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-3 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Benzene, 1-methyl-2-(2-phenylethyl)-

Phenanthrene, dimethyl- (non-specific isomer #1)

Phenanthrene, dimethyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505876
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1123
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 102. | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b) fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k) fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505876
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1123
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| P-TERPHENYL-D14 | | 89 |
| 2-FLUOROPHENOL | | 78 |

Sample Number: 505876
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1123
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 72 |
| 2-FLUOROBIPHENYL | | 68 |
| 2,4,6-TRIBROMOPHENOL | | 76 |
| PHENOL-D5 | | 82 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-1 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505877
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1130
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 34.6 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505877
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1130
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
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 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 60 |
| 2-FLUOROBIPHENYL | | 73 |

Sample Number: 505877
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1130
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
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General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 56 |
| PHENOL-D5 | | 64 |
| NITROBENZENE-D5 | | 64 |
| P-TERPHENYL-D14 | | 92 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| OCTADECANOIC ACID, 2-HYDROXY-1- | | 2100 | µG/KG |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-2 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST Cassandra Kontas

Sample Number: 505878
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1140
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 173. | | | | |
| Acenaphthylene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | J | 3300 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | J | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505878
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1140
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 3500 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 2.4 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 (J) | | 44 |
| 2-FLUOROBIPHENYL (J) | | 49 |

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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Sample Receiving: (405) 702-1113
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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|--------------------------|----------------------|------------|
| 2-FLUOROPHENOL (J) | | 41 |
| P-TERPHENYL-D14 (J) | | 48 |
| PHENOL-D5 (J) | | 40 |
| 2,4,6-TRIBROMOPHENOL (J) | | 55 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Cyclopentadecane | | 2000 | µg/kg |
| Tetratriacontane | | 6900 | µg/kg |
| Tridecane, 7-propyl- | | 39000 | µg/kg |
| Pentadecane, 2,6,10-trimethyl- | | 47000 | µg/kg |
| Pentadecane, 7-methyl- | | 18000 | µg/kg |
| Phytane | | 67000 | µg/kg |
| Heptylcyclohexane | | 3100 | µg/kg |
| methyl-substituted alkane | | 37000 | µg/kg |
| Naphthalene, trimethyl- (non-sp | | 11000 | µg/kg |
| Tridecane | | 3500 | µg/kg |
| Hexatriacontane | | 11000 | µg/kg |
| Tridecane, 3-methyl- | | 2200 | µg/kg |
| Octane, 2,6-dimethyl- | | 3800 | µg/kg |
| Tetradecane | | 6900 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 7900 | µg/kg |
| Naphthalene, dimethyl- (non-spe | | 2200 | µg/kg |
| Pristane | | 93000 | µg/kg |
| Hexadecane | | 11000 | µg/kg |
| Naphthalene, trimethyl- (non-sp | | 9100 | µg/kg |
| Nonadecane | | 2900 | µg/kg |
| Pentatriacontane | | 10000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-4 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(J) The associated value is an estimated quantity.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

Some "tentatively identified" compound names were truncated in the report table; their full names are:

Naphthalene, dimethyl- (non-specific isomer)

Naphthalene, trimethyl- (non-specific isomer #1)

Naphthalene, trimethyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505879
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1252
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractabl | | 561. | | | | |
| Acenaphthylene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Acenaphthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Anthracene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(b) fluoranthene | J | 6600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(k) fluoranthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)pyrene | J | 11000 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Butylbenzylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Chrysene | | 34000 | UG/KG | 07/06/11 | 8270DM | |
| Diethylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Dimethylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Fluoranthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Fluorene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachloroethane | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Isophorone | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodipropylamine | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodiphenylamine | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Naphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrobenzene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| p-Chloro-m-cresol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Phenanthrene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Pyrene | | 12000 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(ghi)perylene | J | 6600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)anthracene | | 9200 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chloronaphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chlorophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitrophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |

Sample Number: 505879
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1252
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 11000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitrophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| Phenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Pentachlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Di-n-butylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobenzene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobutadiene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzyl alcohol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzofuran | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Methylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chloroaniline | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 3-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylnaphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 15. | % | 07/06/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 67 |
| PHENOL-D5 | | 61 |

Sample Number: 505879
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1252
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 62 |
| NITROBENZENE-D5 | | 63 |
| 2-FLUOROPHENOL | | 58 |
| 2-FLUOROBIPHENYL | | 62 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|--------|-------|
| PHENOL, O-(ALPHA-, ALPHA-DIMETH | | 86000 | µg/kg |
| Phenol, 4-(1-methyl-1-phenyleth | | 340000 | µg/kg |
| 1H-Indene, 2,3-dihydro-1,1,3-tr | | 33000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 50000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 24000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 16000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 24000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 11000 | µg/kg |
| Phenanthrene, 3,4,5,6-tetrameth | | 19000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 17000 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 40000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 23000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 23000 | µg/kg |
| UNKNOWN | | 17000 | µG/KG |
| Benz[a]anthracene, 7-methyl- | | 46000 | µg/kg |
| 2,4-Diphenyl-4-methyl-1-pentene | | 230000 | µg/kg |
| 2,4-Diphenyl-4-methyl-2(E)-pent | | 280000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 21000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 19000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 22000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 18000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 15000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 34000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505879
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1252
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-8

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(J) The associated value is an estimated quantity.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

Some "tentatively identified" compound names were truncated in the report table; their full names are:

1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3-phenyl-
2,4-Diphenyl-4-methyl-2(E)-pentene
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #1)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #2)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #3)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #4)
Phenanthrene, 3,4,5,6-tetramethyl-
Phenanthrene, dimethyl- (non-specific isomer)
Phenanthrene, trimethyl- (non-specific isomer #1)
Phenanthrene, trimethyl- (non-specific isomer #2)
Phenanthrene, trimethyl- (non-specific isomer #3)
Phenol, 4-(1-methyl-1-phenylethyl)-
Phenol, o-(alpha-, alpha-dimethylbenzyl)-
Pyrene, dimethyl- (non-specific isomer #1)
Pyrene, dimethyl- (non-specific isomer #2)
Pyrene, dimethyl- (non-specific isomer #3)
Pyrene, dimethyl- (non-specific isomer #4)
Pyrene, dimethyl- (non-specific isomer #5)
Pyrene, methyl- (non-specific isomer #1)
Pyrene, methyl- (non-specific isomer #2)
Pyrene, methyl- (non-specific isomer #3)

*

* ANALYST

Cassandra Kontas

Sample Number: 505880
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1310
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 362. | | | | |
| Acenaphthylene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Acenaphthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(a)pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Butylbenzylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Chrysene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Diethylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dimethylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Fluorene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachloroethane | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Isophorone | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrosodipropylamine | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrosodiphenylamine | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Naphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrobenzene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| p-Chloro-m-cresol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Phenanthrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(ghi)perylene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(a)anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Chloronaphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Chlorophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Nitrophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |

Sample Number: 505880
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1310
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 7200 | UG/KG | 07/20/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Nitrophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| Phenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Pentachlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Di-n-butylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorobenzene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorobutadiene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzyl alcohol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dibenzofuran | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Methylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Methylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4-Chloroaniline | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 3-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2-Methylnaphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 8.1 | % | 07/20/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 88 |
| 2,4,6-TRIBROMOPHENOL | | 81 |

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 78 |
| PHENOL-D5 | | 79 |
| P-TERPHENYL-D14 | | 86 |
| NITROBENZENE-D5 | | 91 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| 28-Nor-17-alpha(H)-hopane | | 3800 | µg/kg |
| Benzenethiol, 2-methyl- | | 5600 | µg/kg |
| PENTADECANE, METHYL- (NON-SPECI | | 8600 | µg/kg |
| Pentadecane, 2,6,10-trimethyl- | | 9000 | µg/kg |
| Phytane | | 7400 | µg/kg |
| Tridecane, 7-propyl- | | 4400 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 4800 | µg/kg |
| Pentatriacontane | | 7600 | µg/kg |
| Pristane | | 15000 | µg/kg |
| Heptatriacontane | | 9900 | µg/kg |
| unknown #2 | | 4700 | µg/kg |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 23000 | µG/KG |
| Disulfide, bis(4-methylphenyl) | | 6700 | µg/kg |
| Hexatriacontane | | 9100 | µg/kg |
| Tetratriacontane | | 6100 | µg/kg |
| unknown #1 | | 4100 | µg/kg |
| Tetradecane, 2,6,10-trimethyl- | | 3000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-6

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

Pentadecane, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505881
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1315
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 351. | | | | |
| Acenaphthylene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505881
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1315
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 7000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.3 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 94 |
| P-TERPHENYL-D14 | | 113 |

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 111 |
| 2-FLUOROBIPHENYL | | 115 |
| 2-FLUOROPHENOL | | 90 |
| PHENOL-D5 | | 96 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Heptadecane, 4-methyl- | | 3800 | µg/kg |
| Heptatriacontane | | 7800 | µg/kg |
| methyl-pentadecane | | 10000 | µg/kg |
| Tridecane, 7-propyl- | | 5100 | µg/kg |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 31000 | µG/KG |
| Pentadecane, 2,6,10-trimethyl- | | 11000 | µg/kg |
| unknown #2 | | 5500 | µg/kg |
| Hexatriacontane | | 8400 | µg/kg |
| Phytane | | 9700 | µg/kg |
| Pristane | | 19000 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 5800 | µg/kg |
| Pentatriacontane | | 9700 | µg/kg |
| unknown #1 | | 4800 | µg/kg |
| Disulfide, bis(4-methylphenyl) | | 6800 | µg/kg |
| Tetradecane, 2,6,10-trimethyl- | | 3500 | µg/kg |
| Trtriacontane | | 4000 | µg/kg |
| Benzenethiol, 2-methyl- | | 6500 | µg/kg |
| Tetratriacontane | | 7600 | µg/kg |
| unknown #3 | | 3800 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-7

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505882
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1321
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 34.9 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |

Sample Number: 505882
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1321
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.76 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| NITROBENZENE-D5 | | 73 |
| 2-FLUOROPHENOL | | 59 |

Sample Number: 505882
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1321
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| 2,4,6-TRIBROMOPHENOL | | 60 |
| P-TERPHEHYL-D14 | | 74 |
| PHENOL-D5 | | 64 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
| NU | | | |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-5

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505883
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1332
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 100. | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | | 2800 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | | 2700 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | | 2800 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | | 3200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | | 1500 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505883
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1332
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 0.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 52 |
| 2-FLUOROPHENOL | | 44 |

Sample Number: 505883
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1332
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 50 |
| 2-FLUOROBIPHENYL | | 54 |
| PHENOL-D5 | | 41 |
| P-TERPHENYL-D14 | | 60 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Anthracene, 1-methyl- | | 1100 | µg/kg |
| Phenanthrene, 1-methyl- | | 2200 | µg/kg |
| PYRENE, METHYL- (NON-SPECIFIC I | | 1100 | µg/kg |
| Phenanthrene, 2-methyl- | | 1600 | µg/kg |
| PYRENE, METHYL- (NON-SPECIFIC I | | 1700 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-4

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Pyrene, methyl- (non-specific isomer #1)

Pyrene, methyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505884
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1341
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 99.6 | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 1900 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 2900 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 2000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505884
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1341
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.1 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 89 |
| PHENOL-D5 | | 76 |

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 86 |
| P-TERPHENYL-D14 | | 80 |
| 2-FLUOROPHENOL | | 71 |
| 2,4,6-TRIBROMOPHENOL | | 104 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benz[a]anthracene, 7-methyl- | | 1300 | µg/kg |
| Phenanthrene, 2-methyl- | | 1700 | µg/kg |
| Napththalene, 2-phenyl- | | 1600 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1100 | µg/kg |
| Phenanthrene, 1-methyl- | | 2600 | µg/kg |
| Benzo[e]pyrene | | 1600 | µg/kg |
| Octadecanoic acid, 2-hydroxy-1- | | 5300 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

**OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY**

707 N. ROBINSON

OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-3

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

Pyrene, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505885
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1351
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 34.4 | | | | |
| Acenaphthylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505885
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1351
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.0 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 85 |
| 2-FLUOROBIPHENYL | | 70 |

Sample Number: 505885
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1351
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 81 |
| 2,4,6-TRIBROMOPHENOL | | 78 |
| NITROBENZENE-D5 | | 76 |
| P-TERPHENYL-D14 (J) | | 71 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|------------|---|-------|-------|
| Nonacosane | | 530 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-8

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.
(J) The associated value is an estimated quantity.

*

* ANALYST

Cassandra Kontas

Sample Number: 505886
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1400
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 2729 | | | | |
| Acenaphthylene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505886
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1400
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
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 Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|--------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 55000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.4 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 30 |
| 2-FLUOROBIPHENYL | | 37 |

Sample Number: 505886
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1400
Date Received: 6/29/2011
Date Completed: 08/17/2011
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PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 35 |
| 2-FLUOROPHENOL | | 29 |
| NITROBENZENE-D5 | | 35 |
| 2,4,6-TRIBROMOPHENOL | | 42 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|--------|-------|
| Octadecanoic acid, 2-hydroxy-1- | | 160000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 30000 | µg/kg |
| Benzo[e]pyrene | | 44000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-9 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The surrogates 2-Fluorobiphenyl, and 2,4,6-Tribromophenol had recoveries below in-house control limits.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester
Pyrene, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505887
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1411
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 35.6 | | | | |
| Acenaphthylene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | | 520 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | | 610 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 1400 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 550 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 910 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505887
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1411
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 710 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 6.2 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 64 |
| 2-FLUOROPHENOL | | 60 |

Sample Number: 505887
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1411
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 82 |
| NITROBENZENE-D5 | | 83 |
| 2,4,6-TRIBROMOPHENOL | | 78 |
| P-TERPHENYL-D14 | | 71 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benz[a]anthracene, 7-methyl- | | 1000 | µg/kg |
| Stigmast-4-en-3-one | | 600 | µg/kg |
| Perylene, methyl- (non-specific | | 630 | µg/kg |
| D:C-Friedo-B':A'-neogammacer-9(| | 720 | µg/kg |
| Phenanthrene, 1-methyl- | | 2000 | µg/kg |
| Anthracene, 2-methyl- | | 590 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 670 | µg/kg |
| Anthracene, 1-methyl- | | 620 | µg/kg |
| Dibenzothiophene, 3-methyl- | | 530 | µg/kg |
| Benzo[e]pyrene | | 1100 | µg/kg |
| Dibenzothiophene, 4-methyl- | | 580 | µg/kg |
| Phenanthrene, 2-methyl- | | 1400 | µg/kg |
| Naphthalene, 2-phenyl- | | 1100 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 610 | µg/kg |
| Pyrene, methyl- (non-specific i | | 630 | µg/kg |
| Benzo[b]naphtho[2,1-d]thiophene | | 570 | µg/kg |
| gamma-Sitosterol | | 670 | µg/kg |
| Octadecanoic acid, 2-hydroxy-1- | | 4700 | µg/kg |
| Perylene, methyl- (non-specific | | 570 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 600 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505887
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1411
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-2

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas
Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

D:C-Friedo-B':A'-neogammacer-9(11)-ene, 3-methoxy-, (3.beta)-

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)eth

Perylene, methyl- (non-specific isomer #1)

Perylene, methyl- (non-specific isomer #2)

Phenanthrene, dimethyl- (non-specific isomer #1)

Phenanthrene, dimethyl- (non-specific isomer #2)

Phenanthrene, dimethyl- (non-specific isomer #3)

Pyrene, methyl- (non-specific isomer)

* ANALYST

Cassandra Kontas

Sample Number: 505888
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1438
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 33.9 | | | | |
| Acenaphthylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505888
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1438
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 680 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| PHENOL-D5 | | 68 |

Sample Number: 505888
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1438
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 67 |
| 2,4,6-TRIBROMOPHENOL | | 68 |
| 2-FLUOROPHENOL | | 61 |
| P-TERPHENYL-D14 | | 77 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| NONACOSANE | | 440 | µG/KG |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 1500 | µG/KG |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-9

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505889
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1441
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 34.5 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe: | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505889
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1441
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.2 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 110 |
| 2,4,6-TRIBROMOPHENOL | | 145 |

Sample Number: 505889
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1441
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 104 |
| P-TERPHENYL-D14 | | 141 |
| 2-FLUOROPHENOL | | 91 |
| 2-FLUOROBIPHENYL | | 116 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|-------------------------|---|-------|-------|
| gamma-Sitosterol | | 390 | µg/kg |
| unknown triterpenoid #1 | | 420 | µg/kg |
| unknown triterpenoid #2 | | 480 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-1

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

* * ANALYST Cassandra Kontas

Sample Number: 505890
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 34.5 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505890
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
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 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.90 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 79 |
| 2-FLUOROPHENOL | | 71 |

Sample Number: 505890
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
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Location Code:
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Report Date: 9/7/2011

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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 80 |
| P-TERPHENYL-D14 | | 89 |
| NITROBENZENE-D5 | | 80 |
| 2,4,6-TRIBROMOPHENOL | | 97 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| 2-Phenanthrenol, 4b,5,6,7,8,8a, | | 540 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-6 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octahydro-4b,8,8-trimethyl-1-(1-methylethyl)-, (4bS-trans)-

*

* ANALYST

Cassandra Kontas

Sample Number: 505893
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 33.2 | | | | |
| Acenaphthylene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505893
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To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 660 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | | % | | | 1005 M |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 75 |
| 2-FLUOROBIPHENYL | | 79 |

Sample Number: 505893
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected:
Date Received: 6/29/2011
Date Completed: 07/25/2011
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To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 78 |
| 2,4,6-TRIBROMOPHENOL | | 82 |
| P-TERPHENYL-D14 | | 105 |
| 2-FLUOROPHENOL | | 68 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

LAB BLANK

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Reference 17

Records of Communication

August 3, 2009

Todd Downham
Lorraine Refinery Expanded Site Inspection (ESI)

August 3, 2009: Spoke with Steve McGuire, Public Works Director, City of Bristow, Ok. Mr. McGuire answered my questions regarding the locations of Municipal Wells that provide drinking water to the City of Bristow. He provided a map with the names and locations of each well.

April 6, 2010

Todd Downham
Lorraine Refinery Expanded Site Inspection (ESI)

April 6, 2010: Spoke with Steve McGuire, Public Works Director, City of Bristow, Ok. Mr. McGuire answered my questions regarding the locations of Municipal Wells that provide drinking water to the City of Bristow.

The Site boundary for the planned ESI for the Lorraine Refinery has expanded to include the former Wilcox Refinery Site, therefore updated information regarding public groundwater drinking wells is required. The map provided by the City of Bristow on August 3, 2009, which indicates the location of Municipal Drinking Water Wells, is current and will be used to determine the locations and rational outlined in the Sampling and Analysis Plan (SAP) and in the Lorraine Refinery ESI Final Report.

