AP-110

FACILITY-WIDE GW MONITORING REPORT 1 OF 2

APRIL 2016



April 15, 2016

Mr. Carl J. Chavez New Mexico Energy, Minerals & Natural Resources Department Oil Conservation Division, Environmental Bureau 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: 2015 Annual Facility-Wide Groundwater Monitoring Report, HollyFrontier Navajo Refining LLC, Lovington, New Mexico, AP-110.

Dear Mr. Chavez:

Please find enclosed the original and one electronic copy of the 2015 Annual Facility-Wide Groundwater Monitoring Report (Report) for the HollyFrontier Navajo Refining LLC (HFNR) facility located in Lovington, New Mexico. The Report summarizes the results of groundwater monitoring activities conducted at the refinery under AP-110 during calendar year 2015.

If you should have any questions or comments regarding this Report, please feel free to contact me at (575) 746-5487 or Robert Combs at (575) 746-5382.

Sincerely,

Scott M. Denton

Environmental Manager

cc: Robert Combs, HFNR
Julie Speer, TRC
Bryan Gilbert, TRC
Catriona Smith, TRC

2015 Annual Facility-Wide Groundwater Monitoring Report



HollyFrontier Navajo Refining LLC AP-110 Lovington, New Mexico

April 2016

Prepared for:



HollyFrontier Navajo Refining LLC Artesia, New Mexico

Prepared by:



TRC Environmental Corporation Austin, Texas

2015 Annual Facility-Wide Groundwater Monitoring Report

HollyFrontier Navajo Refining LLC AP-110 Lovington, New Mexico

Prepared for:



HollyFrontier Navajo Refining LLC Artesia, New Mexico

Prepared by:



505 East Huntland Drive, Suite 250 Austin, Texas 78752

TRC Project No. 227000

April 2016

Principal Lead

Technical Lead

EXECUTIVE SUMMARY

This 2015 Annual Facility-Wide Groundwater Monitoring Report documents groundwater monitoring activities conducted at the HollyFrontier Navajo Refining LLC (Navajo) facility located (refinery) in Lovington, New Mexico during calendar year 2015. The monitoring objectives are to determine groundwater elevations, flow direction, and gradient and obtain dissolved-phase toxic pollutant concentration data.

The groundwater monitoring program consists of semi-annual groundwater gauging of monitoring wells, semi-annual groundwater sampling of monitoring wells, semi-annual quarterly sampling of refinery water supply wells, and annual reporting. Monitoring activities were conducted in general accordance with the Groundwater Discharge Permit (GW-014) issued by the New Mexico Oil Conservation Division (OCD). The OCD rescinded the Groundwater Discharge Permit on February 9, 2012, and the refinery is currently regulated under Abatement Plan (AP)-110). This 2015 Annual Facility-Wide Groundwater Monitoring Report documents groundwater monitoring activities conducted in 2015 under AP-110, in accordance with Navajo's February 22, 2013, Memorandum to the OCD.

The 2015 groundwater monitoring results indicate that physical and chemical groundwater conditions are generally consistent with historical data. Groundwater flows radially (southeast, south, and north/northwest) towards a cone of depression near the three water supply wells located within the central portion of the refinery. This cone of depression is induced by groundwater pumping from the three on-site water supply wells for refinery process use and non-potable restroom and safety shower use. The presence of select anions (chloride and fluoride), total dissolved solids (TDS), and metals (chromium and manganese) in select wells at concentrations above Water Quality Control Commission (WQCC) Human Health Standards is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery. Navajo installed and maintained oxygen-releasing compound (ORC®) socks in MW-11 to promote enhanced aerobic biodegradation of benzene historically detected in this well.

Navajo will implement groundwater monitoring activities at the refinery in 2016 under the December 2015 *Revised Facility-Wide Groundwater Monitoring Work Plan* that was approved by OCD on March 9, 2016. Navajo will continue to implement interim corrective action of benzene in well MW-11 via installation and maintenance of ORC® socks to promote enhanced aerobic biodegradation.

No reportable releases occurred at the refinery during 2015. Holly Energy Partners – Operating, L.P. (HEP), who owns and operates pipeline and receiving stations at the refinery, discovered soil impacts indicative of a historical release during construction activities at the asphalt

loading rack in November 2015. Both HEP and Navajo notified OCD of the historical release discovery. The investigation of the historical release is ongoing.

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1.0 INTRODUCTION

On behalf of HollyFrontier Navajo Refining LLC (Navajo), TRC Environmental Corporation (TRC) is submitting this 2015 Annual Facility-Wide Groundwater Monitoring Report to summarize the results of groundwater monitoring activities conducted at the facility located (refinery) in Lovington, New Mexico during calendar year 2015. Previous annual monitoring reports were submitted in accordance with a Groundwater Discharge Permit (GW-014) issued by the New Mexico Oil Conservation Division (OCD). The Groundwater Discharge Permit was due to expire on October 30, 2011, and a renewal draft permit was issued in August 2011 that was to go into effect by November 1, 2011. However, the OCD rescinded the Groundwater Discharge Permit on February 9, 2012. The refinery is currently regulated by the OCD under Abatement Plan (AP)-110. This report is prepared in accordance with Navajo's February 22, 2013, Memorandum to the OCD and OCD's response on February 28, 2013.

1.1 Refinery Description

The refinery is located approximately five miles south of Lovington in Lea County, New Mexico. The facility is operated by Navajo and consists of refining operations and includes Holly Energy Partners – Operating, L.P. (HEP) pipeline and receiving stations. A refinery vicinity map is provided as Figure 1 and a refinery site plan is provided as Figure 2.

2.0 SEMI-ANNUAL GROUNDWATER MONITORING ACTIVITIES

Semi-annual groundwater monitoring activities were conducted at the refinery in February 2015 and August 2015. TRC conducted the first semi-annual groundwater monitoring event from February 23 to February 27, 2015, and on March 9, 2015, and the second semi-annual event from August 24 to August 28, 2015. Groundwater monitoring activities consisted of (1) gauging all refinery monitoring wells (MW-1 through MW-30) and one recovery well (RW-1), and (2) collecting groundwater samples for laboratory analysis from all refinery monitoring wells (MW-1 through MW-30), one recovery well (RW-1), and three water supply wells (WW-North, WW-South, and WW-East). The locations of the monitoring wells, recovery well, and water supply wells are presented in Figure 2.

The following deviations to the sampling and analysis plan presented in the rescinded Groundwater Discharge Permit (GW-014) were documented during the February 2015 monitoring event:

- Wells MW-11, MW-13, MW-14, and MW-27 were sampled using bailing techniques
 rather than low-flow procedures with a submersible pump due to poor recharge and
 insufficient water column in the wells. These wells were purged dry with a new
 disposable bailer and a grab sample was collected for laboratory analysis after the well
 recharged.
- Well MW-11 could only be sampled for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs); and well MW-14 could only be sampled for VOCs, SVOCs, and dissolved metals due to poor recharge resulting in insufficient water volume.
- Water supply wells WW-North, WW-South, and WW-East were sampled on March 9,
 2015 due to weather conditions that caused the access points of all three water wells to freeze during the February sampling event.

The following deviations to the sampling and analysis plan presented in the rescinded Groundwater Discharge Permit (GW-014) were documented during the August 2015 monitoring event:

• Wells MW-11, MW-13, and MW-14 were sampled using bailing techniques rather than low-flow procedures with a submersible pump due to poor recharge and insufficient water column in the wells. These wells were purged dry with a new disposable bailer and a grab sample was collected for laboratory analysis after the well recharged.

 Well MW-11 could only be sampled for VOCs; and wells MW-13 and MW-14 could be sampled for all required analysis except for total mercury due to insufficient water volume.

2.1 Fluid Level Gauging

All refinery monitoring and recovery wells were gauged during the February 2015 and August 2015 semi-annual monitoring events to determine the groundwater elevation, flow direction, and gradient, the presence or absence of phase-separated hydrocarbons (PSH), and apparent PSH thickness. A decontaminated oil-water interface probe was used to measure depth to water and depth to PSH, if present. Depth to water and depth to PSH were measured to the nearest 0.01-foot from the top of the well casing.

2.2 Groundwater Sample Collection

Groundwater samples were collected for laboratory analysis from the following wells during each semi-annual monitoring event: 30 refinery monitoring wells (MW-1 through MW-30), one recovery well (RW-1), and three water supply wells (WW-North, WW-East, and WW-South).

Except as identified as deviations above, each monitoring and recovery well was purged and sampled using low-flow sampling procedures. A stainless-steel, submersible pump (Proactive model SS-Monsoon) with a low-flow, electric controller and dedicated vinyl tubing or disposable, low-density polyethylene (LDPE) tubing was used for purging and sampling the monitoring wells and recovery well. The pump intake was placed at the middle of the water column because the water elevations were within the screened well intervals. A water-quality meter and turbidity meter were used to measure pH, temperature, conductivity, oxidation/reduction potential (ORP), dissolved oxygen, and turbidity at regular intervals during the purging process to obtain geochemical data and to monitor for stabilization of the groundwater. The purging process was considered complete when three of the six water quality parameters achieved stabilization.

The water supply wells were purged and sampled from a sampling point (i.e., tap or spigot) located at or near the well head or pump house and before the water supply is introduced into any storage tank or treatment unit. The wells were purged at the sample point to remove any standing water from the well casing and surface piping. Grab readings of geochemical parameters including pH, temperature, conductivity, ORP, dissolved oxygen, and turbidity were also collected during the purging process.

After the purging process was complete, groundwater samples were collected directly from the dedicated or disposable tubing (for the monitoring and recovery wells) or from the water supply well sampling point into method-specific containers provided by the laboratory. All groundwater samples were submitted to ESC Lab Sciences (ESC) in Mount Juliet, Tennessee under appropriate

chain-of-custody documentation for the following analyses, except as identified as deviations above:

- VOCs by Method 8260B
- SVOCs by Method 8270C
- Dissolved metals (aluminum, arsenic, barium, boron, cadmium, chromium, cobalt, copper, iron, lead, manganese, molybdenum, nickel, selenium, silver, uranium, zinc) by Method 6010B and 6020
- Total mercury by Method 7470A
- Anions (chloride, fluoride, nitrate-nitrite, and sulfate) Method 353.2 and Method 9056
- Alkalinity by Method 2320 B
- Specific conductivity by Method 9050A
- pH by Method 9040C
- TDS by Method M2540C

3.0 SEMI-ANNUAL GROUNDWATER MONITORING RESULTS

The results of the semi-annual groundwater monitoring activities conducted in February 2015 and August 2015 are discussed below.

3.1 Fluid Gauging Results

Fluid level gauging was performed on February 23, 2015, and on August 24, 2015. Depth to water measurements and groundwater elevations are presented in Table 1. No PSH was detected in any monitoring or recovery well during either gauging event. Potentiometric groundwater surface maps for the February 2015 and August 2015 gauging events are presented as Figures 3 and 4, respectively. The groundwater elevations measured during both gauging events indicate groundwater flows radially (southeast, south, and north/northwest) towards a cone of depression near the three water supply wells located within the central portion of the refinery. This cone of depression is consistent with previous events and is induced by groundwater pumping from the three on-site water supply wells for refinery process use and non-potable restroom and safety shower use.

Groundwater elevations measured during the February 2015 event decreased an average 0.85 feet from those measured in February 2014. The February 2015 groundwater elevation data indicates groundwater beneath the northwestern portion of the refinery flows southeast towards the cone of depression at a hydraulic gradient ranging from 0.004 to 0.014 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.001 to 0.004 feet per foot.

Groundwater elevations measured during the August 2015 event decreased an average 0.40 feet from those measured in August 2014. The August 2015 groundwater elevation data indicates groundwater northwest of the cone of depression flows southeast at a hydraulic gradient ranging from of 0.004 to 0.011 feet per foot. South/southeast of the cone of depression, groundwater flows north/northwest at a hydraulic gradient ranging from 0.001 to 0.005 feet per foot.

A graph of groundwater elevations versus time for wells MW-4 and MW-6 is provided in Appendix A. As shown on the graph, groundwater elevations in wells MW-4 and MW-6 have decreased 7.68 feet and 7.99 feet, respectively, from June 2009 to August 2015. These reductions in groundwater levels are consistent across the refinery and are likely caused by (1) limited recharge due to low rainfall levels and (2) active pumping from three on-site water supply wells and City of Lovington water supply wells located northwest and west (i.e., upgradient) of the refinery.

3.2 Groundwater Sampling Results

Analytical results of organic and inorganic constituents in groundwater samples collected during the 2015 sampling events are presented in Tables 2 and 3, respectively. The analytical data are compared to the New Mexico Water Quality Control Commission (WQCC) Human Health Standards for groundwater and any results that exceeded these standards are shaded gray. Groundwater concentration maps are provided as Figures 5 to 10 for constituents that exceeded WQCC Standards. Laboratory analytical reports are provided in Appendix B. Plots of groundwater concentrations over time for detected constituents are provided in Appendix C.

3.2.1 Organic Constituent Results

Analytical results for VOCs and SVOCs (organic constituents) in groundwater are presented in Table 2. Naphthalene results are included in the VOC (SW8260) and SVOC (SW8270) sections of this report as it is reported by both analytical methods.

3.2.1.1 Volatile Organic Compounds

VOCs were not detected above their respective WQCC Standard in any of the wells sampled in February 2015 and August 2015. VOCs were detected above the laboratory reporting limits in only 2 of the 34 wells sampled during the February 2015 and August 2015 sampling events. VOCs were detected in monitoring well MW-11 and refinery water supply well WW-South as follows:

- Benzene was detected in MW-11 and WW-South at concentrations above the laboratory reporting limit but below the WQCC Standard of 0.010 milligrams per liter (mg/L) during the February 2015 and August 2015 monitoring events. Benzene concentrations have never exceeded the WQCC Standard in WW-South. Benzene has only exceeded the WQCC Standard at the refinery in MW-11. In March 2015, Navajo installed oxygen-releasing compound (ORC®) socks in MW-11 to promote enhanced aerobic biodegradation of benzene historically detected in this well. The ORC® socks have been maintained and replaced in accordance with the manufacturer's recommendations. Benzene concentrations in well MW-11 will continue to be watched closely during future monitoring events.
- Ethylbenzene was detected at a concentration above the laboratory reporting limit but below the WQCC Standard of 0.75 mg/L during the August 2015 monitoring event.
- Xylene was detected at concentrations above the laboratory reporting limit but below the WQCC Standard of 0.62 mg/L during the February 2015 and August 2015 monitoring events.

Reported concentrations of VOCs during the 2015 sampling events were generally consistent with or less than previous sampling results with no notable increases. Concentration maps of VOCs in groundwater for the February 2015 and August 2015 sampling events are not provided because none of the reported concentrations exceeded the WQCC Standards.

3.2.1.2 Semi-Volatile Organic Compounds

SVOCs were not detected above the laboratory reporting limit in any of the 31 wells sampled for SVOCs during the February 2015 and August 2015 monitoring events. Analytical results for SVOCs during the 2015 sampling events were generally consistent with previous sampling results with no notable increases. Concentration maps of SVOCs in groundwater for the February 2015 and August 2015 sampling events are not provided because no concentrations were reported above the WQCC Standards.

3.2.2 Inorganic Constituent Results

Analytical results for anions, TDS, and metals (inorganic constituents) in groundwater are presented in Table 3. A discussion of the inorganic constituent results is provided below.

3.2.2.1 Anions

The February 2015 analytical results indicate that chloride and fluoride are present in groundwater at concentrations above their respective WQCC Standards. Chloride was detected at concentrations above the WQCC Standard of 250 mg/L in 2 of the 32 wells sampled with a maximum detected concentration of 550 mg/L in MW-13. Fluoride was detected at a concentration above the WQCC Standard of 1.6 mg/L in 1 of the 32 wells sampled at a concentration of 2.70 mg/L in MW-24.

The August 2015 analytical results indicate that chloride and fluoride are present at concentrations above their respective WQCC Standards. Chloride was detected at concentrations above the WQCC Standard of 250 mg/L in 5 of the 33 wells sampled with a maximum detected concentration of 431 mg/L in MW-23. Fluoride was detected at concentrations above the WQCC Standard of 1.6 mg/L in 5 of the 33 wells sampled with a maximum detected concentration of 3.07 mg/L in MW-24.

Concentration maps of anions that exceeded WQCC Standards in groundwater for the February 2015 and August 2015 sampling events are provided as Figures 5 and 6, respectively.

Reported anion concentrations for the 2015 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

• <u>MW-2</u>: Chloride concentrations increased from 122 mg/L in August 2014 to 343 mg/L in August 2015, which is the historical maximum reported concentration at the well. However, the chloride concentrations in this well have historically fluctuated above

and below the WQCC Standard of 250 mg/L. Fluoride concentrations increased from 0.812 mg/L in August 2014 to 1.41 mg/L in August 2015 and sulfate concentrations increased from 82.3 mg/L in August 2014 to 152 mg/L in August 2015, both of which are the historical maximum reported concentrations at the well. However, the fluoride and sulfate concentrations remain below their respective WQCC Standards of 1.6 mg/L and 600 mg/L.

- <u>MW-9</u>: Nitrate-nitrite concentrations increased from 2.35 mg/L in August 2014 to 3.50 mg/L in February 2015 to 4.17 mg/L in August 2015, which is the historical maximum reported concentration at the well. However, the nitrate-nitrite concentrations remain below the WQCC Standard of 10 mg/L
- MW-10: Sulfate concentrations increased from 68.5 mg/L in August 2014 to 102 mg/L in August 2015, which is the historical maximum reported concentration at the well. However, the sulfate concentrations remain below the WQCC Standard of 600 mg/L.
- MW-27: Fluoride concentrations increased from 0.540 mg/L in August 2014 to 2.27 mg/L in August 2015, which is the historical maximum reported concentration and first exceedance of the WQCC Standard of 1.6 mg/L at the well.
- MW-28: Fluoride concentrations increased from 1.65 mg/L in August 2014 to 3.07 mg/L in August 2015, which is the historical maximum reported concentration at the well. Sulfate concentrations increased from 78.2 mg/L in August 2014 to 143 mg/L in August 2015, which is the historical maximum reported concentration at the well. However, the sulfate concentrations remain below the WQCC Standard of 600 mg/L.
- <u>WW-East</u>: Fluoride concentrations increased from 0.914 mg/L in August 2014 to 1.75 mg/L in August 2015, which is the historical maximum reported concentration and first exceedance of the WQCC Standard of 1.6 mg/L at the well. However, as discussed in Section 5.1.6, MS/MSD recoveries for fluoride in August 2015 were greater than laboratory-defined limits and therefore the fluoride result in this sample may be biased high. The fluoride concentration decreased to 1.03 mg/L during the December 2015 quarterly sampling event of the refinery water supply wells.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of anions at concentrations above WQCC Standards in select wells, including fluoride (wells MW-24, MW-27, MW-28, MW-30, and WW-East) and chloride (wells MW-2, MW-8, MW-13, MW-23, and WW-South), is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

3.2.2.2 Total Dissolved Solids

During the February 2015 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 3 of the 32 wells sampled with a maximum detected concentration of 1,600 mg/L in well MW-13. During the August 2015 sampling event, TDS was detected at concentrations above the WQCC Standard of 1,000 mg/L in 8 of the 33 wells sampled with a maximum detected concentration of 2,190 mg/L in well MW-23. Concentration maps of TDS in groundwater for the February 2015 and August 2015 sampling events are provided as Figures 7 and 8, respectively. Reported TDS concentrations for both 2015 sampling events were generally consistent with previous sampling results, with notable increases in the following wells:

- MW-21: TDS concentrations increased from 938 mg/L in August 2014 to 1,430 mg/L in August 2015, which is the historical maximum reported concentration at the well. The TDS concentration has historically fluctuated above and below the WQCC Standard of 1,000 mg/L in this well.
- MW-29: TDS concentrations increased from 826 mg/L in August 2014 to 1,000 mg/L in February 2015 to 1,220 mg/L in August 2015, which is the historical maximum reported concentration at the well. The TDS concentration has historically fluctuated above and below the WQCC Standard of 1,000 mg/L in this well.

As discussed in the December 2013 *Refinery Investigation Report*, the presence of TDS at concentrations above WQCC Standards in select wells (including wells MW-8, MW-13, MW-21, MW-23, MW-25, MW-26, MW-29, and WW-South) is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

3.2.2.3 Metals

The February 2015 analytical results indicate that chromium and manganese were detected at concentrations above their respective WQCC Standards. Chromium was detected at a concentration above its WQCC Standard of 0.05 mg/L in well MW-29 at a concentration of 0.24 mg/L. Manganese was detected at concentrations above the WQCC Standard of 0.2 mg/L in 2 of the 33 wells sampled with a maximum detected concentration of 1.00 mg/L in well MW-6.

The August 2015 analytical results indicate that chromium and manganese were detected at concentrations above their respective WQCC Standards. Chromium was detected at concentrations above the WQCC Standard of 0.05 mg/L in well MW-29 at a concentration of 0.13 mg/L. Manganese was detected at concentrations above the WQCC Standard of 0.2 mg/L in 2 of the 33 wells sampled with a maximum detected concentration of 0.411 mg/L in well MW-6.

Concentration maps of metals that exceeded WQCC Standards in groundwater for the February 2015 and August 2015 sampling events are provided as Figures 9 and 10, respectively. Metal exceedances present in groundwater beneath the wastewater separator, the former salt water

disposal wells, and between Tanks 1214 and 1203, located within the northwestern/central portion of the refinery (i.e., wells MW-6, MW-13, and MW-29), are generally consistent with previous sampling events.

Reported metal concentrations for the 2015 sampling events were generally consistent with previous sampling results, with no notable increases. As discussed in the December 2013 *Refinery Investigation Report*, the presence of metals at concentrations above WQCC Standards in select wells, including chromium (well MW-29) and manganese (well MW-13) is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

4.0 WATER WELL SAMPLING AND ANALYTICAL RESULTS

The potential risk associated with use of the water in refinery restrooms and safety showers (the water is not used for drinking or cooking) was evaluated through sampling of the refinery water supply wells WW-North, WW-South, and WW-East on a quarterly basis. The results of the water supply well sampling activities conducted in 2015 are discussed below.

Groundwater samples were collected from refinery water supply wells WW-North, WW-East, and WW-South on a quarterly basis in 2015 in accordance with OCD's May 16, 2014, letter and Navajo's response letter on June 20, 2014. The objective of the quarterly sampling is to evaluate the potential risk associated with use of the water in refinery restrooms and safety showers (the water is not used for drinking or cooking). Water supply well WW-East is the primary source of refinery water supply and water supply wells WW-North and WW-South are used to supplement well WW-East.

Groundwater samples were collected from water supply wells WW-North, WW-South, and WW-East on March 9, 2015, May 19, 2015, August 28, 2015, and December 17, 2015. Groundwater samples collected from the water supply wells were submitted to ESC in Mount Juliet, Tennessee, under appropriate chain-of-custody documentation for the same analyses as the semi-annual monitoring events.

Consistent with historical results, chloride was detected in WW-South at concentrations above the WQCC Standard of 250 mg/L in each of the quarterly sampling events with results ranging from 340 mg/L in March and May 2015 to 426 mg/L in August 2015. Also consistent with historical results, TDS was detected in WW-South at concentrations above the WQCC Standard of 1,000 mg/L in each of the quarterly sampling events with results ranging from 1,100 mg/L in March and May 2015 to 1,440 mg/L in August 2015. In August 2015, fluoride was detected in WW-East at a concentration of 1.75 mg/L, which is above the WQCC Standard of 1.6 mg/L. This is the first and only WQCC exceedance of any analyte in refinery water supple well WW-East. However, as discussed in Section 5.1.6, MS/MSD recoveries for fluoride were greater than laboratory-defined limits and therefore the fluoride result in this sample may be biased high. Fluoride was detected below the WQCC Standard in this well in March 2015, May 2015, and August 2015. Fluoride concentrations will be watched closely in this well during future sampling events. None of the remaining analytes were detected at concentrations above their respective WQCC Standards in any of the samples.

Organic and inorganic analytical results of the quarterly water supply well samples are summarized and compared to WQCC Standards in Tables 2 and 3, respectively. Water from the water supply wells poses no risk associated with continued use in refinery restrooms and safety showers based on these results.

5.0 QUALITY ASSURANCE/QUALITY CONTROL

5.1 Semi-Annual and Quarterly Groundwater Samples

Twenty-nine water samples, three field duplicates, two equipment blanks, and two trip blanks were collected from February 23 to 27, 2015. Thirty-four water samples, four field duplicates, two equipment blanks, and two trip blanks were collected from August 24 to 28, 2015. Three groundwater samples, one field duplicate, and one trip blank were collected on March 9, 2015, May 19, 2015, and December 17, 2015. These samples were submitted to ESC in Mount Juliet, Tennessee for analyses.

TRC Quality Assurance (QA) staff reviewed resultant data on March 14, 2016. Six separate data packages identified as L751256, L753137, L766516, L785444, L786033, and L808328 were reviewed. Data were reviewed for compliance with the analytical protocols used for sample analysis and laboratory-defined control limits. Items reviewed during the data validation process included the following:

- Sample integrity
- Blank analyses
- Spike recoveries
- Duplicate recoveries
- Sample documentation

Data interpretation issues are identified in the following subsections.

5.1.1 Holding Times

- Laboratory notes indicate that all pH analyses were performed outside of holding time. The method states that samples must be analyzed immediately. ESC interprets this to mean within 15 minutes of collection.
- In February 2015, the TDS analysis of MW-28 was analyzed outside the method holding time. The method holding time is 7 days and this sample was analyzed within 9 days of collection.

5.1.2 Surrogates

 In March 2015, surrogate recoveries of base-neutral SVOCs 2-fluorophenol and nitrobenzene in samples NORTH WELL, SOUTH WELL, EAST WELL, and DUP-4 were less than laboratory control limits. The base-neutral SVOC di-n-butyl phthalate was detected in samples NORTH WELL, SOUTH WELL, and EAST WELL and may be estimated with a low bias. The base-neutral SVOC bis(2-ethylhexyl)phthalate was detected in sample SOUTH WELL and may be estimated with a low bias.

5.1.3 Laboratory Method Blanks

- In February 2015, arsenic, lead, and molybdenum were detected in laboratory method blank WG773842. These compounds were detected in the following associate samples at concentrations within five times the method blank concentration and therefore may include measurement contributions from laboratory sources:
 - Arsenic: MW-5, MW-14, MW-21, and MW-22
 - Lead: MW-6, MW-10, MW-21, and MW-22
 - Molybdenum: MW-2, MW-3, MW-6, MW-10, MW-12R, MW-13, MW-14, MW-15, MW-16, MW-20, MW-21, MW-22, MW-28, MW-30, and DUP-1
- In February 2015, lead was detected in laboratory method blank WG773908. Lead was
 detected in associate samples MW-1, MW-6, MW-7, MW-17R, MW-18, MW-23,
 MW-25, RW-1, DUP-3 at concentrations within five times the method blank
 concentration and therefore may include measurement contributions from laboratory
 sources.
- In February 2015, chloride was detected in laboratory method blank WG775081. Chloride was not detected in any associated samples at concentrations within five times the method blank concentration; therefore, there are no data interpretation issues associated with detection of potassium in this method blank.
- In February 2015, sodium was detected in laboratory method blank WG773711. Sodium was not detected in any associated samples at concentrations within five times the method blank concentration; therefore, there are no data interpretation issues associated with detection of potassium in this method blank.
- In February 2015, aluminum was detected in laboratory method blank WG773713.
 Aluminum was detected in associated samples MW-6, MW-8, MW-18, MW-23, MW-24, MW-25, MW-26, and DUP-2 at concentrations within five times the method blank concentration and therefore may include measurement contributions from laboratory sources.
- In August 2015, iron was detected in laboratory method blank WG812705. Iron was detected in associated samples MW-17R, MW-28, DUP-2, WW-South, and WW-East at concentrations within five times the method blank concentration and therefore may include measurement contributions from laboratory sources.

In August 2015, following compounds were detected in laboratory method blank WG812707: magnesium, potassium, and sodium. Potassium was not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with detection of potassium in this method blank. Magnesium and sodium were detected in the following associated samples at concentrations within five times the associated method blank concentrations and therefore may include measurement contributions from laboratory sources:

• <u>Magnesium</u>: EB-08-28-15-A and EB-08-28-15-B

• Sodium: EB-08-28-15-A

• In August 2015, arsenic and manganese were detected in laboratory method blank WG812711. Arsenic not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with detection of arsenic in this method blank. Manganese was detected in associated samples MW-1, MW-8, MW-15, MW-16, MW-17R, MW-28, MW-29, DUP-2, RW-1, and WW-North at concentrations within five times the method blank concentration and therefore may include measurement contributions from laboratory sources.

• In August, arsenic, boron, chromium, molybdenum, and silver were detected in laboratory method blank WG812713. Chromium, molybdenum, and silver were not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with detection of these compounds in this method blank. Arsenic and boron were detected in associated samples at concentrations within five times the method blank concentration and therefore may include measurement contributions from laboratory sources:

• Arsenic: MW-2, EB-08-28-15-A, and EB-08-28-15-B

• Boron: EB-08-28-15-A

• In August 2015, methylene chloride was detected in laboratory method blanks WG813608, but it was not detected in any associated samples at concentrations within ten times the blank concentration. Therefore, there are no data interpretation issues associated with this blank detection.