Fax Sheet

August 3, 2009

TO: Tod Downham
Dept. Environmental Quality
(405) 702-5136

RECEIVED
AUG 3 2009
LAND PROTECTION DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

FROM: Steve McGuire Public Works Director
City of Bristow
110 West 7th Street
Bristow, Oklahoma 74010
(918) 367-2237

SUBJECT: City of Bristow Fresh Water Well Locations

The following map indicates the locations of each City of Bristow water well in use located inside Creek County (T16N-R8E1M) including GPS locations

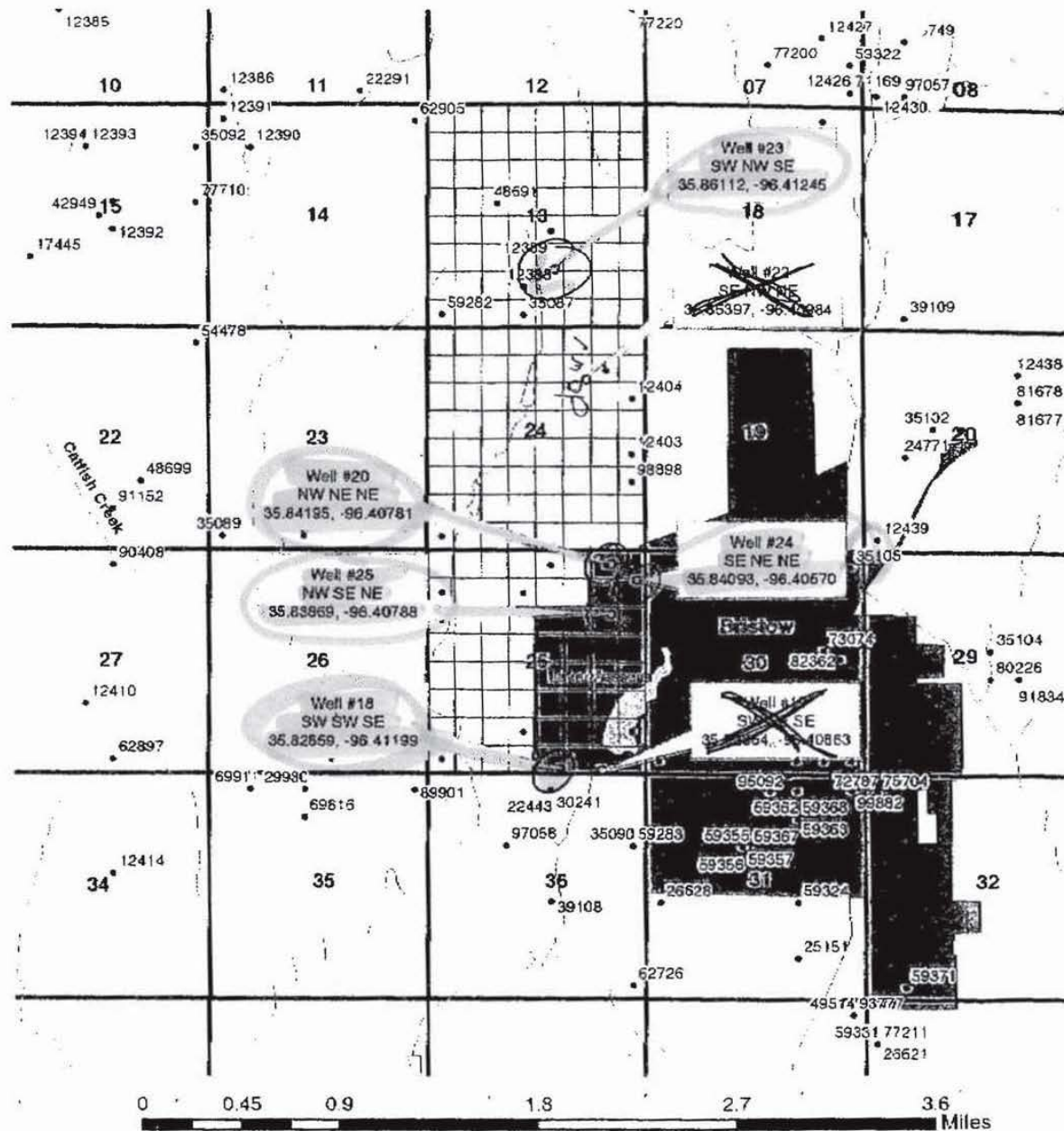
Total sheets sent including this fax cover: Two (2)

City of Bristow Well Locations (All In T16N-R8E1M Creek County)

- Bristow GPS Well Locations
- 10-acre Tracts
- Lakes
- Streams - Full Detail
- Section Lines
- City Boundary
- Reported Well Logs



Map Created by: Bob Sandbo
March 14, 2006
GPS Readings Taken by Gavin Brady
March 1, 2006
Oklahoma Water Resources Board



DEC-23-2008 18:46

From:

To: 14057025101

Page: 2/2

Attn: TOD Downham
405-702-5101

From: City of Bristow
2008 Drinking Water
Summary of Wells

Any Questions Call: ⁹¹⁸277-6806
Eli Smallwood

RECEIVED

AUG 04 2009

LAND PROTECTION DIVISION
DEPARTMENT OF ENVIRONMENTAL QUALITY

City Of Bristow

Public Works Division

110 West 7th Street

Bristow, Oklahoma 74010

Bristow Water Distribution System Information

Number of Water Wells:

5 Active Wells

Age of Wells & Distribution System:

| | |
|-----------|----------|
| Well # 18 | 40 Years |
| Well # 20 | 30 Years |
| Well # 23 | 15 Years |
| Well # 24 | 15 Years |
| Well # 25 | 15 Years |

Capacity of Wells

Depths

| | |
|-----------|------|
| Well # 18 | 210' |
| Well # 20 | 470' |
| Well # 23 | 450' |
| Well # 24 | 450' |
| Well # 25 | 450' |

Average Volume Actually Pumped:

| | |
|-----------|-------------------------|
| Well # 18 | 129,000 gallon per-day |
| Well # 20 | 220,000 gallons Per-day |
| Well # 23 | 280,000 gallons per-day |
| Well # 24 | 140,000 gallons per-day |
| Well # 25 | 220,000 gallons per-day |

Leakage Estimate:

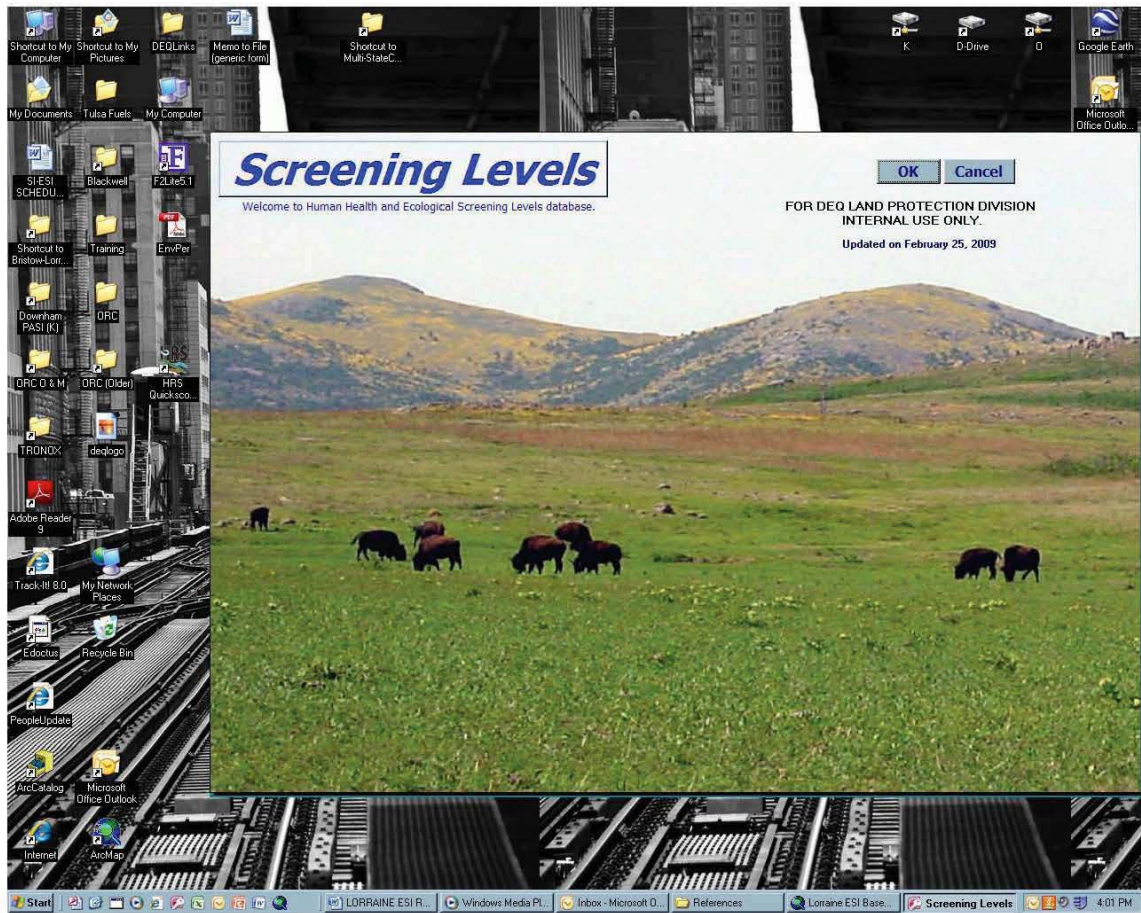
Approximately 6,449,112 gallons per year

Number of Connection in Bristow:

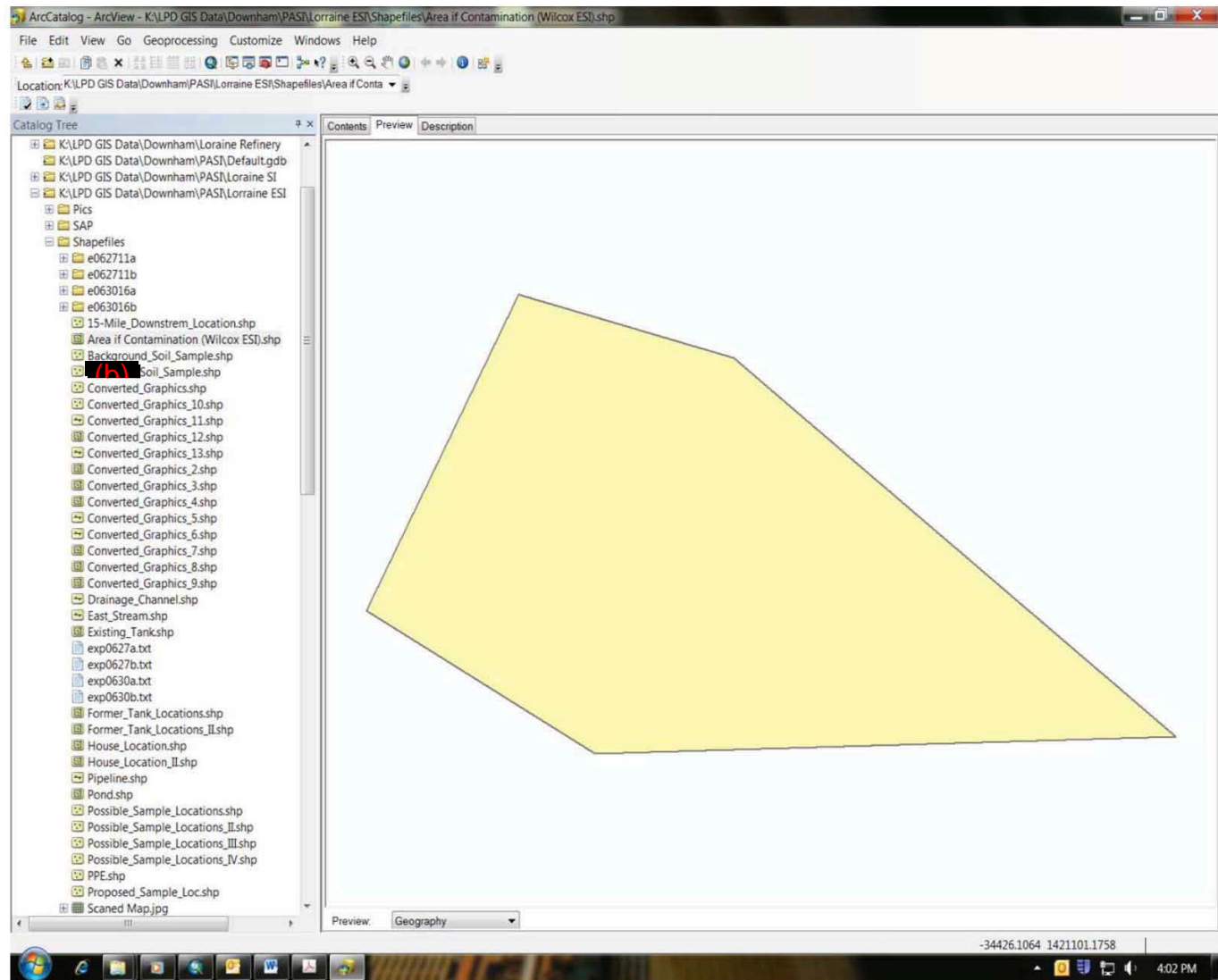
| | <u># of customers</u> | <u>Average consumption in 1000 gallons per month</u> |
|---------------------|-----------------------|--|
| Domestic: | 1529 | 6,764,000 |
| Business | 274 | 4,612,000 |
| Agriculture | 0 | 0 |
| Un-metered | 4 | 45000 |
| Water Sold to Slick | 1 | 850,000 |

Steve McGuire
Public Works Director
Office (918) 367-5589
Cell (918) 277-6800

Reference 18



Reference 19



Reference 20

Wilcox Refinery ESI

PER: Todd Downham, Amy Brittain

June 28, 2011

Conditions: overcast, light Rain Time: 10:00
70's.

GPS Unit # 107, Trimble 600XT

Sample type: Waste

Id: W-8

Time: 10:15 am Date: 6/28/11

Sampler: Todd Downham

Photos: N, photo #1, taken by Todd Downham

Comments:

tannish red sandy soil with black
hydrocarbon waste, no odor
collected from 0-6 inches
for SUDC and metals

collected north of (b) (6)

on (b) (6)

just south of sandstone outcrop
GPS collected by Amy Brittain

Sample type - waste

ID - W-5

time - 10:35 am Date 6/28/2011

Sampler - Todd Downham

photo - South, photo #2,
taken by Todd Downham

Comments -

tannish brown sandy silt soil
collected from 0-6 inches

no odor

collected for SVOC + metals

collected NE of runoff pond
on (b) (6) property

GPS collected by Amy Brittain

sample type - waste

ID - W-6

time - 10:37 am Date 6/28/11

Sampler - Todd Downham

duplicate of W-5 (T.O.)

Sample type - sediment

ID - Sed-11

time - 10:56 am

Date - 6/28/11

Sampler - Todd Downham

Photo - North east, Photo #3
by Todd Downham

Comments -

brown sandy silt

collected by edge on SW

corner of runoff pond

(b) (6)

property

collected from 0-6 inches

for SVOC and metals

GPS collected by Amy Brittain

Sample type - waste

ID - W-3

Time - 11:12 am

date - 6/28/11

Sampler Todd Downham

photo, with photo #4 by
Todd Downham

Comments -

red sandy soil with

1/2 inch black hydrocarbon
waste, slight hydrocarbon

odor

collected from 0-6 inches

for SVOC and metals

GPS collected by

Amy Brittain

sample collected from center

portion of (b) (6)

property where tank use

to stand, 50 feet to

the north west of pipeline
marker

Sample type - waste

ID - W-1

Time 11:23 am

date - 6/28/11

Sampler - Todd Downham

photo - west, photo #5 by
Todd Downham

Comments - brownish tan sandy

soil with 1/4 - 1/8 inch

pieces of hydrocarbon black
waste

collected 0-6 inches for

SVOCs and metals.

collected from north west

corner of (b) (6)

property about (b) (6)

(b) (6)

south of Kethum road

GPS collected by Amy

Brittain

sample type - waste

ID - W-2

time - 11:30 am

date - 6/28/11

sampler - Todd Downham

photo - north photo #6
by Todd Downham

Comments -

tannish red sandy soil
with 1/8 - 1 inch pieces
of hydrocarbon black
waste

collected from 0-6 inches
for SVOC and metals

GPS collected by Amy

Brittain

collected ~100 feet south
of North west pipe line
marker and 100 feet
east of west fence line
on (b) (6) property

sample type - waste

ID - W-4

time - 11:40 am

date - 6/28/11

sampler - Todd Downham

photo - south east, photo #7
by Todd Downham

Comments -

black to hydrocarbon waste
hydrocarbon odor

oil flowing from the ground

collected from 0-6 inches

for SVOC and metals

waste mixed with reddish
sandy soil

collected from center
of (b) (6) property

GPS collected by Amy
Brittain

sample type - QA/QC
ID - Field Blank #1
time - 11:53
date - 6/28/11
sampler - Todd Downham
collected for VOC
in (b) (6) field.

sample type - soil
ID - SS-8
time - 12:52
date - 6/28/11
sampler - Todd Downham
collected for SPC, metals
collected ~~North~~, north AB
South, South east of 6/28/11
old tank
brown silty clay with
black hydrocarbons
odor - strong hydrocarbon
odor
GPS collected by Amy
Brittain
collected from 0-1 foot, moist
soil

photo - north, photo #8
by Todd Downham
GPS collection did not
work due to too few
satellites

sample type - soil
ID - ~~SS~~ - AB 6/28/11
ID - SS - 6
time - 13:10
date - 6/28/11
photo - north west, photo #9, by Todd Downham
sampler - Todd Downham
comments -
reddish tan, fine grained
sandy soil, odor
GPS collected by Amy Brittain
collected in south east
corner of low vegetation
area in south east side
of the (b) (6) property
collected for SPC and metals
area has strong caustic odor
area of no vegetation, with
pieces of hydrocarbon waste
collected from 0-6 inches

sample type - soil
sample ID - SS-7
time - 13:15
date - 6/28/11
collector - Todd Downham
comments - duplicate of
SS-6
collected for SVOC and
metals

~~As Britton
6/28/11~~

sample type - soil
ID - SS-5
time - 13:21
date - 6/28/11
Sampler - Todd Downham
photo - North, photo #10
by Todd Downham
comments -
reddish tan sandy silt soil
collected 20 feet south
of concrete foundation
on north end of waste
area in the south east
corner of the (b) (6)
property.
collected for SVOCs and
metals
GPS collected by Amy
Britton
collected from O-6ndy

sample type- Soil

ID- SS-4

time 13:32

date 6/28/11

sampler - Todd Downham

photo - West, photo #11
by Todd Downham

Comments -

collected from 0-6 inches
for SVOCs and metals
brown silty sand with
hydrocarbon odor and
small pieces of black
hydrocarbon waste.