• In August 2015, bis(2-ethylhexyl)phthalate and di-n-butyl phthalate were detected in laboratory method blanks WG812624 and WG813193. These compounds were detected in the following associated samples at concentrations within ten times the

blank concentrations and therefore may include measurement contributions from laboratory sources:

- Bis(2-ethylhexyl)phthalate: MW-1, MW-2, MW-4, MW-6, MW-7, MW-10, MW-13, MW-14, MW-15, MW-16, MW-17R, MW-28, MW-29, MW-30, RW-1, DUP-2, DUP-3, WW-North, WW-East, EB-08-28-15-A, and EB-08-28-15-B
- <u>Di-n-butyl phthalate</u>: MW-1, MW-4, MW-6, MW-7, MW-8, MW-10, MW-13, MW-14, MW-16, MW-17R, MW-28, MW-29, RW-1, DUP-2, DUP-3, WW-North, WW-East, EB-08-28-15-A, and EB-08-28-15-B
- In August 2015, aluminum was detected in laboratory method blank WG812466.
 Aluminum was detected in associated sample MW-22 at a concentration within five times the method blank concentration and therefore may include measurement contributions from laboratory sources.
- In August 2015, arsenic, chromium, and silver were detected in laboratory method blank WG812713. Silver was not detected in any associated samples; therefore, there are no data interpretation issues associated with detection in this method blank. Arsenic and chromium were detected in the following associated samples at concentrations within five times the method blank concentrations and therefore may include measurement contributions from laboratory sources:
 - Arsenic: MW-5, MW-12R, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-25, MW-26, MW-27, and DUP-1
 - Chromium: MW-3, MW-5, MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-25, MW-26, MW-27, and DUP-1
- In August 2015, di-n-butyl phthalate, di-n-octyl phthalate, and phenol were detected in laboratory method blank WG812320. These compounds were detected in the following associated samples at concentrations within five times the method blank concentrations and therefore may include measurement contributions from laboratory sources:
 - <u>Di-n-butyl phthalate</u>: MW-5, MW-9, MW-12R, MW -18, MW -19, MW -21, MW-22, MW-23, MW -24, MW -25, MW-26, and MW-27
 - <u>Di-n-octyl phthalate</u>: MW-3, MW-5, MW-9, MW-12R, MW -18, MW -19, MW -21, MW-22, MW-23, MW -24, MW -25, MW-26, and MW-27
 - Phenol: MW-5, MW-12R, MW -18, MW -19, MW-20, MW -21, MW -24, MW -25, and DUP-1

• In December 2015, aluminum, magnesium, potassium, and sodium were detected in laboratory method blank WG837593. Magnesium, potassium, and sodium were not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with detection of these compounds in this method blank. Aluminum was detected in associated sample WW-East at a concentration within five times the method blank concentration and therefore may include measurement contributions from laboratory sources.

5.1.4 Equipment Blanks

- In February 2015, the following compounds were detected in equipment blank EB-A-2-27-15-A: chloride, sulfate, nitrate-nitrite, TDS, and calcium. The following compounds were detected in equipment blank EB-2-27-15-B: chloride, sulfate, nitrate-nitrite, TDS, zinc, acetone, and bis(2-ethylhexyl)phthalate.
 - Chloride, sulfate, calcium, TDS, and acetone were not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with these blank detections
 - Zinc was detected in samples MW-1, MW-5, MW-6, MW-7, MW-8, MW-10, MW-12R, MW-13, MW-14, MW-15, MW-16, MW-17R MW-18, MW-19, MW-20, MW-21, MW-22, MW-23, MW-24, MW-25, MW-26, MW-28, MW-29, RW-1, DUP-1, DUP-2, DUP-3, within five times the equipment blank concentrations and may include measurement contributions from inadequate decontamination of field equipment
 - Bis(2-ethylhexyl)phthalate was detected in samples MW-1, MW-2, MW-3, MW-5, MW-6, MW-9, MW-10, MW-13, MW-14, MW-18, MW-19, MW-23, MW-28, MW-29, RW-1, DUP-1, at concentrations within ten times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment.
 - Nitrate-nitrite was detected in samples MW-6 and MW-13 within five times the maximum equipment blank concentration and may include measurement contributions from inadequate decontamination of field equipment
- In August 2015, the following compounds were detected in equipment blank EB-08-28-15-A: bis(2-ethylhexyl)phthalate, di-n-butyl phthalate, TDS, chloride, sulfate, arsenic, boron, calcium, iron, magnesium, and sodium. The following compounds were detected in equipment blank EB-08-28-15-B: benzaldehyde, bis(2-ethylhexyl)

phthalate, di-n-butyl phthalate, chloride, sulfate, nitrate-nitrite, arsenic, boron, magnesium, and manganese.

- TDS, chloride, sulfate, nitrate-nitrite, boron, calcium, magnesium, sodium, and benzaldehyde were not detected in any associated samples at concentrations within five times the blank concentration; therefore, there are no data interpretation issues associated with these blank detections.
- Arsenic was detected in samples MW-13, MW-14, MW-17R, MW-18, MW-21, MW-22, MW-23, MW-25, MW-26, and MW-29 at concentrations within five times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment or from laboratory sources as discussed above.
- Iron was detected in samples MW-15, MW-17R, and MW-28 at concentrations within five times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment.
- Manganese was detected in samples MW-1, MW-4, MW-8, MW-12R, MW-17R, MW-18, MW-22, MW-23, MW-25, MW-26, MW-27, MW-29, and MW-30 at concentrations within five times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment.
- Bis(2-ethylhexyl)phthalate was detected in samples MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-9, MW-10, MW-13, MW-14, MW-15, MW-16, MW-17R, MW-28, MW-29, MW-30, and RW-1 in August 2015 at concentrations within ten times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment or from laboratory sources as discussed above.
- Di-n-butyl phthalate was detected in samples MW-1, MW-4, MW-5, MW-6, MW-9, MW-10, MW-13, MW-14, MW-15, MW-16, MW-17R, MW-28, MW-29, MW-30, and RW-1 in August 2015 at concentrations within ten times the blank concentration and may include measurement contributions from inadequate decontamination of field equipment or from laboratory sources as discussed above.

5.1.5 Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

• In February 2015, LCS/LCSD recoveries of chloroethane exceeded laboratory-defined control limits in batch WG773564. Chloroethane was not detected in any of the

associated samples; therefore there are no data interpretation issues associated with these recoveries.

- In February 2015, LCS/LCSD recoveries of 1,1-dichloroethane and 1,2-dichloroethane exceeded laboratory-defined control limits in batch WG773789. 1,1-Dichloroethane and 1,2-dichloroethane were not detected in any of the associated samples; therefore there are no data interpretation issues associated with these recoveries.
- In March 2015, LCS/LCSD recoveries of acetophenone exceeded laboratory-defined control limits in batch WG775448. Acetophenone was not detected in any of the associated samples; therefore there are no data interpretation issues associated with these recoveries.
- In August 2015, the relative percent differences (RPDs) of 2,4-dinitrophenol and 4-nitrophenol exceeded laboratory-defined control limits in batch WG812320. Both of these compounds were not detected in any of the associated samples; therefore there are no data interpretation issues associated with these RPDs.
- In August 2015, LCS/LCSD recoveries for 4-nitroaniline were greater than exceeded laboratory-defined control limits in batch WG812624. 4-Nitroaniline was not detected in any of the associated samples; therefore there are no data interpretation issues associated with these recoveries
- In August 2015, the LCS recovery of styrene in batch WG814013 was greater than laboratory-defined limits. Styrene was not detected in any associated samples; therefore there are no data interpretation issues associated with this recovery.

5.1.6 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

• In February 2015, MS/MSD recoveries of select compounds did not meet laboratory-defined limits in the following samples:

• MW-10:

- The MS recoveries for 1,2-dichloroethane, 1,2-dichloropropane, 2-butanone, acetone, bromodichloromethane were greater than laboratory-defined limits. These compounds were not detected in this sample, therefore, there are no data interpretation issues associated with the compounds in this sample.
- MS/MSD recoveries for chloroethane were greater than laboratory-defined limits. Chloroethane was not detected in this sample; therefore, there are no data interpretation issues associated with chloroethane in this sample.

• MW-16:

- The MS recoveries for 1,2-dichloroethane and acetone were greater than laboratory-defined limits. These compounds were not detected in this sample; therefore, there are no data interpretation issues associated with the compounds in this sample.
- MS/MSD recoveries for trichloroethene were less than laboratory-defined limits and therefore the trichloroethene result in this sample may be biased low.
- In February 2015, MS/MSD RPDs of select compounds did not meet laboratory-defined limits in the following samples:
 - <u>MW-16</u>: RPD for styrene did not meet control limits. Styrene was not detected in this sample; therefore, no data interpretation issues are identified.
- In March 2015, MS/MSD recoveries of select compounds did not meet laboratory-defined limits in the following samples: fined limits in the following samples:

• <u>WW-North:</u>

- MS/MSD recoveries for iron were less than laboratory-defined limits and therefore the iron result in this sample may be biased low.
- The MS recovery for sodium was less than laboratory-defined limits and therefore the sodium result in this sample may be biased low.
- In August 2015, MS/MSD recoveries of select compounds did not meet laboratory-defined limits in the following samples:

WW-East:

- The MS recovery for alkalinity was less than laboratory-defined limits and therefore the alkalinity result in this sample may be biased low.
- MS/MSD recoveries for chloride, fluoride, and sulfate were greater than laboratory-defined limits. The fluoride result in this sample may be biased high. The chloride and sulfate spike concentrations were less than four times the sample concentrations; therefore there are no data interpretation issues associated with the chloride or sulfate results in this sample.
- MS/MSD recoveries for manganese was less than laboratory-defined limits and therefore the manganese result in this sample may be biased low.

- The MSD recovery for copper was greater than laboratory-defined limits and therefore the copper result in this sample may be biased high.
- MS/MSD recoveries for benzaldehyde was less than laboratory-defined limits and therefore the benzaldehyde result in this sample may be biased low.

• WW-South:

- The MS/MSD recoveries for chloride, fluoride, and sulfate were greater than laboratory-defined limits. The fluoride result in this sample may be biased high. The chloride and sulfate spike concentrations were less than four times the sample concentrations; therefore there are no data interpretation issues associated with these compound results in this sample.
- MS/MSD recoveries for calcium and MS recoveries for sodium were less than laboratory-defined limits, but the spike concentrations were less than four times the sample concentrations and therefore there are no data interpretation issues associated with these results in this sample.
- MS/MSD recoveries for 4-nitroaniline were greater than laboratory-defined limits. 4-Nitroaniline was not detected in any associated samples; therefore there are no data interpretation issues associated with this compound in this sample.
- In August 2015, MS/MSD RPDs of select compounds did not meet laboratory-defined limits in the following samples:
 - <u>WW-South</u>: RPDs for 4,6-dinitro-2-methylphenol and 2,4-dinitrophenol did not meet control limits. These compounds were not detected in this sample; therefore, no data interpretation issues are identified.

5.1.7 Laboratory Duplicates

There were no data interpretation issues associated with laboratory duplicate analyses in February 2015, March 2015, May 2015, August 2015, or December 2015.

5.1.8 Field Duplicates

- In February 2015, the RPDs for the following samples did not meet control limits and detected concentrations should be considered estimated:
 - MW-3/DUP-1: bis(2-ethylhexyl) phthalate
 - MW-25/DUP-3: chloride

- <u>WW-South/DUP-4</u>: nitrate-nitrite
- Additional RPD values exceeded 30% and less than 60% in other field duplicate pairs; however, the detections were within five time the laboratory quantitation limit and are therefore not discussed further.
- RPDs for field duplicate pairs collected in May 2015, August 2015, and December 2015 all met control limits.

6.0 2015 RELEASES AND REMEDIATION ACTIVITIES

No reportable releases occurred at the refinery in 2015. On November 11, 2015, during construction activities at the asphalt loading rack, HEP discovered stained soil with a hydrocarbon odor that was indicative of a historical release. HEP and Navajo have both notified OCD of the historical release discovery. The investigation is ongoing.

7.0 CONCLUSIONS

Conclusions based on data collected during groundwater monitoring activities conducted during calendar year 2015 (reporting year 2015) are discussed below.

Groundwater flow directions were consistent with previous groundwater monitoring events. Groundwater elevations decreased an average of 0.85 feet from February 2014 to February 2015 and an average of 0.40 feet from August 2014 to August 2015. PSH was not detected in any monitoring wells. Groundwater elevations have continually decreased from June 2009 to August 2015. These reductions in groundwater are likely caused by limited recharge and active pumping from on-site water supply wells and City of Lovington water supply wells located northwest and west (i.e., upgradient) of the refinery.

No VOCs were reported at concentrations above WQCC Standards in any well during any semi-annual or quarterly sampling events. Navajo installed and maintained ORC® socks in well MW-11 as an interim corrective action for historically elevated benzene concentrations in this well. No SVOCs were reported at concentrations above WQCC Standards in any well during either semi-annual monitoring event.

Anion exceedances of WQCC Standards reported during 2015 included chloride (in wells MW-13 and WW-South) and fluoride (in well MW-24) in February 2015; and chloride (in wells MW-2, MW-8, MW-13, MW-23, and WW-South) and fluoride (in wells MW-24, MW-27, MW-28, MW-30, and WW-East) in August 2015. The presence of select anions at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non-Navajo sources at the refinery.

TDS was reported at concentrations above its WQCC Standard in wells MW-13, MW-21, and WW-South during the February 2015 semi-annual monitoring event and in MW-8, MW-13, MW-21, MW-23, MW-25, MW-26, MW-29, and WW-South during the August 2015 semi-annual monitoring event. The presence of TDS at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non- Navajo sources at the refinery.

Metal exceedances of WQCC Standards included chromium (in well MW-29) and manganese (in wells MW-6 and MW-13) during the February 2015 and August 2015 semi-annual monitoring events. The presence of select metals at concentrations above WQCC Standards in select wells is due to off-site sources, background concentrations, and/or non- Navajo sources at the refinery.

No constituents exceeded WQCC Standards in wells located along the southeastern refinery boundary (wells MW-5, MW-14, MW-12R, and MW-22), which is the natural downgradient portion of the facility (i.e., if active pumping from the on-site water supply wells

ceased). Groundwater pumping from refinery water supply wells WW-East, WW-North, and WW-South for industrial use causes radial groundwater flow towards a cone of depression at the central portion of the refinery preventing migration of constituents offsite, but also enables onsite migration of constituents from offsite sources (i.e., active oil production and injection wells).

WQCC Standards were not exceeded in any of the quarterly samples collected from refinery water supply wells WW-North, WW-South, and WW-East with the exceptions of chloride and TDS in WW-South during each quarterly event and fluoride in WW-East in August 2015. Based on these results, the water poses no risk associated with continued use in refinery restrooms and safety showers.

8.0 WORK PLANNED FOR 2016

The following summarizes the scope of work planned for 2016 at the refinery:

- Implement semi-annual groundwater monitoring and annual reporting activities in accordance with the sampling and analysis plan presented in the December 2015 *Revised Facility-Wide Groundwater Monitoring Work Plan* (FWGWMWP) that was approved by OCD on March 9, 2016. Navajo will continue to evaluate further reductions of the sampling plan based on historical analytical trends in groundwater.
- Continue to implement quarterly water supply well monitoring in accordance with OCD's May 16, 2014, letter, Navajo's response letter on June 20, 2014, and the December 2015 Revised FWGWMWP.
- Continue to implement interim corrective action of benzene in well MW-11 via installation of ORC® socks to promote enhanced aerobic biodegradation. The ORC® socks will continue to be installed and maintained in accordance with manufacturer recommendations.
- Replace select monitor wells that are screened at depths too shallow for optimal monitoring of the current groundwater elevation, which has continually decreased from June 2009 to August 2015.

Figure 1. Refinery Vicinity Map

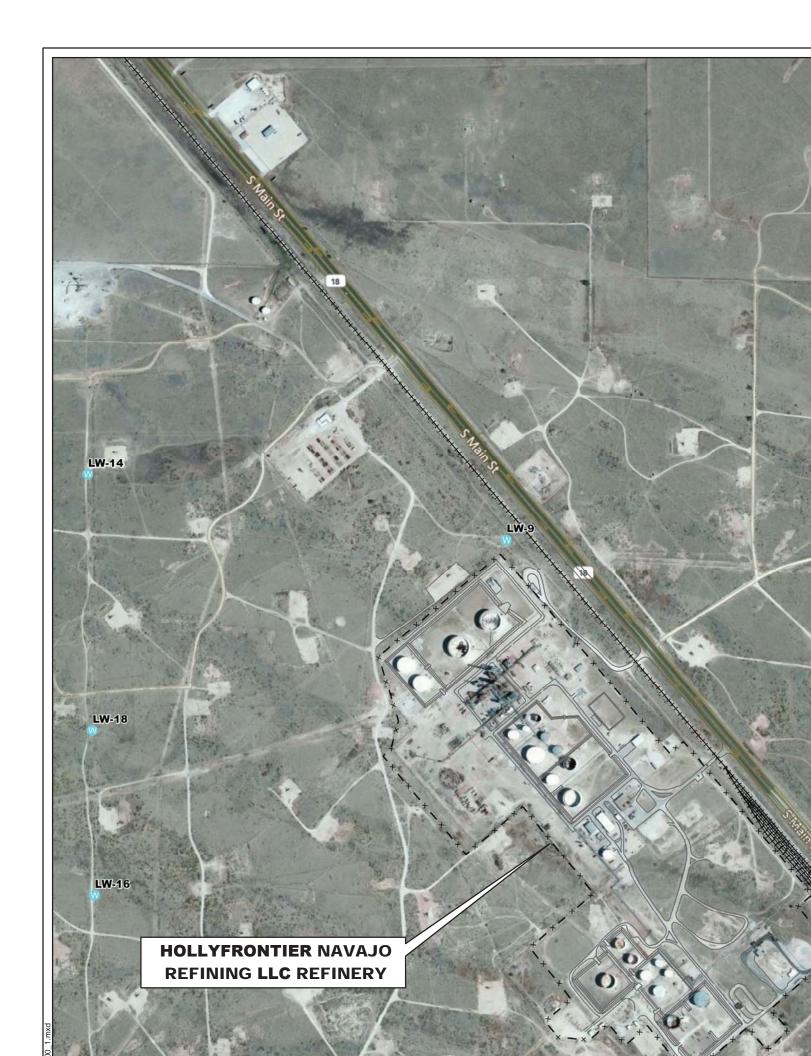
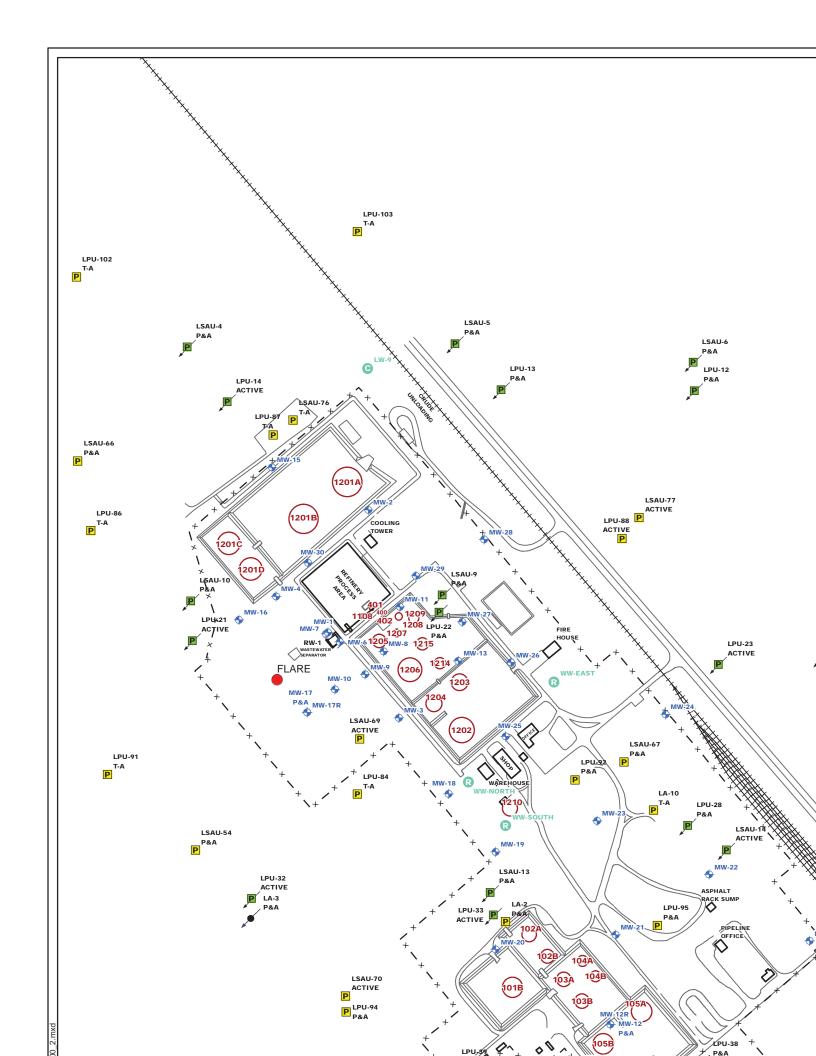
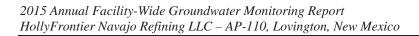


Figure 2. Refinery Site Plan





April 2016

Figure 3. Groundwater Potentiometric Surface Map – February 2015

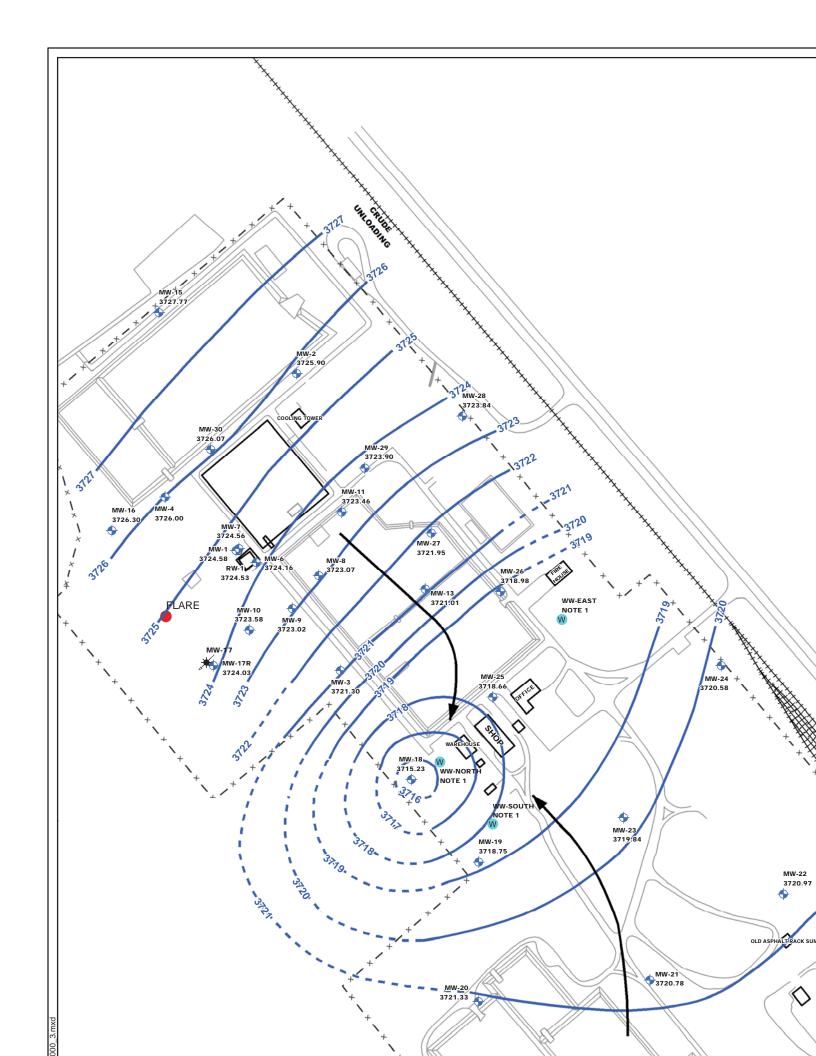


Figure 4. Groundwater Potentiometric Surface Map – August 2015

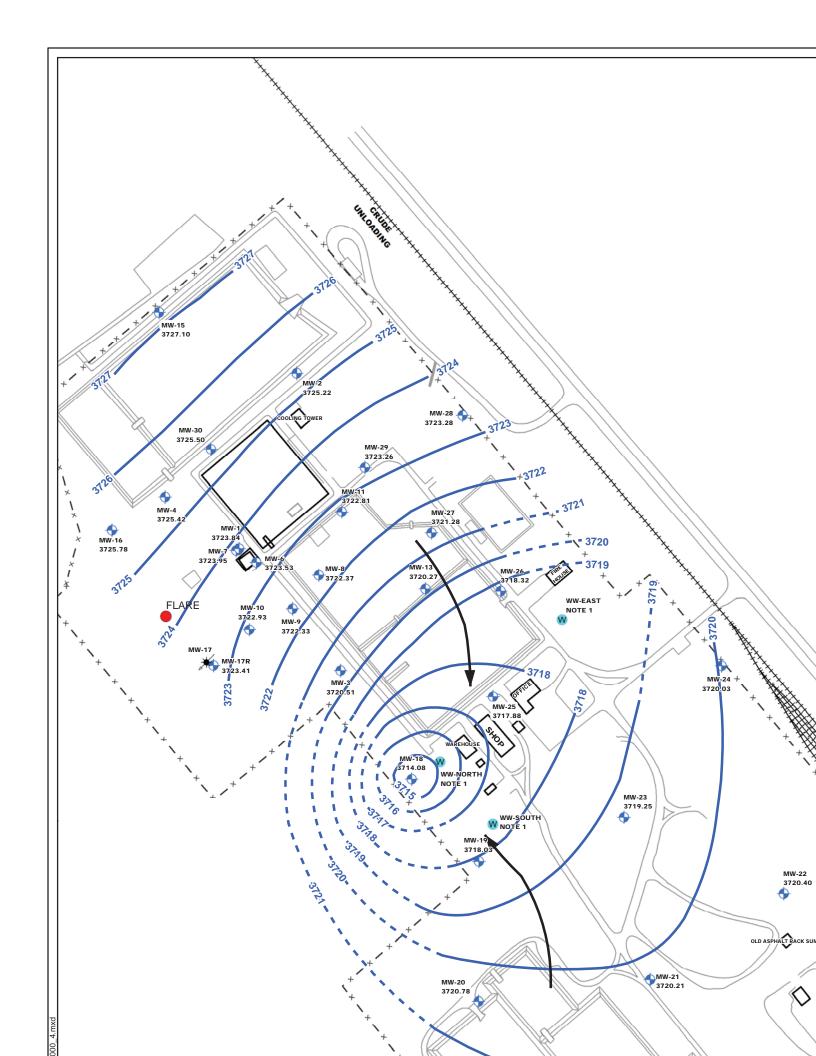


Figure 5. Anions Concentration Map – February 2015

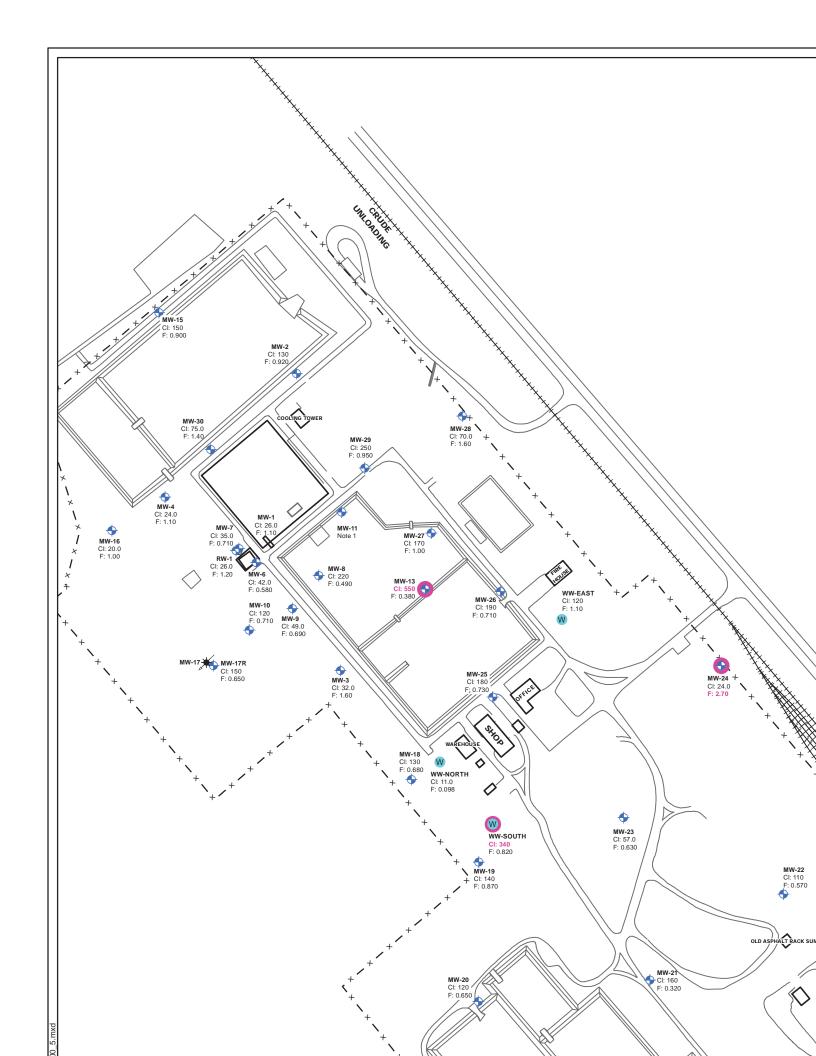
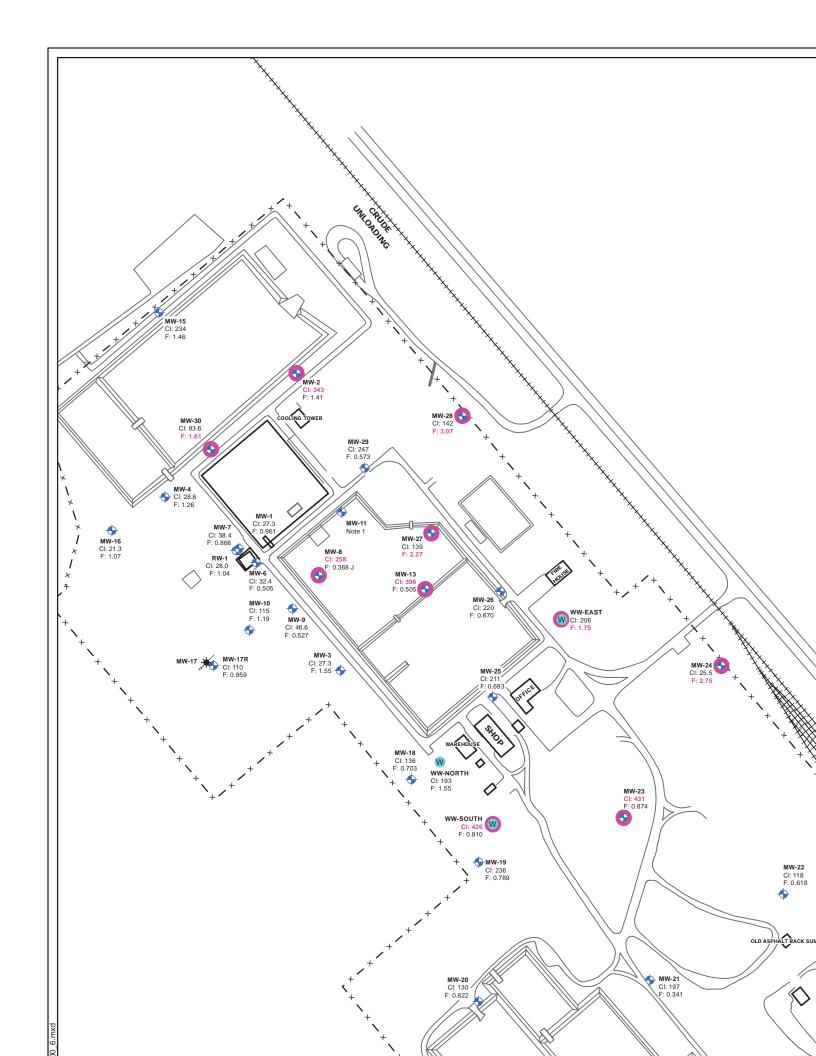
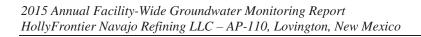