Very fine silt
collected north of

old tank on east corner
part of (b) (6) property

GPS collected by Amy
Britten.

sample type- Soil

ID- SS-3

time - 13:41

date - 6/28/11

sampler - Todd Downham

photo - sat, photo #12, by
Todd Downham

Comments - fine grained

brown sandy silt
hydrocarbon odor

with pieces of hydrocarbon
waste

collected from 0 to 6 inches
for SVOC and metals

GPS collected by Amy
Britten

collected 10 feet from north
end of lay tank in
middle of (b) (6) property

sample type - sediment

ID - sed-8

time - 13:51

date - 6/28/11

collector - Todd Downham

photo - south, photo # 13,
by Todd Downham

comments - reddish brown sand
sediment in west

tributary

collected adjacent to SS-3

in trib and 10 feet
north of metal bridge

collected from 0-6 inches
for SVOC and metals

GPS collected by Amy
Brittan

Tributary is dry

sample type - waste

ID - W9

time - 14:00

date - 6/28/11

collector - Todd Downham

photo - west, photo # 14,
by Todd Downham

comments

black hydrocarbon waste

mixed with brown sand,
soil

collected from 0 to 6 inches
for SVOC and metals

hydrocarbon odor

collected 60 feet north-
east of long horizontal

line on the (b) (6)

property

GPS collected by Amy
Brittan

sample type - soil

ID - SS2

time - 14:11

date - 6/28/11

collector - Todd Downham

photo - south, photo # 15
by Todd Downham

Comments -

brown silty sandy soil
no odor

collected from 0-6 inches
for SUOC and metals

collected 10 feet from north
west corner of residence/

house on the (b) (6)
property in the (b) (6)
front yard

sample type - sediment

ID - Sed - 9

time - 14:38

date - 6/28/11

collector - Todd Downham

photo - east, photo # 16

by Todd Downham

Comments -

brown fine grained silty

sand sediment

background west tributary
tributary dry

collected from 0-6 inches
for SUOC and metals

GP collected by Amy
Brittain

sample type - Soil

ID - SS-1

time - 14:41

date - 6/28/11

collector - Todd Downham

photo - west, photo # 17
by Todd Downham

Comments -

brown sandy soil

collected from 0-6 inches

for SVOC and metals

collected from road right of

way on north side

of refinery road
AB 6/28/11 west of sed 9

collected east of sed 9

sample

GPS collected by

Amy Britten

leave site at 14:46

~~Amy Britten~~

~~6/28/2011~~

Wilcox Refinery ESI

6/29/11

DEQ: Todd Downham, Savannah
Richards

Conditions: Cloudy, 70's Time: 10:15

GPS unit #107, Trimble GeoXT

Sample type: Sediment

ID: ~~SS~~^{TD} SED-1 (PPE)

Time: 10:20

Sampler: Todd Downham

photos: 1 North

Comments: silty sand, no odor

Sample Type: sediment

ID: SED-2

Time: ~~10:20~~ 10:55

Sampler: Todd Downham

photos: 1 SE

Comments: Sandy waste observed

- * Waste observed North of SED-2
in stream bed (photo)
- encrusted along bed
- chunks in stream bed

Sample type: Sediment

ID: SED-3

Time: 11:10 AM

Sampler: Todd Downham

photos: 1 North of SED-1 (near truck)

Comments: Reddish sandy,
waste observed in stream bed

* photo - waste observed in cut
tank berm near w-7 sample
location

* photos - waste observed in
multiple locations in w-7

* photos - pipe in ground

* photos - pipe in stream bed
near w7

* Thick layer of waste on
stream bank & large chunks
of waste

②

③

Sample type: waste

ID: w-7

Time: 13:25

Sampler: Todd Downham

photos: 1 facing west toward dirt pile

Comments: light brown sandy waste observed

Sample type: Sediment

~~SED 4~~ ID: SED 4 & 5 (Duplicate)

SR Time: 13:35

Sampler: Todd Downham

photos: 1 facing North

Comments: light brown sandy, waste observed

NOTE: Point of entry at Sand Creek NOT accessible.

Sample collected from tributary to Sand Creek where waste & pipeline were located

⑤

④

Sample Type: sediment
ID: SDE-10 - upstream sample location
Time: 2:15 PM
Sampler: Todd Downham
photos: 1
Comments:

Sample Type: sediment
ID: SDE-6
Time: 2:25 PM
Sampler: Todd Downham
photos: none
*Did not collect not accessible

Sample Type: sediment
ID: SDE-2 (Background sand creek)
Time: 2:40 PM
Sampler: Todd Downham location
photos: 1 photo (North)
Comments:

left site at 15:00 6/29/2011

T. Downham

⑦

⑥

Reference 21

Memorandum

To: Wilcox/Lorraine ESI, PA/SI file

Through: Hal Cantwell

From: Todd Downham

Date: 7/15/2011

Subject: Changes from Wilcox ESI Sampling and Analysis Plan (SAP) during the sampling event.

The following changes to the Wilcox ESI SAP were necessary based on site conditions during the sampling event on 6/28/11 and 6/29/11:

- Background Surface Soil location (SS-1) was not used as background due to the influence of the former Ohio Refinery located up gradient. Surface Soil sample LWSS-9 collected during the Lorraine ESI (June 2010) was deemed appropriate for comparison with site samples.
- Surface Soil samples SS-7(8), Sediment samples SED-5(6), and 7 were not collected from their original locations because they were located on the (b) property. Access was not granted to the (b) property. As a result of these locations not sampled, a data gap remains. *This is potentially significant since the locations were from a residential yard location, and from areas that drain into perennial waters (Sand Creek).* Samples with the same ID's were collected in alternate locations, not on the (b) property, and based on visible areas of impact.
- Sediment sample SED-8 was not collected due to inhospitable terrain/physical barriers limiting access to the location.
- Sediment samples SED-2, 3, and 4(5) were not collected from their original locations due to inhospitable terrain/physical barriers. These three locations were all located at Probable Point of Entry (PPE) locations, where intermittent surface waters enter Perennial waters (Sand Creek). As a result of these locations not sampled, a data gap remains. *This is potentially significant since data from these locations could indicate a migration of contaminants from the site into Sand Creek.*
- Waste sample W-9 was added based on observation of waste in this location.

Reference 22



U.S. Census Bureau

American FactFinder

FACT SHEET

Creek County, Oklahoma

2005-2009 American Community Survey 5-Year Estimates - what's this?

Data Profile Highlights:

Note: The following links are to data from the American Community Survey and the Population Estimates Program.

NOTE: Although the American Community Survey (ACS) produces population, demographic and housing unit estimates, it is the Census Bureau's Population Estimates Program that produces and disseminates the official estimates of the population for the nation, states, counties, cities and towns and estimates of housing units for states and counties.

| Social Characteristics - show more >> | Estimate | Percent | U.S. | Margin of Error | |
|---|-----------------|----------------|-------------|------------------------|-----|
| Average household size | 2.57 | (X) | 2.60 | +/-0.03 | map |
| Average family size | 3.07 | (X) | 3.19 | +/-0.06 | |
| Population 25 years and over | 45,966 | | | +/-120 | |
| High school graduate or higher | (X) | 82.7 | 84.6% | (X) | map |
| Bachelor's degree or higher | (X) | 14.4 | 27.5% | (X) | map |
| Civilian veterans (civilian population 18 years and over) | 6,502 | 12.7 | 10.1% | +/-355 | map |
| With a Disability | (X) | (X) | (X) | (X) | |
| Foreign born | 1,135 | 1.6 | 12.4% | +/-179 | map |
| Male, Now married, except separated (population 15 years and over) | 15,693 | 58.9 | 52.3% | +/-555 | |
| Female, Now married, except separated (population 15 years and over) | 15,508 | 55.0 | 48.4% | +/-606 | |
| Speak a language other than English at home (population 5 years and over) | 2,066 | 3.2 | 19.6% | +/-279 | map |
| Household population | 68,252 | | | +/-263 | |
| Group quarters population | (X) | (X) | (X) | (X) | |
| Economic Characteristics - show more >> | Estimate | Percent | U.S. | Margin of Error | |
| In labor force (population 16 years and over) | 32,884 | 61.2 | 65.0% | +/-629 | map |
| Mean travel time to work in minutes (workers 16 years and over) | 23.9 | (X) | 25.2 | +/-0.9 | map |
| Median household income (in 2009 inflation-adjusted dollars) | 41,260 | (X) | 51,425 | +/-1,400 | map |
| Median family income (in 2009 inflation-adjusted dollars) | 50,513 | (X) | 62,363 | +/-1,510 | map |
| Per capita income (in 2009 inflation-adjusted dollars) | 20,937 | (X) | 27,041 | +/-682 | |
| Families below poverty level | (X) | 11.4 | 9.9% | +/-1.6 | |
| Individuals below poverty level | (X) | 14.4 | 13.5% | +/-1.5 | map |
| Housing Characteristics - show more >> | Estimate | Percent | U.S. | Margin of Error | |
| Total housing units | 29,755 | | | +/-107 | |
| Occupied housing units | 26,592 | 89.4 | 88.2% | +/-364 | |
| Owner-occupied housing units | 19,974 | 75.1 | 66.9% | +/-403 | |
| Renter-occupied housing units | 6,618 | 24.9 | 33.1% | +/-392 | |
| Vacant housing units | 3,163 | 10.6 | 11.8% | +/-346 | |
| Owner-occupied homes | 19,974 | | | +/-403 | map |
| Median value (dollars) | 94,200 | (X) | 185,400 | +/-3,449 | map |
| Median of selected monthly owner costs | | | | | |
| With a mortgage (dollars) | 991 | (X) | 1,486 | +/-24 | map |
| Not mortgaged (dollars) | 308 | (X) | 419 | +/-10 | |



DEPARTMENT OF ENVIRONMENTAL QUALITY STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION

Level IV DATA PACKAGE

PROJECT INFORMATION

Client: LPD

DEQ Project Contact: Todd Downham

Project Name: Wilcox Refinery

DEQ Project Code(s): SW-SE

Sample Range (SEL #s): 505872-505893, 505989-505997

Samples Received Date: 6/28/2011, 6/29/2011

Sample Delivery Group: N/A

INCLUDED (Check all that apply)

| | | |
|-------------------------------------|--|--|
| <input checked="" type="checkbox"/> | Chain of Custody (COC)- copy | Attachment A |
| <input checked="" type="checkbox"/> | Log In Form-copy | Attachment A |
| <input checked="" type="checkbox"/> | Calibration and QC Summary | Attachment B |
| <input checked="" type="checkbox"/> | Analytical Data Narrative | Attachment C |
| <input checked="" type="checkbox"/> | Sample Results- Analytical Final Reports- customer copy | Attachment D |
| <input type="checkbox"/> | Sample Results-EDD or Other | Not Requested |
| <input type="checkbox"/> | Raw Unreduced Data | Scanned to: Q:\LAND\CSLSD\WILCOX REFINERY |

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000



PROJECT NARRATIVE:

The documentation included in this Level IV Data packet is organized in the following manner:

- Appendix A: Chain of Custody and Sample Log In Form Copies
 - Sequential by collection date
- Appendix B: Calibration and QC Summary
 - Metals (US EPA Method 6010)
 - Calibration Ranges
 - Batch QC sorted by Sample ID
 - Batch QC sorted by Parameter
 - Legend
 - SVOC (US EPA Method 8270D)
 - QC and Calibration Summary listed by Parameter
 - Legend
- Appendix C: Analytical Narrative
 - Metals (EPA 6010)
 - SVOC (EPA 8270D)
- Appendix D: Final Data Reports
 - 6/28/2011
 - Metals (EPA 6010) Sequential by SEL ID number
 - SVOC (EPA 8270D) Sequential by SEL ID number
 - 6/29/2011
 - Metals (EPA 6010) Sequential by SEL ID number
 - SVOC (EPA 8270D) Sequential by SEL ID number

Sample results were only provided in a paper hard copy reports. There was no Electronic Data Deliverable (EDD) request for the data relating to the Wilcox Refinery.

Documentation:

SEL #505891 (Field Blank) and # 505982 (Trip Blank) were rejected. These samples are typically associated with VOC analysis, which was not requested for the Wilcox Refinery samples.

SEL #505893 (SVOC Lab Blank) was created after the sample receipt activities were completed; however, the sample was not included on the CoC. The final report is included in Appendix D.

Sample Receipt/Custody:

Samples were stored on ice immediately after collection, transferred to the laboratory on ice, and delivered directly to the SELSD Sample Management refrigerators. Samples were delivered during closing, and thus, no sample temperatures were documented on the CoC.

Analysis:

Analytical batch narratives were documented during analysis and are included in Attachment C

Data Corrections:

The final data report for SEL #505887 required a data correction for Mercury. The final report included in this Data Packet is the corrected report.

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(405) 702-1000



CALIBRATION SUMMARY OF REQUESTED PARAMETERS

The calibration summary for the analysis of Priority Pollutant (PP) Metals by US EPA Method 6010 and SVOCs by US EPA Method 8270D is included in Attachment B.

BATCH QUALITY CONTROL


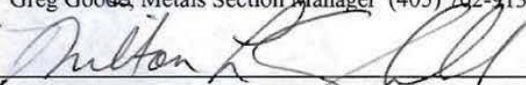
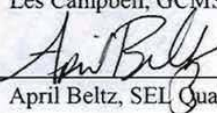
The analytical results included in this report meet all applicable and required quality control. Any special circumstances are noted in the Analytical Batch Narratives in Attachment B.

The batch quality control summaries for the analysis of PP Metals by EPA 6010 and SVOCs by EPA 8270D are included in Attachment C.

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000

STATEMENT OF VERIFICATION AND RELEASE OF DATA

The SELSD certifies that this data package has been reviewed for completeness and procedural compliancy. The release of data contained within this hard copy data package has been authorized by the appropriate SELSD Manager or designee and the SELSD QA Officer as verified by the following signatures.

| | |
|--|-----------------------------------|
|  _____ Greg Goode, Metals Section Manager (405) 702-9131 | <u>09-22-11</u> _____ Date |
|  _____ Les Campbell, GCMS Organics Section Manager (405) 702-1032 | <u>9-22-2011</u> _____ Date |
|  _____ April Beltz, SEL Quality Assurance Officer (405) 702-1038 | <u>9-22-2011</u> _____ Date |

Any questions regarding the components of this Level IV Data Packet should be addressed to the signatories listed above.



Appendix A: Chain of Custody and Log In Forms

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000

CHAIN OF CUSTODY RECORD
SUPERFUND/ SITE REMEDIATION UNIT
OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY

| | | | |
|--------------------------------------|---------------------------------------|---------------------|---|
| Site Name: <i>Wilcox Refinery</i> | Site Location: <i>Bristow, OK.</i> | Code: <i>582</i> | Return Results To: <i>Todd Downham</i> |
|--------------------------------------|---------------------------------------|---------------------|---|

| SAMPLE I.D. | Date | Time | Number of Containers | VOC/ GCMS Purgeables | SVOC/ GCMS Extractables | Metals | General Chemistry | SEL Numbers |
|---------------|----------------|--------------|----------------------|----------------------|-------------------------|----------|-------------------|---------------|
| <i>W-8</i> | <i>6/28/11</i> | <i>10:15</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505872</i> |
| <i>W-5</i> | | <i>10:35</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505873</i> |
| <i>SED-11</i> | | <i>10:56</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505874</i> |
| <i>W-3</i> | | <i>11:12</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505875</i> |
| <i>W-1</i> | | <i>11:23</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505876</i> |
| <i>W-2</i> | | <i>11:30</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505877</i> |
| <i>W-4</i> | | <i>11:40</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505878</i> |
| <i>SS-8</i> | | <i>12:52</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505879</i> |
| <i>SS-6</i> | | <i>13:10</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505880</i> |
| <i>SS-7</i> | | <i>13:15</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505881</i> |
| <i>SS-5</i> | | <i>13:21</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505882</i> |
| <i>SS-4</i> | | <i>13:32</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505883</i> |
| <i>SS-3</i> | | <i>13:41</i> | <i>2</i> | | <i>X</i> | <i>X</i> | | <i>505884</i> |
| <i>SED-8</i> | | <i>13:51</i> | | | <i>X</i> | <i>X</i> | | <i>505885</i> |

| | | | |
|--|---------------------------------|---------------------------------|---------------------------------|
| Sampler's Signature (Relinquished by): <i>Todd Downham</i> | Date/Time: <i>6/28/11 16:30</i> | Received by: <i>[Signature]</i> | Date/Time: <i>6-29-11 12:10</i> |
| Relinquished by: | Date/Time: | Received by: | Date/Time: |
| Relinquished by: | Date/Time: | Received by: | Date/Time: |

SUPERFUND
DEPARTMENT OF ENVIRONMENTAL QUALITY

Chain of Custody Record

191 of 14

| Site Name: | Site Location: | Code: | GCMS Extractables | | | | GCMS Purgeables | Metals | General Chemistry | S.E.L. Numbers |
|---|----------------|-------|-------------------|-------|---------------------------------------|--|-----------------|--------|---------------------------------|----------------|
| Sample Location | Date | Time | | | | | | | | |
| SED-1 | 6/29/11 | 10:20 | X | | X | | | | 505989 | |
| SED-2 | 6/29/11 | 10:55 | X | | X | | | | 505990 | |
| SED-3 | 6/29/11 | 11:10 | X | | X | | | | 505991 | |
| W-7 | 6/29/11 | 13:25 | X | | X | | | | 505992 | |
| SED-4 | 6/29/11 | 13:35 | X | | X | | | | 505993 | |
| SED-5 | 6/29/11 | 13:35 | X | | X | | | | 505994 | |
| SED-10 | 6/29/11 | 14:15 | X | | X | | | | 505995 | |
| SED-6 T.D. did not collect 6/30/11 15:49 | 6/29/11 | 14:25 | X | | X | | | | 505996 ⁵⁷ | |
| SED-7 | 6/29/11 | 14:40 | X | | X | | | | 505996 | |
| Field Blank T.D. 6/30/11 15:49 | | | | | | | | | | |
| Field Blank #2 T.D. 6/30/11 15:49 | 6/29/11 | 14:30 | X | | | | | | | |
| Lab Blank | | | | | | | | | 505997 | |
| Sampler's Signature (Relinquished by): | | | Received by: | | | | | | | |
| Relinquished by: Todd D. | | | 6/29/11 | 16:16 | Received by: Jim Poulady 6/30/11 1:00 | | | | | |
| Relinquished by: | | | Received by: | | | | | | | |
| Remarks: | | | | | | | | | | |

*Indicate the number of containers for each analysis in the proper column.

STATE ENVIRONMENTAL LABORATORY
LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. SW-58

Project Code: 505872

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/28/11 Time Collected: 10:15

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments:

W-8 (Waste Sample)
* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's)

*Purgeables (Vol's 8260)

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2)

If there are two phases in one bottle;
pick one.
If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase

Organic Phase

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Thallium

Nickel

Silver

Zinc

Antimony

Selenium

Mercury

TCLP Metals

Drinking Water

**(PDES 200.7 or DW 200.8)

Silver Conductivity

Sodium

Arsenic Turbidity

Barium

Beryllium

Cadmium

Chromium

Copper

Iron

Lead

Manganese

Thallium

Nickel

Zinc

Antimony

Selenium

Mercury

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides

Herbicides

PCB's

DRO

GRO

Flashpoint

OTHER

*CONTACT THE PROJECT MANAGER Todd Downham Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: 11 11
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project _____

505873

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 10:35

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-5 (Waste Sample)

Level 4 Data Requested

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle; pick one.