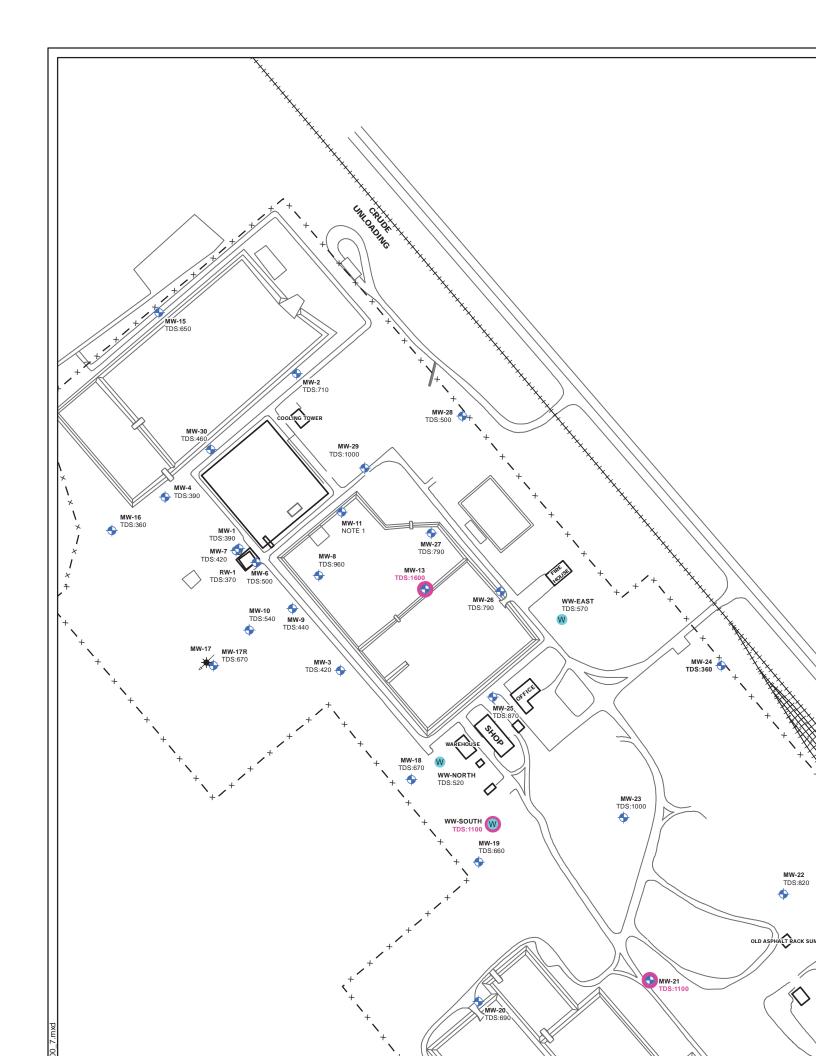
Figure 6. Anions Concentration Map – August 2015

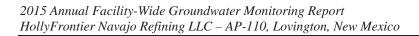




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Figure 7. Total Dissolved Solids Concentration Map – February 2015





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Figure 8. Total Dissolved Solids Concentration Map – August 2015

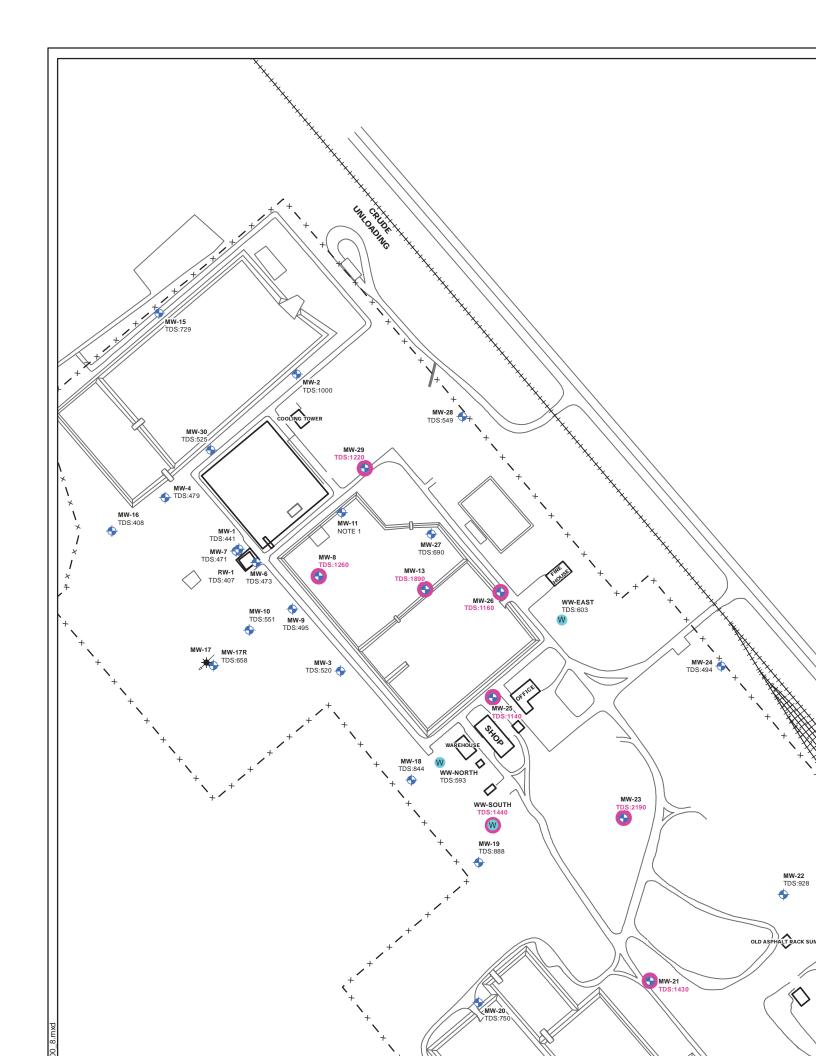


Figure 9. Metals Concentration Map – February 2015

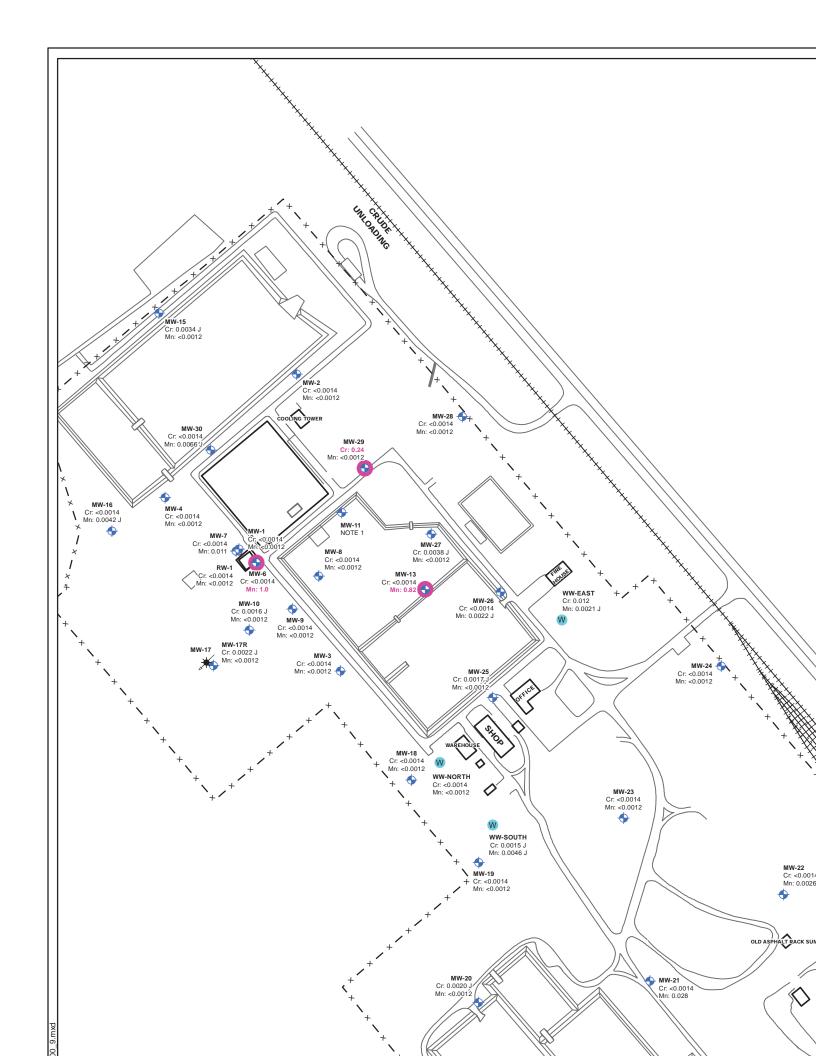


Figure 10. Metals Concentration Map – August 2015

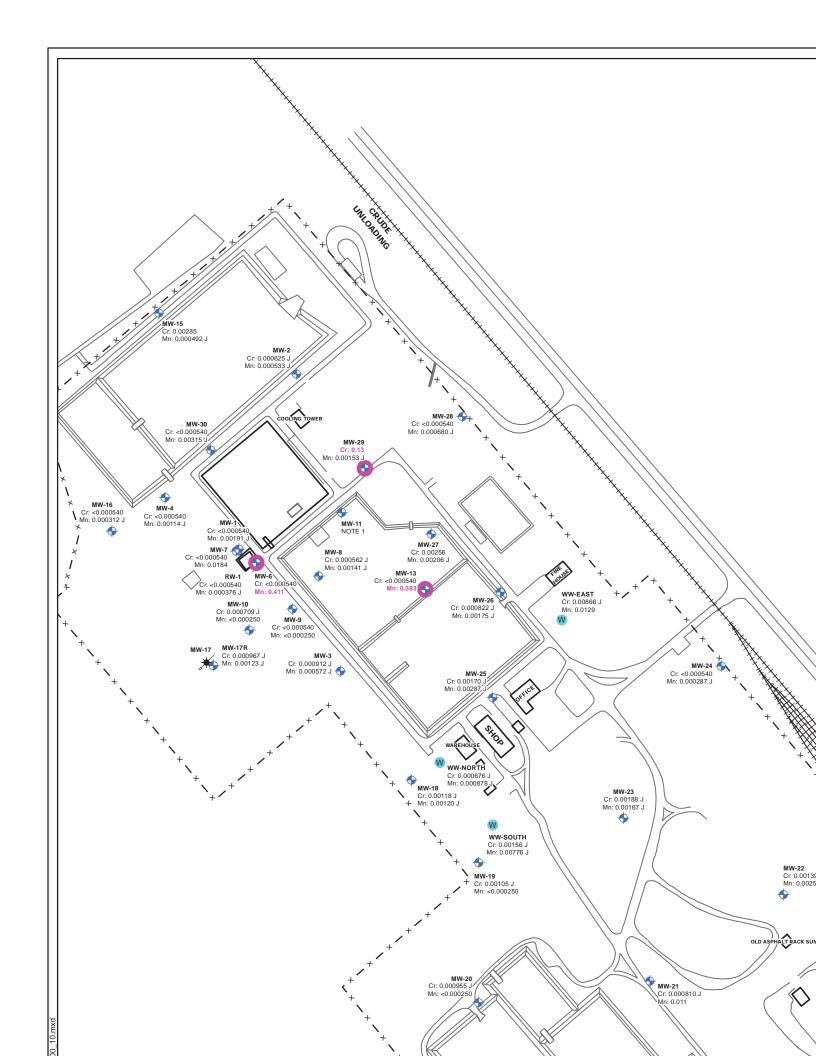


Table 1. Water Elevation Measurements

 $Table\ 1.\ Water\ Elevation\ Measurements,\ Holly Frontier\ Navajo\ Refining\ LLC,\ AP-110,\ Lovington,\ New\ Mexico$

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-1 (1,5)			0.4/20/00	I		125 10				
MW-1	3,838.40	3,739.19 to	04/30/09		106.35 106.49	136.10 NM	0.00	106.35 106.49	3,732.05 3,731.91	NA -0.14
		3,709.19	06/19/09		106.57	129.12	0.00	106.57	3,731.83	-0.08
			07/02/09		106.74	129.13	0.00	106.74	3,731.66	-0.17
			07/24/09		106.83	129.11	0.00	106.83	3,731.57	-0.09
			09/24/09		107.31	129.12	0.00	107.31	3,731.09	-0.48
			10/27/09		107.44	129.10	0.00	107.44	3,730.96	-0.13
			01/13/10 04/01/10		107.57 107.51	129.11 NM	0.00	107.57 107.51	3,730.83 3,730.89	-0.13 0.06
			08/11/10		107.51	129.16	0.00	107.51	3,730.89	-0.58
			02/23/11		108.12	129.14	0.00	108.12	3,730.28	-0.03
			07/12/11		109.00	129.11	0.00	109.00	3,729.40	-0.88
			02/02/12		109.68	129.12	0.00	109.68	3,728.72	-0.68
			07/23/12		110.88	128.87	0.00	110.88	3,727.52	-1.20
			02/18/13		110.51	129.22	0.00	110.51	3,727.89	0.37
			08/19/13		111.55	130.60	0.00	111.55	3,726.85	-1.04
			02/24/14 08/18/14		112.49 113.37	129.35 129.09	0.00	112.49 113.37	3,725.91 3,725.03	-0.94 -0.88
			02/23/15		113.82	129.09	0.00	113.82	3,724.58	-0.45
			08/24/15		114.56	129.19	0.00	114.56	3,723.84	-0.74
MW-2 (1,5)	3,837.35	2 720 77	06/22/00		104.22	126.41	0.00	104.22	2 722 02	NA
NI W-2	3,837.33	3,739.77 to	06/22/09		104.32 105.44	126.41 126.68	0.00	104.32 105.44	3,733.03 3,731.91	NA -1.12
		3,709.77	08/11/10		105.97	126.42	0.00	105.97	3,731.38	-0.53
			02/23/11		105.92	126.46	0.00	105.92	3,731.43	0.05
			07/12/11		107.22	126.47	0.00	107.22	3,730.13	-1.30
			01/30/12		107.55	126.47	0.00	107.55	3,729.80	-0.33
			07/23/12		108.72	126.48	0.00	108.72	3,728.63	-1.17
			02/18/13		108.15 109.43	126.69 126.75	0.00	108.15 109.43	3,729.20	0.57 -1.28
			08/19/13 02/24/14		110.59	120.73	0.00	110.59	3,727.92 3,726.76	-1.28
			08/18/14		111.25	126.58	0.00	111.25	3,726.10	-0.66
			02/23/15		111.45	126.77	0.00	111.45	3,725.90	-0.20
			08/24/15		112.13	126.75	0.00	112.13	3,725.22	-0.68
MW-3 (1,5)	3,831.65	3,733.73	06/16/09		102.65	130.45	0.00	102.65	3,729.00	NA
111110	3,031.03	to	01/13/10		103.29	130.69	0.00	103.29	3,728.36	-0.64
		3,703.73	08/11/10		104.82	130.42	0.00	104.82	3,726.83	-1.53
			09/28/10		104.70	NM	0.00	104.70	3,726.95	0.12
			02/23/11		104.11	130.47	0.00	104.11	3,727.54	0.59
			07/12/11		104.89	130.50	0.00	104.89	3,726.76	-0.78
			01/30/12 07/23/12		105.22 107.59	130.45 130.46	0.00	105.22 107.59	3,726.43 3,724.06	-0.33 -2.37
			02/18/13		107.39	130.40	0.00	106.21	3,725.44	1.38
			08/19/13		108.11	130.88	0.00	108.11	3,723.54	-1.90
			02/24/14		108.45	130.75	0.00	108.45	3,723.20	-0.34
			08/18/14		110.33	130.71	0.00	110.33	3,721.32	-1.88
			02/23/15		110.35	130.60	0.00	110.35	3,721.30	-0.02
			08/24/15		111.14	130.57	0.00	111.14	3,720.51	-0.79
MW-4 (1,5)	3,839.89	3,741.76	06/16/09		106.79	128.02	0.00	106.79	3,733.10	NA
		to	01/13/10		107.72	127.94	0.00	107.72	3,732.17	-0.93
		3,711.76	08/11/10		108.19	128.03	0.00	108.19	3,731.70	-0.47
			09/28/10		108.47 108.31	NM 127.82	0.00	108.47 108.31	3,731.42 3,731.58	-0.28 0.16
			07/12/11		108.31	127.82	0.00	108.31	3,730.62	-0.96
			01/30/12		109.91	128.02	0.00	109.91	3,729.98	-0.64
			07/23/12		111.00	127.82	0.00	111.00	3,728.89	-1.09
			02/18/13		110.70	127.95	0.00	110.70	3,729.19	0.30
			08/19/13		111.60	128.01	0.00	111.60	3,728.29	-0.90
			02/24/14		112.78	127.80	0.00	112.78	3,727.11	-1.18
			08/18/14		113.42	127.63	0.00	113.42	3,726.47	-0.64
			02/23/15 08/24/15		113.89 114.47	127.68 127.99	0.00	113.89 114.47	3,726.00 3,725.42	-0.47 -0.58
L			00/24/13		114.4/	147.77	0.00	114.4/	3,143.44	-0.30

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-5 (1,5)	3,819.15	3,731.13	06/16/09		90.84	NM	0.00	90.84	3,728.31	NA
		to	01/13/10		92.02	118.30	0.00	92.02	3,727.13	-1.18
		3,701.13	08/11/10		92.67	117.93	0.00	92.67	3,726.48	-0.65
			02/23/11 07/12/11		92.68 93.38	118.00 117.97	0.00	92.68 93.38	3,726.47 3,725.77	-0.01 -0.70
			01/31/12		94.75	117.75	0.00	94.75	3,724.40	-1.37
			07/23/12		95.22	117.92	0.00	95.22	3,723.93	-0.47
			02/18/13		95.95	118.85	0.00	95.95	3,723.20	-0.73
			08/19/13 02/24/14		96.65 97.06	117.90 117.45	0.00	96.65 97.06	3,722.50 3,722.09	-0.70 -0.41
			08/18/14		97.57	117.22	0.00	97.57	3,721.58	-0.51
			02/23/15		98.01	117.19	0.00	98.01	3,721.14	-0.44
			08/24/15		98.46	117.22	0.00	98.46	3,720.69	-0.45
MW-6 (1,5)	3,838.16	3,738.17	06/18/09		106.64	129.48	0.00	106.64	3,731.52	NA
		to 3,708.17	07/24/09		106.92	129.71	0.00	106.92	3,731.24	-0.28
		5,706.17	09/24/09 10/27/09		107.44 107.55	129.74 129.73	0.00	107.44 107.55	3,730.72 3,730.61	-0.52 -0.11
			01/13/10		107.64	129.71	0.00	107.64	3,730.52	-0.09
			02/02/10		107.69	NM	0.00	107.69	3,730.47	-0.05
			04/01/10		107.65	NM	0.00	107.65	3,730.51	0.04
			08/11/10 02/23/11		108.00 108.22	129.71 129.72	0.00	108.00 108.22	3,730.16 3,729.94	-0.35 -0.22
			07/12/11		109.09	129.74	0.00	109.09	3,729.07	-0.22
			02/02/12		109.78	129.74	0.00	109.78	3,728.38	-0.69
			07/23/12		111.00	129.47	0.00	111.00	3,727.16	-1.22
			02/18/13		110.60 111.70	133.32 130.84	0.00	110.60 111.70	3,727.56 3,726.46	0.40 -1.10
			02/24/14		112.57	130.04	0.00	111.70	3,725.59	-0.87
			08/18/14		113.50	129.71	0.00	113.50	3,724.66	-0.93
			02/23/15		114.00	129.90	0.00	114.00	3,724.16	-0.50
			08/24/15		114.63	129.69	0.00	114.63	3,723.53	-0.63
MW-7 (1,5)	3,838.42	3,738.19	04/30/09		106.37	135.54	0.00	106.37	3,732.05	NA
		to 3,708.19	06/10/09		106.48 106.68	NM 129.34	0.00	106.48 106.68	3,731.94 3,731.74	-0.11 -0.20
		2,1.00.27	07/02/09		106.08	129.54	0.00	106.75	3,731.74	-0.20
			07/24/09		106.84	129.52	0.00	106.84	3,731.58	-0.09
			09/24/09		107.33	129.29	0.00	107.33	3,731.09	-0.49
			10/27/09 01/13/10		107.46 107.60	129.53 129.55	0.00	107.46 107.60	3,730.96 3,730.82	-0.13 -0.14
			02/02/10		107.61	NM	0.00	107.61	3,730.82	-0.14
			04/01/10		107.52	NM	0.00	107.52	3,730.90	0.09
			08/11/10		108.10	129.57	0.00	108.10	3,730.32	-0.58
			02/23/11 07/12/11		108.13 109.01	129.52 129.50	0.00	108.13 109.01	3,730.29 3,729.41	-0.03 -0.88
			02/02/12		109.71	129.26	0.00	109.71	3,728.71	-0.70
			07/23/12		109.88	129.30	0.00	109.88	3,728.54	-0.17
			02/18/13		110.52	129.55	0.00	110.52	3,727.90	-0.64
			08/19/13 02/24/14		111.57 112.50	129.17 129.90	0.00	111.57 112.50	3,726.85 3,725.92	-1.05 -0.93
			08/18/14		113.40	129.58	0.00	113.40	3,725.02	-0.90
			02/23/15		113.86	129.62	0.00	113.86	3,724.56	-0.46
			08/24/15		114.47	129.64	0.00	114.47	3,723.95	-0.61
MW-8 (2,5)	3,839.98	3,737.44	06/18/09		109.37	132.30	0.00	109.37	3,730.61	NA
		to 3,707.44	01/13/10		110.47	132.56	0.00	110.47	3,729.51	-1.10
		3,707. 44	08/11/10 02/23/11		111.05 111.07	132.34 132.34	0.00	111.05 111.07	3,728.93 3,728.91	-0.58 -0.02
			07/12/11		111.07	132.34	0.00	111.07	3,728.00	-0.02
			02/01/12		112.91	132.32	0.00	112.91	3,727.07	-0.93
			07/23/12		113.94	132.33	0.00	113.94	3,726.04	-1.03
			02/18/13		113.27 114.69	132.32 132.39	0.00	113.27 114.69	3,726.71 3,725.29	0.67 -1.42
			02/24/14		115.44	132.59	0.00	115.44	3,723.29	-0.75
			08/19/13		116.56	132.16	0.00	116.56	3,723.42	-1.12
			02/23/15		116.91	132.10	0.00	116.91	3,723.07	-0.35
			08/24/15		117.61	132.20	0.00	117.61	3,722.37	-0.70

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-9 (2,5)	3,835.22	3,736.13	06/16/09		104.58	129.18	0.00	104.58	3,730.64	NA
		to	01/13/10		105.61	129.48	0.00	105.61	3,729.61	-1.03
		3,706.13	08/11/10		106.37	129.21	0.00	106.37	3,728.85	-0.76
			02/23/11		106.28	129.24	0.00	106.28	3,728.94	-0.89
			07/12/11 01/31/12		107.17 107.38	129.26 129.30	0.00	107.17 107.38	3,728.05 3,727.84	-0.89
			07/23/12		109.20	128.90	0.00	109.20	3,726.02	-1.82
			02/18/13		108.47	129.41	0.00	108.47	3,726.75	0.73
			08/19/13		109.91	129.38	0.00	109.91	3,725.31	-1.44
			02/24/14		110.63	129.35	0.00	110.63	3,724.59	-0.72
			08/18/14 02/23/15		111.81 112.20	129.01 124.08	0.00	111.81 112.20	3,723.41 3,723.02	-1.18 -0.39
			08/24/15		112.20	129.06	0.00	112.89	3,722.33	-0.69
(2.5)				1						1
MW-10 (2,5)	3,833.66	3,735.49	06/16/09		102.57	129.14	0.00	102.57	3,731.09	NA 0.04
		to 3,705.49	01/13/10 08/11/10		103.51 104.31	127.42 128.47	0.00	103.51 104.31	3,730.15 3,729.35	-0.94 -0.80
		- ,	02/23/11		104.31	128.47	0.00	104.31	3,729.33	0.05
			07/12/11		105.08	128.46	0.00	105.08	3,728.58	-0.82
			01/31/12		105.73	128.40	0.00	105.73	3,727.93	-0.65
			07/23/12		107.05	128.50	0.00	107.05	3,726.61	-1.32
			02/18/13		106.63	128.59	0.00	106.63	3,727.03	0.42
			08/19/13 02/24/14		107.78 108.53	128.56	0.00	107.78	3,725.88 3,725.13	-1.15 -0.75
			08/18/14		108.53	128.40 128.15	0.00	108.53 109.62	3,724.04	-0.75
			02/23/15		110.08	128.35	0.00	110.08	3,723.58	-0.46
			08/24/15		110.73	128.42	0.00	110.73	3,722.93	-0.65
MW-11 (3,5)	3,839.56	2 741 12	06/20/02		99.93	NM	0.00	99.93	3,739.63	NA
W1 VV - 11	3,039.30	3,741.13 to	09/17/02		100.63	NM	0.00	100.63	3,738.93	-0.70
		3,721.13	12/19/02		100.50	NM	0.00	100.50	3,739.06	0.13
			03/28/03		99.74	NM	0.00	99.74	3,739.82	0.76
			06/20/03		100.76	NM	0.00	100.76	3,738.80	-1.02
			09/15/03		101.51	NM	0.00	101.51	3,738.05	-0.75
			04/30/04		102.31	116.21	0.00	102.31	3,737.25	-0.80
			02/21/05 06/28/05		103.80 104.33	NM NM	0.00	103.80 104.33	3,735.76 3,735.23	-1.49 -0.53
			09/30/05		104.60	NM	0.00	104.60	3,734.96	-0.27
			12/29/05		104.81	NM	0.00	104.81	3,734.75	-0.21
			04/10/06		105.12	NM	0.00	105.12	3,734.44	-0.31
			07/06/06		105.61	NM	0.00	105.61	3,733.95	-0.49
			01/26/07		106.63	NM	0.00	106.63	3,732.93	-1.02
			03/27/07 07/13/07		106.80 106.94	NM NM	0.00	106.80 106.94	3,732.76 3,732.62	-0.17 -0.14
			09/12/07		100.94	NM	0.00	107.22	3,732.34	-0.14
			12/31/07		106.74	NM	0.00	106.74	3,732.82	0.48
			03/26/08		106.81	117.51	0.00	106.81	3,732.75	-0.07
			06/13/08		107.40	NM	0.00	107.40	3,732.16	-0.59
			09/24/08		108.76	NM	0.00	108.76	3,730.80	-1.36
			12/29/08 03/17/09		108.57 107.91	NM NM	0.00	108.57 107.91	3,730.99 3,731.65	0.19
			06/18/09		107.91	117.49	0.00	107.91	3,730.91	-0.74
			01/13/10		109.81	117.77	0.00	109.81	3,729.75	-1.16
			08/11/10		110.16	117.50	0.00	110.16	3,729.40	-0.35
			02/23/11		110.32	117.70	0.00	110.32	3,729.24	-0.16
			07/12/11		110.31	117.41	0.00	110.31	3,729.25	0.01
			02/01/12		112.02	117.37	0.00	112.02	3,727.54	-1.71
			07/23/12 02/18/13		113.10 112.53	117.38 117.75	0.00	113.10 112.53	3,726.46 3,727.03	-1.08 0.57
			08/19/13		112.55	117.73	0.00	112.55	3,725.67	-1.36
			02/24/14		114.75	117.90	0.00	114.75	3,724.81	-0.86
			08/18/14		115.71	117.60	0.00	115.71	3,723.85	-0.96
			02/23/15		116.10	117.81	0.00	116.10	3,723.46	-0.39
			08/24/15		116.75	117.86	0.00	116.75	3,722.81	-0.65