If you want both phases; we need two sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

**(PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____

Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: **505874**

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 10:56

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-11
* Level 4 Data Requested *

| | | |
|--|---|---|
| GC/MS LAB *SCAN (Both Vol's/S-Vol's) _____ *Purgeables (Vol's 8260) _____ *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> VOC's (Drinking Water 524.2) _____ If there are two phases in one bottle; pick one. If you want both phases; we need two sets of sample to analyze each phase. Aqueous Phase _____ Organic Phase _____ | METALS LAB Priority Pollutants <input checked="" type="checkbox"/> (6010) Arsenic _____ Barium _____ Beryllium _____ Cadmium _____ Chromium _____ Copper _____ Lead _____ Thallium _____ Nickel _____ Silver _____ Zinc _____ Antimony _____ Selenium _____ Mercury _____ TCLP Metals _____ | Drinking Water _____ *(PDES 200.7 or DW 200.8) Silver _____ Conductivity _____ Sodium _____ Arsenic _____ Turbidity _____ Barium _____ Beryllium _____ Cadmium _____ Chromium _____ Copper _____ Iron _____ Lead _____ Manganese _____ Thallium _____ Nickel _____ Zinc _____ Antimony _____ Selenium _____ Mercury _____ |
|--|---|---|

| | | |
|--|--|--|
| GENERAL CHEMISTRY LAB _____ _____ _____ _____ | ORGANICS LAB Pesticides _____ Herbicides _____ PCB's _____ DRO _____ GRO _____ Flashpoint _____ | OTHER _____ _____ _____ _____ |
|--|--|--|

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: **505875**

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 11:12

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-3 (Waste Sample)
* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒ _____

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code

505876

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Date Collected: 6/28/11 Time Collected: 11:23 Chlorinated? Yes _____ No _____

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-1 (Waste sample)

Level 4 Data Requested

| GC/MS LAB | METALS LAB | Drinking Water |
|--|---|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| | Nickel _____ | Iron _____ |
| | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| | Mercury _____ | Zinc _____ |
| | TCLP Metals _____ | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| _____ | Pesticides _____ | _____ |
| _____ | Herbicides _____ | _____ |
| _____ | PCB's _____ | _____ |
| _____ | DRO _____ | _____ |
| _____ | GRO _____ | _____ |
| _____ | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: 11 11 Land Protection Division copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: _____

505877

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 11:30

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-2 (Waste Sample)

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒ _____

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code **505878**

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 11:40

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-4 (Waste Sample)

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

11 JUN 29 12:08

Drinking Water

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code _____

This box must be completed in full or samples may be rejected

505379

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 12:52

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-8

Level 4 Data Requested

21 JUN 29 12:00

| GC/MS LAB | METALS LAB | Drinking Water |
|--|---|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| | Nickel _____ | Iron _____ |
| | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| | Mercury _____ | Zinc _____ |
| | TCLP Metals _____ | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| _____ | Pesticides _____ | _____ |
| _____ | Herbicides _____ | _____ |
| _____ | PCB's _____ | _____ |
| _____ | DRO _____ | _____ |
| _____ | GRO _____ | _____ |
| _____ | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No.

505880

Project Code

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6, 28, 11 Time Collected: 13:10

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-6

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's)

*Purgeables (Vol's 8260)

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2)

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase

Organic Phase

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Thallium

Nickel

Silver

Zinc

Antimony

Selenium

Mercury

TCLP Metals

Drinking Water

**(PDES 200.7 or DW 200.8)

Silver Conductivity

Sodium

Arsenic Turbidity

Barium

Beryllium

Cadmium

Chromium

Copper

Iron

Lead

Manganese

Thallium

Nickel

Zinc

Antimony

Selenium

Mercury

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides

Herbicides

PCB's

DRO

GRO

Flashpoint

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to:
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: **505881**

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 13:15

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-7

Level 4 Data Requested

11 JUN 29 PM 12:03

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

**(PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136,
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code **505832**

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 13:21

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-S 11 JUN 29 PM 12:00

Level 4 Data Requested

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒ _____

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

**(PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code _____

505833

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 13:32

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-4

Level 4 Data Requested

11 JUN 25 12:00

| GC/MS LAB | METALS LAB | Drinking Water |
|---|---|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| If there are two phases in one bottle; pick one. | Cadmium _____ | Barium _____ |
| If you want both phases; we need two sets of sample to analyze each phase. | Chromium _____ | Beryllium _____ |
| Aqueous Phase _____ | Copper _____ | Cadmium _____ |
| Organic Phase _____ | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| | Nickel _____ | Iron _____ |
| | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| | Mercury _____ | Zinc _____ |
| | TCLP Metals _____ | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| _____ | Pesticides _____ | _____ |
| _____ | Herbicides _____ | _____ |
| _____ | PCB's _____ | _____ |
| _____ | DRO _____ | _____ |
| _____ | GRO _____ | _____ |
| _____ | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER, Todd Downham Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code _____

505884

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 13:41

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-3

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

**(PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: 11 11
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: _____

505885

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 13:51

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-8 JUN 29 12:10

* Level 4 Data Requested *

| | | |
|--|---|---|
| GC/MS LAB *SCAN (Both Vol's/S-Vol's) _____ *Purgeables (Vol's 8260) _____ *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> VOC's (Drinking Water 524.2) _____ If there are two phases in one bottle; pick one. If you want both phases; we need two sets of sample to analyze each phase. Aqueous Phase _____ Organic Phase _____ | METALS LAB Priority Pollutants <input checked="" type="checkbox"/> (6010) Arsenic _____ Barium _____ Beryllium _____ Cadmium _____ Chromium _____ Copper _____ Lead _____ Thallium _____ Nickel _____ Silver _____ Zinc _____ Antimony _____ Selenium _____ Mercury _____ TCLP Metals _____ | Drinking Water _____ ** (PDES 200.7 or DW 200.8) Silver _____ Conductivity _____ Sodium _____ Arsenic _____ Turbidity _____ Barium _____ Beryllium _____ Cadmium _____ Chromium _____ Copper _____ Iron _____ Lead _____ Manganese _____ Thallium _____ Nickel _____ Zinc _____ Antimony _____ Selenium _____ Mercury _____ |
|--|---|---|

| | | |
|--|--|--|
| GENERAL CHEMISTRY LAB _____ _____ _____ _____ | ORGANICS LAB Pesticides _____ Herbicides _____ PCB's _____ DRO _____ GRO _____ Flashpoint _____ | OTHER _____ _____ _____ _____ |
|--|--|--|

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: _____

505886

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 14:00

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-9 (waste sample)

Level 4 Data Requested

44 JUN 29 2011 12:20

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒ _____

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code **505887**

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 14:11

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-2

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒ _____

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Est. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: 11 11
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: **505888**

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____

Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 14:38

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-9

Level 4 Data Requested

| GC/MS LAB | METALS LAB | Drinking Water |
|---|---|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | *(PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| If there are two phases in one bottle; pick one. | Nickel _____ | Iron _____ |
| If you want both phases; we need two sets of sample to analyze each phase. | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| Aqueous Phase _____ | Mercury _____ | Zinc _____ |
| Organic Phase _____ | TCLP Metals _____ | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| _____ | Pesticides _____ | _____ |
| _____ | Herbicides _____ | _____ |
| _____ | PCB's _____ | _____ |
| _____ | DRO _____ | _____ |
| _____ | GRO _____ | _____ |
| _____ | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code **505889**

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 1/1 Time Collected: 14:41

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SS-1

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: 11 11
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: **505890**

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW _____ or SW _____ or SF _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/28/11 Time Collected: 10:35

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-6 (Waste Sample)
* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒

(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water _____

** (PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

OTHER

*CONTACT THE PROJECT MANAGER, Todd Downham, Ext. 5136
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: _____ File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No.

Project Code: **505893**

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW or SW

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: / / Time Collected: : :

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments:

LAB BLANK (QA/QC)
*** Level 4 Data Requested ***

GC/MS LAB

*SCAN (Both Vol's/S-Vol's)

*Purgeables (Vol's 8260)

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2)

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase

Organic Phase

METALS LAB

Priority Pollutants
(6010)

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Thallium

Nickel

Silver

Zinc

Antimony

Selenium

Mercury

TCLP Metals

JUN 29 PM 12:13
Drinking Water

** (PDES 200.7 or DW 200.8)

Silver Conductivity

Sodium

Arsenic Turbidity

Barium

Beryllium

Cadmium

Chromium

Copper

Iron

Lead

Manganese

Thallium

Nickel

Zinc

Antimony

Selenium

Mercury

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides

Herbicides

PCB's

DRO

GRO

Flashpoint

OTHER

*CONTACT THE PROJECT MANAGER, Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to:
Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: SW-SE

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham

HW _____ or SW _____

505989

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6/29/11 Time Collected: 10:20

City: Bristow

County: Creek

Program Code: 582

Sample Identification or Sampler's Comments: SED-1

* Level 4 Data Requested *

GC/MS LAB

*SCAN (Both Vol's/S-Vol's) _____

*Purgeables (Vol's 8260) _____

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2) _____

If there are two phases in one bottle; pick one.

If you want both phases; we need two sets of sample to analyze each phase.

Aqueous Phase _____

Organic Phase _____

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Lead _____

Thallium _____

Nickel _____

Silver _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

TCLP Metals _____

Drinking Water 11 JUN 30 PM 3:59

**(PDES 200.7 or DW 200.8)

Silver _____ Conductivity _____

Sodium _____

Arsenic _____ Turbidity _____

Barium _____

Beryllium _____

Cadmium _____

Chromium _____

Copper _____

Iron _____

Lead _____

Manganese _____

Thallium _____

Nickel _____

Zinc _____

Antimony _____

Selenium _____

Mercury _____

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides _____

Herbicides _____

PCB's _____

DRO _____

GRO _____

Flashpoint _____

*CONTACT THE PROJECT MANAGER, _____, Ext. _____
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____

Land Protection Division

copy to: _____

File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. SW-S#

Project Code: 505990

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/29/11 Time Collected: 10:55

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-2

Level 4 Data Requested

21 JUN 2011 9:59

GC/MS LAB

*SCAN (Both Vol's/S-Vol's)

*Purgeables (Vol's 8260)

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2)

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase

Organic Phase

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Thallium

Nickel

Silver

Zinc

Antimony

Selenium

Mercury

TCLP Metals

Drinking Water

**(PDES 200.7 or DW 200.8)

Silver Conductivity

Sodium

Arsenic Turbidity

Barium

Beryllium

Cadmium

Chromium

Copper

Iron

Lead

Manganese

Thallium

Nickel

Zinc

Antimony

Selenium

Mercury

GENERAL CHEMISTRY LAB

ORGANICS LAB

Pesticides

Herbicides

PCB's

DRO

GRO

Flashpoint

OTHER

*CONTACT THE PROJECT MANAGER, , Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to:
Land Protection Division

copy to: File

FOR LAB USE ONLY

Project Code: 505991

Sample Identification or Sampler's Comments: SED-3
* Level 4 Data Requested *

| GC/MS LAB | METALS LAB | Drinking Water |
|--|--|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| | Nickel _____ | Iron _____ |
| | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| | Mercury _____ | Zinc _____ |
| | | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |
| | TCLP Metals _____ | |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| | Pesticides _____ | |
| | Herbicides _____ | |
| | PCB's _____ | |
| | DRO _____ | |
| | GRO _____ | |
| | Flashpoint _____ | |

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

004186

FOR LAB USE ONLY

Sample No.

Project Code:

This box must be completed in full or samples may be rejected.

505992

Collector's Name: Todd Downham HW ☐ or SW ☐ or SF ☐

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 6, 29, 11 Time Collected: 13:25

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: W-7 (Waste Sample)
* Level 4 Data Requested *

| GC/MS LAB | METALS LAB | Drinking Water |
|--|--|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ 11 JUN 80 PM 4:00 |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| | Nickel _____ | Iron _____ |
| | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| | Mercury _____ | Zinc _____ |
| | | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |
| | TCLP Metals _____ | |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| | Pesticides _____ | _____ |
| | Herbicides _____ | _____ |
| | PCB's _____ | _____ |
| | DRO _____ | _____ |
| | GRO _____ | _____ |
| | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER, _____, Ext. _____
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

****METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.**

Return to: Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. SW-5E

Project Code: 505993

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/29/11 Time Collected: 13:35

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED = 4
* Level 4 Data Requested *

| GC/MS LAB | METALS LAB | Drinking Water |
|---|---|---|
| *SCAN (Both Vol's/S-Vol's) <u> </u> | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) <u> </u> | Arsenic <u> </u> | Silver <u> </u> Conductivity <u> </u> |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium <u> </u> | Sodium <u> </u> |
| VOC's (Drinking Water 524.2) <u> </u> | Beryllium <u> </u> | Arsenic <u> </u> Turbidity <u> </u> |
| | Cadmium <u> </u> | Barium <u> </u> |
| | Chromium <u> </u> | Beryllium <u> </u> |
| | Copper <u> </u> | Cadmium <u> </u> |
| | Lead <u> </u> | Chromium <u> </u> |
| | Thallium <u> </u> | Copper <u> </u> |
| If there are two phases in one bottle; pick one. | Nickel <u> </u> | Iron <u> </u> |
| If you want both phases; we need two sets of sample to analyze each phase. | Silver <u> </u> | Lead <u> </u> |
| | Zinc <u> </u> | Manganese <u> </u> |
| | Antimony <u> </u> | Thallium <u> </u> |
| | Selenium <u> </u> | Nickel <u> </u> |
| Aqueous Phase <u> </u> | Mercury <u> </u> | Zinc <u> </u> |
| Organic Phase <u> </u> | TCLP Metals <u> </u> | Antimony <u> </u> |
| | | Selenium <u> </u> |
| | | Mercury <u> </u> |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------------|-------------|
| <u> </u> | Pesticides <u> </u> | <u> </u> |
| <u> </u> | Herbicides <u> </u> | <u> </u> |
| <u> </u> | PCB's <u> </u> | <u> </u> |
| <u> </u> | DRO <u> </u> | <u> </u> |
| <u> </u> | GRO <u> </u> | <u> </u> |
| <u> </u> | Flashpoint <u> </u> | <u> </u> |

*CONTACT THE PROJECT MANAGER, , Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. SW-SE

Project Code: 505994

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/29/11 Time Collected: 13:35

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-5
* Level 4 Data Requested *

| | | |
|--|---|---|
| <p>GC/MS LAB</p> <p>*SCAN (Both Vol's/S-Vol's) <u> </u></p> <p>*Purgeables (Vol's 8260) <u> </u></p> <p>*Extractables (S-Vol's 8270) <input checked="" type="checkbox"/></p> <p>VOC's (Drinking Water 524.2) <u> </u></p> <p>If there are two phases in one bottle; pick one. If you want both phases; we need two sets of sample to analyze each phase.</p> <p>Aqueous Phase <u> </u></p> <p>Organic Phase <u> </u></p> | <p>METALS LAB</p> <p>Priority Pollutants <input checked="" type="checkbox"/> (6010)</p> <p>Arsenic <u> </u></p> <p>Barium <u> </u></p> <p>Beryllium <u> </u></p> <p>Cadmium <u> </u></p> <p>Chromium <u> </u></p> <p>Copper <u> </u></p> <p>Lead <u> </u></p> <p>Thallium <u> </u></p> <p>Nickel <u> </u></p> <p>Silver <u> </u></p> <p>Zinc <u> </u></p> <p>Antimony <u> </u></p> <p>Selenium <u> </u></p> <p>Mercury <u> </u></p> <p>TCLP Metals <u> </u></p> | <p>Drinking Water <u>JUN 30 2:40:00</u> ** (PDES 200.7 or DW 200.8)</p> <p>Silver <u> </u> Conductivity <u> </u></p> <p>Sodium <u> </u></p> <p>Arsenic <u> </u> Turbidity <u> </u></p> <p>Barium <u> </u></p> <p>Beryllium <u> </u></p> <p>Cadmium <u> </u></p> <p>Chromium <u> </u></p> <p>Copper <u> </u></p> <p>Iron <u> </u></p> <p>Lead <u> </u></p> <p>Manganese <u> </u></p> <p>Thallium <u> </u></p> <p>Nickel <u> </u></p> <p>Zinc <u> </u></p> <p>Antimony <u> </u></p> <p>Selenium <u> </u></p> <p>Mercury <u> </u></p> |
|--|---|---|

| | | |
|---|---|---|
| <p>GENERAL CHEMISTRY LAB</p> <p><u> </u></p> <p><u> </u></p> <p><u> </u></p> <p><u> </u></p> | <p>ORGANICS LAB</p> <p>Pesticides <u> </u></p> <p>Herbicides <u> </u></p> <p>PCB's <u> </u></p> <p>DRO <u> </u></p> <p>GRO <u> </u></p> <p>Flashpoint <u> </u></p> | <p>OTHER</p> <p><u> </u></p> <p><u> </u></p> <p><u> </u></p> <p><u> </u></p> |
|---|---|---|

*CONTACT THE PROJECT MANAGER, , Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. SW-SF

Project Code: 505995

This box must be completed in full or samples may be rejected.

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/29/11 Time Collected: 14:15

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SFD-10
* Level 4 Data Requested *

| GC/MS LAB | METALS LAB | Drinking Water |
|--|--|---|
| *SCAN (Both Vol's/S-Vol's) <u> </u> | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) <u> </u> | Arsenic <u> </u> | Silver <u> </u> Conductivity <u> </u> |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium <u> </u> | Sodium <u> </u> |
| VOC's (Drinking Water 524.2) <u> </u> | Beryllium <u> </u> | Arsenic <u> </u> Turbidity <u> </u> |
| If there are two phases in one bottle; pick one. | Cadmium <u> </u> | Barium <u> </u> |
| If you want both phases; we need two sets of sample to analyze each phase. | Chromium <u> </u> | Beryllium <u> </u> |
| Aqueous Phase <u> </u> | Copper <u> </u> | Cadmium <u> </u> |
| Organic Phase <u> </u> | Lead <u> </u> | Chromium <u> </u> |
| | Thallium <u> </u> | Copper <u> </u> |
| | Nickel <u> </u> | Iron <u> </u> |
| | Silver <u> </u> | Lead <u> </u> |
| | Zinc <u> </u> | Manganese <u> </u> |
| | Antimony <u> </u> | Thallium <u> </u> |
| | Selenium <u> </u> | Nickel <u> </u> |
| | Mercury <u> </u> | Zinc <u> </u> |
| | TCLP Metals <u> </u> | Antimony <u> </u> |
| | | Selenium <u> </u> |
| | | Mercury <u> </u> |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------------|-------------|
| <u> </u> | Pesticides <u> </u> | <u> </u> |
| <u> </u> | Herbicides <u> </u> | <u> </u> |
| <u> </u> | PCB's <u> </u> | <u> </u> |
| <u> </u> | DRO <u> </u> | <u> </u> |
| <u> </u> | GRO <u> </u> | <u> </u> |
| <u> </u> | Flashpoint <u> </u> | <u> </u> |

*CONTACT THE PROJECT MANAGER, Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No.

Project Code

This box must be completed in full or samples may be rejected

505996

Collector's Name: Todd Downham HW or SW or SF

Facility Name: Wilcox Refinery

Check type of sample: LIQUID or SEDIMENT ☒ or DRINKING WATER
Chlorinated? Yes No

Date Collected: 6/29/11 Time Collected: 14:40

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: SED-7

Level 4 Data Requested

GC/MS LAB

*SCAN (Both Vol's/S-Vol's)

*Purgeables (Vol's 8260)

*Extractables (S-Vol's 8270) ☒

VOC's (Drinking Water 524.2)

If there are two phases in one bottle;
pick one.

If you want both phases; we need two
sets of sample to analyze each phase.