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-12 (3,5,8)	3,822.73	3,742.29	06/20/02		84.20	NM	0.00	84.20	3,738.53	NA
		to	12/21/02		85.21	NM	0.00	85.21	3,737.52	-1.01
		3,722.29	03/28/03		85.35	NM NM	0.00	85.35 85.51	3,737.38	-0.14
			09/15/03		85.51 86.13	NM NM	0.00	86.13	3,737.22 3,736.60	-0.16 -0.62
			11/02/03		86.57	NM	0.00	86.57	3,736.16	-0.44
			04/30/04		87.40	100.55	0.00	87.40	3,735.33	-0.83
			02/21/05 06/28/05		88.42 88.76	NM NM	0.00	88.42 88.76	3,734.31 3,733.97	-1.02 -0.34
			09/30/05		89.12	NM	0.00	89.12	3,733.61	-0.36
			12/29/05		89.31	NM	0.00	89.31	3,733.42	-0.19
			04/10/06		89.55	NM	0.00	89.55	3,733.18	-0.24
			07/06/06		90.03 90.06	NM NM	0.00	90.03	3,732.70 3,732.67	-0.48 -0.03
			03/27/07		90.00	NM	0.00	90.10	3,732.63	-0.03
			07/13/07		91.66	NM	0.00	91.66	3,731.07	-1.56
			09/12/07		92.01	NM	0.00	92.01	3,730.72	-0.35
			12/31/07 03/26/08		92.17 92.39	NM 100.57	0.00	92.17 92.39	3,730.56 3,730.34	-0.16 -0.22
			06/13/08		92.59	NM	0.00	92.59	3,730.14	-0.20
			09/24/08		93.21	NM	0.00	93.21	3,729.52	-0.62
			12/29/08		93.59	NM	0.00	93.59	3,729.14	-0.38
			03/17/09 06/16/09		93.75 93.83	NM 100.51	0.00	93.75 93.83	3,728.98 3,728.90	-0.16 -0.08
			01/13/10		94.78	100.71	0.00	94.78	3,727.95	-0.95
			08/11/10		95.67	100.56	0.00	95.67	3,727.06	-0.89
			02/23/11		95.85	100.56	0.00	95.85	3,726.88	-0.18
			07/12/11 02/01/12		96.58 97.57	100.55 100.57	0.00	96.58 97.57	3,726.15 3,725.16	-0.73 -0.99
			07/23/12		98.10	100.50	0.00	98.10	3,724.63	-0.53
			02/18/13		98.95	100.50	0.00	98.95	3,723.78	-0.85
MW-12R (8)	3,823.29	3,734.95	08/19/13		100.25	108.34	0.00	100.25	3,723.04	NA
		to 3,714.95	02/24/14 08/18/14		100.92	108.50	0.00	100.92 101.33	3,722.37	-0.67 -0.41
		3,714.23	02/23/15		101.33 101.73	108.22 107.50	0.00	101.33	3,721.96 3,721.56	-0.40
			08/24/15		102.25	107.72	0.00	102.25	3,721.04	-0.52
MW-13 (4,5)	3,837.06	3,738.75	04/30/04		101.41	119.82	0.00	101.41	3,735.65	NA
		to	02/21/05		103.09	NM	0.00	103.09	3,733.97	-1.68
		3,718.75	06/28/05		103.48	NM	0.00	103.48	3,733.58	-0.39
			09/30/05 12/29/05		103.80 104.41	NM NM	0.00	103.80 104.41	3,733.26 3,732.65	-0.32 -0.61
			04/10/06		104.59	NM	0.00	104.59	3,732.47	-0.18
			07/06/06		104.94	NM	0.00	104.94	3,732.12	-0.35
			01/26/07		106.41 106.47	NM NM	0.00	106.41 106.47	3,730.65 3,730.59	-1.47 -0.06
			07/13/07		106.93	NM	0.00	106.93	3,730.13	-0.46
			09/12/07		107.19	NM	0.00	107.19	3,729.87	-0.26
			12/31/07		106.71	NM	0.00	106.71	3,730.35	0.48
			03/26/08		107.02 107.19	119.75 NM	0.00	107.02 107.19	3,730.04 3,729.87	-0.31 -0.17
			09/24/08		108.56	NM	0.00	108.56	3,728.50	-1.37
			12/29/08		108.71	NM	0.00	108.71	3,728.35	-0.15
			03/17/09 06/16/09		108.36 108.58	NM 108.58	0.00	108.36 108.58	3,728.70 3,728.48	0.35 -0.22
			01/13/10		109.68	119.95	0.00	109.68	3,727.38	-1.10
			08/11/10		109.72	119.68	0.00	109.72	3,727.34	-0.04
			02/23/11		110.14	119.69	0.00	110.14	3,726.92	-0.42
			07/12/11 02/01/12		111.17 111.81	119.71 119.66	0.00	111.17 111.81	3,725.89 3,725.25	-1.03 -0.64
			07/23/12		113.11	119.66	0.00	113.11	3,723.95	-1.30
			02/18/13		111.84	119.87	0.00	111.84	3,725.22	1.27
			08/19/13		113.81	119.95	0.00	113.81	3,723.25	-1.97
			02/24/14 08/18/14		114.47 115.89	121.50 119.89	0.00	114.47 115.89	3,722.59 3,721.17	-0.66 -1.42
			02/23/15		116.05	119.88	0.00	116.05	3,721.17	-0.16
			08/24/15		116.79	119.83	0.00	116.79	3,720.27	-0.74

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-14 (4,5)	3,823.03	3,737.88	04/30/04		87.46	NM	0.00	87.46	3,735.57	NA
	.,.	to	02/21/05		88.48	NM	0.00	88.48	3,734.55	-1.02
		3,717.88	06/28/05		88.80	NM	0.00	88.80	3,734.23	-0.32
		İ	09/30/05		89.14	NM	0.00	89.14	3,733.89	-0.34
			12/29/05		89.34	NM	0.00	89.34	3,733.69	-0.20
		ĺ	04/10/06		89.63	NM	0.00	89.63	3,733.40	-0.29
			07/06/06		90.08	NM	0.00	90.08	3,732.95	-0.45
			01/26/07		91.02	NM	0.00	91.02	3,732.01	-0.94
			03/27/07		91.18	NM	0.00	91.18	3,731.85	-0.16
			07/13/07		91.68	NM	0.00	91.68	3,731.35	-0.50
			09/12/07		92.02	NM	0.00	92.02	3,731.01	-0.34
			12/31/07		92.25	NM	0.00	92.25	3,730.78	-0.23
			03/26/08		92.43	105.08	0.00	92.43	3,730.60	-0.18
			06/13/08		92.64	NM	0.00	92.64	3,730.39	-0.21
			12/29/08		93.60	NM	0.00	93.60	3,729.43	-0.96
			03/17/09		93.84	NM	0.00	93.84	3,729.19	-0.24
			06/16/09		93.92	105.04	0.00	93.92	3,729.11	-0.08
			01/13/10		94.80	105.30	0.00	94.80	3,728.23	-0.88
			08/11/10		95.67	105.04	0.00	95.67	3,727.36	-0.87
			02/23/11		95.99	105.05	0.00	95.99	3,727.04	-0.32
			07/12/11		96.59	105.06	0.00	96.59	3,726.44	-0.60
			01/31/12		97.54	105.05	0.00	97.54	3,725.49	-0.95
			07/23/12		98.20	105.05	0.00	98.20	3,724.83	-0.66
		-	02/18/13		99.07	105.38	0.00	99.07	3,723.96	-0.87
		-	08/19/13		99.82	105.30	0.00	99.82	3,723.21	-0.75
		ŀ	02/24/14		100.55	105.60	0.00	100.55	3,722.48	-0.73
		}	08/18/14		100.94	105.35	0.00	100.94	3,722.09	-0.39
		}	02/23/15 08/24/15		101.42 101.86	105.35 105.37	0.00	101.42 101.86	3,721.61 3,721.17	-0.48 -0.44
		ļ	06/24/13		101.80	103.37	0.00	101.80	3,721.17	-0.44
MW-15 (6,7)	3,840.19	3,738.54	08/11/10		106.94	121.68	0.00	106.94	3,733.25	NA
		to	02/23/11		107.01	121.67	0.00	107.01	3,733.18	-0.07
		3,718.54	07/12/11		108.32	121.62	0.00	108.32	3,731.87	-1.31
			01/30/12		108.54	121.62	0.00	108.54	3,731.65	-0.22
			07/23/12		109.77	121.58	0.00	109.77	3,730.42	-1.23
			02/18/13		109.22	121.82	0.00	109.22	3,730.97	0.55
			08/19/13		110.34	121.83	0.00	110.34	3,729.85	-1.12
			02/24/14		111.72	122.05	0.00	111.72	3,728.47	-1.38
			08/18/14		112.16	121.70	0.00	112.16	3,728.03	-0.44
			02/23/15		112.42	121.80	0.00	112.42	3,727.77	-0.26
			08/24/15		113.09	121.78	0.00	113.09	3,727.10	-0.67
MW-16 (6,7)	3,838.20	3,737.50	08/11/10		106.18	119.61	0.00	106.18	3,732.02	NA
	-,	to	02/23/11		106.34	119.67	0.00	106.34	3,731.86	-0.16
		3,717.50	07/12/11		107.21	119.61	0.00	107.21	3,730.99	-0.87
		ļ	01/30/12		107.93	119.47	0.00	107.93	3,730.27	-0.72
		İ	07/23/12		108.98	119.14	0.00	108.98	3,729.22	-1.05
			02/18/13		108.69	119.63	0.00	108.69	3,729.51	0.29
		İ	08/19/13		109.51	119.50	0.00	109.51	3,728.69	-0.82
			02/24/14		110.73	119.65	0.00	110.73	3,727.47	-1.22
			08/18/14		111.35	119.25	0.00	111.35	3,726.85	-0.62
			02/23/15		111.90	119.48	0.00	111.90	3,726.30	-0.55
			08/24/15		112.42	119.22	0.00	112.42	3,725.78	-0.52

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-17 (6,7,8)	3,831.43	3,735.79	08/11/10		101.65	115.92	0.00	101.65	3,729.78	NA
		to	02/23/11		101.71	115.69	0.00	101.71	3,729.72	-0.06
		3,715.79	07/12/11		102.41	115.55	0.00	102.41	3,729.02	-0.70
			01/31/12				DAMAGED - NO			
			07/23/12				DAMAGED - NO			
			02/18/13			WELL	L DAMAGED - NO	OT GAUGED		
MW-17R (8)	3,831.14	3,731.19	08/19/13		104.79	119.95	0.00	104.79	3,726.35	NA
		to 3,711.19	02/24/14		105.59	119.00	0.00	105.59	3,725.55	-0.80
		5,/11.19	08/18/14 02/23/15		106.58 107.11	117.80 117.30	0.00	106.58 107.11	3,724.56 3,724.03	-0.99 -0.53
			08/24/15		107.73	117.53	0.00	107.73	3,723.41	-0.62
MW-18 (6,7)	2.025.05	2.725.52	00/11/10	1	100.54	110.26	0.00	100.54	271651	N/A
MW-18	3,825.05	3,725.52 to	08/11/10 09/30/10		108.54 104.47	119.36 NM	0.00	108.54 104.47	3,716.51 3,720.58	NA 4.07
		3,705.52	02/23/11		100.02	119.38	0.00	100.02	3,725.03	4.45
			07/12/11		100.73	119.38	0.00	100.73	3,724.32	-0.71
			01/31/12		100.49	119.38	0.00	100.49	3,724.56	0.24
			07/23/12		110.18	119.37	0.00	110.18	3,714.87	-9.69
			02/18/13		102.51	119.59	0.00	102.51	3,722.54	7.67
			08/19/13		109.79	119.68	0.00	109.79	3,715.26	-7.28
			02/24/14		105.20	119.85	0.00	105.20	3,719.85	4.59
			08/18/14 02/23/15		115.51 109.82	119.67 119.60	0.00	115.51 109.82	3,709.54 3,715.23	-10.31 5.69
			08/24/15		110.97	119.55	0.00	110.97	3,713.23	-1.15
MW-19 (6,7)	3,823.97	3,731.48	08/11/10		102.35	113.60	0.00	102.35	3,721.62	NA
14144-19	3,823.97	5,731.46 to	09/30/10		98.70	NM	0.00	98.70	3,725.27	3.65
		3,711.48	02/23/11		98.32	113.57	0.00	98.32	3,725.65	0.38
			07/12/11		101.87	113.56	0.00	101.87	3,722.10	-3.55
			01/31/12		100.92	113.54	0.00	100.92	3,723.05	0.95
			07/23/12		100.98	113.56	0.00	100.98	3,722.99	-0.06
			02/18/13		103.45	113.76	0.00	103.45	3,720.52	-2.47
			08/19/13		104.87	113.81	0.00	104.87	3,719.10	-1.42
			02/24/14 08/18/14		105.76 104.60	114.00 113.79	0.00	105.76 104.60	3,718.21 3,719.37	-0.89 1.16
			02/23/15		105.22	113.79	0.00	105.22	3,719.37	-0.62
			08/24/15		105.94	113.71	0.00	105.94	3,718.03	-0.72
MW-20 (6,7)	3,824.58	3,733.03	08/11/10		97.75	111.82	0.00	97.75	3,726.83	NA
		to	02/23/11		97.42	111.82	0.00	97.42	3,727.16	0.33
		3,713.03	07/12/11		98.50	111.74	0.00	98.50	3,726.08	-1.08
			01/31/12		99.07	111.74	0.00	99.07	3,725.51	-0.57
			07/23/12		99.75	111.75	0.00	99.75	3,724.83	-0.68
			02/18/13 08/19/13		100.50 101.60	111.78 111.98	0.00	100.50 101.60	3,724.08 3,722.98	-0.75 -1.10
			02/24/14		101.00	112.15	0.00	101.00	3,722.21	-0.77
			08/18/14		102.81	111.87	0.00	102.81	3,721.77	-0.44
			02/23/15		103.25	111.82	0.00	103.25	3,721.33	-0.44
			08/24/15		103.80	112.89	0.00	103.80	3,720.78	-0.55
MW-21 (6,7)	3,820.26	3,731.59	08/11/10		94.06	108.31	0.00	94.06	3,726.20	NA
==	- ,	to	02/23/11		93.84	108.27	0.00	93.84	3,726.42	0.22
		3,711.59	07/12/11		94.85	108.23	0.00	94.85	3,725.41	-1.01
			01/31/12		95.72	108.18	0.00	95.72	3,724.54	-0.87
			07/23/12		96.22	108.24	0.00	96.22	3,724.04	-0.50
			02/18/13		96.92	108.48	0.00	96.92	3,723.34	-0.70
			08/19/13		98.04	108.52	0.00	98.04	3,722.22	-1.12
			02/24/14 08/18/14		98.65 99.07	108.55 108.32	0.00	98.65 99.07	3,721.61 3,721.19	-0.61 -0.42
			02/23/15		99.48	108.32	0.00	99.48	3,720.78	-0.42
			08/24/15		100.05	108.32	0.00	100.05	3,720.21	-0.57

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Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-22 (6,7)	3,821.82	3,731.2	08/11/10		95.62	110.80	0.00	95.62	3,726.20	NA
11111122	3,021.02	to	02/23/11		95.36	110.78	0.00	95.36	3,726.46	0.26
		3,711.27	07/12/11		96.26	110.74	0.00	96.26	3,725.56	-0.90
			01/31/12		97.56	110.72	0.00	97.56	3,724.26	-1.30
			07/23/12		97.90	110.70	0.00	97.90	3,723.92	-0.34
			02/18/13		98.45	110.92	0.00	98.45	3,723.37	-0.55
			08/19/13		99.54	110.85	0.00	99.54	3,722.28	-1.09
			02/24/14		99.97	111.00	0.00	99.97	3,721.85	-0.43
			08/18/14		100.52	110.26	0.00	100.52	3,721.30	-0.55
			02/23/15		100.85	109.10	0.00	100.85	3,720.97	-0.33
			08/24/15		101.42	109.05	0.00	101.42	3,720.40	-0.57
MW-23 (6,7)	3,825.58	3,730.91	08/11/10		100.49	115.10	0.00	100.49	3,725.09	NA
		to	02/23/11		99.80	115.12	0.00	99.80	3,725.78	0.69
		3,710.91	07/12/11		101.29	115.10	0.00	101.29	3,724.29	-1.49
			02/01/12		102.04	115.07	0.00	102.04	3,723.54	-0.75
			07/23/12		102.39	114.98	0.00	102.39	3,723.19	-0.35
			02/18/13		102.69	115.25	0.00	102.69	3,722.89	-0.30
			08/19/13		104.23	115.00	0.00	104.23	3,721.35	-1.54
			02/24/14 08/18/14		104.93	115.35	0.00	104.93	3,720.65 3,720.22	-0.70 -0.43
			02/23/15		105.36 105.74	119.14 114.85	0.00	105.36 105.74	3,720.22	-0.43
			08/24/15		105.74	114.84	0.00	106.33	3,719.84	-0.59
MW-24 (6,7)	3,830.50	3,731.31	08/11/10		104.04	118.14	0.00	104.04	3,726.46	NA
10100-24	3,830.30	5,/31.31 to	02/23/11		104.04	118.09	0.00	104.26	3,726.24	-0.22
		3,711.31	07/12/11		104.20	118.04	0.00	105.29	3,725.21	-1.03
		·	02/01/12		106.65	119.10	0.00	106.65	3,723.85	-1.36
			07/23/12		106.96	118.04	0.00	106.96	3,723.54	-0.31
			02/18/13		106.77	118.35	0.00	106.77	3,723.73	0.19
			08/19/13		108.30	118.21	0.00	108.30	3,722.20	-1.53
			02/24/14		108.66	118.45	0.00	108.66	3,721.84	-0.36
			08/18/14		109.61	118.91	0.00	109.61	3,720.89	-0.95
			02/23/15		109.92	118.12	0.00	109.92	3,720.58	-0.31
			08/24/15		110.47	118.11	0.00	110.47	3,720.03	-0.55
MW-25 (6,7)	3,830.77	3,729.00	08/11/10		106.46	121.66	0.00	106.46	3,724.31	NA
		to	02/23/11		105.72	121.60	0.00	105.72	3,725.05	0.74
		3,709.00	07/12/11		107.24	121.49	0.00	107.24	3,723.53	-1.52
			02/01/12		108.53	121.42	0.00	108.53	3,722.24	-1.29
			07/23/12		109.13	121.47	0.00	109.13	3,721.64	-0.60
			02/18/13		107.65	121.45	0.00	107.65	3,723.12	1.48
			08/19/13		110.15	121.49	0.00	110.15	3,720.62	-2.50
			02/24/14		110.62	121.60 121.46	0.00	110.62	3,720.15	-0.47
			08/18/14 02/23/15		112.14 112.11	121.46	0.00	112.14 112.11	3,718.63 3,718.66	-1.52 0.03
			08/24/15		112.89	121.71	0.00	112.89	3,717.88	-0.78
MW-26 (6,7)	3,833.18	2 720 90	08/11/10		106.22	121 22	0.00	106.22	3,726.96	NA
WIW-20	3,033.10	3,729.89 to	02/23/11		108.44	121.33 121.31	0.00	108.44	3,724.74	-2.22
		3,709.89	07/12/11		109.58	121.26	0.00	109.58	3,723.60	-1.14
			02/01/12		110.38	121.20	0.00	110.38	3,722.80	-0.80
			07/23/12		111.28	121.24	0.00	111.28	3,721.90	-0.90
			02/18/13		109.00	121.43	0.00	109.00	3,724.18	2.28
			08/19/13		111.46	121.43	0.00	111.46	3,721.72	-2.46
			02/24/14		112.28	122.30	0.00	112.28	3,720.90	-0.82
			08/18/14		113.98	121.31	0.00	113.98	3,719.20	-1.70
			02/23/15		114.20	121.20	0.00	114.20	3,718.98	-0.22
			08/24/15		114.86	121.15	0.00	114.86	3,718.32	-0.66

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Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
MW-27 (6,7)	3,837.27	3,733.03	08/11/10		109.00	124.07	0.00	109.00	3,728.27	NA
14144-27	3,037.27	to	02/23/11		109.58	123.96	0.00	109.58	3,727.69	-0.58
		3,713.03	07/12/11		110.59	124.00	0.00	110.59	3,726.68	-1.01
		·	02/01/12		111.37	123.97	0.00	111.37	3,725.90	-0.78
			07/23/12		112.32	123.78	0.00	112.32	3,724.95	-0.95
			02/18/13		111.19	123.89	0.00	111.19	3,726.08	1.13
			08/19/13		113.06	123.60	0.00	113.06	3,724.21	-1.87
			02/24/14		113.81	122.60	0.00	113.81	3,723.46	-0.75
			08/18/14		114.96	123.68	0.00	114.96	3,722.31	-1.15
			02/23/15		115.32	120.95	0.00	115.32	3,721.95	-0.36
			08/24/15		115.99	122.37	0.00	115.99	3,721.28	-0.67
MW-28 (6,7)	3,833.44	3,733.73	08/11/10		103.72	118.42	0.00	103.72	3,729.72	NA
	-,	to	02/23/11		104.03	118.42	0.00	104.03	3,729.41	-0.31
		3,713.73	07/12/11		105.07	118.35	0.00	105.07	3,728.37	-1.04
			01/30/12		105.84	118.38	0.00	105.84	3,727.60	-0.77
			07/23/12		106.65	118.31	0.00	106.65	3,726.79	-0.81
			02/18/13		106.17	118.47	0.00	106.17	3,727.27	0.48
			08/19/13		107.53	118.50	0.00	107.53	3,725.91	-1.36
			02/24/14		108.39	118.70	0.00	108.39	3,725.05	-0.86
			08/18/14		109.29	118.30	0.00	109.29	3,724.15	-0.90
			02/23/15		109.60	118.47	0.00	109.60	3,723.84	-0.31
			08/24/15		110.16	118.44	0.00	110.16	3,723.28	-0.56
MW-29 (6,7)	3,835.55	3,734.52	08/11/10		105.80	120.42	0.00	105.80	3,729.75	NA
		to	02/23/11		105.97	120.35	0.00	105.97	3,729.58	-0.17
		3,714.52	07/12/11		107.08	120.33	0.00	107.08	3,728.47	-1.11
			01/30/12		107.69	120.33	0.00	107.69	3,727.86	-0.61
			07/23/12		108.74	120.27	0.00	108.74	3,726.81	-1.05
			02/18/13		108.12	120.47	0.00	108.12	3,727.43	0.62
			08/19/13		109.49	120.68	0.00	109.49	3,726.06	-1.37
			02/24/14		110.43	120.70	0.00	110.43	3,725.12	-0.94
			08/18/14		111.35	120.30	0.00	111.35	3,724.20	-0.92
			02/23/15		111.65	120.30	0.00	111.65	3,723.90	-0.30
			08/24/15		112.29	120.35	0.00	112.29	3,723.26	-0.64
MW-30 (8)	3,839.25	3,732.28	08/19/13		110.94	126.97	0.00	110.94	3,728.31	NA
		to	02/24/14		112.14	126.60	0.00	112.14	3,727.11	-1.20
		3,712.28	08/18/14		112.79	126.36	0.00	112.79	3,726.46	-0.65
			02/23/15 08/24/15		113.18 113.75	126.68 125.03	0.00	113.18 113.75	3,726.07 3,725.50	-0.39 -0.57
<u> </u>			08/24/13		113./3	125.05	0.00	113./3	3,723.30	-0.37

Table 1. Water Elevation Measurements, HollyFrontier Navajo Refining LLC, AP-110, Lovington, New Mexico

Monitor Well	Top of Casing Elevation (feet)	Well Screen Interval (feet)	Date	Depth to Product (feet, btoc)	Depth to Water (feet, btoc)	Total Depth (feet)	Product Thickness (feet)	Corrected Depth to Water (feet)	Corrected Water Level Elev. (feet)	Change from previous measurement (ft)
RW-1	3,838.48	3,738.19	04/30/09		106.45	136.09	0.00	106.45	3,732.03	NA
		to	06/10/09		106.59	NM	0.00	106.59	3,731.89	-0.14
		3,708.19	06/19/09		106.61	129.62	0.00	106.61	3,731.87	-0.02
			07/02/09		106.82	129.25	0.00	106.82	3,731.66	-0.21
			07/24/09		106.92	129.31	0.00	106.92	3,731.56	-0.10
			09/24/09		107.42	129.73	0.00	107.42	3,731.06	-0.50
			10/27/09		107.53	129.25	0.00	107.53	3,730.95	-0.11
			01/13/10		107.67	129.29	0.00	107.67	3,730.81	-0.14
			02/02/10		107.69	NM	0.00	107.69	3,730.79	-0.02
			04/01/10		107.60	NM	0.00	107.60	3,730.88	0.09
			08/11/10		108.18	129.29	0.00	108.18	3,730.30	-0.58
			02/23/11		108.22	129.31	0.00	108.22	3,730.26	-0.04
			07/12/11		109.09	129.27	0.00	109.09	3,729.39	-0.87
			02/02/12		109.81	129.34	0.00	109.81	3,728.67	-0.72
			07/23/12		110.98	129.07	0.00	110.98	3,727.50	-1.17
			02/18/13		110.61	135.79	0.00	110.61	3,727.87	0.37
			08/19/13		111.67	129.64	0.00	111.67	3,726.81	-1.06
			02/24/14		112.59	129.60	0.00	112.59	3,725.89	-0.92
			08/18/14		113.50	129.28	0.00	113.50	3,724.98	-0.91
			02/23/15		113.95	129.26	0.00	113.95	3,724.53	-0.45
			08/24/15		114.56	129.25	0.00	114.56	3,723.92	-0.61

Notes:

- 1. Monitoring wells MW-1 through MW-7 installed September 1995; plugged and redrilled April 2009.
- Monitoring wells MW-8 through MW-10 installed March and April 1996; plugged and redrilled April 2009.
 Monitoring wells MW-6R, MW-11, MW-12 installed April and May 2002; MW-6R plugged April 2009.
- 4. Monitoring wells MW-13 and MW-14 installed January 2004.
- 5. Elevation survey of new and existing wells August 7, 2009. Earlier water level information corrected to current survey.
- 6. Monitoring wells MW-15 through MW-29 installed May-June 2010.
- 7. Elevation survey of wells MW-15 through MW-29 July 13, 2010.
- 8. Monitoring wells MW-12R, MW-17R, and MW-30 installed June 2013; MW-12 and MW-17 plugged and abandoned June 2013. btoc = below top of casing

-- = Not Detected
NM = Not Measured

NA = Not Applicable

Table 2. Organic Constituent Concentrations in Groundwater

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	les			WQ	CC Semi-Vola	tiles	
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Fotal Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005
	5 0000000	310_0	*****		****	*****					
MW-1	06/19/09	< 0.0050	0.012	< 0.0050	0.031	< 0.0050					
	01/19/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050			< 0.00020	< 0.00020	<0.00020
	08/18/10 03/01/11	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	< 0.0050	<0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/02/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	02/27/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	08/21/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/21/14 02/25/15	<0.0050 <0.00033	<0.0050 <0.00038	<0.0050 <0.00078	<0.015 <0.0011	<0.0050 <0.0010	<0.00010 <0.00037	<0.00010 <0.00037	<0.00010 <0.00031	<0.00010 <0.00031	<0.00020 <0.00033
	08/27/15	< 0.00033	< 0.000384	<0.00078	< 0.0011	< 0.0010	<0.00037	< 0.00037	<0.00031	<0.00031	< 0.000334
		10.000001	10.00000	10.000700	10100100				10.0000222	(0.000011	10.00000
MW-2	06/22/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	01/19/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/16/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	03/03/11	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	< 0.00020	<0.00020	<0.00020
	07/14/11 01/30/12	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020		<0.00020 <0.00020	<0.00020 <0.00020
	07/24/12	< 0.0050	<0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/19/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	< 0.00020	<0.00020	<0.00020	0.00022
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	02/25/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020
	02/24/15	<0.00033	< 0.00038	<0.00078	< 0.0011	<0.0010	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033
	08/28/15	< 0.000331	< 0.000384	<0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334
MW-3	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
1,2,1, 6	01/14/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
(duplicate)	01/14/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/19/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	07/15/11	<0.0050	<0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020
	01/30/12 07/25/12	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020
	02/26/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033
(duplicate)	02/26/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033
	08/26/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334
MW-4	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	1				
IVI VV -4	06/16/09	<0.0050	<0.0050	<0.0050	<0.015	<0.0050					
	08/19/10	< 0.0050	<0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/15/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00044	0.00044		< 0.00020	< 0.00020
	01/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/24/12	<0.0050	<0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/21/13	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/20/13 02/25/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020 <0.00020	<0.00020	<0.00020	<0.00020
	02/25/14 08/20/14	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00010	<0.00020	<0.00020 <0.00010	<0.00020 <0.00010	<0.00020 <0.00020
	02/24/15	< 0.0033	<0.0038	<0.0030	< 0.0013	< 0.0030	<0.00010	<0.00010	<0.00010	<0.00010	<0.00033
	08/28/15	< 0.000331	< 0.000384	<0.00078	< 0.0011	< 0.0010	< 0.000372	< 0.0003723	<0.00031	<0.00031	< 0.000334
<u> </u>											

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	es			WQ	CC Semi-Vola	tiles	
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)
NM WQC	C Groundwater										
	Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005
MW-5	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	01/18/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/20/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/28/11 07/19/11	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
(duplicate)	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/21/13 08/20/13	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	02/25/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	<0.00020
	08/19/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020
	02/24/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033
	08/24/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000382 J
MW-6	06/18/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	0.0075					
(duplicate)	06/18/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	0.0074					
	02/02/10	<0.0050	0.013	<0.0050	< 0.015	0.0099				0.0017	
	08/19/10 03/01/11	<0.0050 <0.0050	0.015 0.018	<0.0050 <0.0050	<0.015 <0.015	<0.0050 0.013	0.0094	0.0017 0.0062	<0.00020	0.0017 0.0032	<0.0010 0.0255
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.0008	0.0002		<0.00020	< 0.00020
	02/02/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/24/12	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	02/27/13 02/27/13	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020
(duplicate)	08/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00116	0.00052	0.00064	< 0.00020	< 0.00020
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00292	0.00092	0.0020	< 0.00010	< 0.00020
	02/25/15 08/27/15	<0.00033	<0.00038 <0.000384	<0.00078	<0.0011	<0.0010 <0.00100	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031	<0.00031	<0.00033
	08/27/13	< 0.000331	<0.000384	<0.000780	<0.00106	<0.00100	<0.000372	<0.000372	<0.000332	<0.000311	<0.000334
MW-7	06/19/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	02/02/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050					
	08/18/10 03/01/11	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020		<0.00020	<0.00020
	02/02/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	02/27/13	<0.0050	<0.0050 <0.0050	<0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/21/13 02/27/14	<0.0050 <0.0050	<0.0050	<0.0050 <0.0050	<0.015	<0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	<0.00020
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033
	08/27/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000507 J
MW-8	06/18/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	01/18/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/18/10	< 0.0050	<0.0050	<0.0050	< 0.015	<0.0050					
	02/25/11 07/19/11	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	02/01/12	< 0.0050	< 0.0050	<0.0050	< 0.015	< 0.0050	<0.00020	<0.00020		<0.00020	<0.00020
	07/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	08/21/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/14 08/21/14	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00010	<0.00020 <0.00010	<0.00020 <0.00010	<0.00020 <0.00010	<0.00020 <0.00020
	02/26/15	< 0.0033	< 0.0038	< 0.00078	< 0.0013	< 0.0010	< 0.00037	<0.00037	<0.00010	<0.00010	< 0.00033
	08/27/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000990 J

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	les			WQ	CC Semi-Vola	itiles	
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005
MINO	06/16/00	-0.0050	.0.0050	-0.0050	-0.015			· I	· 	· I	
MW-9	06/16/09 01/14/10	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050					
	08/19/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	03/01/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	07/15/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020
	07/25/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	< 0.00020
	02/27/13	<0.0050	<0.0050	<0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	08/22/13 02/26/14	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020
	08/21/14	< 0.0050	<0.0050	< 0.0050	< 0.015	<0.0050	< 0.00020	< 0.00020	<0.00010	<0.00020	<0.00020
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033
	08/26/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334
MW-10	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	01/13/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/19/10	<0.0050	<0.0050	<0.0050	< 0.015	< 0.0050				<0.00020	<0.00020
	03/03/11	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	0.00028	0.00028	< 0.00020	<0.00020	<0.00020
	07/15/11 01/31/12	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020		<0.00020 <0.00020	<0.00020 <0.00020
	07/25/12	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	<0.00020
	08/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00032
	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00010	<0.00010	< 0.00010	< 0.00010	<0.00020
	02/26/15 08/26/15	<0.00033 <0.000331	<0.00038 <0.000384	<0.00078 <0.00078	<0.0011 <0.00106	<0.0010 <0.0010	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031 <0.000332	<0.00031 <0.000311	<0.00033 <0.000334
							•				
MW-11	06/18/09	0.10	<0.0050	< 0.0050	< 0.015	<0.0050					
	01/18/10 08/18/10	0.20 E 0.078	<0.0050 0.021	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	0.00036	0.00036			0.00122
	02/25/11	< 0.0050	< 0.0050	<0.0050	<0.015	<0.0050	< 0.00030	< 0.00030	<0.00020	< 0.00020	<0.00122
	07/19/11	1.2	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00036	0.00036		< 0.00020	0.00089
	02/01/12	7.8	0.051	< 0.0050	0.200	0.096	0.0435	0.039		0.0045	0.0035
	07/27/12	0.049	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00022	0.00022	< 0.00020	< 0.00020	0.00023
	02/27/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
(duplicate)	02/27/13	<0.0050	<0.0050	<0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
(duplicate)	08/21/13 08/21/13	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020
(duplicate)	02/28/14	0.9600	0.250	<0.0050	0.200	0.0064	<0.00020 		<0.00020 	<0.00020 	
	08/20/14	0.1100	0.011	< 0.0050	0.030	< 0.0050					
	02/27/15	0.0026	0.00099 J	< 0.00078	0.0036	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	0.0010 J
	08/28/15	0.00856	0.00194	0.00283 J	0.0158	< 0.00100					
(duplicate)	08/28/15	0.00922	0.00216	0.00305 J	0.0180	< 0.00100					
MW-12	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	01/18/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050					
	08/20/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
	02/25/11	<0.0050	<0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	< 0.00020	< 0.00020	<0.00020	<0.00020
	07/19/11	< 0.0050	< 0.0050	< 0.0050	<0.015 DAMAGE	<0.0050 ED WELL - N	<0.00020 O SAMPLES	<0.00020 COLLECTEI)	<0.00020	<0.00020
			T .								
MW-12R	08/21/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	02/27/14 08/20/14	<0.0050	<0.0050	<0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020	<0.00020 <0.00010	<0.00020	<0.00020	<0.00020
	08/20/14	<0.0050 <0.00033	<0.0050 <0.00038	<0.0050 <0.00078	<0.015	<0.0050	<0.00010 <0.00037	<0.00010	<0.00010 <0.00031	<0.00010 <0.00031	<0.00020 <0.00033
	08/25/15	< 0.00033	< 0.000384	<0.00078	<0.0011	<0.0010	<0.00037	< 0.00037	<0.00031	<0.00031	0.00033 0.000362 J
	00120110	<0.000JJ1	\0.00030 4	<0.000760	\0.00100	.0.00100	10.000372	.0.000312	<0.000 <i>332</i>	\0.000J11	J.0000002 J

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

		WQCC Volatiles					WQCC Semi-Volatiles						
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)		
NM WOC	C Groundwater												
11.12 // QO	Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005		
							•			!	•		
MW-13	06/16/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	01/18/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	08/18/10	0.016	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/25/11	0.0057	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00091		
	07/19/11	0.0063	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	02/01/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/19/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/27/15	0.00034 J	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/26/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000379 J		
								1		ı			
MW-14	06/16/09	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050							
	01/18/10	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050							
	08/20/10	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	02/25/11	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	07/18/11	<0.0050	<0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050	<0.00020 <0.00020	<0.00020		<0.00020 <0.00020	<0.00020		
	01/31/12 07/25/12	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050	<0.015	<0.0050 <0.0050	<0.00020	<0.00020 <0.00020	<0.00020	<0.00020	<0.00020 <0.00020		
	02/22/13	<0.0050	< 0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/22/13	< 0.0050	< 0.0050	<0.0050	< 0.015	< 0.0050	<0.000203			<0.000203			
	02/28/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	08/20/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/27/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/27/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000530 J		
	u u							l .					
MW-15	08/20/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/14/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/24/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/19/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	<0.00020	< 0.00020		
(duplicate)	08/20/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(41	02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(duplicate)	02/24/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(dunlicata)	08/21/14	<0.0050 <0.0050	<0.0050	<0.0050	<0.015	<0.0050 <0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020 <0.00020		
(duplicate)	08/21/14 02/24/15	<0.0033	<0.0050 <0.00038	<0.0050 <0.00078	<0.015 <0.0011	<0.0050	<0.00010 <0.00037	<0.00010 <0.00037	<0.00010 <0.00031	<0.00010 <0.00031	<0.00020		
	08/27/15	<0.00033	<0.00038	<0.00078	<0.0011	< 0.0010	<0.00037	<0.00037	<0.00031	<0.00031	0.000997 J		
(duplicate)	08/27/15	< 0.000331	< 0.000384	<0.000780	< 0.00106	< 0.00100	<0.000372	< 0.000372	<0.000332	<0.000311	0.000597 J		
(dupneate)	00/27/13	<0.000331	<0.000364	<0.000780	<0.00100	<0.00100	<0.000372	<0.000372	<0.000332	<0.000311	0.000393 3		
MW-16	08/20/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/15/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00030	0.00030		< 0.00020	< 0.00020		
(duplicate)	07/15/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/24/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/25/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/19/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/24/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	0.00037	0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/27/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000397 J		

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

		WQCC Volatiles					WQCC Semi-Volatiles						
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)		
	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005		
	Stanuarus.	0.010	0.75	0.75	0.02	0.03	0.03				0.003		
MW-17	08/20/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
•	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/18/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
					DAMAGE	D WELL - N	O SAMPLES	COLLECTE)				
3.637.48D	00/02/12	.0.0050	< 0.0050	-0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	-0.00020	-0.00000	.0.00020		
MW-17R	08/22/13 02/27/14	<0.0050 <0.0050	<0.0050	<0.0050 <0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020		
-	08/22/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
-	02/26/15	< 0.0033	<0.0038	<0.00078	< 0.0013	< 0.0030	< 0.00010	< 0.00010	<0.00010	<0.00010	<0.00033		
	08/27/15	< 0.00033	< 0.000384	< 0.00078	< 0.0011	< 0.0010	< 0.000372	< 0.000372	<0.00031	<0.00031	0.000465 J		
	00,21,00	(0.000331	X0.000301	10.000700	VO.00100				X0.000332	(0.000311	0.000 105 3		
MW-18	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/18/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00021	0.00021		< 0.00020	< 0.00020		
	07/25/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	< 0.00020		
	08/22/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	02/26/14	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	0.00056		
-	08/20/14	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.00010	<0.00010	< 0.00010	<0.00010	<0.00020		
-	02/26/15 08/25/15	<0.00033 <0.000331	<0.00038 <0.000384	<0.00078 <0.000780	<0.0011	<0.0010 <0.00100	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031 <0.000332	<0.00031 <0.000311	<0.00033 0.000507 J		
-	06/23/13	<0.000331	<0.000364	<0.000780	<0.00100	<0.00100	<0.000372	<0.000372	<0.000332	<0.000311	0.000307 J		
MW-19	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/24/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/18/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/25/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
(duplicate)	08/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
(duplicate)	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00034		
	08/19/14	< 0.0050	<0.0050	<0.0050	< 0.015	< 0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
(duplicate)	08/19/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00010	<0.00010	< 0.00010	<0.00010	<0.00020		
(dumlicate)	02/26/15 02/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00037	<0.00037 <0.00037	<0.00031	<0.00031 <0.00031	<0.00033		
(duplicate)	08/26/15	<0.00033	<0.00038 <0.000384	<0.00078 <0.000780	<0.0011	<0.0010 <0.00100	<0.00037 <0.000372	< 0.00037	<0.00031 <0.000332	<0.00031	<0.00033 0.000610 J		
-	00/20/15	<0.000331	<0.000364	<0.000760	<0.00100	(0.00100	(0.000372	10.000372	<0.000332	<0.000311	0.000010 3		
MW-20	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/25/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/18/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
[07/25/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
[02/22/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
	02/24/15 08/15/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010 <0.00100	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031	<0.00031	<0.00033		
	00/13/13	< 0.000331	<0.000384	<0.000780	<0.00100	\0.00100	<0.000372	<0.000372	< 0.000332	< 0.000311	0.000508 J		

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	es		WQCC Semi-Volatiles						
Manidan XV all	Canada Data	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Fotal Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)		
Monitor Well	Sample Date		<u> </u>		I		ZS	2 3	Σ	Σ	T		
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005		
							•		!	!	•		
MW-21	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
(duplicate)	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/19/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/26/12	< 0.0050	<0.0050	<0.0050	< 0.015	<0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	<0.00020		
	02/22/13	< 0.0050	<0.0050	<0.0050	< 0.015	<0.0050	0.00031	<0.00020	<0.00020	0.00031	<0.00020		
	08/20/13	< 0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	02/25/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/19/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
	02/24/15 08/25/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00037	<0.00037 <0.000372	<0.00031	<0.00031	<0.00033		
—	08/23/13	< 0.000331	< 0.000384	<0.000780	< 0.00106	<0.00100	< 0.000372	<0.000372	< 0.000332	<0.000311	0.000497 J		
MW-22	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050				I			
141 44 -22	02/28/11	< 0.0050	< 0.0050	< 0.0050	<0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	< 0.00020	<0.00020		
	07/19/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	01/31/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	07/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	< 0.00020	< 0.00020	<0.00020	<0.00020		
	02/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	< 0.00020	<0.00020	<0.00020	<0.00020		
	08/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	< 0.00020	< 0.00020		
	02/25/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/24/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/25/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334		
'							•	<u>!</u>					
MW-23	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/19/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	02/01/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/25/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	< 0.00020	< 0.00020		
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
	02/25/15	<0.00033	<0.00038	<0.00078	< 0.0011	<0.0010	<0.00037	<0.00037	<0.00031	<0.00031	<0.00033		
	08/25/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334		
MW-24	00/24/10	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	1		ı	1			
IVI VV -24	08/24/10	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050							
	02/28/11 07/14/11	<0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050	<0.00020 <0.00020	<0.00020	< 0.00020	<0.00020	<0.00020		
		<0.0050						<0.00020 <0.00020		<0.00020 <0.00020	<0.00020		
	02/01/12 07/30/12	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020	<0.00020	<0.00020	<0.00020 <0.00020		
(duplicate)	07/30/12	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(dupireate)	02/26/13	< 0.0050	<0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	< 0.00020	< 0.00020	<0.00010	<0.00010	<0.00020		
	02/25/15	<0.0033	<0.0038	< 0.0030	< 0.0013	< 0.0010	< 0.00010	< 0.00010	<0.00010	<0.00010	<0.00020		
	08/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	<0.00031	<0.00031	0.000405 J		
	00/23/13	\0.000331	<0.000364	<0.00076U	<0.00100	\0.0010U	<0.00031Z	CO.000372	<u> </u>	\0.000311	0.000403 J		

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	es		WQCC Semi-Volatiles						
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)		
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005		
MW-25	08/23/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
1,1,1,1	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/18/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	02/01/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(-11:4-)	08/22/13 08/22/13	<0.0050	<0.0050	<0.0050	<0.015 <0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(duplicate)	08/22/13	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020		
(duplicate)	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
(duplicate)	08/19/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00020	<0.00010	< 0.00010	<0.00020		
(duplicate)	08/19/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
(duplicate)	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/25/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	0.000728 J		
(duplicate)	08/25/15	< 0.000331	< 0.000384	<0.000780	<0.00106	< 0.00100	<0.000372	<0.000372	<0.000332	<0.000311	0.000581 J		
MW-26	08/24/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/14/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		<0.00020	< 0.00020		
	02/01/12	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	07/26/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	02/26/13 08/22/13	<0.0050 <0.0050	<0.0050 <0.0050	<0.0050 <0.0050	<0.015 <0.015	<0.0050 <0.0050	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 <0.00020	<0.00020 0.00061		
	02/26/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/21/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/25/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334		
MW-27	08/18/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
14144-27	02/25/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	< 0.00020	0.00099		
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020		<0.00020	0.00034		
	02/01/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
[08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/27/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/21/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00010	<0.00010	< 0.00010	<0.00010	<0.00020		
	02/27/15 08/26/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031	<0.00031	<0.00033		
	08/26/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	<0.00100	<0.000372	<0.000372	< 0.000332	< 0.000311	< 0.000334		
MW-28	08/28/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
112 17 -20	02/23/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	< 0.00020	<0.00020	<0.00020	< 0.00020	<0.00020		
	07/14/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	< 0.00020		<0.00020	<0.00020		
	01/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	07/24/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
[02/19/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	0.00086		
[08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	<0.00020	0.00022		
	02/24/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/19/14	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
	02/23/15 08/27/15	<0.00033	<0.00038	<0.00078	<0.0011	<0.0010 <0.00100	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031	<0.00031	0.00033 J		
	00/2//13	< 0.000331	< 0.000384	< 0.000780	<0.00100	<0.00100	<0.000372	<0.000372	< 0.000332	< 0.000311	0.000774 J		

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

		WQCC Volatiles					WQCC Semi-Volatiles						
Manidan XV.	Canada Data	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Fotal Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)		
Monitor Well	Sample Date		鱼		I	2 3	ZS	2 3	Σ	Σ	I		
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005		
-	Standards	0.010	0.72	0.70	0.02	0.00	0.00				0.002		
MW-29	08/24/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
(duplicate)	08/24/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/28/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	07/14/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020		
	01/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	0.00050	0.00050		< 0.00020	< 0.00020		
	07/24/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/26/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
[02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
(duplicate)	02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	0.00039 J		
	08/27/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334		
MW-30	06/21/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/20/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	02/27/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
	08/22/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020		
	02/25/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/28/15	< 0.000331	< 0.000384	< 0.000780	0.00142 J	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334		
RW-1	06/19/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	02/02/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
	08/19/10	< 0.0050	< 0.0050	< 0.0050	0.015	< 0.0050							
	03/01/11	<0.0050	<0.0050	<0.0050	0.0054	<0.0050	<0.00020	<0.00020	< 0.00020	<0.00020	<0.00020		
	07/20/11	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	02/02/12	<0.0050	<0.0050	<0.0050	<0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	07/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	<0.00020	<0.00020	< 0.00020		
	02/27/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		
]]	08/21/13	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
] .	02/27/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/21/14	<0.0050	<0.0050	<0.0050	< 0.015	<0.0050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00020		
] }	02/25/15 08/27/15	<0.00033	<0.00038	<0.00078 <0.00078	<0.0011	<0.0010 <0.0010	<0.00037 <0.000372	<0.00037 <0.000372	<0.00031	<0.00031	<0.00033		
	00/4//13	< 0.000331	< 0.000384	<0.00078	< 0.00106	<0.0010	<0.000372	<0.000372	< 0.000332	< 0.000311	0.000398 J		
North Well	06/18/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050							
1101111 11 611	01/14/10	< 0.0050	<0.0050	<0.0050	< 0.015	< 0.0050							
}	08/24/10	< 0.0050	< 0.0050	<0.0050	< 0.015	< 0.0050							
	03/03/11	< 0.0050	< 0.0050	<0.0050	< 0.015	<0.0050	< 0.00020	< 0.00020	<0.00020	< 0.00020	<0.00020		
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	<0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	02/02/12	< 0.0050	< 0.0050	<0.0050	< 0.015	< 0.0050	<0.00020	<0.00020		<0.00020	<0.00020		
	07/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	< 0.00020	<0.00020	<0.00020		
] }	02/19/13	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020		
	08/11/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	<0.00020		
}	12/17/14	< 0.0010	< 0.0010	< 0.0010	< 0.0015	< 0.0020	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050		
}	03/09/15	<0.00033	< 0.00038	< 0.00078	< 0.0013	< 0.0020	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	05/19/15	<0.00033	<0.00038	<0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033		
	08/28/15	< 0.000331	< 0.000384	<0.00078	< 0.0011	< 0.0010	<0.00037	< 0.00037	<0.00033	<0.00031	< 0.000334		
	12/17/15	< 0.000331	< 0.000384	<0.000780	< 0.00106	< 0.00100	<0.000372	<0.000372	<0.000332	< 0.000311	< 0.000334		
	14/1/13	\0.000331	<0.000364	\U.UUU/6U	\0.00100	\0.00100	<0.000372	NO.000372	<u></u> \0.000332	<u>√0.000511</u>	<0.000334		

Table 2. Organic Constituent Concentrations in Groundwater, HollyFrontier Navajo Refining, AP-110, Lovington, New Mexico

			W	QCC Volatil	es		WQCC Semi-Volatiles					
Monitor Well	Sample Date	Benzene (mg/L)	Ethyl-benzene (mg/L)	Toluene (mg/L)	Total Xylenes (mg/L)	Total Naphthalene (8260, mg/L)	Total Naphthalenes (8270, mg/L)	Naphthalene (8270, mg/L)	1- Methylnaphth alene (mg/L)	2- Methylnaphth alene (mg/L)	Total Phenols (mg/L)	
NM WQC	C Groundwater Standards:	0.010	0.75	0.75	0.62	0.03	0.03				0.005	
	Standarus.	0.010	0.75	0.75	0.02	0.03	0.03				0.005	
South Well	06/22/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
Journ West	01/14/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
1	08/24/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
	03/03/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020	
1	02/02/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020	
	07/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	02/19/13	0.0052	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	02/28/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	08/22/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020	
(duplicate)	08/22/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020	
	12/17/14	0.0023	< 0.0010	< 0.0010	< 0.0015	< 0.0020	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	
(duplicate)	12/17/14	0.0023	< 0.0010	< 0.0010	< 0.0015	< 0.0020	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	
	03/09/15	0.0014	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033	
(duplicate)	03/09/15	0.0016	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.0037	< 0.0037	< 0.00031	< 0.00031	< 0.00033	
	5/19/2015	0.0010 J	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00033	< 0.00031	< 0.00033	
(duplicate)	5/19/2015	0.00091 J	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00033	< 0.00031	< 0.00033	
	8/28/2015	0.00113	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
(duplicate)	8/28/2015	0.000921 J	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
	12/17/2015	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
(duplicate)	12/17/2015	0.00119	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
			•	•			-	•	•	•		
East Well	06/18/09	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
	01/14/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
	08/25/10	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050						
	03/03/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	07/20/11	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020	
	02/02/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020		< 0.00020	< 0.00020	
	07/30/12	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	08/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015		< 0.00020	< 0.00020	< 0.00020		< 0.00020	
	09/26/12	< 0.0050	< 0.0050	< 0.0050	< 0.015		< 0.00020	< 0.00020	< 0.00020		< 0.00020	
	10/22/12	< 0.0050	< 0.0050	< 0.0050	< 0.015		< 0.00020	< 0.00020	< 0.00020		< 0.00020	
	12/27/12	< 0.0050	< 0.0050	< 0.0050	< 0.015		< 0.00020	< 0.00020	< 0.00020		< 0.00020	
	02/28/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	
	08/22/14	< 0.0050	< 0.0050	< 0.0050	< 0.015	< 0.0050	< 0.00010	< 0.00010	< 0.00010	< 0.00010	< 0.00020	
	12/17/14	< 0.0010	< 0.0010	< 0.0010	< 0.0015	< 0.0020	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	
	03/09/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00031	< 0.00031	< 0.00033	
	05/19/15	< 0.00033	< 0.00038	< 0.00078	< 0.0011	< 0.0010	< 0.00037	< 0.00037	< 0.00033	< 0.00031	< 0.00033	
	08/28/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
	12/17/15	< 0.000331	< 0.000384	< 0.000780	< 0.00106	< 0.00100	< 0.000372	< 0.000372	< 0.000332	< 0.000311	< 0.000334	
·												

Notes:

Shading indicates detected result exceeded the New Mexico Water Quality Control Commission (WQCC) Human Health Standard mg/L = milligrams per liter

- < = Not reported above laboratory reporting limit
- -- = Not Analyzed

 $\label{eq:Jacobian} J = \text{analyte was detected below the laboratory reporting limit, reported value is estimated} \\ June 2009 to August 2014 analyses performed by ALS Laboratory Group in Houston, Texas \\ December 2014 analyses performed by Hall Environmental Analysis Laboratory in Albuquerque, New Mexico \\ February 2015 to August 2015 analyses performed by ESC Lab Sciences in Mount Juliet, Tennessee \\$

Table 3. Inorganic Constituent Concentrations in Groundwater

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.974	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.01240
< 0.00500	< 0.00500	< 0.200	< 0.00500	2.72	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00615	0.00989
<0.00500	<0.00500	<0.200	<0.00500	1.62	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00538
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	1.62 0.485	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.00689 0.00832
<0.00500	< 0.00500	<0.200	<0.00500	0.483	<0.000200	< 0.00500	<0.00500	<0.00500	< 0.00500	< 0.00500	0.00832
< 0.00500	< 0.00500	<0.200	< 0.00500	1.05	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00759
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.662	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01070
< 0.00500	< 0.00500	< 0.200	< 0.00500	1.32	< 0.000200	< 0.00500	0.01640	< 0.00500	< 0.00500	< 0.00500	0.00641
<0.00500	<0.00500	<0.200	<0.00500	0.690	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00874
<0.00500	<0.00500	<0.200	<0.00500	0.0172	<0.000200	<0.00500	<0.00500 <0.00490	<0.00500	<0.00500 <0.00280	<0.00500 0.00220 J	0.02420 0.00670 J
<0.00230 <0.00026	<0.00530 <0.00052	<0.014 <0.0141	0.00048 J <0.000240	<0.0012 0.00191 J	<0.000049 <0.000049	0.00250 0.00236 J	<0.00490	<0.00740 0.00268	<0.00280	0.00220 J 0.00187 J	<0.005703
\0.00020	<0.00032	V0.0141	₹0.000240	0.001713	<0.000049	0.002303	<0.00033	0.00200	<0.00031	0.001073	<0.00250
< 0.00500	0.00621	< 0.200	< 0.00500	0.00583	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.1100
<0.00500	<0.00500	<0.200	<0.00500	0.00538	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0166
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.0204 0.0117
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	< 0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0117
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0255
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0191
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0436
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00721
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0130 0.0214
<0.00500 <0.00230	<0.00500 <0.00530	<0.200 <0.014	<0.00500 <0.00024	<0.00500 <0.00120	<0.000200 <0.000049	<0.00500 0.0034 J	<0.00500 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	<0.00500 0.00260 J	<0.0059
<0.00230	0.000548 J	< 0.014	< 0.00024	0.000533 J	<0.000049	0.0034 J	0.00490 0.00115 J	0.00147 J	< 0.00280	0.00200 J 0.00340 J	0.0039 0.00382 J
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.01510	<0.00500	<0.00500	<0.00500		<0.0100
<0.00500	0.12100	<0.200	<0.00500	0.00597	<0.000200	0.02000	0.00842	<0.00500	<0.00500	0.000625	0.01950
<0.00500 <0.00500	0.14800 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.00699 <0.00500	<0.000200 <0.000200	0.02160 0.00790	0.00960 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.000721 <0.00500	0.02300 <0.00500
< 0.00500	< 0.00500	<0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.05240
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	0.00510	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01560
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	0.00621	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00886
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00673
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	0.00546	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 0.00560	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 0.00527
<0.00500	< 0.00500	<0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	< 0.00500	<0.00527
< 0.00230	< 0.00530	< 0.014	< 0.00024	< 0.00120	< 0.000049	0.00094	< 0.00490	< 0.00740	< 0.00280	0.000570	< 0.00590
< 0.00230	< 0.00530	< 0.014	< 0.00024	< 0.00120	< 0.000049	0.00110 J	< 0.00490	0.00850 J	< 0.00280	0.000560 J	0.00880 J
< 0.00026	0.00101 J	< 0.0141	< 0.00024	0.000572 J	<0.000049	< 0.00160	0.000483 J	0.00269	< 0.00031	0.000567 J	0.00296 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.01200
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00102	< 0.00500
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 0.01140	<0.000200	<0.00500 <0.00500	<0.00500 0.01030	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500	0.00533 0.02110
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200 <0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500 <0.00500	0.02110
<0.00500	< 0.00500	<0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	< 0.00500	0.01020
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01160
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00506
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00801
<0.00500	<0.00500	0.241	<0.00500	0.00595	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.02210
<0.00230 <0.00026	<0.00530 <0.00052	<0.014 <0.0141	0.00025 J <0.00024	<0.00120 0.00114 J	0.00011 J <0.000049	0.00340 J 0.00319 J	<0.00490 0.000482 J	<0.00740 0.00228	<0.00280 <0.00031	0.00160 J 0.00168 J	<0.00590 0.00269 J
\J.00020	NO.00032	\U.U171	\0.0002T	0.001173	\0.0000 1 7	0.000173	0.000-023	0.00220	\U.UUUJ1	0.00100J	0.00207 J

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
< 0.00500	< 0.00500	0.399	< 0.00500	0.00670	< 0.000200	0.01030	<0.00500	< 0.00500	< 0.00500		< 0.01000
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.01420 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	0.01120 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.03680 0.03090
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00948
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01190
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.05620
<0.00500 <0.00500	0.04340 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.01580 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.00582 0.00507	0.02890 0.02080
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01140
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00532	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00535	0.00626
<0.00230	<0.00530	<0.014 <0.0141	<0.00024 <0.00024	<0.00120 <0.00025	<0.000049	0.00450 J	<0.00490	<0.00740	<0.00280	0.00400 J	0.00890 J
<0.00026	0.00102 J	<0.0141	<0.00024	<0.00025	<0.000049	0.00476 J	0.000814 J	<0.00038	< 0.00031	0.00410 J	0.00539 J
< 0.00500	< 0.00500	0.418	< 0.00500	2.86	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.00996
<0.00500	<0.00500	0.219	<0.00500	2.76	<0.000200	<0.00500	0.00653	<0.00500	<0.00500	0.01120	0.01410
<0.00500 <0.00500	<0.00500 <0.00500	2.08 1.86	<0.00500 <0.00500	4.51 6.61	<0.000200 <0.000200	<0.00500 <0.00500	0.00634 0.00766	<0.00500 <0.00500	<0.00500 <0.00500	0.01130 0.00785	<0.00500 <0.00500
< 0.00500	< 0.00500	0.711	< 0.00500	5.58	< 0.000200	< 0.00500	0.00896	< 0.00500	< 0.00500	0.00659	< 0.00500
< 0.00500	< 0.00500	1.57	< 0.00500	4.51	< 0.000200	< 0.00500	0.00576	< 0.00500	< 0.00500	< 0.00500	0.01760
<0.00500	<0.00500	0.488	<0.00500	1.25	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00599	0.00858
<0.00500 <0.00500	<0.00500 <0.00500	1.28 1.31	<0.00500 <0.00500	2.53 1.97	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.01020 0.00789	0.01940 0.01230
<0.00500	< 0.00500	1.33	< 0.00500	2.02	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	0.00789	0.01250
< 0.00500	< 0.00500	< 0.200	< 0.00500	1.68	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00606	< 0.00500
< 0.00500	< 0.00500	3.42	< 0.00500	2.71	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00882	0.00622
<0.00500 <0.00230	<0.00500 <0.00530	0.268 0.015 J	<0.00500 0.00072 J	3.06 1.00	<0.000200 <0.000049	<0.00500 0.00260 J	0.00651 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	0.00744 0.00660 J	0.01510 0.02000
<0.00230	0.00054 J	< 0.013 J	<0.000723	0.411	<0.000049	0.00260 J 0.00192 J	0.00134 J	0.00242	<0.00280	0.00463 J	0.02000 0.00347 J
		•	•		•						
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.127 0.125	<0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500	0.01370 <0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.123	<0.000200 <0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.441	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00593
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.617	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.550 0.642	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.00746 0.01140
<0.00500	<0.00500	<0.200	<0.00500	0.300	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01140
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.365	< 0.000200	< 0.00500	< 0.00500	0.00600	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.781	< 0.000200	< 0.00500	< 0.00500	0.00540	< 0.00500	< 0.00500	0.00818
<0.00500 <0.00230	<0.00500 <0.00530	<0.200 <0.014	<0.00500 0.00041 J	0.470 0.011	<0.000200 <0.000049	<0.00500 0.00110 J	<0.00500 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	<0.00500 0.00330 J	0.00566 0.00830 J
<0.00230	<0.00530	<0.014	<0.00041 J	0.011	<0.000049	0.00110 J 0.00175 J	<0.00490	0.00740	<0.00280	0.00330 J 0.00236 J	<0.00256
	0.00500										
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.00919 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500	0.04580 0.00545
<0.00500	< 0.00500	<0.200	< 0.00500	<0.00500	<0.000200	<0.00500	<0.00500	< 0.00500	< 0.00500	0.00501	0.00343
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.28100	< 0.000200	< 0.00500	0.00620	< 0.00500	< 0.00500	< 0.00500	0.03160
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00928	0.02130
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.00636 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	0.01190 0.00523	<0.00500 <0.00500	<0.00500 <0.00500	0.00745 0.00714	0.03390 0.00888
<0.00500	<0.00500	<0.200	<0.00500	0.00592	<0.000200	<0.00500	0.00323	<0.00500	<0.00500	0.00714	0.00888
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02080	< 0.000200	< 0.00500	0.01350	< 0.00500	< 0.00500	< 0.00500	0.01070
< 0.00500	< 0.00500	0.541	< 0.00500	0.02400	< 0.000200	< 0.00500	0.03390	< 0.00500	< 0.00500	0.00916	0.01020
<0.00500 <0.00230	<0.00500 <0.00530	0.274 <0.014	<0.00500 <0.00024	0.01280 <0.00120	<0.000200 <0.000049	<0.00500	0.02580 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	0.00639 0.00730 J	0.01810 0.00590 J
0.00230 0.000346 J	0.000544 J	<0.014	<0.00024	0.00120 0.00141 J	<0.000049	0.000830 J 0.000854 J	0.00204	0.00224	<0.00280	0.00730 J 0.00891 J	0.00390 J 0.00316 J
0.00000100	3.0000 113	10.0111	10.00021	0.001113	10.000017	3.00000	0.00201	0.00221	10.00051	0.000/10	0.000100