Aqueous Phase

Organic Phase

METALS LAB

Priority Pollutants ☒
(6010)

Arsenic

Barium

Beryllium

Cadmium

Chromium

Copper

Lead

Thallium

Nickel

Silver

Zinc

Antimony

Selenium

Mercury

TCLP Metals

Drinking Water

** (PDES 200.7 or DW 200.8)

Silver Conductivity

Sodium

Arsenic Turbidity

Barium

Beryllium

Cadmium

Chromium

Copper

Iron

Lead

Manganese

Thallium

Nickel

Zinc

Antimony

Selenium

Mercury

GENERAL CHEMISTRY LAB

ORGANICS LAB

OTHER

Pesticides

Herbicides

PCB's

DRO

GRO

Flashpoint

*CONTACT THE PROJECT MANAGER, , Ext.
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: Land Protection Division

copy to: File

LAND PROTECTION DIVISION
SAMPLE LOG-IN FORM

FOR LAB USE ONLY

Sample No. _____

Project Code: SW-SE

This box must be completed in full or samples may be rejected

Collector's Name: Todd Downham HW _____ or SW _____

Facility Name: Wilcox Refinery

Check type of sample: LIQUID _____ or SEDIMENT ☒ or DRINKING WATER _____
Chlorinated? Yes _____ No _____

Date Collected: 1/1/ Time Collected: :

City: Bristow County: Creek Program Code: 582

Sample Identification or Sampler's Comments: Frisk Blank Lab
* Level 4 Data Requested * Blank

| GC/MS LAB | METALS LAB | Drinking Water |
|---|---|---------------------------------|
| *SCAN (Both Vol's/S-Vol's) _____ | Priority Pollutants <input checked="" type="checkbox"/> (6010) | ** (PDES 200.7 or DW 200.8) |
| *Purgeables (Vol's 8260) _____ | Arsenic _____ | Silver _____ Conductivity _____ |
| *Extractables (S-Vol's 8270) <input checked="" type="checkbox"/> | Barium _____ | Sodium _____ |
| VOC's (Drinking Water 524.2) _____ | Beryllium _____ | Arsenic _____ Turbidity _____ |
| | Cadmium _____ | Barium _____ |
| | Chromium _____ | Beryllium _____ |
| | Copper _____ | Cadmium _____ |
| | Lead _____ | Chromium _____ |
| | Thallium _____ | Copper _____ |
| If there are two phases in one bottle; pick one. | Nickel _____ | Iron _____ |
| If you want both phases; we need two sets of sample to analyze each phase. | Silver _____ | Lead _____ |
| | Zinc _____ | Manganese _____ |
| Aqueous Phase _____ | Antimony _____ | Thallium _____ |
| | Selenium _____ | Nickel _____ |
| Organic Phase _____ | Mercury _____ | Zinc _____ |
| | TCLP Metals _____ | Antimony _____ |
| | | Selenium _____ |
| | | Mercury _____ |

| GENERAL CHEMISTRY LAB | ORGANICS LAB | OTHER |
|-----------------------|------------------|-------|
| _____ | Pesticides _____ | _____ |
| _____ | Herbicides _____ | _____ |
| _____ | PCB's _____ | _____ |
| _____ | DRO _____ | _____ |
| _____ | GRO _____ | _____ |
| _____ | Flashpoint _____ | _____ |

*CONTACT THE PROJECT MANAGER. _____ Ext. _____
IF DILUTION FACTOR IS ABOVE 5.00 FOR PURGEABLES AND ABOVE 2.00 FOR EXTRACTABLES.

**METHOD SELECTION IS DETERMINED BY CONDUCTIVITY AND TURBIDITY.

Return to: _____
Land Protection Division

copy to: File



Appendix B: Calibration and QA Summary

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000

CALIBRATION RANGES OF REQUESTED PARAMETERS

| Parameter | Method ^{1,2} | Calibration Range (mg/kg) | Upper Linear Range (mg/kg) | Correlation Coefficient |
|------------------------|-----------------------|---------------------------|----------------------------|-------------------------|
| Antimony | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Arsenic | 3050/6010 | 0 - 10 | 25,000 | 0.999981 |
| Barium | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Beryllium | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Cadmium | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Chromium | 3050/6010 | 0 - 10 | 25,000 | 0.999989 |
| Copper | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Lead | 3050/6010 | 0 - 10 | 25,000 | 0.999998 |
| Mercury ^{3,4} | 7471 | 0.0 - 0.8 | N/A | 0.99986 |
| Nickel | 3050/6010 | 0 - 10 | 25,000 | 1.00000 |
| Selenium | 3050/6010 | 0 - 10 | 25,000 | 0.999983 |
| Silver | 3050/6010 | 0 - 10 | 1,000 | 1.00000 |
| Thallium | 3050/6010 | 0 - 10 | 50,000 | 1.00000 |
| Zinc | 3050/6010 | 0 - 10 | 50,000 | 1.00000 |

¹For all Parameters, excluding mercury, the digestion method is listed 1st and the analytical method is listed 2nd.

²All methods listed are EPA SW-846.

³Mercury units are in ug/L.

⁴The mercury was analyzed on two different days. The Correlation Coefficient for the 2nd day was 0.99801

SAMPLE DELIVERY GROUP- BATCH QUALITY CONTROL (Sorted by Sample ID)

| PARAMETER | METHOD | BATCH ID | SAMPLE# | LRB | BLANK | LFB | LFM DUP | LCS |
|-----------|--------|----------|---------|---------|---------|------|------------|------|
| Antimony | 6010 | 08-25-11 | 505881 | -0.2586 | 0.1569 | 111 | 6.4 | 3.8 |
| Arsenic | 6010 | 08-25-11 | 505881 | -0.1367 | 0.0891 | 101 | 1.1 | 88.8 |
| Barium | 6010 | 08-25-11 | 505881 | 0.0359 | -0.0177 | 104 | 30.9 | 95.1 |
| Beryllium | 6010 | 08-25-11 | 505881 | 0.0071 | 0.0597 | 102 | 0.15 | 98.0 |
| Cadmium | 6010 | 08-25-11 | 505881 | -0.0012 | 0.0139 | 102 | 0.8 | 90.3 |
| Chromium | 6010 | 08-25-11 | 505881 | -0.1253 | -0.8630 | 102 | 0.0 | 96.5 |
| Copper | 6010 | 08-25-11 | 505881 | 0.5270 | 0.6551 | 105 | 6.3 | 97.8 |
| Lead | 6010 | 08-25-11 | 505881 | -0.0381 | -0.6371 | 106 | 16.9 | 94.7 |
| Nickel | 6010 | 08-25-11 | 505881 | 0.1940 | -0.1320 | 103 | 0.5 | 94.3 |
| Selenium | 6010 | 08-25-11 | 505881 | 0.8450 | 1.288 | 104 | 1.1 | 89.7 |
| Silver | 6010 | 08-25-11 | 505881 | 0.0332 | 0.2647 | 107 | 1 | 89.2 |
| Thallium | 6010 | 08-25-11 | 505881 | 0.0476 | 1.099 | 98.4 | 1.1 | 86.8 |
| Zinc | 6010 | 08-25-11 | 505881 | -0.4960 | -0.2321 | 102 | 2.6 | 95.1 |
| Antimony | 6010 | 08-25-11 | 505991 | -0.2586 | 0.1569 | 111 | 5.1 | 3.8 |
| Arsenic | 6010 | 08-25-11 | 505991 | -0.1367 | 0.0891 | 101 | 0.2 | 88.8 |
| Barium | 6010 | 08-25-11 | 505991 | 0.0359 | -0.0177 | 104 | 18.6 | 95.1 |
| Beryllium | 6010 | 08-25-11 | 505991 | 0.0071 | 0.0597 | 102 | 0.54 | 98.0 |
| Cadmium | 6010 | 08-25-11 | 505991 | -0.0012 | 0.0139 | 102 | 0.1 | 90.3 |
| Chromium | 6010 | 08-25-11 | 505991 | -0.1253 | -0.8630 | 102 | 0.6 | 96.5 |
| Copper | 6010 | 08-25-11 | 505991 | 0.5270 | 0.6551 | 105 | 1.3 | 97.8 |

| PARAMETER | METHOD | BATCH ID | SAMPLE# | LRB | BLANK | LFB | LFM Dup | LCS |
|-----------|--------|----------|---------|---------|---------|------|------------|------|
| Lead | 6010 | 08-25-11 | 505991 | -0.0381 | -0.6371 | 106 | 1.9 | 94.7 |
| Nickel | 6010 | 08-25-11 | 505991 | 0.1940 | -0.1320 | 103 | 0.8 | 94.3 |
| Selenium | 6010 | 08-25-11 | 505991 | 0.8450 | 1.288 | 104 | 0.7 | 89.7 |
| Silver | 6010 | 08-25-11 | 505991 | 0.0332 | 0.2647 | 107 | 0.1 | 89.2 |
| Thallium | 6010 | 08-25-11 | 505991 | 0.0476 | 1.099 | 98.4 | 0.1 | 86.8 |
| Zinc | 6010 | 08-25-11 | 505991 | -0.4960 | -0.2321 | 102 | 2.5 | 95.1 |
| Mercury | 7471 | 070711Sa | 505872 | -0.01 | N/A | 100 | 4.7 | 98.3 |
| Mercury | 7471 | 070811S | 505882 | -0.01 | N/A | 105 | 21.1 | 100 |
| Mercury | 7471 | 070811S | 505990 | -0.01 | N/A | 105 | 0.0 | 100 |

SAMPLE DELIVERY GROUP- BATCH QUALITY CONTROL (Sorted by Parameter)

| PARAMETER | METHOD | BATCH ID | SAMPLE# | LRB | BLANK | LFB | LFM Dup | LCS |
|-----------|--------|----------|---------|---------|---------|------|------------|------|
| Antimony | 6010 | 08-25-11 | 505881 | -0.2586 | 0.1569 | 111 | 6.4 | 3.8 |
| Antimony | 6010 | 08-25-11 | 505991 | -0.2586 | 0.1569 | 111 | 5.1 | 3.8 |
| Arsenic | 6010 | 08-25-11 | 505881 | -0.1367 | 0.0891 | 101 | 1.1 | 88.8 |
| Arsenic | 6010 | 08-25-11 | 505991 | -0.1367 | 0.0891 | 101 | 0.2 | 88.8 |
| Barium | 6010 | 08-25-11 | 505881 | 0.0359 | -0.0177 | 104 | 30.9 | 95.1 |
| Barium | 6010 | 08-25-11 | 505991 | 0.0359 | -0.0177 | 104 | 18.6 | 95.1 |
| Beryllium | 6010 | 08-25-11 | 505881 | 0.0071 | 0.0597 | 102 | 0.15 | 98.0 |
| Beryllium | 6010 | 08-25-11 | 505991 | 0.0071 | 0.0597 | 102 | 0.54 | 98.0 |
| Cadmium | 6010 | 08-25-11 | 505881 | -0.0012 | 0.0139 | 102 | 0.8 | 90.3 |
| Cadmium | 6010 | 08-25-11 | 505991 | -0.0012 | 0.0139 | 102 | 0.1 | 90.3 |
| Chromium | 6010 | 08-25-11 | 505881 | -0.1253 | -0.8630 | 102 | 0.0 | 96.5 |
| Chromium | 6010 | 08-25-11 | 505991 | -0.1253 | -0.8630 | 102 | 0.6 | 96.5 |
| Copper | 6010 | 08-25-11 | 505881 | 0.5270 | 0.6551 | 105 | 6.3 | 97.8 |
| Copper | 6010 | 08-25-11 | 505991 | 0.5270 | 0.6551 | 105 | 1.3 | 97.8 |
| Lead | 6010 | 08-25-11 | 505881 | -0.0381 | -0.6371 | 106 | 16.9 | 94.7 |
| Lead | 6010 | 08-25-11 | 505991 | -0.0381 | -0.6371 | 106 | 1.9 | 94.7 |
| Mercury | 7471 | 070711Sa | 505872 | -0.01 | N/A | 100 | 4.7 | 98.3 |
| Mercury | 7471 | 070811S | 505882 | -0.01 | N/A | 105 | 21.1 | 100 |
| Mercury | 7471 | 070811S | 505990 | -0.01 | N/A | 105 | 0.0 | 100 |
| Nickel | 6010 | 08-25-11 | 505881 | 0.1940 | -0.1320 | 103 | 0.5 | 94.3 |
| Nickel | 6010 | 08-25-11 | 505991 | 0.1940 | -0.1320 | 103 | 0.8 | 94.3 |
| Selenium | 6010 | 08-25-11 | 505881 | 0.8450 | 1.288 | 104 | 1.1 | 89.7 |
| Selenium | 6010 | 08-25-11 | 505991 | 0.8450 | 1.288 | 104 | 0.7 | 89.7 |
| Silver | 6010 | 08-25-11 | 505881 | 0.0332 | 0.2647 | 107 | 1 | 89.2 |
| Silver | 6010 | 08-25-11 | 505991 | 0.0332 | 0.2647 | 107 | 0.1 | 89.2 |
| Thallium | 6010 | 08-25-11 | 505881 | 0.0476 | 1.099 | 98.4 | 1.1 | 86.8 |
| Thallium | 6010 | 08-25-11 | 505991 | 0.0476 | 1.099 | 98.4 | 0.1 | 86.8 |

| PARAMETER | METHOD | BATCH ID | SAMPLE# | LRB | BLANK | LFB | LFM DUP | LCS |
|-----------|--------|----------|---------|---------|---------|-----|------------|------|
| Zinc | 6010 | 08-25-11 | 505881 | -0.4960 | -0.2321 | 102 | 2.6 | 95.1 |
| Zinc | 6010 | 08-25-11 | 505991 | -0.4960 | -0.2321 | 102 | 2.5 | 95.1 |

| | | |
|------------|--|-----------------------------|
| LRB: | Digested Lab Reagent Blank | Measured value |
| Blank: | Instrument Blank, Initial | Measured value |
| LFB: | Laboratory Fortified Blank, accuracy | % Recovery |
| LCS: | Laboratory Control Sample Initial, accuracy | % Recovery |
| MS: | Matrix Spike, accuracy | % Recovery |
| LFMDup: | Laboratory Fortified Matrix Duplicate, precision | Relative % Difference (RPD) |
| N/A: | Item not applicable to method | |
| Corr. Coef | Calibration correlation coefficient (R) | Minimum 0.995 |
| < or > | Less (or greater) than indicated value | |

| Parameter | Method | Sample# | Sample Conc. | LOQ | Extraction Batch ID | Method Blank | LCS | MS | Dup | Analytical Batch ID | Instrument Blank | CCV | % RSD or Corr. Coef. |
|----------------------------|---------------------|---------|--------------|-----|---------------------|--------------|--------|-------|--------|---------------------|------------------|-------|----------------------|
| Benzo(a)anthracene | EPA 8270D and 3550C | 505872 | 1300 | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110804JR | < 10 | 53.15 | 4.32 |
| Benzo(a)pyrene | EPA 8270D and 3550C | 505872 | 1200 | 10 | EB110630S | < 10 | 114.81 | 89.69 | 85.94 | AB110804JR | < 10 | 52.01 | 10.65 |
| Benzo(b)fluoranthene | EPA 8270D and 3550C | 505872 | 1100 | 10 | EB110630S | < 10 | 112.98 | 88.66 | 84.98 | AB110804JR | < 10 | 51.93 | 9.75 |
| Benzo(ghi)perylene | EPA 8270D and 3550C | 505872 | 3000 | 10 | EB110630S | < 10 | 108.87 | 82.61 | 75.89 | AB110804JR | < 10 | 53.30 | 11.19 |
| Bis(2-ethylhexyl)phthalate | EPA 8270D and 3550C | 505872 | 1400 | 10 | EB110630S | < 10 | 97.07 | 82.12 | 80.62 | AB110804JR | < 10 | 49.18 | 0.9994 |
| Chrysene | EPA 8270D and 3550C | 505872 | 2500 | 10 | EB110630S | < 10 | 99.55 | 79.13 | 75.82 | AB110804JR | < 10 | 48.74 | 7.28 |
| Indeno(123cd)pyrene | EPA 8270D and 3550C | 505872 | 1200 | 10 | EB110630S | < 20 | 108.69 | 90.96 | 83.75 | AB110804JR | < 10 | 54.17 | 17.94 |
| Phenanthrene | EPA 8270D and 3550C | 505872 | 2400 | 10 | EB110630S | < 10 | 94.63 | 75.05 | 69.52 | AB110804JR | < 10 | 50.69 | 8.02 |
| Pyrene | EPA 8270D and 3550C | 505872 | 2600 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110804JR | < 10 | 48.68 | 7.32 |
| Pyrene | EPA 8270D and 3550C | 505875 | 490 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110809JR | < 10 | 52.05 | 6.17 |
| Benzo(a)anthracene | EPA 8270D and 3550C | 505878 | 1800 (J) | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110804JR | < 10 | 53.15 | 4.32 |
| Pyrene | EPA 8270D and 3550C | 505878 | 3300 (J) | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110804JR | < 10 | 48.68 | 7.32 |
| Benzo(a)anthracene | EPA 8270D and 3550C | 505879 | 9200 | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110720JR | < 10 | 58.25 | 9.38 |
| Benzo(a)pyrene | EPA 8270D and 3550C | 505879 | 11000 (J) | 10 | EB110630S | < 10 | 114.81 | 89.69 | 85.94 | AB110720JR | < 10 | 60.97 | 15.23 |
| Benzo(b)fluoranthene | EPA 8270D and 3550C | 505879 | 6600 (J) | 10 | EB110630S | < 10 | 112.98 | 88.66 | 84.98 | AB110720JR | < 10 | 60.06 | 14.69 |
| Benzo(ghi)perylene | EPA 8270D and 3550C | 505879 | 6600 (J) | 10 | EB110630S | < 10 | 108.87 | 82.61 | 75.89 | AB110720JR | < 10 | 56.08 | 9.55 |
| Chrysene | EPA 8270D and 3550C | 505879 | 34000 | 10 | EB110630S | < 10 | 99.55 | 79.13 | 75.82 | AB110720JR | < 10 | 55.09 | 3.59 |
| Pyrene | EPA 8270D and 3550C | 505879 | 12000 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110720JR | < 10 | 53.97 | 6.17 |
| Benzo(a)anthracene | EPA 8270D and 3550C | 505883 | 1500 | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110713JR | < 10 | 52.57 | 9.38 |
| Benzo(a)pyrene | EPA 8270D and 3550C | 505883 | 1200 | 10 | EB110630S | < 10 | 114.81 | 89.69 | 85.94 | AB110713JR | < 10 | 53.92 | 15.23 |
| Benzo(b)fluoranthene | EPA 8270D and 3550C | 505883 | 1100 | 10 | EB110630S | < 10 | 112.98 | 88.66 | 84.98 | AB110713JR | < 10 | 55.56 | 14.69 |
| Benzo(ghi)perylene | EPA 8270D and 3550C | 505883 | 3200 | 10 | EB110630S | < 10 | 108.87 | 82.61 | 75.89 | AB110713JR | < 10 | 54.71 | 9.55 |
| Chrysene | EPA 8270D and 3550C | 505883 | 2800 | 10 | EB110630S | < 10 | 99.55 | 79.13 | 75.82 | AB110713JR | < 10 | 51.04 | 3.59 |
| Phenanthrene | EPA 8270D and 3550C | 505883 | 2700 | 10 | EB110630S | < 10 | 94.63 | 75.05 | 69.52 | AB110713JR | < 10 | 50.10 | 5.53 |
| Pyrene | EPA 8270D and 3550C | 505883 | 2800 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110713JR | < 10 | 54.66 | 6.17 |
| Benzo(a)anthracene | EPA 8270D and 3550C | 505884 | 1100 | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110804JR | < 10 | 53.15 | 4.32 |
| Benzo(ghi)perylene | EPA 8270D and 3550C | 505884 | 1000 | 10 | EB110630S | < 10 | 108.87 | 82.61 | 75.89 | AB110804JR | < 10 | 53.30 | 11.19 |
| Chrysene | EPA 8270D and 3550C | 505884 | 1900 | 10 | EB110630S | < 10 | 99.55 | 79.13 | 75.82 | AB110804JR | < 10 | 48.74 | 7.28 |
| Phenanthrene | EPA 8270D and 3550C | 505884 | 2900 | 10 | EB110630S | < 10 | 94.63 | 75.05 | 69.52 | AB110804JR | < 10 | 50.69 | 8.02 |
| Pyrene | EPA 8270D and 3550C | 505884 | 2000 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110804JR | < 10 | 48.68 | 7.32 |
| Benzo(a)anthracene | EPA 8270D and 3550C | 505887 | 910 | 10 | EB110630S | < 10 | 107.31 | 89.31 | 84.51 | AB110804JR | < 10 | 53.15 | 4.32 |
| Benzo(a)pyrene | EPA 8270D and 3550C | 505887 | 610 | 10 | EB110630S | < 10 | 114.81 | 89.69 | 85.94 | AB110804JR | < 10 | 52.01 | 10.65 |
| Benzo(b)fluoranthene | EPA 8270D and 3550C | 505887 | 520 | 10 | EB110630S | < 10 | 112.98 | 88.66 | 84.98 | AB110804JR | < 10 | 51.93 | 9.75 |
| Benzo(ghi)perylene | EPA 8270D and 3550C | 505887 | 550 | 10 | EB110630S | < 10 | 108.87 | 82.61 | 75.89 | AB110804JR | < 10 | 53.30 | 11.19 |
| Chrysene | EPA 8270D and 3550C | 505887 | 1400 | 10 | EB110630S | < 10 | 99.55 | 79.13 | 75.82 | AB110804JR | < 10 | 48.74 | 7.28 |
| Phenanthrene | EPA 8270D and 3550C | 505887 | 1800 | 10 | EB110630S | < 10 | 94.63 | 75.05 | 69.52 | AB110804JR | < 10 | 50.69 | 8.02 |
| Pyrene | EPA 8270D and 3550C | 505887 | 1200 | 10 | EB110630S | < 10 | 95.42 | 77.83 | 76.63 | AB110804JR | < 10 | 48.68 | 7.32 |
| Benzo(b)fluoranthene | EPA 8270D and 3550C | 505992 | 1200 | 10 | EB110706S | < 10 | 105.05 | 96.51 | 110.16 | AB110713JR | < 10 | 55.56 | 14.69 |
| Fluoranthene | EPA 8270D and 3550C | 505992 | 1500 | 10 | EB110706S | < 10 | 104.11 | 97.57 | 106.53 | AB110713JR | < 10 | 51.08 | 9.54 |
| Pyrene | EPA 8270D and 3550C | 505992 | 1200 | 10 | EB110706S | < 10 | 89.45 | 86.55 | 94.03 | AB110713JR | < 10 | 54.66 | 6.17 |