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500		<0.0100
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 0.00961	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.000656 <0.00500	<0.00500 <0.00500
<0.00500	< 0.00500	<0.200	<0.00500	< 0.00500	<0.000200	<0.00500	<0.00500	< 0.00500	<0.00500	< 0.00500	0.00662
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00511	< 0.00500	< 0.00500	< 0.00500	0.00932
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00529
<0.00500	<0.00500	<0.200	<0.00500	0.00708	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00716
<0.00500 <0.00500	<0.00500 <0.00500	0.702 <0.200	<0.00500 <0.00500	<0.00500 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.01670 <0.00500
<0.00500	<0.00500	<0.200	< 0.00500	0.00588	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	<0.00500	<0.00500
< 0.00500	0.00644	2.22	< 0.00500	0.09030	< 0.000200	0.00662	0.11100	< 0.00500	< 0.00500	< 0.00500	0.03340
< 0.00230	< 0.00530	< 0.014	< 0.00024	< 0.00120	< 0.000049	0.00140 J	< 0.00490	< 0.00740	< 0.00280	0.00310 J	< 0.00590
< 0.00026	0.000626 J	< 0.0141	< 0.00024	< 0.00025	< 0.000049	< 0.00160	0.000566 J	< 0.00297	< 0.00031	0.00285 J	0.00258 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.01270
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.000911	0.01330
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00569
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01330
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.02520 0.00861
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	< 0.00500	< 0.00500	<0.00500	< 0.00500	0.00633
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00671
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00979
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00939	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01140
<0.00230	<0.0053	< 0.014	0.00030 J	<0.00120	<0.000049	0.00260 J	<0.00490	<0.0074	<0.00280	0.00190 J	0.00600 J
<0.00026	0.000803 J	< 0.0141	<0.00024	<0.00025	<0.000049	0.00258 J	<0.00035	0.00283	<0.00031	0.00158 J	<0.00256
< 0.00500	< 0.00500	0.571	< 0.00500	0.3870	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.02120
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.0559	< 0.000200	< 0.00500	0.01260	< 0.00500	< 0.00500	0.00635	< 0.00500
< 0.00500	< 0.00500	0.347	< 0.00500	0.5710	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00718	< 0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.0101	<0.000200	<0.00500	0.00856	<0.00500	<0.00500	0.00878	0.09820
<0.00500 <0.00500	<0.00500 <0.00500	<0.200	<0.00500 <0.00500	0.0301 1.05	<0.000200 <0.000200	<0.00500 <0.00500	0.00846 0.01690	<0.00500 <0.00500	<0.00500 <0.00500	0.00616 0.01380	0.02650 0.01890
< 0.00500	<0.00500	2.02	< 0.00500	2.54	<0.000200	<0.00500	0.01090	< 0.00500	< 0.00500	0.01380	<0.00500
0.00604	< 0.00500	< 0.200	< 0.00500	5.24	< 0.000200	0.00631	0.08610	< 0.00500	< 0.00500	0.01270	0.02260
0.00574	< 0.00500	< 0.200	< 0.00500	5.47	< 0.000200	0.00619	0.08110	< 0.00500	< 0.00500	0.01250	0.01990
< 0.00500	< 0.00500	< 0.200	< 0.00500	2.62	<0.000200	< 0.00500	0.00869	< 0.00500	< 0.00500	0.00723	0.00547
<0.00500	<0.00500	<0.200	<0.00500	2.92	<0.000200	<0.00500	0.00906	<0.00500	<0.00500	0.00714	0.00592
<0.00500	<0.00500	<0.200	<0.00500	1.10	<0.000200	<0.00500	0.02170	<0.00500	<0.00500	0.02690	0.01040
(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		< 0.0100
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02190	< 0.000200	< 0.00500	0.01820	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500	<0.00500 <0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01850
<0.00500 WELL - NO S		<0.200 LLECTEE	<0.00500	0.00976	<0.000200	0.00575	0.00684	<0.00500	<0.00500	<0.00500	<0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01290	< 0.000200	0.00647	0.01030	< 0.00500	< 0.00500	< 0.00500	0.00956
<0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	<0.000200	<0.00500	0.00992	<0.00500	<0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	0.867	< 0.00500	0.04830	< 0.000200	0.00554	0.03500	< 0.00500	< 0.00500	< 0.00500	0.00962
< 0.0023	< 0.0053	< 0.014	< 0.00024	< 0.0012	< 0.000049	0.0042 J	< 0.00490	< 0.00740	< 0.00280	0.00190 J	0.00810 J
< 0.000260	< 0.000520	< 0.0141	< 0.00024	0.00203 J	< 0.000049	0.00294 J	0.00191 J	0.000707 J	< 0.00031	0.00270 J	0.00291 J

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
0.0285	< 0.00500	< 0.200	< 0.00500	0.0176	< 0.000200	< 0.00500	0.0126	< 0.00500	< 0.00500		0.02690
0.00624	< 0.00500	< 0.200	< 0.00500	0.0591	< 0.000200	< 0.00500	0.0110	< 0.00500	< 0.00500	0.0119	0.00769
<0.00500	<0.00500	<0.200	<0.00500	0.256	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.0128	0.00618
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.225 0.302	<0.000200 <0.000200	<0.00500 <0.00500	0.0144 0.0121	<0.00500 <0.00500	<0.00500 <0.00500	0.0170 0.0188	0.07440 0.00785
0.00663	< 0.00500	< 0.200	< 0.00500	0.341	<0.000200	< 0.00500	0.0121	< 0.00500	< 0.00500	0.0138	0.05530
0.00644	< 0.00500	< 0.200	< 0.00500	0.459	< 0.000200	< 0.00500	0.0108	< 0.00500	< 0.00500	0.0158	0.03610
0.00657	< 0.00500	< 0.200	< 0.00500	0.571	< 0.000200	0.00568	0.0820	< 0.00500	< 0.00500	0.0123	0.03590
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.705	< 0.000200	< 0.00500	0.0209	< 0.00500	< 0.00500	0.0153	0.00931
0.00541	<0.00500	0.321	<0.00500	1.01	<0.000200	<0.00500	0.0300	<0.00500	<0.00500	0.0173	0.02910
<0.00500 0.00470 J	<0.00500 <0.00530	<0.200 <0.014	<0.00500 <0.00024	0.940 0.820	<0.000200 <0.000049	<0.00500 0.00100 J	0.0065 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	0.0151 0.0140	0.01150 0.01900 J
0.00470 J	0.00208 J	< 0.014	< 0.00024	0.383	(1)	0.00100 J	0.00276	0.000710 J	< 0.00230	0.0140	0.00592 J
							•				
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.01990 <0.00500	<0.000200 <0.000200	0.02150 <0.00500	<0.00501 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500	0.0255 <0.00500
<0.00500	< 0.00500	<0.200	<0.00500	< 0.00500	<0.000200	0.00300	0.0480	<0.00500	< 0.00500	0.00527	<0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02340	< 0.000200	0.00903	0.0138	< 0.00500	< 0.00500	0.00541	0.0532
0.122	0.21800	54.9	< 0.00500	1.45	< 0.000200	0.08600	6.81	< 0.00500	< 0.00500	0.00544	0.0446
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02760	< 0.000200	0.00608	0.0186	< 0.00500	< 0.00500	< 0.00500	0.0287
<0.00500	<0.00500	<0.200	<0.00500	0.03210	<0.000200	<0.00500	0.0240	<0.00500	<0.00500	<0.00500	0.0448
<0.00500	0.07050 ⁽¹⁾	<0.200	<0.00500	0.03490	<0.000200	0.01210 ⁽¹⁾	0.0106	<0.00500	<0.00500	0.00591 ⁽¹⁾	0.1480 ⁽¹⁾
< 0.00500	< 0.00500	0.314	< 0.00500	0.00919	< 0.000200	0.00533	0.0178	< 0.00500	< 0.00500	0.00502	0.0134
< 0.00230	< 0.00530	< 0.014	< 0.00024	< 0.00120		0.00400 J	< 0.00490	< 0.00740	< 0.0028	0.00470 J	0.0070 J
0.000326 J	0.00122 J	< 0.0141	< 0.00024	< 0.000250	(1)	0.00429 J	0.00190 J	0.00123 J	< 0.00031	0.00485 J	0.00334 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01980
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.03850
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00657	< 0.00500	< 0.00500	< 0.00500	0.01220
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00967
<0.00500	<0.00500	<0.200 0.610	<0.00500	<0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00636
<0.00500 <0.00500	<0.00500 <0.00500	< 0.200	<0.00500 <0.00500	0.01980 <0.00500	<0.000200	<0.00500	0.07040 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.01600 0.00854
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00619
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.00509	<0.000200	<0.00500 <0.00500	<0.00500	<0.00500	<0.00500	<0.00500 <0.00500	0.01490
<0.00500 <0.0023	<0.00500 <0.0053	<0.200 <0.014	<0.00500 <0.00024	<0.00500 <0.00120	<0.000200 <0.000049	0.00240 J	<0.00500 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	0.00300 0.0021 J	0.02130 0.01200 J
< 0.0023	0.00109 J	< 0.014	0.000373 J	0.000120 0.000492 J	<0.000049	0.00240 J	0.000825 J	0.00232	< 0.00230	0.0021 J	< 0.00256
< 0.00026	< 0.000520	0.0144 J	< 0.000240	0.000276 J	< 0.000049	0.00254 J	0.000688 J	0.00253	< 0.00031	0.00200 J	< 0.00256
<0.00500	< 0.00500	< 0.200	< 0.00500	0.00554	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01450
<0.00500	<0.00500	<0.200	<0.00500	0.00554	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01430
<0.00500	< 0.00500	0.613	< 0.00500	0.01640	<0.000200	< 0.00500	0.05910	< 0.00500	< 0.00500	< 0.00500	0.01760
< 0.00500	< 0.00500	0.241	< 0.00500	0.00820	< 0.000200	< 0.00500	0.02340	< 0.00500	< 0.00500	< 0.00500	0.01660
< 0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00899
<0.00500	<0.00500	<0.200	<0.00500	0.01620	<0.000200	<0.00500	0.01120	<0.00500	<0.00500	<0.00500	0.01670
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 0.02190	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 0.01770	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	0.00693 <0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.02190	<0.000200	0.00516	0.01770	<0.00500	<0.00500	<0.00500	0.00786
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00544	< 0.000200	< 0.00510	0.00667	< 0.00500	< 0.00500	< 0.00500	0.00897
< 0.00230	< 0.0053	< 0.014	< 0.00024	0.00420 J	< 0.000049	0.00350 J	< 0.00490	< 0.00740	< 0.00280	0.00160 J	0.01400 J
< 0.00026	0.000638 J	< 0.0141	< 0.00024	0.000312 J	< 0.000049	0.00293 J	< 0.00035	0.00228	< 0.00031	0.00156 J	0.00343 J

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
0,00	210	200	0.00	0.20	0.002	200	0.2	0.00	0.00	0.00	1000
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0142
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0478
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0126
WELL - NO S	AMPLES COI	LECTEL									
							0.0100				0.00700
<0.00500	<0.00500	<0.200	<0.00500	0.0819	<0.000200	0.00531	0.0189	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.0342	<0.000200	<0.00500	0.0273	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.0989	<0.000200	<0.00500	0.0378	<0.00500	<0.00500	<0.00500	0.02430
<0.00230 <0.00026	<0.0053 0.000632 J	<0.014 0.0218 J	0.00030 J <0.000240	<0.0012 0.00123 J	<0.000049 <0.000049	0.00130 J 0.00163 J	<0.0049 0.000779 J	<0.00740 0.00203	<0.00280 <0.00031	0.00300 J 0.00267 J	0.02300 J <0.00256
<0.00020	0.000032 J	0.0218 J	<0.000240	0.00123 J	<0.000049	0.00103 J	0.000779 J	0.00203	<0.00031	0.00267 J	<0.00236
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.31400	< 0.000200	0.00561	0.0298	0.00548	< 0.00500	0.0123	0.07720
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00536	< 0.000200	< 0.00500	0.0144	0.00501	< 0.00500	0.00883	0.04390
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0129	< 0.00500	< 0.00500	0.00666	0.06610
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01910
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00684
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01290	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.0138	0.01870
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00509	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	0.0215	< 0.200	< 0.00500	0.01770	< 0.000200	< 0.00500	0.00681	< 0.00500	< 0.00500	0.00701	0.04650
< 0.00500	< 0.00500	0.637	< 0.00500	0.03780	< 0.000200	< 0.00500	0.00634	< 0.00500	< 0.00500	< 0.00500	0.03630
< 0.00230	0.0061 J	0.022 J	0.00026 J	< 0.00120	< 0.000049	0.00200 J	< 0.00490	< 0.00740	< 0.00280	0.00390 J	0.01700 J
< 0.00026	0.000646 J	< 0.0141	< 0.00024	0.00120 J	< 0.000049	0.00612	0.00151 J	0.00178 J	< 0.00031	0.00434 J	0.00669 J
1											
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00666	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02270
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.03180
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00781	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.05530
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00553	< 0.000200	< 0.00500	0.00525	< 0.00500	< 0.00500	< 0.00500	0.03450
<0.00500	< 0.00500	<0.200	<0.00500	0.00593	<0.000200	< 0.00500	0.00664	< 0.00500	< 0.00500	< 0.00500	0.07140
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00566	<0.00500	<0.00500	<0.00500	0.06290
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00512
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	0.00900	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.01570	<0.000200	<0.00500	0.01220	<0.00500	<0.00500	<0.00500	0.03330 0.03500
<0.00500	<0.00500	<0.200	<0.00500	0.01650	<0.000200	<0.00500	0.01230	<0.00500	<0.00500 <0.00500	<0.00500 <0.00500	
<0.00500 <0.00500	<0.00500 <0.00500	0.263 <0.200	<0.00500	0.02040 0.01060	<0.000200 <0.000200	<0.00500 <0.00500	0.02610 0.00943	<0.00500 <0.00500	<0.00500	<0.00500	0.00854 0.00640
<0.00300	< 0.00500	<0.200	<0.00500 <0.00024	< 0.01060	<0.000200	0.00300 0.00320 J	< 0.00943	<0.00300	<0.00300	0.00250 J	0.00640 0.01400 J
<0.0023	< 0.0053	< 0.014	0.00024	<0.00120	0.000040	0.00000 1	0.00400	0.00740	0.00200	0.00050.1	0.01200.1
<0.0023	0.000732 J	< 0.0141	<0.00024	< 0.00120	<0.000049	0.00320 J 0.01070	<0.00490 0.00168 J	<0.00740 0.00138 J	<0.00280	0.00250 J 0.00179 J	0.01300 J 0.00486 J
\0.000200	0.000/32 J	\U.U1 4 1	<u> </u>	<0.00023	<u> </u>	0.01070	0.00100 J	0.00130 J	<0.00031	0.001/JJ	0.00 1 00 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00970
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.06430
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02780
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01710
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01870
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01650
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00966	< 0.000200	< 0.00500	0.0112	< 0.00500	< 0.00500	< 0.00500	0.02420
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01070	< 0.000200	< 0.00500	0.0080	< 0.00500	< 0.00500	< 0.00500	0.00954
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01160
< 0.00230	< 0.00530	< 0.014	< 0.00024	< 0.00120	< 0.000049	0.0024 J	< 0.00490	< 0.00740	< 0.00280	0.00260 J	0.02300 J
< 0.000260	0.00109 J	< 0.0141	< 0.00024	< 0.00025	< 0.000049	0.00167 J	0.000669 J	0.00141 J	< 0.00031	0.00254 J	0.00578 J

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.0567	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00898	0.0307
< 0.00500	< 0.00500	< 0.200	<0.00500	0.1020	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	0.0101	0.0307
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.1010	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00975	0.0213
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.0346	<0.000200	< 0.00500	0.00836	< 0.00500	< 0.00500	0.00873	0.0215
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.0375	< 0.000200	< 0.00500	0.00746	< 0.00500	< 0.00500	0.00704	0.0170
< 0.00500	< 0.00500	< 0.200	<0.00500	0.0373	<0.000200	< 0.00500	0.00740	< 0.00500	< 0.00500	0.00764	0.0170
< 0.00500	< 0.00500	0.403	<0.00500	0.0360	<0.000200	< 0.00500	0.04090	< 0.00500	< 0.00500	0.00962	0.0319
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.0668	<0.000200	< 0.00500	0.02190	< 0.00500	< 0.00500	0.00936	0.0195
<0.00500	< 0.00500	<0.200	<0.00500	0.0709	<0.000200	< 0.00500	0.02190	< 0.00500	< 0.00500	0.00930	0.0531
<0.00500	< 0.00500	0.344	<0.00500	0.0439	<0.000200	< 0.00500	<0.00500	< 0.00500	< 0.00500	0.00939	0.0208
<0.00300	< 0.00530	< 0.014	0.000300 0.00032 J	0.0439	<0.000200	0.00074 J	<0.00300	< 0.00300	< 0.00300	0.0089 J	0.02500 J
<0.00230	0.000702 J	< 0.014	0.00032 J 0.000854 J	0.0280	<0.000049	< 0.00160	0.00180 J	0.000740 0.000525 J	<0.00280	0.0089 J 0.00837 J	0.02300 J 0.00615 J
<0.000200	0.000702 J	<0.0141	0.000654 J	0.0110	<0.000049	<0.00100	0.00160 J	0.000323 J	<0.00031	0.00637 J	0.00013 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.03060	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00604	0.09160
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01080	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00616	0.04870
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00721	< 0.000200	< 0.00500	0.00546	< 0.00500	< 0.00500	0.00638	0.02030
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01030	< 0.000200	< 0.00500	0.00762	< 0.00500	< 0.00500	0.00501	0.01830
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00949	< 0.000200	< 0.00500	0.00839	< 0.00500	< 0.00500	0.00564	0.00680
< 0.00500	< 0.00500	0.269	< 0.00500	0.03860	< 0.000200	< 0.00500	0.05200	< 0.00500	< 0.00500	0.00590	0.02080
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02330	< 0.000200	< 0.00500	0.02090	< 0.00500	< 0.00500	0.00658	0.00566
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02380	< 0.000200	< 0.00500	0.02660	< 0.00500	< 0.00500	0.00632	0.01500
< 0.00500	0.00983	4.32	0.00743	0.07150	< 0.000200	0.00881	0.09990	< 0.00500	< 0.00500	0.0336	0.03700
< 0.0023	< 0.0053	< 0.014	0.00077 J	0.00260 J	< 0.000049	0.00140 J	< 0.00490	< 0.00740	< 0.00280	0.01200	0.01900 J
0.000337 J	0.000760 J	< 0.0141	< 0.00024	0.00253 J	< 0.000049	< 0.00160	0.00240	< 0.00038	< 0.00031	0.00934 J	0.00438 J
0.0003373	0.0007003	(0.0111	₹0.00021	0.002333	(0.00001)	10.00100	0.00210	10.00050	(0.00031	0.007513	0.00 150 3
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00669	< 0.000200	< 0.00500	0.00859	< 0.00500	< 0.00500	< 0.00500	0.05700
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00831	< 0.000200	< 0.00500	0.00930	< 0.00500	< 0.00500	< 0.00500	0.04630
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00647	< 0.000200	< 0.00500	0.00912	< 0.00500	< 0.00500	< 0.00500	0.02130
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00658	< 0.000200	< 0.00500	0.00714	< 0.00500	< 0.00500	< 0.00500	0.02070
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01010
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00944	< 0.000200	< 0.00500	0.01550	< 0.00500	< 0.00500	< 0.00500	0.01790
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.03150	< 0.000200	< 0.00500	0.02860	< 0.00500	< 0.00500	0.00533	0.00919
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.04860	< 0.000200	< 0.00500	0.04100	< 0.00500	< 0.00500	< 0.00500	0.02240
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.15700	< 0.000200	0.00522	0.07190	< 0.00500	< 0.00500	< 0.00500	0.01040
< 0.0023	< 0.0053	< 0.014	0.00031 J	< 0.00120	< 0.000049	0.00170 J	< 0.00490	< 0.00740	< 0.00280	0.00520 J	0.04600 J
<0.000260	0.00198 J	< 0.0141	0.000316 J	0.00167 J	<0.000049	< 0.00160	0.00187 J	0.00147 J	< 0.00031	0.00508 J	0.00494 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00922
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00634	< 0.00500	< 0.00500	< 0.00500	0.02450
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00543	< 0.00500	< 0.00500	< 0.00500	0.02490
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00760	< 0.000200	< 0.00500	0.00725	< 0.00500	< 0.00500	< 0.00500	0.01010
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00508	< 0.000200	< 0.00500	0.00758	< 0.00500	< 0.00500	< 0.00500	0.01270
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00731	< 0.00500	< 0.00500	< 0.00500	0.01550
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01060	< 0.000200	< 0.00500	0.01650	< 0.00500	< 0.00500	< 0.00500	0.01510
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01460	< 0.000200	< 0.00500	0.01570	< 0.00500	< 0.00500	< 0.00500	0.00684
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01390	< 0.000200	< 0.00500	0.02130	< 0.00500	< 0.00500	< 0.00500	0.02070
< 0.00500	0.00634	1.28	< 0.00500	0.03830	<0.000200	0.00911	0.13500	< 0.00500	< 0.00500	< 0.00500	0.01140
< 0.00230	< 0.00530	< 0.014	<0.00024	< 0.00120	<0.000200	0.00250 J	< 0.00490	< 0.00740	< 0.00280	0.00260 J	0.01300 J
< 0.00236	0.000742 J	< 0.0141	< 0.00024	0.000287 J	< 0.000049	0.00185 J	0.00058 J	0.00102 J	< 0.00230	0.00239 J	0.00575 J
10.00020	3.0007 123	10.0111	10.00027	5.0002073	10.000017	0.001000	0.000000	0.001020	10.00001	0.002078	3.000100

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01090	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01940
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00715	< 0.000200	< 0.00500	0.00516	< 0.00500	< 0.00500	0.00535	0.04240
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00608	< 0.000200	< 0.00500	0.00832	< 0.00500	< 0.00500	< 0.00500	0.00556
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00804	< 0.000200	< 0.00500	0.00708	< 0.00500	< 0.00500	0.00602	0.00582
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.01020
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	0.01040 0.01220	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 0.02100	<0.00500 <0.00500	<0.00500 <0.00500	0.00807 0.00862	0.01480 <0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.01220	<0.000200	<0.00500	0.02100	<0.00500	<0.00500	0.00862	0.00607
<0.00500	< 0.00500	< 0.200	< 0.00500	0.00881	< 0.000200	< 0.00500	0.00775	< 0.00500	< 0.00500	0.00724	0.02100
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00882	< 0.000200	< 0.00500	0.00701	< 0.00500	< 0.00500	0.00645	0.02050
< 0.00500	< 0.00500	0.814	< 0.00500	0.04560	< 0.000200	0.00573	0.10000	< 0.00500	< 0.00500	0.00749	0.01060
< 0.00500	0.00504	0.968	< 0.00500	0.05110	< 0.000200	0.00638	0.11300	< 0.00500	< 0.00500	0.00764	0.01200
<0.0023	<0.0053	< 0.014	0.00050 J	<0.00120	<0.000049	0.00290 J	0.00560 J	<0.00740	<0.00280	0.00780 J	0.00860 J
<0.0023	<0.0053	<0.014	0.00026 J	<0.00120	<0.000049	0.00110 J	0.00540 J	<0.00740	<0.00280	0.00800 J	0.01400 J
0.00119 J 0.00113 J	<0.000520 0.00103 J	<0.0141 <0.0141	<0.00024 <0.00024	0.00279 J 0.00287 J	<0.000049 <0.000049	<0.00160 <0.00160	0.00514 0.00528	0.00109 J 0.00102 J	<0.00031 <0.00031	0.00732 J 0.00748 J	0.00472 J 0.00497 J
0.001133	0.001033	\0.01 4 1	<0.00024	0.002873	<0.000047	<0.00100	0.00328	0.001023	<0.00031	0.007483	0.004273
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01560	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02540
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00890	< 0.000200	< 0.00500	0.00734	< 0.00500	< 0.00500	0.00602	0.03280
<0.00500	<0.00500	<0.200	<0.00500	0.00679	<0.000200	<0.00500	0.00792	<0.00500	<0.00500	0.00546	0.00949
<0.00500	<0.00500	<0.200 <0.200	<0.00500	0.01220	<0.000200 <0.000200	<0.00500	0.01330	<0.00500	<0.00500	<0.00500	0.01170 0.02330
<0.00500 <0.00500	<0.00500 <0.00500	<0.200	<0.00500 <0.00500	0.00694 0.06350	<0.000200	<0.00500 <0.00500	0.00568 0.05580	<0.00500 <0.00500	<0.00500 <0.00500	0.00559 <0.00500	0.02330
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01740	<0.000200	< 0.00500	0.00539	< 0.00500	< 0.00500	0.00577	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00979	< 0.000200	< 0.00500	0.01280	< 0.00500	< 0.00500	0.00583	0.00770
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00938	< 0.000200	< 0.00500	0.00900	< 0.00500	< 0.00500	0.00548	0.01500
< 0.0023	< 0.0053	0.058 J	< 0.00024	0.00220 J	< 0.000049	0.00110 J	< 0.00490	< 0.00740	< 0.00280	0.00410 J	0.01500 J
0.000366 J	0.000593 J	< 0.0141	< 0.00024	0.00175 J	< 0.000049	< 0.00160	0.00104 J	< 0.000380	< 0.00031	0.00440 J	0.00418 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.05340	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00544	0.04530
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.03360	< 0.000200	< 0.00500	0.00769	< 0.00500	< 0.00500	0.00625	0.02940
< 0.00500	< 0.00500	0.393	< 0.00500	0.01790	< 0.000200	< 0.00500	0.04150	< 0.00500	< 0.00500	0.00571	0.01210
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00556	< 0.008000	< 0.00500	0.00533	< 0.00500	< 0.00500	< 0.00500	0.01170
<0.00500	<0.00500	< 0.200	<0.00500	0.00587	<0.000200	<0.00500	0.00737	<0.00500	<0.00500	<0.00500	0.01040
<0.00500	<0.00500	<0.200	<0.00500 <0.00500	0.05860	<0.000200	0.00513	0.05930	<0.00500	<0.00500 <0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500	0.02390 0.01340	<0.000200 <0.000200	<0.00500 <0.00500	0.01890 0.02860	<0.00500 <0.00500	<0.00500	0.00899 0.00680	0.00624 0.01820
<0.00500	< 0.00500	0.278	<0.00500	0.01340	<0.000200	< 0.00500	0.02800	< 0.00500	< 0.00500	0.00648	<0.00590
< 0.0023	< 0.0053	< 0.014	< 0.00024	< 0.00120	< 0.000200	0.00290 J	< 0.00490	0.00800 J	< 0.00280	0.00980 J	< 0.00590
< 0.000260	0.000627 J	< 0.0141	< 0.00024	0.00206 J	< 0.000049	0.01390	0.00405	0.00318	< 0.00031	0.00550 J	< 0.00256
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
<0.00500 <0.00500	<0.00500 <0.00500	<0.200 <0.200	<0.00500 <0.00500	<0.00500 <0.00500	<0.000200 <0.000200	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 <0.00500	<0.00500 0.01900
<0.00500	< 0.00500	< 0.200	<0.00500	0.00658	<0.000200	< 0.00500	0.00500	< 0.00500	< 0.00500	< 0.00500	0.01300
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00812
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.04660
< 0.00500	0.20300	< 0.200	< 0.00500	0.02750	< 0.000200	0.01000	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01680
< 0.00500	0.01010	< 0.200	<0.00500	0.00874	<0.000200	<0.00500	0.00561	<0.00500	<0.00500	<0.00500	0.00674
<0.00500	0.00514	<0.200	<0.00500	0.00509	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03350
<0.00500 <0.00230	0.03960 0.00550 J	0.760 <0.014	<0.00500 <0.00024	0.01280 <0.0012	<0.000200 <0.000049	<0.00500 0.00180 J	0.01290 <0.00490	<0.00500 <0.00740	<0.00500 <0.00280	<0.00500 0.00250 J	0.01700 0.01700 J
<0.00230	0.00550 J	<0.014 0.0385 J	<0.00024	<0.0012 0.000680 J	<0.000049	0.00180 J 0.00186 J	<0.00490	0.00220	<0.00280	0.00230 J 0.00238 J	0.01700 J 0.00393 J
\0.00020	0.00370	0.03033	\0.0002₹	J.0000000 J	\U.UUUU+)	0.001003	\0.000 <i>33</i>	0.00220	\0.000J1	0.002303	0.003/3 J