| | | |
|--------------|---|-----------------------------|
| LOQ: | Limit of Quantitation (Reporting Limit) | µg/kg or Standard units; pH |
| Blank | Method Blank (MB) or Instrument Blank (IB) | Measured value |
| LCS: | Laboratory Control Sample, accuracy | % Recovery |
| MS: | Matrix Spike, accuracy | % Recovery |
| Dup: | Duplicate or Matrix Spike Duplicate, precision | Relative % Difference (RPD) |
| CCV: | Continuing Calibration Verification, accuracy | % Recovery |
| % RSD | Calibration by average response factor (% RSD) | Maximum 20% |
| Corr. Coef.: | Calibration by least squares regression (correlation coefficient) | Minimum 0.995 |
| < or > | Less (or greater) than indicated value | |
| NA: | Item not applicable to method | |

The theoretical concentration for each target analyte in the LCS, MS, and MSD is 100µg/kg.

The theoretical concentration for each target analyte in the CCV is 50µg/kg.

The extraction Method Blank, LCS, MS, and MSD in batch EB110630S were analyzed in batch AB110701JR.

The extraction Method Blank, LCS, MS, and MSD in batch EB110706S were analyzed in batch AB110711JR.



Appendix C: Analytical Data Narratives

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000

**Case Narrative
Method 3050 with 6010
Method 7471**

SEL Sample ID: 505872 to 505890
SEL Sample ID: 505989 to 505996
Project Name: Wilcox Refinery

Digestion/Extraction Batch ID: (7471)070711Sa (3050) 07-06-11
and 070811S

Analyst of Record: C. Freshour S. Tilley

Analytical Batch ID: (7471)070711Sa (6010) 08-30-11
and 070811S

Analyst of Record: C. Freshour S. Tilley

Were there any deviations from standard operating procedures?

☒ Yes ☐ No

3050:

Samples 505872-505890 and 505990-996 were digested via 3050 with HNO₃ only (as needed for method 6020 analysis...). The digestion should have included HCl addition as well, as these samples were analyzed via method 6010. Digested samples are usually analyzed within a few days following the digestion; unfortunately these samples could not be analyzed within this normal timeframe due to permanent instrument failure. The samples were analyzed after a new instrument was brought on line and verified as suitable for sample analysis.

Were there any quality control failures?

☒ Yes ☐ No

7471:

The LFM RPD measurement for 505882 was outside SOP DQR by 1.1%. The sample measurements were at the low end of the calibration curve, with 1 measurement falling below the low calibrator and 1 measurement falling just above the low calibrator. The individual %recovery's for each LFM passed DQR, however the LFM sample that fell below the low calibrator is a contributor to the failure of the precision measurement.

6010:

The LCS sample from the 7-6-11 digestion shows low antimony recovery (3.8%). The low antimony recovery is most likely due to the lack of HCl in the digestion, some antimony analyte may have also fallen out of solution during the longer than usual wait between digestion and analysis. All remaining analytes from the 7-6-11 LCS sample were found to have 86.5% recovery or higher (which is comparable to the recovery of other LCS samples within this analytic set).

The IPC sample following the sample 505996, had gone empty (solution level in the 50 mL tube was below the tip of the sample probe) and therefore shows all parameters failed. The next IPC sample which followed sample 508298, was full and shows all parameters of interest to have valid analyte recoveries (Ca was 88.6% and K was 89.4%).

The barium LFM Dup %RPD for 505881 exceeded the SOP DQR by 0.9%.

LFM1 %Recovery = 75.8; LFM2 %Recovery = 115; Avg LFM %Recovery = 91.5

No explanation for the 30.9% RPD could be determined.

The lead LFM %Recovery for 505881 did not meet SOP DQR. The amount of lead in the sample far exceeded the spike level, which caused the spike to be masked by the lead in the sample.

While all the samples from both sample batches displayed high iron and aluminum (greater than 1000 mg/kg), samples 505877, 505880-882, and 505886 (all from the first batch) show high lead as well. Samples 505990, and 505994 (both from the second batch) show high manganese.

Were there any data limitations or biases?

☒ Yes ☐ No

3050/6010:

The lack of HCl in the digestion step could cause the reported values for Antimony and Silver to be biased low.

Were any professional judgments exercised in interpreting or qualifying the data?

☐ Yes ☒ No

Case Narrative
Method 8270D

SEL Number(s): 505872 to 505996

Project Name(s): Wilcox Refinery

| | | | | | | |
|--------------------------|-----------|---------------------|-----------|-----------|-----------|-----------|
| Extraction Batch: | 110630S | Analysis Batch(es): | 110701JR | 110706JR | 110711JR | 110713JR |
| Extractionist of Record: | C. Kontas | Analyst of Record: | C. Kontas | C. Kontas | C. Kontas | C. Kontas |
| Extraction Batch: | 110706S | Analysis Batch(es): | 110720JR | 110722JR | 110804JR | 110809SR |
| Extractionist of Record: | C. Kontas | Analyst of Record: | C. Kontas | C. Kontas | C. Kontas | C. Kontas |

Were there any deviations from standard operating procedures?

☐ Yes

☒ No

Were there any quality control failures?

☒ Yes

☐ No

The following describes what failed and the corrective actions taken (e.g., instrument maintenance, re-extraction, etc.):

For the analysis batch 110713JR, there were multiple internal standard peak area response QC failures; therefore, a new internal standard solution was made (ID# IS110718M8270).

For the analysis batch 110713JR, benzidine did not pass the peak tailing factor check during the first daily calibration verification. Column maintenance was performed and a second daily calibration verification was analyzed in which benzidine passed QC criteria.

For the analysis batch 110804JR, the first daily calibration verification did not pass average response factor QC criteria for benzo(b)fluoranthene, and as this was a target analyte detected in field samples, a second calibration verification was analyzed. The second calibration verification passed all QC criteria for all target analytes.

For the analysis batch 110804JR, in comparing the first instrument blank to the daily calibration verification sample, there were two internal standards that did not pass peak area response QC criteria. A second instrument blank was analyzed, and all internal standards passed all QC criteria.

For the analysis batch 110809SR, the first daily calibration verification did not pass average response factor or percent drift QC criteria for at least 80% of target compounds. A second calibration verification was analyzed and passed all QC criteria for all quantitated target analytes.

Were there any data limitations or biases?

☒ Yes

☐ No

The following describes which QC data indicated limitations or biases and which sample data were qualified:

In samples 505874 and 505991, there was matrix interference indicated on multiple target analytes (none of which were target analytes detected above the adjusted lower limit of quantitation in field samples). Both pairs of MS/MSD samples and their parent samples were reanalyzed (batch 110713SR) to exclude instrument behavior as a contributing factor in target analyte recovery or precision exceedances. The reanalysis confirmed that results failing in-house limits were not due to instrumentation, and the original sample analyses were used for customer reports.

For sample 505876, it was originally analyzed in batch 110701JR at a 1:10 dilution. It was reanalyzed in batch 110713JR with no dilution, and the internal standards 1,4-Dichlorobenzene-d4, Chrysene-d12, and Perylene-d12 failed QC criteria. Surrogates associated with failed internal standards were reported using the original 110701JR analysis and the others from the 110713JR analysis.

For sample 505877, it was originally analyzed in batch 110706JR at a 1:5 dilution. It was reanalyzed in batch 110713JR with no dilution, and all internal standards failed QC criteria. All surrogates were reported using the original 110706JR analysis.

For sample 505878, it was originally analyzed in batch 110706JR at a 1:20 dilution. It was reanalyzed in batch 110804JR with no dilution; the analysis was outside the 12-hour DFTPP window. It was reanalyzed in batch 110809SR at a 1:2 dilution; all internal standards failed QC criteria. The target analytes and surrogates were reported from the 110804JR analysis and qualified as estimated concentrations.

Case Narrative
Method 8270D

For sample 505879, it was originally analyzed in batch 110706JR at a 1:25 dilution. It was reanalyzed in batch 110720JR at a 1:5 dilution; the internal standard Perylene-d12 failed QC criteria, and the target analytes associated with that internal standard were qualified as estimates (as the internal standard failed high, the target analyte concentrations were calculated as lower than if the internal standard had passed).

For sample 505885, it was originally analyzed in batch 110706JR, and the internal standards Phenanthrene-d10, Chrysene-d12, and Perylene-d12 failed QC criteria. It was reanalyzed in batch 110713JR with no dilution; and the internal standards Chrysene-d12 and Perylene-d12 failed QC criteria. The associated surrogate Terphenyl-d14 was reported from the 110713JR analysis and qualified as an estimated concentration.

For sample 505888, it was originally analyzed in batch 110711JR at a 1:2 dilution. It was reanalyzed in batch 110713JR with no dilution; all internal standards except 1,4-Dichlorobenzene-d4 failed QC criteria. The surrogates were reported using the original 110711JR analysis.

For sample 505886, the surrogates 2-Fluorobiphenyl and 2,4,6-Tribromophenol had low recoveries as compared to in-house control limits. This was noted on the customer report. The analyst hypothesized the low surrogate recovery was due to the viscous matrix as noted during the extraction.

Tentatively Identified Compounds (TICs) are usually compared to the most closely eluting internal standard to calculate an estimated concentration. When internal standard peak area responses failed QC criteria, the TICs were compared to the most closely eluting internal standard that had peak area responses that passed QC criteria.

For sample 505879, it was reanalyzed in batch 110720JR at a 1:5 dilution; the internal standard Perylene-d12 failed QC criteria, and the TICs originally associated with that internal standard were instead calculated using Chrysene-d12.

For sample 505880, it was reanalyzed in batch 110720JR at a 1:10 dilution; the internal standard Perylene-d12 failed QC criteria, and the TICs originally associated with that internal standard were instead calculated using Chrysene-d12.

For sample 505881, it was reanalyzed in batches 110720JR and 110722JR both at a 1:10 dilution, and for both reanalyses, the internal standard Perylene-d12 failed QC criteria. The 110722JR analysis was used for customer reporting purposes, and the TICs originally associated with that internal standard were instead calculated using Chrysene-d12.

For sample 505885, it was reanalyzed in batch 110711JR with no dilution; the internal standard Perylene-d12 failed QC criteria, and the TIC originally associated with that internal standard was instead calculated using Phenanthrene-d10.

For sample 505888, it was reanalyzed in batch 110713JR with no dilution; the internal standard Perylene-d12 failed QC criteria, and the TIC originally associated with that internal standard was instead calculated using 1,4-Dichlorobenzene-d4.

Were professional judgments exercised in interpreting or qualifying data?

☒ Yes

☐ No

The following describes the rationale and impact of professional judgments:

For sample 505872 (analyzed in batch 110804JR), when the internal standard peak area responses were compared to the daily calibration verification, Chrysene-d12 failed high; however, when compared to the mid-level calibration standard (initial calibration 110803JR), Chrysene-d12 passed criteria. The EPA Methods governing 8270D analysis, as well as the SELSD SOP #207, allow for either comparison. For this reason, the target analytes detected above the adjusted lower limit of quantitation associated with Chrysene-d12 were not qualified as estimated concentrations.

Comments:

The analyst (C. Kontas) witnessed the sample collector (T. Downham) deliver samples to the lab at approximately 4:30pm on 6/28/11 and at approximately 4:15pm on 6/29/11, at which time they were in coolers. After the sample collector relinquished the samples and he signed the COC, they were transferred to refrigerators in Sample Management. However, Sample Management personnel did not complete the COCs based on the times/dates they took physical possession of the samples nor did they document sample temperature upon receipt on SELSD login forms. The analyst did not qualify field sample data as estimated concentrations due to temperature upon receipt; however, the lack of documentation of sample temperature upon laboratory receipt was noted on customer reports.

Cassandra Kontas 8/18/2011



Appendix D: Final Analytical Data Reports

STATE ENVIRONMENTAL LABORATORY SERVICES DIVISION
707 N. Robinson, P.O. Box 1677, Oklahoma City, OK 73101-1677
(405) 702-1000

Sample Number: 505872
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1015
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 27.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 22.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 94.5 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-8 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505873
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 81.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 14.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 7.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 590 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 11.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-5 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Greg Goode

*

* ANALYST

Greg Goode
State Environmental Laboratory

Sample Number: 505874
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1056
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 90.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 16.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 11.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 75.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-11

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505875
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1112
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 64.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 93.7 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-3 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505876
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1123
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 40.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 122 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 34.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS


SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-1 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505877
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1130
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 16.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 5.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 5.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 2320 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 153 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 97.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

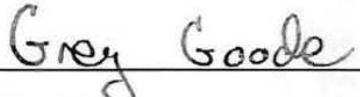
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-2 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 32.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 12.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 7.40 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 254 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 97.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-4 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505879
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1252
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 56.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 11.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 11.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 39.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 26.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 83.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-8

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 40.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 84.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 50000 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 191 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 26.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 90.7 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-6

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 39.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.10 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 61.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 43200 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 19.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/07/11 | 7471 | 3050 |
| % Solids | | 95.0 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

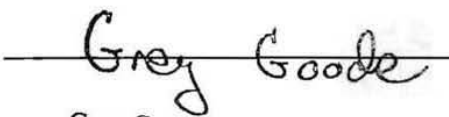
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-7

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505882
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1321
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 29.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 68.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 43600 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 24.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 94.4 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-5

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505883
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1332
Date Received: 6/29/2011
Date Completed: 08/31/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/31/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Barium, Sediment | | 35.5 | MG/KG | 08/25/11 | 6010 | |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | |
| Chromium, Sediment | | 8.30 | MG/KG | 08/25/11 | 6010 | |
| Copper, Sediment | | 11.7 | MG/KG | 08/25/11 | 6010 | |
| Lead, Sediment | | 366 | MG/KG | 08/25/11 | 6010 | |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | |
| Zinc, Sediment | | 23.9 | MG/KG | 08/25/11 | 6010 | |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | |
| % Solids | | 99.2 | % | 07/12/11 | CLP 5.4 | |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-4

ANALYST'S COMMENTS:

Greg Goode
Greg Goode
State Environmental Laboratory

*

* ANALYST

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 27.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 7.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 12.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 459 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 206 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-3

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505885
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1351
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 22.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 5.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 82.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 52.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-8

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505886
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1400
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 62.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 16.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 78.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 1560 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 22.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 98.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-9 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST



Greg Goode
State Environmental Laboratory

Sample Number: 505887
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1411
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/13/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 38.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 147 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 125 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | | 1.73 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 93.4 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-2

ANALYST'S COMMENTS:

(CF) Corrected final report. The Mercury result was corrected from 0.40 to 1.73.