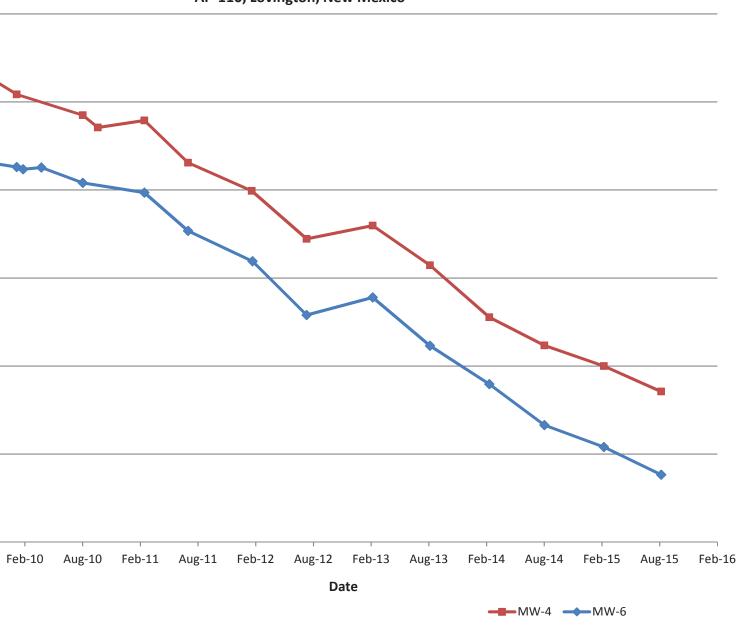
Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.03750
<0.00500	< 0.00500	<0.200	<0.00500	<0.00500	<0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.03730
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02670
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00532	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02400
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01620
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01320
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.04710	< 0.000200	< 0.00500	0.03340	< 0.00500	< 0.00500	< 0.00500	< 0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.01590	<0.000200	<0.00500	0.00667	<0.00500	<0.00500	<0.00500	0.01150
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00739
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00902
<0.00500	<0.00500	0.697	<0.00500	0.07540	<0.000200	0.00594	0.07770	<0.00500	<0.00500	<0.00500	0.01300
<0.00230	<0.00530	< 0.014	<0.00024	<0.00120	<0.000049	0.00120 J	<0.00490	<0.00740	<0.00280	0.00620 J	0.01300 J
<0.00026	0.000784 J	< 0.0141	< 0.00024	0.00153 J	<0.000049	0.00111 J	0.000629 J	0.00169 J	< 0.00031	0.00641 J	0.00333 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	0.00913	< 0.00500	0.00554	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.05890	< 0.000200	< 0.00500	0.02630	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.06440	< 0.000200	0.00588	0.05160	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.14800	< 0.000200	0.00597	0.04850	< 0.00500	< 0.00500	< 0.00500	< 0.00590
< 0.0023	< 0.0053	< 0.014	< 0.00024	0.00660 J	< 0.000049	0.00270 J	< 0.00490	< 0.00740	< 0.00280	0.0018 J	< 0.00590
< 0.000260	0.000922 J	< 0.0141	< 0.00024	0.00315 J	< 0.000049	0.00248 J	0.00109 J	0.00177 J	< 0.00031	0.00203 J	< 0.00256
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.03800	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.04670	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00854
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00933	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00526
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00771	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00764
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01820	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00801
< 0.00500	< 0.00500	0.655	< 0.00500	0.00656	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.02700	<0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
<0.00500	<0.00500	< 0.200	<0.00500	0.18600	<0.000200	<0.00500	0.01560	<0.00500	<0.00500	<0.00500	0.00581
<0.00500	<0.00500	< 0.200	<0.00500	0.00804	<0.000200	<0.00500	<0.00500	<0.00500	< 0.00500	<0.00500	0.00680
<0.0023	<0.0053	< 0.014	0.00042 J	<0.00120	<0.000049	0.00250 J	<0.00490	<0.00740	<0.00280	0.00180 J	0.00680 J
< 0.000260	< 0.000520	< 0.0141	< 0.00024	0.000376 J	< 0.000049	0.00240 J	< 0.000350	0.00289	< 0.00031	0.00173 J	< 0.00256
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00134	0.00920
< 0.00500	0.00856	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.0161	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.06950
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01780
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00873
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	0.00537	< 0.00500	< 0.00500	< 0.00500	0.01190
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00315
< 0.00100	0.00108	0.0180	< 0.00100	< 0.00100	< 0.000200	0.00346	< 0.00100	0.00359	< 0.00100	0.00179	0.01500
< 0.0023	0.012 J	< 0.014	0.00062 J	< 0.00120	< 0.000049	0.00320 J	< 0.00490	0.00970 J	< 0.00280	0.00160 J	0.01700 J
< 0.0023	0.015 J	< 0.014	0.00074 J	< 0.00120	< 0.000049	0.00420 J	< 0.00490	0.00330	< 0.00280	0.00180 J	0.01700 J
< 0.000260	0.00121 J	< 0.0141	< 0.00024	0.000878 J	< 0.000049	0.00306 J	< 0.00035	0.00332	< 0.00031	0.00156 J	< 0.00256
< 0.000260	0.00216 J	0.0158 J	< 0.00024	0.000476 J	< 0.000049	< 0.00160	0.000388 J	0.00342	< 0.00031	0.00160 J	0.00427 J
											-

Cobalt (mg/L)	Copper (mg/L)	Iron (mg/L)	Lead (mg/L)	Manganese (mg/L)	Total Mercury (mg/L)	Molybdenum (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Silver (mg/L)	Uranium (mg/L)	Zinc (mg/L)
				Mar	Total	Moly					
0.05	1.0	1.0	0.05	0.20	0.002	1.0	0.2	0.05	0.05	0.03	10.0
0.00500	0.00500	0.200	0.00500	0.00500	0.000200	0.00500	0.00500	0.00500	0.00500		0.00.700
<0.00500	<0.00500	<0.200	<0.00500	<0.00500	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500		<0.00500
<0.00500	<0.00500	<0.200	<0.00500	0.02240	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	0.00236	0.02070
<0.00500	<0.00500	< 0.200	<0.00500	0.00576	<0.000200	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.03290
<0.00500	<0.00500	< 0.200	<0.00500	0.02260	<0.000200	<0.00500	<0.00500	<0.00500	< 0.00500	< 0.00500	<0.00500
<0.00500	< 0.00500	< 0.200	<0.00500	< 0.00500	<0.000200	< 0.00500	<0.00500	< 0.00500	<0.00500	< 0.00500	0.00777
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.04010
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01720
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01550
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00571	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01590
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.00670	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.02140
< 0.00500	< 0.00500	< 0.200	< 0.00500	0.01030	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01630
< 0.00100	0.00128	0.0277	< 0.00100	0.00422	< 0.000200	0.00242	< 0.00100	0.00387	< 0.00100	0.00227	0.01510
< 0.00100	0.00136	0.0226	< 0.00100	0.00409	< 0.000200	0.00203	< 0.00100	0.00359	< 0.00100	0.00217	0.04900
< 0.0023	0.032	< 0.014	0.00310	0.00460 J	< 0.000049	0.00200 J	< 0.00490	0.01200 J	< 0.00280	0.00210 J	0.04900 J
< 0.0023	0.019 J	< 0.014	0.00260	0.00300 J	< 0.000049	0.00210 J	< 0.00490	0.01500 J	< 0.00280	0.00210 J	0.02500 J
< 0.0023	< 0.0053	< 0.014	< 0.00024	0.00880 J	< 0.000049	0.00220 J	< 0.00490	< 0.0028	< 0.00280	0.00210 J	< 0.00590
< 0.0023	< 0.0053	< 0.014	< 0.00024	0.00810 J	< 0.000049	0.00230 J	< 0.00490	0.00320	< 0.00280	0.00210 J	< 0.00590
< 0.00230	< 0.00530	0.0168 J	0.000477 J	0.00776 J	< 0.000049	0.00204 J	< 0.00490	0.00360	< 0.00280	0.00214 J	0.00662 J
< 0.000260	0.00376 J	< 0.0141	< 0.000240	0.00654	0.0000599 J	0.00199 J	< 0.000350	< 0.00328	< 0.00031	0.00205 J	0.00638 J
< 0.000260	0.00257 J	< 0.0141	< 0.000240	0.00564	< 0.000049	< 0.00160	0.000645 J	0.00334	< 0.00031	0.00238 J	0.00388 J
< 0.000260	0.00250 J	< 0.0141	< 0.000240	0.00546	< 0.000049	< 0.00160	0.000442 J	0.00343	< 0.00031	0.00238 J	0.00430 J
< 0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500		0.02910
< 0.00500	0.00953	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00111	0.01460
< 0.00500	0.00745	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	<0.00500	0.03470
< 0.00500	< 0.00500	< 0.200	0.00662	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.00936
< 0.00500	< 0.00500	< 0.200	0.01160	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.09370
< 0.00500	< 0.00500	< 0.200	0.00988	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01660
< 0.00500	0.00774	< 0.200	< 0.00500	< 0.00500	< 0.000200	< 0.00500	< 0.00500	< 0.00500	< 0.00500	< 0.00500	0.01660
<0.00500	< 0.00500	< 0.200	< 0.00500	< 0.00500	<0.000200	< 0.00500	< 0.00500	< 0.00500	<0.00500	<0.00500	0.03170
< 0.00500	< 0.00500	<0.200	< 0.00500	0.008120	<0.000200	< 0.00500	< 0.00500	< 0.00500	<0.00500	<0.00500	0.03170
< 0.00100	< 0.00300	0.143	<0.00100	0.004300	<0.000200	0.00241	< 0.00300	0.00395	<0.00100	0.00300	0.01300
<0.0023	0.06800	< 0.0143	0.00100 0.00120 J	0.004300 0.00210 J	<0.00020	0.00241 0.00230 J	<0.00100	0.01000 J	<0.00100	0.00181 0.00180 J	0.01470
<0.0023	< 0.00530	<0.014	<0.001203	0.00210 J	<0.000049	0.00230 J 0.00280 J	<0.00490	0.010003	<0.00280	0.00180 J	0.08000 0.01300 J
<0.0023	< 0.00530	0.0248 J	0.00024 0.000241 J	0.001003	<0.000049	0.00280 J 0.00236 J	<0.00490	0.00370	<0.00280	0.00190 J 0.00174 J	0.01300 J 0.02840 J
<0.00230	0.00330 0.00143 J	<0.0248 J	<0.000241 J	0.012900 0.00217 J	<0.000049	<0.002363	0.000365	0.00388	<0.00280	0.00174 J 0.00188 J	0.02840 J 0.01010 J
<0.00200	0.00143 J	<u></u> \0.0141	<u></u> \0.000∠4	0.0021/J	<0.0000 4 9	<0.0010U	0.000303	0.00367	\U.UUU31	0.00100 J	0.01010 J

APPENDIX A

PLOT OF GROUNDWATER ELEVATIONS OVER TIME

APPENDIX A - GROUNDWATER ELEVATIONS OVER TIME HollyFrontier Navajo Refining LLC AP-110, Lovington, New Mexico



APPENDIX B LABORATORY ANALYTICAL REPORTS (COMPACT DISC)



Quality Control Summary SDG: L751256

12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

For: TRC Solutions - Austin, TX Lovington Lea Refinery

L751256

T 1 0 1 TD	CII (TD
<u>Lab SampleID.</u>	<u>Client ID</u>
L751256-01	MW-10
L751256-02	MW-3
L751256-03	DUP-1
L751256-04	AC-2-26-15
L751256-05	MW-11
L751256-06	MW-27
L751256-07	MW-13
L751256-08	MW-14
L751256-09	EB-2-27-15-A
L751256-10	EB-2-27-15-B
L751256-11	MW-28
L751256-12	AC-2-23-14
L751256-13	MW-15
L751256-14	MW-16
L751256-15	MW-4
L751256-16	MW-2
L751256-17	AC-2-24-15
L751256-18	MW-12R
L751256-19	MW-20
L751256-20	MW-5
	1.2.,



Quality Control Summary SDG: L751256

12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

For: TRC Solutions - Austin, TX Lovington Lea Refinery

L751256

	Lab CamplaID	Clicat ID
	<u>Lab SampleID.</u>	<u>Client ID</u>
	1.751056.01	NAME 01
	L751256-21	MW-21
	L751256-22	MW-22
	L751256-23	MW-30
	L751256-24	MW-7
	L751256-25	RW-1
ĺ	L751256-26	MW-1
١	L751256-27	MW-6
	L751256-28	MW-9
	L751256-29	MW-29
	L751256-30	MW-23
	L751256-31	MW-24
	L751256-32	MW-25
	L751256-33	DUP-3
	L751256-34	MW-26
	L751256-35	AC-2-25-15
	L751256-36	MW-19
	L751256-37	DUP-2
	L751256-38	MW-18
	L751256-39	MW-8
	L751256-40	MW-17R



Quality Control Summary SDG: L751256

12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

For: TRC Solutions - Austin, TX Lovington Lea Refinery

L751256

Lab SampleID.

L751256-41 L751256-42 L751256-43

Client ID

AC-2-27-15 TRIP BLANK-1 TRIP BLANK-2

Appendix A: Laboratory Data Package Cover Page

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - o Items consistent with NELAC Chapter 5,
 - o dilution factors,
 - o preparation methods,
 - o cleanup methods, and
 - o if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - o Calculated recovery (%R), and
 - o The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - LCS spiking amounts,
 - o Calculated %R for each analyte, and
 - o The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - Samples associated with the MS/MSD clearly identified,
 - o MS/MSD spiking amounts,
 - Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - o Calculated %Rs and relative percent differences (RPDs), and
 - o The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - o The amount of analyte measured in the duplicate,
 - o The calculated RPD, and
 - o The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
- The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.
- Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports.
 I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

Laborator	y Name	e: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery Labor	ratory Job Number: L751256-01, -02, -05, -06, -07, -08	3, -11,	-13,	, -14,	-15,	-16, ₊ í
Reviewer	Name:	Prep	Batch Number(s):					
ESC Rep	resenta	12	773341 8270TCL					
# ¹	A ²	1		Voc	No I	NI A 3	ND ⁴	ER# ⁵
		Description		162	IVO	NA	INIX	EK#
R1	OI	Chain-of-custody (C-O-C)			-			
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	eipt?	✓		/		
		Were all departures from standard conditions described in an exception report?		$\vdash \vdash$		٧		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports		oxdot				
		Were all samples prepared and analyzed within holding times?		✓				ļ
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	-	/		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 I	Method 5035?	\vdash		√		
5.4		If required for the project, are TICs reported?		\vdash		•		
R4	0	Surrogate recovery data		√				
		Were surrogates added prior to extraction?						
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?	√				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):		$\sqcup \sqcup$				
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	p steps?	√				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		√				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	√				
	0.1	Was the LCSD RPD within QC limits?		\vdash				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data		\vdash		,		
		Were the project/method specified analytes included in the MS and MSD?		$\vdash \vdash$		✓		
		Were MS/MSD analyzed at the appropriate frequency?		$\vdash \vdash$		√		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		$\vdash\vdash\vdash$	-	· /		
		Were MS/MSD RPDs within laboratory QC limits?		$\vdash\vdash$	-	✓		
R8	OI	Analytical duplicate data		$\vdash \vdash$				
		Were appropriate analytical duplicates analyzed for each matrix?		$\vdash \vdash$		√		
		Were analytical duplicates analyzed at the appropriate frequency?		$\vdash \vdash \vdash$		٧		
		Were RPDs or relative standard deviations within the laboratory QC limits?		\vdash		✓		
R9	OI	Method quantitation limits (MQLs):		\vdash				ļ
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard	d?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		\dashv				
R10	OI	Other problems/anomalies		igsquare	\sqcup			<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	\dashv			
		Was applicable and available technology used to lower the SDL to minimize the matrix in		✓	$\vdash \vdash$			-
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program f data package?		✓				
appropria	te retentio	re letter "R" must be included in the laboratory data package submitted in the TRRP-requiper properties. O = organic analyses; I = inorganic analyses (and general chemistry, when a strain the should be completed for an item if "NR" or "No" is checked).						

5 of 373 Revised 2010

Ap	pen	dix A (cont'd): Laboratory Review Checkli	ist: Reportable Da	ata					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date:	4/17/2015					
Proj	ect N	ame: Lovington Lea Refinery	Laboratory Job Number:	L751256-01, -02, -05, -06, -07, -	08, -11, -1	13, -14, -1	5, -16, -18, -	19, -20, -21,	-22, and -03
Rev	iewei	Name: ESC Representative	Prep Batch Number(s):	WG773341 827	70TC	L			
#1	A^2	Description			Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)							
~1	-	Were response factors and/or relative response factors for each	ch analyte within OC limi	ts?	1				
		Were percent RSDs or correlation coefficient criteria met?	on unui yee within QC min		√				
		Was the number of standards recommended in the method us	ed for all analytes?		1				
		Were all points generated between the lowest and highest sta		ie curve?	√				
		Are ICAL data available for all instruments used?			1				
		Has the initial calibration curve been verified using an appro	priate second source stand	dard?	1				
S2	OI	Initial and continuing calibration verification (ICCV and			·				
		Was the CCV analyzed at the method-required frequency?	<u> </u>		1				
		Were percent differences for each analyte within the method-	required OC limits?		<i>'</i>				
		Was the ICAL curve verified for each analyte?			1				
		Was the absolute value of the analyte concentration in the inc	organic CCB < MDL?		Ť		1		
S3	О	Mass spectral tuning:							
	_	Was the appropriate compound for the method used for tunin	ıg?		1				
		Were ion abundance data within the method-required QC lim			1				1
S4	О	Internal standards (IS):			Ť				
		Were IS area counts and retention times within the method-re	equired OC limits?		1				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sec		7025 section	Ť				
		Were the raw data (for example, chromatograms, spectral dat			√				
		Were data associated with manual integrations flagged on the			1				
S6	О	Dual column confirmation	- 1411 data.						
		Did dual column confirmation results meet the method-requir	red OC?				1		
S7	О	Tentatively identified compounds (TICs):	(1)						
		If TICs were requested, were the mass spectra and TIC data s	ubject to appropriate che	cks?			1		
S8	Ι	Interference Check Sample (ICS) results:	mejete to appropriate the						
		Were percent recoveries within method QC limits?					1		
S9	I	Serial dilutions, post digestion spikes, and method of stand	dard additions						
		Were percent differences, recoveries, and the linearity within		n the method?			1		
S10	OI	Method detection limit (MDL) studies							
		Was a MDL study performed for each reported analyte?			1				
		Is the MDL either adjusted or supported by the analysis of D	CSs?		1				
S11	OI	Proficiency test reports:	<u> </u>		Ė				
		Was the laboratory's performance acceptable on the applicable	le proficiency tests or eva	luation studies?	1				
S12	OI	Standards documentation	1		Ė				
		Are all standards used in the analyses NIST-traceable or obta	ined from other appropri	ate sources?	√				
S13	OI	Compound/analyte identification procedures	- orr spec						
		Are the procedures for compound/analyte identification docu	mented?		1				
S14	OI	Demonstration of analyst competency (DOC)							
		Was DOC conducted consistent with NELAC Chapter 5C or	ISO/IEC 4?		1				
		Is documentation of the analyst's competency up-to-date and			1				
S15	OI	Verification/validation documentation for methods (NELA		025 Section 5)					
		Are all the methods used to generate the data documented, ve			1				
S16	OI	Laboratory standard operating procedures (SOPs):	,	TI	Ė				
	U 1	Are laboratory SOPs current and on file for each method perf	formed?		1				
		being sold carrent and on the for each method peri			*				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborato	ory Name	ESC Lab Sciences	RC Date: 4/17/2015					
Project N	Name: Lo	vington Lea Refinery La	aboratory Job Number: L751256-11, -13, -14, -15, -16, -18	8, -19	, -20	, -21,	and	-22
Reviewe	r Name:	Pi	rep Batch Number(s):					
ESC Re	presenta	tive	NG773477 TDS					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?		1			†
		Were all departures from standard conditions described in an exception report?		√	Ť			
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				1
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		√				
R3	OI	Test reports						
	1-	Were all samples prepared and analyzed within holding times?			√			1
		Other than those results < MQL, were all other raw values bracketed by calibration s	standards?	√				1
		Were calculations checked by a peer or supervisor?		√				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?	—		✓		ļ
		If required for the project, are TICs reported?		\vdash		√		-
R4	0	Surrogate recovery data		<u> </u>				
		Were surrogates added prior to extraction?		—		√		ļ
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		\vdash		✓		_
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparati	tion and, if applicable, cleanup procedures?	√				-
		Were blank concentrations < MQL?		✓				+
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		1				-
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	√				+
		Were LCSs analyzed at the required frequency?		+				+
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to de	stoot the COCs at the MDL wood to calculate the SDL s2	√				+
		Was the LCSD RPD within QC limits?	steet the COCs at the MDE used to calculate the SDES?	✓				†
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						+
177	OI.	Were the project/method specified analytes included in the MS and MSD?				√		+
		Were MS/MSD analyzed at the appropriate frequency?				· /		1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		†		√		†
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	√				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				1
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Prograta package?	gram for the analytes, matrices and methods associated with this labor atory	✓				
1. Items ide	entified by the	le letter "R" must be included in the laboratory data package submitted in the TRRP-	required report(s). Items identified by the letter "S" should be retained and ma	de ava	ilable	upon r	equest	for the

appropriate retention period; 2. O = organic analyses; 1 = inorganic analyses; and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numbe (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklist	: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences LR	RC Date: 4/17/2015					
Proj	ject N	Tame: Lovington Lea Refinery Lai	boratory Job Number: L751256-11, -13, -14	, -15, -	16, -1	8, -19, -	20, -21,	and -22
Rev	iewei	Name: ESC Representative Pro	ep Batch Number(s): WG773477 TD	S				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each a	analyte within OC limits?			√		1
		Were percent RSDs or correlation coefficient criteria met?	,			✓		1
		Was the number of standards recommended in the method used	for all analytes?			√		1
		Were all points generated between the lowest and highest standa	ard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?				✓		
		Has the initial calibration curve been verified using an appropria	ate second source standard?			✓		
S2	OI	Initial and continuing calibration verification (ICCV and CC						
		Was the CCV analyzed at the method-required frequency?	,			✓		
		Were percent differences for each analyte within the method-red	quired QC limits?			✓	İ	1
		Was the ICAL curve verified for each analyte?				√		
		Was the absolute value of the analyte concentration in the inorg	anic CCB < MDL?			1		1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				√		1
		Were ion abundance data within the method-required QC limits				√		1
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-requ	ired OC limits?			√		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section						
		Were the raw data (for example, chromatograms, spectral data) i		√				
		Were data associated with manual integrations flagged on the ra				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required	OC?			√		
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	ject to appropriate checks?			1		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standar	d additions					
		Were percent differences, recoveries, and the linearity within the				√		
S10	OI	Method detection limit (MDL) studies	,					
		Was a MDL study performed for each reported analyte?		√				
		Is the MDL either adjusted or supported by the analysis of DCS	s?	√				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable p	proficiency tests or evaluation studies?	√				
S12	OI	Standards documentation	, , , , , , , , , , , , , , , , , , , ,					
		Are all standards used in the analyses NIST-traceable or obtaine	ed from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docume	ented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO	O/IEC 4?	✓				
L	<u> </u>	Is documentation of the analyst's competency up-to-date and on		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, verif		√				
S16	OI	Laboratory standard operating procedures (SOPs):	**					
		Are laboratory SOPs current and on file for each method perform	med?	1				
				•				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Revie	ew Checklist: Exception Reports
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773477 TDS

 $Sample(s): MW-28, MW-15, MW-16, MW-4, MW-2, MW-12R, MW-20, MW-5, MW-21, MW-22\\ Samples(s) were analyzed for Total Dissolved Solids by Method 2540 C-2011$

ER#: Description

The method specified holding times were exceeded for samples L751256-11.

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborator	y Name	: ESC Lab Sciences	RC Date: 4/17/2015					
Project Na	ame: Lo	vington Lea Refinery	aboratory Job Number: L751256-01, -02, -03, -06, -07, ar	ıd -09				
Reviewer	Name:	Р	rep Batch Number(s):					
ESC Rep			VG773482 PH					
				L.	L.	3	1	5
# ¹	A ²	Description		Yes	No	NA	NR"	ER#⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	ļ.,	✓			
		Were all departures from standard conditions described in an exception report?		✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?			✓			1
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓		,		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	846 Method 5035?			√		
D.4		If required for the project, are TICs reported?				l ·		
R4	0	Surrogate recovery data				√		
		Were surrogates added prior to extraction?				∨		
D.F.		Were surrogate percent recoveries in all samples within the laboratory QC limits?				<u> </u>		
R5	OI	Test reports/summary forms for blank samples				,		
		Were appropriate type(s) of blanks analyzed?		-		√		
		Were blanks analyzed at the appropriate frequency?	in and Kanalinahla alanawa manadana 0			1		
		Were method blanks taken through the entire analytical process, including preparati Were blank concentrations < MQL?	ion and, if applicable, cleanup procedures?			· /		
De						<u> </u>		
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?	namus atana?	√				
		Was each LCS taken through the entire analytical procedure, including prep and cle	sanup steps?	· /				
		Were LCSs analyzed at the required frequency? Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to de	etect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?	Not the Cook at the MP2 doed to edicate the COP20.	√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
	Ισ.	Were the project/method specified analytes included in the MS and MSD?				1		
		Were MS/MSD analyzed at the appropriate frequency?				1		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				√		
		Were MS/MSD RPDs within laboratory QC limits?				1		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		1				
		Were analytical duplicates analyzed at the appropriate frequency?		√				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
	-	Are the MQLs for each method analyte included in the laboratory data package?		/				t
		Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	indard?	· ✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1				t
		Was applicable and available technology used to lower the SDL to minimize the ma	trix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progradata package?		1				

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Project Review	wer Name: Wer Name: A ² Descrip I Initial of Were re Were po Was the Was the Was the Was the Was the Was the Was the Was the Was the Was the Was the Was the	Lovington Lea Refinery ESC Representative tion alibration (ICAL) sponse factors and/or relative response factors for earcent RSDs or correlation coefficient criteria met? number of standards recommended in the method ull points generated between the lowest and highest stated data available for all instruments used? initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? excent differences for each analyte within the method ICAL curve verified for each analyte? absolute value of the analyte concentration in the in	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	WG773482 PH its? ne curve?	l		6, -07	, and ·	-09
Review # A S1 OI	wer Name: A ² Descrip II Initial of Were re Were per Was the Were all Are ICA Has the Were per Was the Was the Was the Was the Was the Was the Was the Was the Was the	ESC Representative tion alibration (ICAL) sponse factors and/or relative response factors for earcent RSDs or correlation coefficient criteria met? number of standards recommended in the method under the lowest and highest standards available for all instruments used? initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? except differences for each analyte within the method ICAL curve verified for each analyte?	Prep Batch Number(s): ach analyte within QC limits sed for all analytes? andard used to calculate the opriate second source standard continuing calculate the prior of the continuing calculate the opriate second source standard continuing calculate.	WG773482 PH its? ne curve?	Yes				
#1 A S1 OI	A ² Descrip I Initial of Were re Were p Was the Were al Are ICA Has the I Initial of Were p Was the Was the Was the Was the Was the Mass s	ralibration (ICAL) sponse factors and/or relative response factors for ear cent RSDs or correlation coefficient criteria met? number of standards recommended in the method used points generated between the lowest and highest standards available for all instruments used? initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? except differences for each analyte within the method ICAL curve verified for each analyte?	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	its? ne curve? dard?	Yes	No	NA ³	NR ⁴	ER# ⁵
S1 OI S2 OI	Were power all Are ICA Has the Were power was the Were all Initial a Was the Were power was the Was the Was the Was the Was the Mass s	sponse factors and/or relative response factors for ear excent RSDs or correlation coefficient criteria met? In umber of standards recommended in the method used points generated between the lowest and highest standards available for all instruments used? Initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? Excent differences for each analyte within the method ICAL curve verified for each analyte?	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	ne curve?	√ √ √ √ √	No	NA ³	NR ⁴	ER# ⁵
82 OI	Were re Were py Was the Were al Are ICA Has the I Initial Was the Were py Was the Was the Was the Was the	sponse factors and/or relative response factors for earcent RSDs or correlation coefficient criteria met? number of standards recommended in the method ut points generated between the lowest and highest standard available for all instruments used? initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? except differences for each analyte within the method ICAL curve verified for each analyte?	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	ne curve?	\frac{1}{\sqrt{1}}				
82 OI	Were re Were py Was the Were al Are ICA Has the I Initial Was the Were py Was the Was the Was the Was the	sponse factors and/or relative response factors for earcent RSDs or correlation coefficient criteria met? number of standards recommended in the method ut points generated between the lowest and highest standard available for all instruments used? initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? except differences for each analyte within the method ICAL curve verified for each analyte?	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	ne curve?	\frac{1}{\sqrt{1}}				
	Were power all Are ICA Has the Was the Was the Was the Was the Was the Was the Was selection Mass selection was selection and the Was the Was the Mass selection was the Was the Was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selection was selected was	recent RSDs or correlation coefficient criteria met? number of standards recommended in the method used points generated between the lowest and highest standard available for all instruments used? initial calibration curve been verified using an approact continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? exercent differences for each analyte within the method ICAL curve verified for each analyte?	sed for all analytes? andard used to calculate the opriate second source stand CCV) and continuing ca	ne curve?	√ √ √				
	Were all Are ICA Has the Was the Were power was the Was the Was the Was see Mass s	I points generated between the lowest and highest state. Late available for all instruments used? initial calibration curve been verified using an approach approach approach and continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? Exercent differences for each analyte within the method ICAL curve verified for each analyte?	andard used to calculate the opriate second source standard CCV) and continuing ca	dard?	√ √ √				
	Are ICA Has the I Initial a Was the Were p Was the Was the Was the	AL data available for all instruments used? initial calibration curve been verified using an approand continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? ercent differences for each analyte within the method ICAL curve verified for each analyte?	opriate second source stan	dard?	√				
	Has the Unitial: Was the Were po Was the Was the Was the Mass s	initial calibration curve been verified using an appround continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? ercent differences for each analyte within the method ICAL curve verified for each analyte?	CCV) and continuing ca		√				
	Was the Was the Was the Was the Was the Was the Was the Was the Was s	and continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? ercent differences for each analyte within the method ICAL curve verified for each analyte?	CCV) and continuing ca						
	Was the Was the Was the Was the Was the Was the Was the Was the Was s	and continuing calibration verification (ICCV and CCV analyzed at the method-required frequency? ercent differences for each analyte within the method ICAL curve verified for each analyte?	CCV) and continuing ca		√				
83 ()	Were power was the Was the Mass s	ercent differences for each analyte within the method ICAL curve verified for each analyte?	l-required QC limits?		✓				
§3 ()	Was the Was the Mass s	ICAL curve verified for each analyte?	l-required QC limits?						
S3 O	Was the Was the Mass s	ICAL curve verified for each analyte?	-		✓				
S3 O	Mass s	absolute value of the analyte concentration in the ir			✓				
S3 ()	Mass s		norganic CCB < MDL?		✓				
	Wastha	ectral tuning:							
	vv as till	appropriate compound for the method used for tuni	ng?				✓		
- 1	Were ic	n abundance data within the method-required QC lin	nits?				✓		T
S4 O	Interna	l standards (IS):							
	Were IS	area counts and retention times within the method-	required QC limits?				✓		T
S5 OI	I Raw da	ta (NELAC section 1 appendix A glossary, and se	ection 5.12 or ISO/IEC 1'	7025 section					
	Were th	e raw data (for example, chromatograms, spectral da	ta) reviewed by an analys	t?	✓				
	Were da	ta associated with manual integrations flagged on th	e raw data?				✓		
S6 O	Dual co	lumn confirmation							
	Did dua	l column confirmation results meet the method-requ	ired QC?				✓		
S7 O	Tentati	vely identified compounds (TICs):							
	If TICs	were requested, were the mass spectra and TIC data	subject to appropriate che	cks?			✓		
S8 I	Interfe	rence Check Sample (ICS) results:							
	Were p	ercent recoveries within method QC limits?					✓		
S9 I		ilutions, post digestion spikes, and method of stan							
		ercent differences, recoveries, and the linearity within	n the QC limits specified i	n the method?			✓		
S10 OI		detection limit (MDL) studies							
		ADL study performed for each reported analyte?			✓				↓
		DL either adjusted or supported by the analysis of I	OCSs?		✓				Ц_
S11 OI		ency test reports:							
~1.5		laboratory's performance acceptable on the applicab	ole proficiency tests or eva	luation studies?	✓				\perp
S12 OI		ds documentation							1
~		standards used in the analyses NIST-traceable or obt	ained from other appropri	ate sources?	✓			_	
S13 OI		und/analyte identification procedures							
04.4		procedures for compound/analyte identification doc	umented?		✓			_	
S14 OI		stration of analyst competency (DOC)	100/IEC 40						
		OC conducted consistent with NELAC Chapter 5C or			√			1	+-
015 0-		mentation of the analyst's competency up-to-date and		1005 0 5	✓				
S15 OI		ation/validation documentation for methods (NEL							
		he methods used to generate the data documented, v	erified, and validated, wh	ere applicable?	✓				\perp
S16 OI		tory standard operating procedures (SOPs):							
	Are lab	oratory SOPs current and on file for each method per	rformed?		✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review	Checklist: Exception Reports
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773482 PH

Sample(s): MW-10, MW-3, DUP-1, MW-27, MW-13, EB-2-27-15-A

Samples(s) were analyzed for pH by Method 9040C

ER#: Description

¹ The method specified holding times were exceeded for samples L751256-01, L751256-02, L751256-03, L751256-06, L751256-07, and L751256-09.