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505888
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1438
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 14.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 93.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 13.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

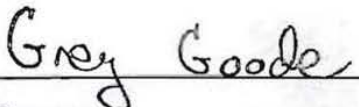
SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-9

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505889
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1441
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 80.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 13.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 9.80 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 89.7 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 53.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 96.6 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-1

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505890
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 63.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 11.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 6.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 486 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 7.20 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 9.30 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-6 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505872
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1015
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 104. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 2500 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 2400 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 2600 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 3000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 1300 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505872
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1015
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | | 1400 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 5200 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 6.3 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 53 |
| 2-FLUOROPHENOL | | 52 |

Sample Number: 505872
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1015
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 51 |
| 2,4,6-TRIBROMOPHENOL | | 58 |
| NITROBENZENE-D5 | | 61 |
| P-TERPHENYL-D14 | | 57 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benzo[e]pyrene | | 5300 | µg/kg |
| Phenanthrene, 1-methyl- | | 2300 | µg/kg |
| Phenanthrene, 2-methyl- | | 1500 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1500 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1600 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-8 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some 'tentatively identified' compound names were truncated in the report table; their full names are:

Pyrene, methyl- (non-specific isomer #1)

Pyrene, methyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505873
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 34.6 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b) fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k) fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe: | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505873
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.70 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 63 |
| 2-FLUOROBIPHENYL | | 73 |

Sample Number: 505873
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
FWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 69 |
| P-TERPHENYL-D14 | | 93 |
| NITROBENZENE-D5 | | 71 |
| 2,4,6-TRIBROMOPHENOL | | 87 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Oleanonic aldehyde | | 1200 | µg/kg |
| Hexadecanoic acid, 2-hydroxy-1- | | 750 | µg/kg |
| Totarol | | 470 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-5 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505874
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1056
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|---|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | | 45.3 | | | | |
| Acenaphthylene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b)fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k)fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | MI | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | | < | 450 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505874
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1056
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 910 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | MI < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | MI < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | MI < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | < | 2300 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | < | 450 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 26. | % | 07/01/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 81 |
| 2-FLUOROBIPHENYL | | 67 |

Sample Number: 505874
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1056
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 70 |
| 2,4,6-TRIBROMOPHENOL | | 80 |
| 2-FLUOROPHENOL | | 66 |
| NITROBENZENE-D5 | | 73 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| LUPEOL | | 1000 | µg/kg |
| D:B-FRIEDO-B':A'-NEOGAMMACER-5- | | 460 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-11

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(MI) a Matrix Interference was indicated for these compounds by the matrix spike and matrix spike duplicate samples.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

D:B-FRIEDO-B':A'-NEOGAMMACER-5-EN-3-OL, (3-BETA)-

*

* ANALYST

Cassandra Kontas

Sample Number: 505875
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1112
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 35.2 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe: | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Pyrene | | 490 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |

Sample Number: 505875
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1112
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
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 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 700 | UG/KG | 08/09/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 08/09/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 08/09/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.7 | % | 08/09/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 62 |
| 2-FLUOROBIPHENYL | | 64 |

Sample Number: 505875
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1112
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 65 |
| 2,4,6-TRIBROMOPHENOL | | 69 |
| P-TERPHENYL-D14 | | 65 |
| 2-FLUOROPHENOL | | 52 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Dotriacontane | | 840 | µg/kg |
| Nonatriacontane | | 1100 | µg/kg |
| Octatriacontane | | 1400 | µg/kg |
| Tricontane | | 430 | µg/kg |
| Heptatriacontane | | 1400 | µg/kg |
| Hexatriacontane | | 1200 | µg/kg |
| Anthracene, 1-methyl- | | 360 | µg/kg |
| Benzene, 1-methyl-2-(2-phenylet | | 350 | µg/kg |
| Pentatriacontane | | 1500 | µg/kg |
| Eicosane | | 370 | µg/kg |
| Hentriacontane | | 1000 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 920 | µg/kg |
| Tetratricosane | | 1300 | µg/kg |
| Tritriacontane | | 1100 | µg/kg |
| Nonacosane | | 390 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 800 | µg/kg |
| Pristane | | 560 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505875
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1112
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
FWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-3 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Benzene, 1-methyl-2-(2-phenylethyl)-

Phenanthrene, dimethyl- (non-specific isomer #1)

Phenanthrene, dimethyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505876
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1123
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 102. | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505876
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1123
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| P-TERPHENYL-D14 | | 89 |
| 2-FLUOROPHENOL | | 78 |

Sample Number: 505876
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1123
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 72 |
| 2-FLUOROBIPHENYL | | 68 |
| 2,4,6-TRIBROMOPHENOL | | 76 |
| PHENOL-D5 | | 82 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-1 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505877
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1130
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 34.6 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505877
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1130
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
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OKLAHOMA, 73102-6010
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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 60 |
| 2-FLUOROBIPHENYL | | 73 |

Sample Number: 505877
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1130
Date Received: 6/29/2011
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PWS Id:
Location Code:
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Facility:
Report Date: 8/17/2011

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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 56 |
| PHENOL-D5 | | 64 |
| NITROBENZENE-D5 | | 64 |
| P-TERPHENYL-D14 | | 92 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| OCTADECANOIC ACID, 2-HYDROXY-1- | | 2100 | µG/KG |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-2 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505878
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1140
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 173. | | | | |
| Acenaphthylene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | J | 3300 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | J | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505878
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1140
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 3500 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 8700 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1700 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 2.4 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 (J) | | 44 |
| 2-FLUOROBIPHENYL (J) | | 49 |

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
FWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|--------------------------|----------------------|------------|
| 2-FLUOROPHENOL (J) | | 41 |
| P-TERPHENYL-D14 (J) | | 48 |
| PHENOL-D5 (J) | | 40 |
| 2,4,6-TRIBROMOPHENOL (J) | | 55 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Cyclopentadecane | | 2000 | µg/kg |
| Tetratriacontane | | 6900 | µg/kg |
| Tridecane, 7-propyl- | | 39000 | µg/kg |
| Pentadecane, 2,6,10-trimethyl- | | 47000 | µg/kg |
| Pentadecane, 7-methyl- | | 18000 | µg/kg |
| Phytane | | 67000 | µg/kg |
| Heptylcyclohexane | | 3100 | µg/kg |
| methyl-substituted alkane | | 37000 | µg/kg |
| Naphthalene, trimethyl- (non-sp | | 11000 | µg/kg |
| Tridecane | | 3500 | µg/kg |
| Hexatriacontane | | 11000 | µg/kg |
| Tridecane, 3-methyl- | | 2200 | µg/kg |
| Octane, 2,6-dimethyl- | | 3800 | µg/kg |
| Tetradecane | | 6900 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 7900 | µg/kg |
| Naphthalene, dimethyl- (non-spe | | 2200 | µg/kg |
| Pristane | | 93000 | µg/kg |
| Hexadecane | | 11000 | µg/kg |
| Naphthalene, trimethyl- (non-sp | | 9100 | µg/kg |
| Nonadecane | | 2900 | µg/kg |
| Pentatriacontane | | 10000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505878
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1140
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-4 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(J) The associated value is an estimated quantity.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

Some "tentatively identified" compound names were truncated in the report table; their full names are:

Naphthalene, dimethyl- (non-specific isomer)

Naphthalene, trimethyl- (non-specific isomer #1)

Naphthalene, trimethyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505879
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1252
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 561. | | | | |
| Acenaphthylene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Acenaphthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Anthracene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(b)fluoranthene | J | 6600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)pyrene | J | 11000 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Butylbenzylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Chrysene | | 34000 | UG/KG | 07/06/11 | 8270DM | |
| Diethylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Dimethylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Fluoranthene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Fluorene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachloroethane | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Isophorone | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodipropylamine | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodiphenylamine | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Naphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Nitrobenzene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| p-Chloro-m-cresol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Phenanthrene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Pyrene | | 12000 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(ghi)perylene | J | 6600 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)anthracene | | 9200 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chloronaphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chlorophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitrophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |

Sample Number: 505879
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1252
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 11000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitrophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| Phenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Pentachlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Di-n-butylphthalate | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobenzene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobutadiene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Benzyl alcohol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzofuran | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 4-Methylphenol | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chloroaniline | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 3-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitroaniline | < | 28000 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylnaphthalene | < | 5600 | UG/KG | 07/06/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 15. | % | 07/06/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 67 |
| PHENOL-D5 | | 61 |

Sample Number: 505879
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1252
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 62 |
| NITROBENZENE-D5 | | 63 |
| 2-FLUOROPHENOL | | 58 |
| 2-FLUOROBIPHENYL | | 62 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|--------|-------|
| PHENOL, O-(ALPHA-, ALPHA-DIMETH | | 86000 | µg/kg |
| Phenol, 4-(1-methyl-1-phenyleth | | 340000 | µg/kg |
| 1H-Indene, 2,3-dihydro-1,1,3-tr | | 33000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 50000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 24000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 16000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 24000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 11000 | µg/kg |
| Phenanthrene, 3,4,5,6-tetrameth | | 19000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 17000 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 40000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 23000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 23000 | µg/kg |
| UNKNOWN | | 17000 | µG/KG |
| Benz[a]anthracene, 7-methyl- | | 46000 | µg/kg |
| 2,4-Diphenyl-4-methyl-1-pentene | | 230000 | µg/kg |
| 2,4-Diphenyl-4-methyl-2(E)-pent | | 280000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 21000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 19000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 22000 | µg/kg |
| Pyrene, dimethyl- (non-specific | | 18000 | µg/kg |
| Benzo[c]phenanthrene, dimethyl- | | 15000 | µg/kg |
| Phenanthrene, trimethyl- (non-s | | 34000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505879
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1252
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
FWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-8

ANALYST'S COMMENTS:
Analyst: Cassandra Kontas
Sample temperature upon receipt in the laboratory was not documented.

(J) The associated value is an estimated quantity.
The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

Some "tentatively identified" compound names were truncated in the report table; their full names are:

1H-Indene, 2,3-dihydro-1,1,3-trimethyl-3-phenyl-
2,4-Diphenyl-4-methyl-2(E)-pentene
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #1)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #2)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #3)
Benzo[c]phenanthrene, dimethyl- (non-specific isomer #4)
Phenanthrene, 3,4,5,6-tetramethyl-
Phenanthrene, dimethyl- (non-specific isomer)
Phenanthrene, trimethyl- (non-specific isomer #1)
Phenanthrene, trimethyl- (non-specific isomer #2)
Phenanthrene, trimethyl- (non-specific isomer #3)
Phenol, 4-(1-methyl-1-phenylethyl)-
Phenol, o-(alpha-, alpha-dimethylbenzyl)-
Pyrene, dimethyl- (non-specific isomer #1)
Pyrene, dimethyl- (non-specific isomer #2)
Pyrene, dimethyl- (non-specific isomer #3)
Pyrene, dimethyl- (non-specific isomer #4)
Pyrene, dimethyl- (non-specific isomer #5)
Pyrene, methyl- (non-specific isomer #1)
Pyrene, methyl- (non-specific isomer #2)
Pyrene, methyl- (non-specific isomer #3)

*

* ANALYST Cassandra Kontas

Samp Number: 505880
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1310
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON

OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 362. | | | | |
| Acenaphthylene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Acenaphthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(a)pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Butylbenzylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Chrysene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Diethylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dimethylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Fluoranthene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Fluorene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachloroethane | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Isophorone | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrosodipropylamine | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrosodiphenylamine | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Naphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Nitrobenzene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| p-Chloro-m-cresol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Phenanthrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Pyrene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(ghi)perylene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzo(a)anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Chloronaphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Chlorophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Nitrophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |

Sample Number: 505880
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1310
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 7200 | UG/KG | 07/20/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Nitrophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| Phenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Pentachlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Di-n-butylphthalate | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorobenzene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Hexachlorobutadiene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Benzyl alcohol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| Dibenzofuran | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Methylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 4-Methylphenol | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4-Chloroaniline | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| 2-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 3-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 4-Nitroaniline | < | 18000 | UG/KG | 07/20/11 | 8270DM | |
| 2-Methylnaphthalene | < | 3600 | UG/KG | 07/20/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 8.1 | % | 07/20/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 88 |
| 2,4,6-TRIBROMOPHENOL | | 81 |

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 78 |
| PHENOL-D5 | | 79 |
| P-TERPHENYL-D14 | | 86 |
| NITROBENZENE-D5 | | 91 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| 28-Nor-17-alpha(H)-hopane | | 3800 | µg/kg |
| Benzenethiol, 2-methyl- | | 5600 | µg/kg |
| PENTADECANE, METHYL- (NON-SPECI | | 8600 | µg/kg |
| Pentadecane, 2,6,10-trimethyl- | | 9000 | µg/kg |
| Phytane | | 7400 | µg/kg |
| Tridecane, 7-propyl- | | 4400 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 4800 | µg/kg |
| Pentatriacontane | | 7600 | µg/kg |
| Pristane | | 15000 | µg/kg |
| Heptatriacontane | | 9900 | µg/kg |
| unknown #2 | | 4700 | µg/kg |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 23000 | µG/KG |
| Disulfide, bis(4-methylphenyl) | | 6700 | µg/kg |
| Hexatriacontane | | 9100 | µg/kg |
| Tetratriacontane | | 6100 | µg/kg |
| unknown #1 | | 4100 | µg/kg |
| Tetradecane, 2,6,10-trimethyl- | | 3000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505880
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1310
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
FWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-6

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

Pentadecane, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505881
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1315
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 351. | | | | |
| Acenaphthylene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505881
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1315
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 7000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 18000 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 3500 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.3 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 94 |
| P-TERPHENYL-D14 | | 113 |

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 111 |
| 2-FLUOROBIPHENYL | | 115 |
| 2-FLUOROPHENOL | | 90 |
| PHENOL-D5 | | 96 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Heptadecane, 4-methyl- | | 3800 | µg/kg |
| Heptatriacontane | | 7800 | µg/kg |
| methyl-pentadecane | | 10000 | µg/kg |
| Tridecane, 7-propyl- | | 5100 | µg/kg |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 31000 | µG/KG |
| Pentadecane, 2,6,10-trimethyl- | | 11000 | µg/kg |
| unknown #2 | | 5500 | µg/kg |
| Hexatriacontane | | 8400 | µg/kg |
| Phytane | | 9700 | µg/kg |
| Pristane | | 19000 | µg/kg |
| Dodecane, 2,6,10-trimethyl- | | 5800 | µg/kg |
| Pentatriacontane | | 9700 | µg/kg |
| unknown #1 | | 4800 | µg/kg |
| Disulfide, bis(4-methylphenyl) | | 6800 | µg/kg |
| Tetradecane, 2,6,10-trimethyl- | | 3500 | µg/kg |
| Tritriacontane | | 4000 | µg/kg |
| Benzenethiol, 2-methyl- | | 6500 | µg/kg |
| Tetratriacontane | | 7600 | µg/kg |
| unknown #3 | | 3800 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505881
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1315
Date Received: 6/29/2011
Date Completed: 08/17/2011
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Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-7

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505882
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1321
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 34.9 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |

Sample Number: 505882
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1321
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
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 Location Code:
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 Report Date: 9/7/2011

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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/06/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/06/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.76 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| NITROBENZENE-D5 | | 73 |
| 2-FLUOROPHENOL | | 59 |

Sample Number: 505882
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1321
Date Received: 6/29/2011
Date Completed: 07/25/2011
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Report Date: 9/7/2011

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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| 2,4,6-TRIBROMOPHENOL | | 60 |
| P-TERPHEENYL-D14 | | 74 |
| PHENOL-D5 | | 64 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-5

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

* * ANALYST Cassandra Kontas

Sample Number: 505883
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1332
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 100. | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | | 2800 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | | 2700 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | | 2800 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | | 3200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | | 1500 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505883
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1332
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
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 Facility:
 Report Date: 8/17/2011

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To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 0.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2,4,6-TRIBROMOPHENOL | | 52 |
| 2-FLUOROPHENOL | | 44 |

Sample Number: 505883
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1332
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 50 |
| 2-FLUOROBIPHENYL | | 54 |
| PHENOL-D5 | | 41 |
| P-TERPHENYL-D14 | | 60 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Anthracene, 1-methyl- | | 1100 | µg/kg |
| Phenanthrene, 1-methyl- | | 2200 | µg/kg |
| PYRENE, METHYL- (NON-SPECIFIC I | | 1100 | µg/kg |
| Phenanthrene, 2-methyl- | | 1600 | µg/kg |
| PYRENE, METHYL- (NON-SPECIFIC I | | 1700 | µg/kg |

Summary

Labs performing analysis on this Sample:
Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-4

ANALYST'S COMMENTS:
Analyst: Cassandra Kontas
Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Pyrene, methyl- (non-specific isomer #1)
Pyrene, methyl- (non-specific isomer #2)

*

* ANALYST

Cassandra Kontas

Sample Number: 505884
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1341
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 FWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 99.6 | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 1900 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 2900 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 2000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 1100 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505884
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1341
 Date Received: 6/29/2011
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 OKLAHOMA, 73102-6010
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Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.1 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 89 |
| PHENOL-D5 | | 76 |

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 86 |
| P-TERPHENYL-D14 | | 80 |
| 2-FLUOROPHENOL | | 71 |
| 2,4,6-TRIBROMOPHENOL | | 104 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benz[a]anthracene, 7-methyl- | | 1300 | µg/kg |
| Phenanthrene, 2-methyl- | | 1700 | µg/kg |
| Napththalene, 2-phenyl- | | 1600 | µg/kg |
| Pyrene, methyl- (non-specific i | | 1100 | µg/kg |
| Phenanthrene, 1-methyl- | | 2600 | µg/kg |
| Benzo[e]pyrene | | 1600 | µg/kg |
| Octadecanoic acid, 2-hydroxy-1- | | 5300 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505884
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1341
Date Received: 6/29/2011
Date Completed: 08/17/2011
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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-3

ANALYST'S COMMENTS:
Analyst: Cassandra Kontas
Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

Pyrene, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505885
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1351
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 34.4 | | | | |
| Acenaphthylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505885
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1351
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.0 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 85 |
| 2-FLUOROBIPHENYL | | 70 |

Sample Number: 505885
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1351
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 81 |
| 2,4,6-TRIBROMOPHENOL | | 78 |
| NITROBENZENE-D5 | | 76 |
| P-TERPHENYL-D14 (J) | | 71 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|------------|---|-------|-------|
| Nonacosane | | 530 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-8

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.
(J) The associated value is an estimated quantity.

*

* ANALYST

Cassandra Kontas

Sample Number: 505886
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1400
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 2729 | | | | |
| Acenaphthylene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505886
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1400
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|--------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 55000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 140000 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 27000 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.4 | % | 08/04/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 30 |
| 2-FLUOROBIPHENYL | | 37 |

Sample Number: 505886
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1400
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 35 |
| 2-FLUOROPHENOL | | 29 |
| NITROBENZENE-D5 | | 35 |
| 2,4,6-TRIBROMOPHENOL | | 42 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|--------|-------|
| Octadecanoic acid, 2-hydroxy-1- | | 160000 | µg/kg |
| Pyrene, methyl- (non-specific i | | 30000 | µg/kg |
| Benzo[e]pyrene | | 44000 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-9 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The surrogates 2-Fluorobiphenyl, and 2,4,6-Tribromophenol had recoveries below in-house control limits.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester
Pyrene, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505887
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1411
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 35.6 | | | | |
| Acenaphthylene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Acenaphthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Anthracene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(b)fluoranthene | | 520 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)pyrene | | 610 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Butylbenzylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Chrysene | | 1400 | UG/KG | 08/04/11 | 8270DM | |
| Diethylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Dimethylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Fluoranthene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Fluorene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachloroethane | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Isophorone | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodipropylamine | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrosodiphenylamine | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Naphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Nitrobenzene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| p-Chloro-m-cresol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Phenanthrene | | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Pyrene | | 1200 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(ghi)perylene | | 550 | UG/KG | 08/04/11 | 8270DM | |
| Benzo(a)anthracene | | 910 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chloronaphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Chlorophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitrophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |

Sample Number: 505887
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1411
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 710 | UG/KG | 08/04/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Phenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Di-n-butylphthalate | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobenzene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Hexachlorobutadiene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Benzyl alcohol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| Dibenzofuran | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 4-Methylphenol | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4-Chloroaniline | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 08/04/11 | 8270DM | |
| 2-Methylnaphthalene | < | 360 | UG/KG | 08/04/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 6.2 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 64 |
| 2-FLUOROPHENOL | | 60 |

Sample Number: 505887
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1411
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON

OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 82 |
| NITROBENZENE-D5 | | 83 |
| 2,4,6-TRIBROMOPHENOL | | 78 |
| P-TERPHENYL-D14 | | 71 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| Benz[a]anthracene, 7-methyl- | | 1000 | µg/kg |
| Stigmast-4-en-3-one | | 600 | µg/kg |
| Perylene, methyl- (non-specific | | 630 | µg/kg |
| D:C-Friedo-B':A'-neogammacer-9(| | 720 | µg/kg |
| Phenanthrene, 1-methyl- | | 2000 | µg/kg |
| Anthracene, 2-methyl- | | 590 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 670 | µg/kg |
| Anthracene, 1-methyl- | | 620 | µg/kg |
| Dibenzothiophene, 3-methyl- | | 530 | µg/kg |
| Benzo[e]pyrene | | 1100 | µg/kg |
| Dibenzothiophene, 4-methyl- | | 580 | µg/kg |
| Phenanthrene, 2-methyl- | | 1400 | µg/kg |
| Naphthalene, 2-phenyl- | | 1100 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 610 | µg/kg |
| Pyrene, methyl- (non-specific i | | 630 | µg/kg |
| Benzo[b]naphtho[2,1-d]thiophene | | 570 | µg/kg |
| gamma-Sitosterol | | 670 | µg/kg |
| Octadecanoic acid, 2-hydroxy-1- | | 4700 | µg/kg |
| Perylene, methyl- (non-specific | | 570 | µg/kg |
| Phenanthrene, dimethyl- (non-sp | | 600 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

Sample Number: 505887
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1411
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON

OKLAHOMA CITY

OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SS-2

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

D:C-Friedo-B':A'-neogammacer-9(11)-ene, 3-methoxy-, (3.beta)-

Octadecanoic acid, 2-hydroxy-1-(hydroxymethyl)eth

Perylene, methyl- (non-specific isomer #1)

Perylene, methyl- (non-specific isomer #2)

Phenanthrene, dimethyl- (non-specific isomer #1)

Phenanthrene, dimethyl- (non-specific isomer #2)

Phenanthrene, dimethyl- (non-specific isomer #3)

Pyrene, methyl- (non-specific isomer)

*

* ANALYST

Cassandra Kontas

Sample Number: 505888
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1438
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 33.9 | | | | |
| Acenaphthylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505888
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1438
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 680 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 340 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 1.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| PHENOL-D5 | | 68 |

Sample Number: 505888
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1438
Date Received: 6/29/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

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General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 67 |
| 2,4,6-TRIBROMOPHENOL | | 68 |
| 2-FLUOROPHENOL | | 61 |
| P-TERPHENYL-D14 | | 77 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| NONACOSANE | | 440 | µG/KG |
| HEXADECANOIC ACID, 2-HYDROXY-1- | | 1500 | µG/KG |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-9

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

Hexadecanoic acid, 2-hydroxy-1-(hydroxymethyl)ethyl ester

*

* ANALYST

Cassandra Kontas

Sample Number: 505889
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1441
 Date Received: 6/29/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
 707 N. ROBINSON
 OKLAHOMA CITY
 OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 34.5 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505889
 Project Code: SW-SE
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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.2 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 110 |
| 2,4,6-TRIBROMOPHENOL | | 145 |

Sample Number: 505889
Project Code: SW-SE
Agency Number:
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OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 104 |
| P-TERPHENYL-D14 | | 141 |
| 2-FLUOROPHENOL | | 91 |
| 2-FLUOROBIPHENYL | | 116 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|-------------------------|---|-------|-------|
| gamma-Sitosterol | | 390 | µg/kg |
| unknown triterpenoid #1 | | 420 | µg/kg |
| unknown triterpenoid #2 | | 480 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SS-1

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

*

* ANALYST

Cassandra Kontas

Sample Number: 505890
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 34.5 | | | | |
| Acenaphthylene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505890
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/28/2011
 Time Collected: 1035
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 690 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 350 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 3.90 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 79 |
| 2-FLUOROPHENOL | | 71 |

Sample Number: 505890
Project Code: SW-SE
Agency Number:
Date Collected: 6/28/2011
Time Collected: 1035
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

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Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 80 |
| P-TERPHENYL-D14 | | 89 |
| NITROBENZENE-D5 | | 80 |
| 2,4,6-TRIBROMOPHENOL | | 97 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| 2-Phenanthrenol, 4b,5,6,7,8,8a, | | 540 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-6 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

2-Phenanthrenol, 4b,5,6,7,8,8a,9,10-octahydro-4b,8,8-trimethyl-1-(1-methylethyl)-, (4bS-trans)-

*

* ANALYST

Cassandra Kontas

Sample Number: 505893
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 33.2 | | | | |
| Acenaphthylene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Acenaphthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Butylbenzylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Chrysene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Diethylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dimethylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Fluoranthene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Fluorene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachloroethane | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Isophorone | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodipropylamine | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrosodiphenylamine | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Naphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Nitrobenzene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| p-Chloro-m-cresol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Phenanthrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Pyrene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(ghi)perylene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzo(a)anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chloronaphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Chlorophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitrophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |

Sample Number: 505893
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/29/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 660 | UG/KG | 07/01/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Phenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Di-n-butylphthalate | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobenzene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Hexachlorobutadiene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Benzyl alcohol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| Dibenzofuran | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 4-Methylphenol | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Chloroaniline | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/01/11 | 8270DM | |
| 2-Methylnaphthalene | < | 330 | UG/KG | 07/01/11 | 8270DM | |
| % Moisture - GC/MS Lab | | | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 75 |
| 2-FLUOROBIPHENYL | | 79 |

Sample Number: 505893
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected:
Date Received: 6/29/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 78 |
| 2,4,6-TRIBROMOPHENOL | | 82 |
| P-TERPHENYL-D14 | | 105 |
| 2-FLUOROPHENOL | | 68 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

LAB BLANK

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

* ANALYST Cassandra Kontas

Sample Number: 505989
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1020
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 35.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.20 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 53.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 60.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-1

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505990
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1055
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 180 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 12.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 9.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 20.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 18.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 89.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-2

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505991
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1110
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 128 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 19.5 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 12.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 17.9 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 17.1 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 89.9 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-3

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505992
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1325
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY

707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 61.3 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 9.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 6.10 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 15.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 6.50 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 15.2 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 98.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
W-7 (WASTE SAMPLE)

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505993
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by Metals

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 33.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.40 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 5.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 96.2 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-4

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode
Greg Goode
State Environmental Laboratory

Sample Number: 505994
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 177 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 8.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | | 5.70 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | | 47.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | | 12.8 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 5.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 95.1 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-5

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505995
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1415
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 28.6 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium , Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | | 6.90 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 73.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-10

ANALYST'S COMMENTS:

*

* ANALYST

Greg Goode

Greg Goode
State Environmental Laboratory

Sample Number: 505996
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1440
Date Received: 6/30/2011
Date Completed: 08/30/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/30/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by Metals
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|---------------------|-----------|-------|-------|----------|---------|-----------|
| Arsenic, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Barium, Sediment | | 23.4 | MG/KG | 08/25/11 | 6010 | 3050 |
| Beryllium, Sediment | < | 2.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Cadmium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Chromium, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Copper, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Lead, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Nickel, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Silver, Sediment | < | 5.00 | MG/KG | 08/25/11 | 6010 | 3050 |
| Zinc, Sediment | | 8.60 | MG/KG | 08/25/11 | 6010 | 3050 |
| Antimony, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Selenium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Thallium, Sediment | < | 10.0 | MG/KG | 08/25/11 | 6010 | 3050 |
| Mercury, Sediment | < | 0.25 | MG/KG | 07/08/11 | 7471 | 3050 |
| % Solids | | 80.8 | % | 07/12/11 | CLP 5.4 | 3050 |

Summary

Labs performing analysis on this Sample:

Metals GCMS


SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-7

ANALYST'S COMMENTS:

*

* ANALYST


Greg Goode
State Environmental Laboratory

Sample Number: 505989
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1020
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 77.3 | | | | |
| Acenaphthylene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505989
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1020
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 3900 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 770 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 57.1 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| PHENOL-D5 | | 76 |
| NITROBENZENE-D5 | | 77 |

Sample Number: 505989
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1020
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
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EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 86 |
| 2,4,6-TRIBROMOPHENOL | | 93 |
| 2-FLUOROPHENOL | | 68 |
| 2-FLUOROBIPHENYL | | 75 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|---------------------------------|---|-------|-------|
| beta-Amyrin | | 2100 | µg/kg |
| gamma-Sitosterol | | 3600 | µg/kg |
| Lup-20(29)-en-3-one | | 1200 | µg/kg |
| Nonacosane | | 1200 | µg/kg |
| Stigmastanol | | 1400 | µg/kg |
| cyclic octaatomic sulfur | | 1300 | µg.kg |
| 4,4,6a,6b,8a,11,11,14b-Octameth | | 1400 | µg/kg |
| alpha-Amyrin | | 2300 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-1

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration. Some "tentatively identified" compound names were truncated in the report table; their full names are:

4,4,6a,6b,8a,11,11,14b-Octamethyl-1,4,4a,5,6,6a,6b,7,8,8a,9,10,11,12,12a,14,14a,14b-octadecah;

*

* ANALYST Cassandra Kontas

Sample Number: 505990
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1055
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

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STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab. | | 37.5 | | | | |
| Acenaphthylene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505990
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1055
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 750 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 1900 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 390 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 11. | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROPHENOL | | 76 |
| 2,4,6-TRIBROMOPHENOL | | 120 |

Sample Number: 505990
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1055
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 88 |
| P-TERPHENYL-D14 | | 111 |
| 2-FLUOROBIPHENYL | | 92 |
| NITROBENZENE-D5 | | 93 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-2

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505991
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1110
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 36.6 | | | | |
| Acenaphthylene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | MI < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505991
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1110
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

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OKLAHOMA, 73102-6010
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 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | MI < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 730 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | MI < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1800 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 370 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 8.90 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 81 |
| 2,4,6-TRIBROMOPHENOL | | 97 |

Sample Number: 505991
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1110
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| NITROBENZENE-D5 | | 81 |
| P-TERPHENYL-D14 | | 95 |
| 2-FLUOROBIPHENYL | | 78 |
| 2-FLUOROPHENOL | | 72 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-3

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

(MI) a Matrix Interference was indicated for these compounds by the matrix spike and matrix spike duplicate samples.

*

* ANALYST

Cassandra Kontas

Sample Number: 505992
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1325
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 99.6 | | | | |
| Acenaphthylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | | 1500 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | | 1200 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505992
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1325
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5000 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1000 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 0.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| NITROBENZENE-D5 | | 72 |
| 2-FLUOROPHENOL | | 63 |

Sample Number: 505992
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1325
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| P-TERPHENYL-D14 | | 87 |
| PHENOL-D5 | | 69 |
| 2-FLUOROBIPHENYL | | 73 |
| 2,4,6-TRIBROMOPHENOL | | 77 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

W-7 (WASTE SAMPLE)

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505993
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 105. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505993
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5300 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 5.8 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 69 |
| P-TERPHENYL-D14 | | 72 |

Sample Number: 505993
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| PHENOL-D5 | | 62 |
| NITROBENZENE-D5 | | 69 |
| 2,4,6-TRIBROMOPHENOL | | 76 |
| 2-FLUOROPHENOL | | 58 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-4

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST Cassandra Kontas

Sample Number: 505994
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 104. | | | | |
| Acenaphthylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Acenaphthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Butylbenzylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Chrysene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Diethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dimethylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluoranthene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Fluorene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachloroethane | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Isophorone | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodipropylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrosodiphenylamine | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Naphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Nitrobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| p-Chloro-m-cresol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Phenanthrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pyrene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(ghi)perylene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzo(a)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chloronaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Chlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitrophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |

Sample Number: 505994
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1335
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 2100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitrophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| Phenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Pentachlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Di-n-butylphthalate | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobenzene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Hexachlorobutadiene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Benzyl alcohol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| Dibenzofuran | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 4-Methylphenol | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4-Chloroaniline | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| 2-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 3-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 4-Nitroaniline | < | 5200 | UG/KG | 07/13/11 | 8270DM | |
| 2-Methylnaphthalene | < | 1100 | UG/KG | 07/13/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 4.6 | % | 07/13/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|-----------------|----------------------|------------|
| P-TERPHENYL-D14 | | 87 |
| PHENOL-D5 | | 77 |

Sample Number: 505994
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1335
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 81 |
| NITROBENZENE-D5 | | 80 |
| 2,4,6-TRIBROMOPHENOL | | 97 |
| 2-FLUOROPHENOL | | 70 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|------------------|---|-------|-------|
| Hexatriacontane | | 9800 | µg/kg |
| Pentatriacontane | | 5700 | µg/kg |

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-5

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

The analysis indicates the presence of one or more compounds that have been 'tentatively identified,' and the associated numerical values represent their approximate concentration.

* * ANALYST Cassandra Kontas

Sample Number: 505995
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1415
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 41.9 | | | | |
| Acenaphthylene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe: | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505995
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1415
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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 707 N. ROBINSON
 OKLAHOMA CITY
 OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 840 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 2100 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 420 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 21.2 | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|------------------|----------------------|------------|
| PHENOL-D5 | | 76 |
| 2-FLUOROBIPHENYL | | 72 |

Sample Number: 505995
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1415
Date Received: 6/30/2011
Date Completed: 07/25/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 9/7/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 75 |
| P-TERPHENYL-D14 | | 91 |
| 2-FLUOROPHENOL | | 67 |
| 2,4,6-TRIBROMOPHENOL | | 91 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

SED-10

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505996
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1440
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab | | 41.5 | | | | |
| Acenaphthylene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Acenaphthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Butylbenzylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Chrysene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Diethylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dimethylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Fluoranthene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Fluorene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachloroethane | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Isophorone | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodipropylamine | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrosodiphenylamine | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Naphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Nitrobenzene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| p-Chloro-m-cresol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Phenanthrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Pyrene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(ghi)perylene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzo(a)anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chloronaphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Chlorophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitrophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |

Sample Number: 505996
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected: 1440
 Date Received: 6/30/2011
 Date Completed: 08/17/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 830 | UG/KG | 07/22/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitrophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| Phenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Pentachlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Di-n-butylphthalate | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobenzene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Hexachlorobutadiene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Benzyl alcohol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| Dibenzofuran | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 4-Methylphenol | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4-Chloroaniline | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| 2-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 3-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 4-Nitroaniline | < | 2100 | UG/KG | 07/22/11 | 8270DM | |
| 2-Methylnaphthalene | < | 430 | UG/KG | 07/22/11 | 8270DM | |
| % Moisture - GC/MS Lab | | 20 | % | 07/22/11 | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| PHENOL-D5 | | 78 |
| 2-FLUOROPHENOL | | 68 |

Sample Number: 505996
Project Code: SW-SE
Agency Number:
Date Collected: 6/29/2011
Time Collected: 1440
Date Received: 6/30/2011
Date Completed: 08/17/2011
Collected By: TD
PWS Id:
Location Code:
Station:
Facility:
Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
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OKLAHOMA, 73102-6010
General Inquiries: 1-800-869-1400
Sample Receiving: (405) 702-1113

Report of Analysis by GCMS
EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| NITROBENZENE-D5 | | 82 |
| 2,4,6-TRIBROMOPHENOL | | 92 |
| P-TERPHENYL-D14 | | 100 |
| 2-FLUOROBIPHENYL | | 79 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

Metals GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:
SED-7

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

Sample temperature upon receipt in the laboratory was not documented.

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas

Sample Number: 505997
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
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OKLAHOMA CITY
OKLAHOMA, 73102-6010
 General Inquiries: 1-800-869-1400
 Sample Receiving: (405) 702-1113
Report of Analysis by GCMS
 EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|-----------------------------|-----------|-------|-------|----------|--------|-----------|
| Dilution Factor, Extractab: | | 33.3 | | | | |
| Acenaphthylene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Acenaphthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(b)fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(k)fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethyl)ether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroethoxy)methane | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-chloroisopropyl)ethe | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Butylbenzylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Chrysene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Diethylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dimethylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Fluoranthene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Fluorene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorocyclopentadiene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachloroethane | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Indeno(123cd)pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Isophorone | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodipropylamine | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrosodiphenylamine | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Naphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Nitrobenzene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| p-Chloro-m-cresol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Phenanthrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Pyrene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(ghi)perylene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzo(a)anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzo(ah)anthracene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chloronaphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Chlorophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitrophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |

Sample Number: 505997
 Project Code: SW-SE
 Agency Number:
 Date Collected: 6/29/2011
 Time Collected:
 Date Received: 6/30/2011
 Date Completed: 07/25/2011
 Collected By: TD
 PWS Id:
 Location Code:
 Station:
 Facility:
 Report Date: 8/17/2011

OKLAHOMA DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE ENVIRONMENTAL LABORATORY
707 N. ROBINSON
OKLAHOMA CITY
OKLAHOMA, 73102-6010

General Inquiries: 1-800-869-1400

Sample Receiving: (405) 702-1113

Report of Analysis by GCMS

EPA Drinking Water Certification #OK00013

To: TODD DOWNHAM/LPD

CC: FILE COPY

| Name | Qualifier | Value | Units | Analyzed | Method | Prep Type |
|----------------------------|-----------|-------|-------|----------|--------|-----------|
| Di-n-octylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dichlorophenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dimethylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrotoluene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4-Dinitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,6-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2,6-Dinitrotoluene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 3,3'-Dichlorobenzidine | < | 670 | UG/KG | 07/11/11 | 8270DM | |
| 4-Bromophenylphenyl ether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chlorophenyl phenylether | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitrophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4,6-Dinitro-o-cresol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Phenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Pentachlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| Bis(2-ethylhexyl)phthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Di-n-butylphthalate | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobenzene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Hexachlorobutadiene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Benzyl alcohol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| Dibenzofuran | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 4-Methylphenol | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2,4,5-Trichlorophenol | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Chloroaniline | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| 2-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 3-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 4-Nitroaniline | < | 1700 | UG/KG | 07/11/11 | 8270DM | |
| 2-Methylnaphthalene | < | 330 | UG/KG | 07/11/11 | 8270DM | |
| % Moisture - GC/MS Lab | | | % | | 1005 M | |

| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------|----------------------|------------|
| 2-FLUOROPHENOL | | 56 |
| PHENOL-D5 | | 59 |

Sample Number: 505997
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| COMPOUND | SURROGATE RECOVERIES | RECOVERY % |
|----------------------|----------------------|------------|
| 2-FLUOROBIPHENYL | | 59 |
| NITROBENZENE-D5 | | 62 |
| 2,4,6-TRIBROMOPHENOL | | 60 |
| P-TERPHENYL-D14 | | 66 |

| COMPOUND | TENTATIVELY IDENTIFIED BY NBS LIBRARY SEARCH | VALUE | UNITS |
|----------|---|-------|-------|
|----------|---|-------|-------|

NU

Summary

Labs performing analysis on this Sample:

GCMS

SOURCE: WILCOX REFINERY

SAMPLERS COMMENTS:

LAB BLANK

ANALYST'S COMMENTS:

Analyst: Cassandra Kontas

(NU) The analysis indicates no 'tentatively identified' compounds present above the reporting limit for this analysis.

*

* ANALYST

Cassandra Kontas