Laboratory	/ Name	ESC Lab Sciences	RC Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery La	aboratory Job Number: L751256-23, -24, -25, -26, -27, -28	3, -29,	-30	, -31,	and	-32
Reviewer	Name:	P	rep Batch Number(s):					
ESC Repr	esenta	tive	WG773484 TDS					
<u> </u>				V	N.	NI A 3	ND4	ER# ⁵
# ¹	A ²	Description		Yes	NO	NA	NK.	EK#
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	√				
		Were all departures from standard conditions described in an exception report?		\vdash		✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				ļ
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration s	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				ļ
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				ļ
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	846 Method 5035?			√		
		If required for the project, are TICs reported?		\vdash		•		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				√		ļ
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparati	ion and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				ļ
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to de	etect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?				✓		ļ
		Were MS/MSD analyzed at the appropriate frequency?				✓		ļ
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		igwdapprox igwedge		✓		
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				ļ
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration star	andard?	√				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				-
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the mat	atrix interference effects on the sample results?	✓				<u> </u>
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progradata package?	ram for the analytes, matrices and methods associated with this laboratory	✓				
1. Items ident	ified by t	рака раскаде? le letter "R" must be included in the laboratory data package submitted in the TRRP-	required report(s). Items identified by the letter "S" should be retained and ma	de avai	lahle i	upon r	eallest	for the
appropriat	e retention	n period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, what should be completed for an item if "NR" or "No" is checked).						

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Ap	pen	dix A (cont'd): Laboratory Review Checkli	ist: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Pro	ject N	lame: Lovington Lea Refinery	Laboratory Job Number: L751256-23, -24, -2	5, -26,	-27, -2	8, -29, -	30, -31,	and -32
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG773484 TD	S				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	ch analyte within QC limits?			✓		
		Were percent RSDs or correlation coefficient criteria met?				✓		
		Was the number of standards recommended in the method us				✓		
		Were all points generated between the lowest and highest sta	ndard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?				✓		
		Has the initial calibration curve been verified using an appro				✓		
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?				✓		
		Were percent differences for each analyte within the method-	required QC limits?			✓		
		Was the ICAL curve verified for each analyte?				✓		
		Was the absolute value of the analyte concentration in the inc	organic CCB < MDL?			✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tunin		-		✓		-
G 4		Were ion abundance data within the method-required QC lim	nits?			✓		
S4	О	Internal standards (IS):	1001: 10					
0.5	0.1	Were IS area counts and retention times within the method-re				✓		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sec						
		Were the raw data (for example, chromatograms, spectral dat		✓	-	,		+
67	0	Were data associated with manual integrations flagged on the	e raw data?			✓		
S6	О	Dual column confirmation	1 OC9			1		_
S7	0	Did dual column confirmation results meet the method-requirements (TICs)	rea QC?			V		
37	U	Tentatively identified compounds (TICs): If TICs were requested, were the mass spectra and TIC data s	which to appropriate sheetes?			1		-
S8	T	Interference Check Sample (ICS) results:	subject to appropriate checks:			· ·		
50	1	Were percent recoveries within method QC limits?				√		
S9	ī	Serial dilutions, post digestion spikes, and method of stand	dard additions			· ·		
57	1	Were percent differences, recoveries, and the linearity within				1		1
S10	OI	Method detection limit (MDL) studies	the QC mints specified in the method:			_		
	01	Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of D	CSs?	1				1
S11	OI	Proficiency test reports:		Ť				
	01	Was the laboratory's performance acceptable on the applicable	le proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	The second secon	Ť				
		Are all standards used in the analyses NIST-traceable or obta	ined from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	11 - F					
		Are the procedures for compound/analyte identification docu	mented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or	ISO/IEC 4?	✓				
L		Is documentation of the analyst's competency up-to-date and	on file?	√				
S15	OI	Verification/validation documentation for methods (NELA	AC Chap 5 or ISO/IEC 17025 Section 5)					
		Are all the methods used to generate the data documented, ve	erified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method per	formed?	1				
<u> </u>				<u> </u>				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	e: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Na	ame: Lo	vington Lea Refinery Labo	oratory Job Number: L751256-10, -11, -13, -14, -15, -16	5, -18	-19	, -20,	-21,	-22,
Reviewer	Name:	Prep	Batch Number(s):					
ESC Repi	resenta	12	773485 PH					
<u> </u>	A ²			Vaa	NIO	NI A 3	ND ⁴	ER# ⁵
# ¹		Description		res	NO	NA.	NK	EK#
R1	OI	Chain-of-custody (C-O-C)			-			
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	reipt?	1	✓			-
_		Were all departures from standard conditions described in an exception report?		*				-
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				-
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?			✓			1
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓				
		Were calculations checked by a peer or supervisor?		√				
		Were all analyte identifications checked by a peer or supervisor?		√				-
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		√				-
		Were % moisture (or solids) reported for all soil and sediment samples?	Made at 50050	✓		√		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 frequired for the project, are TICs reported?	ivetnod 5035?			▼		
R4	O							
K4	Ο	Surrogate recovery data				✓		-
		Were surrogates added prior to extraction?				<i>y</i>		
DE		Were surrogate percent recoveries in all samples within the laboratory QC limits?				•		
R5	OI	Test reports/summary forms for blank samples				,		-
		Were appropriate type(s) of blanks analyzed?				√		-
		Were blanks analyzed at the appropriate frequency?				1		
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?			1		
DO		Were blank concentrations < MQL?				•		
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	p steps?	▼				
		Were LCSs analyzed at the required frequency? Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		· ✓				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	→				
		Was the LCSD RPD within QC limits?	and deduction in the land to contain the delay.	√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
1 (1	01	Were the project/method specified analytes included in the MS and MSD?				✓		<u> </u>
		Were MS/MSD analyzed at the appropriate frequency?				· /		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				√		
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
110	01	Were appropriate analytical duplicates analyzed for each matrix?		1				<u> </u>
		Were analytical duplicates analyzed at the appropriate frequency?		√				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
110	Oi	Are the MQLs for each method analyte included in the laboratory data package?		1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	· /				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		√				
R10	OI	Other problems/anomalies						
	Oi	•		√	\vdash			\vdash
		Are all known problems/anomalies/special conditions noted in this LRC and ER? Was applicable and available technology used to lower the SDL to minimize the matrix in	interference effects on the sample results?	√				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program		· ·				
1. Items iden	tified by t	data package? ne letter "R" must be included in the laboratory data package submitted in the TRRP-requ			lahle i	unon re	dileet.	for the
appropria	te retentio	reflected in this be included in the laboratory data package submitted in the TRRP-requirements on period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when a should be completed for an item if "NR" or "No" is checked).						

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Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Pro	ject N	Iame: Lovington Lea Refinery I	Laboratory Job Number: L751256-10, -11, -13, -14, -15, -	16, -18, -1	9, -20, -2	1, -22, -23, -2	24, -25, -26, -2	27, -28, -2
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG773485 PH					
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	h analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method use	ed for all analytes?	✓				
		Were all points generated between the lowest and highest stan	ndard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an approp		✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-r	required QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the ino	rganic CCB < MDL?	✓				
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limi	its?			✓		
S4	O	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				✓		
S5	OI	11 8 1/						
		Were the raw data (for example, chromatograms, spectral data		✓				
		Were data associated with manual integrations flagged on the	raw data?			✓		
S6	O	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	abject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of stand						
~10		Were percent differences, recoveries, and the linearity within	the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						<u> </u>
		Was a MDL study performed for each reported analyte?	22.0	√				
011	O.T.	Is the MDL either adjusted or supported by the analysis of DC	CSs?	✓				
S11	OI	Proficiency test reports:	C : 1 : 2	.				
013	O.I.	Was the laboratory's performance acceptable on the applicable	e proficiency tests or evaluation studies?	✓				-
S12	OI	Standards documentation	1.0 (1)					4
612	ΟI	Are all standards used in the analyses NIST-traceable or obtai	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	. 10	_	-			-
614	ΟI	Are the procedures for compound/analyte identification docur	nented?	✓				
S14	ΟI	Demonstration of analyst competency (DOC)	ISO/IEC 42	√				
		Was DOC conducted consistent with NELAC Chapter 5C or I			-	-	1	+
Q1 <i>E</i>	Oī	Is documentation of the analyst's competency up-to-date and a		✓				-
S15	OI	Verification/validation documentation for methods (NELA	wified and validated astronomy and in 1112	1				
04.6	07	Are all the methods used to generate the data documented, ver	imed, and vandated, where applicable?	✓				+
S16	OI	Laboratory standard operating procedures (SOPs):	10	-				
		Are laboratory SOPs current and on file for each method perfo	ormea!	✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

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Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773485 PH					

Sample(s): EB-2-27-15-B, MW-28, MW-15, MW-16, MW-4, MW-2, MW-12R, MW-20, MW-5, MW-21, MW-22, MW-30, MW-7, RW-1, MW-1, MW-6, MW-9, MW-29, MW-23, MW-24

 $\begin{array}{ll} \textbf{Samples}(s) \ \textbf{were analyzed for pH by Method 9040C} \\ \textbf{ER\#:} & \textbf{Description} \end{array}$

¹ The method specified holding times were exceeded for samples L751256-10, L751256-11, L751256-13, L751256-14, L751256-15, L751256-16, L751256-18, L751256-19, L751256-20, L751256-21, L751256-22, L751256-23, L751256-24, L751256-25, L751256-26, L751256-27, L751256-28, L751256-29, L751256-30, and L751256-31.

Laboratory Name: ESC Lab Sciences		ESC Lab Sciences	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery			Laboratory Job Number: L751256-01, -02, -03, -06, -07, -09, -10, -33, -34, and -36					
Reviewer Name: Prep Batch Number(s):								
ESC Rep	ESC Representative WG773487 TDS							
# ¹	# ¹ A ² Description		Voc	No	NI A ³	ND ⁴	ER# ⁵	
			res	NO	NA	INIX	ER#	
R1	OI	Chain-of-custody (C-O-C)		 	-		├	-
		Did samples meet the laboratory's standard conditions of sample acceptability upo	on receipt?	✓	\vdash	1	├	-
	0.1	Were all departures from standard conditions described in an exception report?			\vdash	· ·	1	+
R2	OI	Sample and quality control (QC) identification		 	\vdash		<u> </u>	-
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓	$\vdash\vdash$		 	+
	0.1	Are all laboratory ID numbers cross-referenced to the corresponding QC data?		ř	\vdash		1	+
R3	OI	Test reports					<u> </u>	-
		Were all samples prepared and analyzed within holding times?		√	\vdash	-	₩	-
		Other than those results < MQL, were all other raw values bracketed by calibration standards?		√	\vdash	₩	₩	+
		Were calculations checked by a peer or supervisor?		1	\vdash	 	\vdash	\vdash
		Were all analyte identifications checked by a peer or supervisor?		✓	\vdash	-	-	+
		Were sample detection limits reported for all analytes not detected?		\ \ \	H			+
		Were all results for soil and sediment samples reported on a dry weight basis? Were % moisture (or solids) reported for all soil and sediment samples?		1	\vdash		 	+
		Were bulk soils/solids samples for volatile analysis extracted with methanol per S\		_	H	1		<u> </u>
		If required for the project, are TICs reported?	10.10.11.00.11.00.000.			1		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		_		1	 	
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		<u> </u>		√		†
R5	OI							
110	OI.	Were appropriate type(s) of blanks analyzed?		1	H			+
		Were blanks analyzed at the appropriate frequency?		1	H			
		Were method blanks taken through the entire analytical process, including prepara	ration and, if applicable, cleanup procedures?	√				†
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		1	\Box			<u> </u>
		Was each LCS taken through the entire analytical procedure, including prep and of	cleanup steps?	√				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to c	detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?				✓		
		Were MS/MSD analyzed at the appropriate frequency?				✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		igspace		✓	Щ.	
		Were MS/MSD RPDs within laboratory QC limits?		\vdash	Ш	✓	<u> </u>	
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓	Ш	<u> </u>	<u> </u>	
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration s	standard?	✓				
	1	Are unadjusted MQLs and DCSs included in the laboratory data package?		/	Щ.	<u> </u>	<u> </u>	<u> </u>
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓	Ш	<u> </u>	<u> </u>	
		Was applicable and available technology used to lower the SDL to minimize the m	natrix interference effects on the sample results?	✓	Ш	<u> </u>	<u> </u>	
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Produta package?	ogram for the analytes, matrices and methods associated with this laboratory	✓				
appropria	 Items identified by the letter "R" must be included in the laboratory data package submitted in the TRI appropriate retention period; O = organic analyses; I = inorganic analyses (and general chemistry (an Exception Report should be completed for an item if "NR" or "No" is checked). 							

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Ap	pen	dix A (cont'd): Laboratory Review Checklist	: Reportable Data												
Lab	Laboratory Name: ESC Lab Sciences LRC Date: 4/17/2015														
Proj	Project Name: Lovington Lea Refinery Laboratory Job Number: L751256-01, -02, -03					9, -10, -	33, -34,	and -36							
Rev	Reviewer Name: ESC Representative Prep Batch Number(s): WG773487 TI					TDS									
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5							
S1		1													
		Were response factors and/or relative response factors for each analyte within QC limits?				√									
		Were percent RSDs or correlation coefficient criteria met?				✓		1							
		Was the number of standards recommended in the method used for all analytes?				✓									
		Were all points generated between the lowest and highest standa	ard used to calculate the curve?			✓									
		Are ICAL data available for all instruments used?				✓									
		Has the initial calibration curve been verified using an appropria	ate second source standard?			✓									
S2	OI	Initial and continuing calibration verification (ICCV and CC													
		Was the CCV analyzed at the method-required frequency?	, ,			✓		1							
		Were percent differences for each analyte within the method-req	quired QC limits?			✓									
		Was the ICAL curve verified for each analyte?				√		1							
		Was the absolute value of the analyte concentration in the inorga	anic CCB < MDL?			✓									
S3	О	Mass spectral tuning:													
		Was the appropriate compound for the method used for tuning?				✓		1							
		Were ion abundance data within the method-required QC limits'				✓									
S4	О	Internal standards (IS):													
		Were IS area counts and retention times within the method-requ	ired QC limits?			✓									
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section													
		Were the raw data (for example, chromatograms, spectral data) i	reviewed by an analyst?	✓				1							
		Were data associated with manual integrations flagged on the raw data?				✓									
S6	О	Dual column confirmation													
		Did dual column confirmation results meet the method-required QC?				✓									
S7	О	Tentatively identified compounds (TICs):													
		If TICs were requested, were the mass spectra and TIC data subj	ject to appropriate checks?			✓		1							
S8	I	Interference Check Sample (ICS) results:													
		Were percent recoveries within method QC limits?				✓									
S9	I	Serial dilutions, post digestion spikes, and method of standar	d additions												
		Were percent differences, recoveries, and the linearity within the	e QC limits specified in the method?			✓		1							
S10	OI	Method detection limit (MDL) studies	•												
		Was a MDL study performed for each reported analyte?		✓				1							
		Is the MDL either adjusted or supported by the analysis of DCS	s?	✓											
S11	OI	Proficiency test reports:													
		Was the laboratory's performance acceptable on the applicable p	proficiency tests or evaluation studies?	✓											
S12	OI	Standards documentation													
		Are all standards used in the analyses NIST-traceable or obtaine	ed from other appropriate sources?	✓											
S13	OI	Compound/analyte identification procedures													
		Are the procedures for compound/analyte identification docume	ented?	✓											
S14	OI	Demonstration of analyst competency (DOC)													
		Was DOC conducted consistent with NELAC Chapter 5C or ISO		✓											
		Is documentation of the analyst's competency up-to-date and on		✓											
S15	OI	Verification/validation documentation for methods (NELAC													
L		Are all the methods used to generate the data documented, verifi	ied, and validated, where applicable?	✓											
S16	OI	Laboratory standard operating procedures (SOPs):													
		Are laboratory SOPs current and on file for each method perform	med?	✓											

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	y Review Checklist: Reportable Data					
Laborato	Laboratory Name: ESC Lab Sciences LRC Date: 4/17/2015							
Project N	Project Name: Lovington Lea Refinery Laboratory Job Number: L751256-37, -38, -39, and -40							
Reviewer Name: Prep Batch Number(s):								
	presenta		WG773490 TDS					
	·			L.	L.	3	1	5
# ¹	A ²	Description		Yes	No	NA ³	NR*	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upo	n receipt?	√		,		
M		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		√				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		√				
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	√				
Were calculations checked by a peer or supervisor?		√						
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		/				
		Were % moisture (or solids) reported for all soil and sediment samples? Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	V846 Method 50352	· ·		1		
If required for the project, are TICs reported?				· ✓				
R4 O Surrogate recovery data								
	•	Were surrogates added prior to extraction?				✓		
Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including prepara	tion and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cl	eanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		√				
		Does the detectability check sample data document the laboratory's capability to d	etect the COCs at the MDL used to calculate the SDLs?	√				
	la.	Was the LCSD RPD within QC limits?		· ·				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data				,		
		Were the project/method specified analytes included in the MS and MSD?				√		
		Were MS/MSD analyzed at the appropriate frequency?				1		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits? Were MS/MSD RPDs within laboratory QC limits?				· /		
DO		,				· •		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		√				
		Were analytical duplicates analyzed at the appropriate frequency? Were RPDs or relative standard deviations within the laboratory QC limits?		 				
R9	OI	Method quantitation limits (MQLs):		Ť				
N9	ОІ							
		Are the MQLs for each method analyte included in the laboratory data package?	andard?	√				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard models and DCSs included in the laboratory data package?	anaara:	7	\vdash			
R10	OI	Other problems/anomalies						
	Oi	· ·		1	\vdash			
		Are all known problems/anomalies/special conditions noted in this LRC and ER? Was applicable and available technology used to lower the SDL to minimize the management.	atrix interference effects on the sample results?	✓				
		is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Programmer	·	,				
data package?				\ \ \	1			

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklist:	: Reportable Data					
Lab	Laboratory Name: ESC Lab Sciences LRC Date: 4/17/2015							
Proj	Project Name: Lovington Lea Refinery Laboratory Job Number: L751256-37, -3					d -40		
Rev	Reviewer Name: ESC Representative Prep Batch Number(s): WG773490 TDS							
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each analyte within QC limits?				✓		
		Were percent RSDs or correlation coefficient criteria met?	•			✓		
		Was the number of standards recommended in the method used for all analytes?				✓		
		Were all points generated between the lowest and highest standa	ard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?				✓		1
		Has the initial calibration curve been verified using an appropria	ate second source standard?		ĺ	✓		
S2	OI	Initial and continuing calibration verification (ICCV and CC	(V) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?	-			√		
		Were percent differences for each analyte within the method-req	uired QC limits?			✓		
		Was the ICAL curve verified for each analyte?	•			✓		T
		Was the absolute value of the analyte concentration in the inorga	anic CCB < MDL?			✓		T
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?		1		✓		
		Were ion abundance data within the method-required QC limits?	?		ĺ	✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-requi	ired QC limits?			√		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section	n 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) r	reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?			ĺ	✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required QC?				✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data subj	ect to appropriate checks?			√		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standard	d additions					
		Were percent differences, recoveries, and the linearity within the	e QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCSs	s?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable p	roficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtained	d from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification document	nted?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISC		✓				1
		Is documentation of the analyst's competency up-to-date and on		✓				1
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, verifi	ied, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						
<u> </u>	<u> </u>						<u> </u>	

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Name: ESC Lab Sciences		ESC Lab Sciences	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery		vington Lea Refinery Labor	Laboratory Job Number: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15					
Reviewer Name:			Batch Number(s):					
ESC Representative			773500 ALK					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
				100				
R1	OI	Chain-of-custody (C-O-C)		/				\vdash
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	sipt?	∨				\vdash
DO	01	Were all departures from standard conditions described in an exception report?		r -				\vdash
R2	OI	Sample and quality control (QC) identification		1				-
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				+
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		<u> </u>				\vdash
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	lards?	✓				
		Were calculations checked by a peer or supervisor?		√				-
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓		,		+
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 M	Method 5035?	 		√		+
	_	If required for the project, are TICs reported?		\vdash		•		+
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		<u> </u>		√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		<u> </u>		✓		-
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparation ar	nd, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect to	the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		<u> </u>	✓			1
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard	d?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1	\Box			\vdash
		Was applicable and available technology used to lower the SDL to minimize the matrix in	nterference effects on the sample results?	▼	H			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for	· · · · · · · · · · · · · · · · · · ·	,	\Box			<u> </u>
4.12	-4:E 1:	data package?		√				
appropri	iate retentio	le letter "R" must be included in the laboratory data package submitted in the TRRP-requinperiod; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when a strought be completed for an item if "NR" or "No" is checked).						

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Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Tame: Lovington Lea Refinery L	aboratory Job Number: L751256-01, -02, -03, -06, -07,	-09, -10,	-11, -13,	-14, -15, -1	6, -18, -19, -	-20, and -21
Rev	iewei	Name: ESC Representative P	rep Batch Number(s): WG773500 ALF	<				
#1	A^2	Description	=	Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				1
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				1
		Was the absolute value of the analyte concentration in the inor	ganic CCB < MDL?	√				
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits?				√		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				/		
S5	OI							
	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		√					
	Were data associated with manual integrations flagged on the raw data?				√		1	
S6	0	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed OC?			✓		1
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	biect to appropriate checks?			/		
S8	I	Interference Check Sample (ICS) results:	and the second s					
		Were percent recoveries within method QC limits?				1		1
S9	Ī	Serial dilutions, post digestion spikes, and method of standa	ard additions			Ė		
		Were percent differences, recoveries, and the linearity within the				/		1
S10	OI	Method detection limit (MDL) studies	no qui mino specimen in une memou.					
	01	Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	√				t
S11	OI	Proficiency test reports:						
	<u> </u>	Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	processing tools of characteristications:					
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	The state of the second of the					
		Are the procedures for compound/analyte identification docum	nented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	1				
		Is documentation of the analyst's competency up-to-date and competency		√				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, veri		1				
S16	Oī	Laboratory standard operating procedures (SOPs):	,a variantes, miere apprientie:	•				
~10	01	Are laboratory SOPs current and on file for each method perfo	ormed?	√				
1		2 no laboratory 501 3 current and on the for each method perio	aniou:	٧				1

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Ch	ecklist: Exception Reports
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773500 ALK

Sample(s): MW-10, MW-3, DUP-1, MW-27, MW-13, EB-2-27-15-A, EB-2-27-15-B, MW-28,

MW-15, MW-16, MW-4, MW-2, MW-12R, MW-20, MW-5, MW-21

Samples(s) were analyzed for Alkalinity by Method 2320 B-2011 ER#: Description

The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Alkalinity.

Laborato	ory Name	: ESC Lab Sciences	LRC Date: 4/17/2015					
Project N	Name: Lo	vington Lea Refinery	Laboratory Job Number: L751256-01, -02, -03, -06, -07, -0	9, -10	, -11	, -13,	, -14,	-15,
Reviewe	r Name:	F	Prep Batch Number(s):					
ESC Re	presenta	tive	WG773521 FLUORIDE					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						†
		Did samples meet the laboratory's standard conditions of sample acceptability upon	on receipt?	1				†
		Were all departures from standard conditions described in an exception report?				✓		1
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				†
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓	T			
		Other than those results < MQL, were all other raw values bracketed by calibration	n standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓		L		
		Were all results for soil and sediment samples reported on a dry weight basis?		✓	<u> </u>	<u> </u>		
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	<u> </u>	_		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SV	N846 Method 5035?	┼	₩	√		
		If required for the project, are TICs reported?		_	\vdash	<u> </u>		-
R4	О	Surrogate recovery data		4	<u> </u>			1
		Were surrogates added prior to extraction?		┼	-	√		+
_		Were surrogate percent recoveries in all samples within the laboratory QC limits?		\vdash	₩	-		
R5	OI	Test reports/summary forms for blank samples		<u> </u>	<u> </u>	<u> </u>		
		Were appropriate type(s) of blanks analyzed?		√	-			+
		Were blanks analyzed at the appropriate frequency?		√	\vdash	-		+
		Were method blanks taken through the entire analytical process, including prepara Were blank concentrations < MQL?	ation and, if applicable, cleanup procedures?	· /	\vdash	-		+
De	OI					 		+
R6	OI	Laboratory control samples (LCS):		_	\vdash	-		+
		Were all COCs included in the LCS? Was each LCS taken through the entire analytical procedure, including prep and c	plaanun etane?	✓	\vdash			+
		Were LCSs analyzed at the required frequency?	sicanup sicps:	1	T			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1	T			
		Does the detectability check sample data document the laboratory's capability to d	detect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
	-	Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓		L		
R8	OI	Analytical duplicate data		L		L_		
		Were appropriate analytical duplicates analyzed for each matrix?		√		<u> </u>		<u> </u>
		Were analytical duplicates analyzed at the appropriate frequency?		✓	<u> </u>	₩		-
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓	-			+
R9	OI	Method quantitation limits (MQLs):		4		<u> </u>		<u> </u>
		Are the MQLs for each method analyte included in the laboratory data package?		√	<u> </u>			1
		Do the MQLs correspond to the concentration of the lowest non-zero calibration st	tandard?	✓	\vdash	-		-
D40	۵.	Are unadjusted MQLs and DCSs included in the laboratory data package?		Ť	\vdash	 		+
R10	OI	Other problems/anomalies		<u> </u>	 	<u> </u>		₩
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	\vdash	_		+
		Was applicable and available technology used to lower the SDL to minimize the m	·		\vdash	\vdash		+
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Pro data package?	igram for the analytes, mainces and methods associated with this laboratory	✓				
1. Items ide	entified by the	e letter "R" must be included in the laboratory data package submitted in the TRRF	P-required report(s). Items identified by the letter "S" should be retained and ma	ide ava	ilable	upon r	equest	for the

appropriate retention period; 2. O = organic analyses; 1 = inorganic analyses; and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numbe (an Exception Report should be completed for an item if "NR" or "No" is checked).

			t: Reportable Data					
	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proje	ect N	ame: Lovington Lea Refinery La	aboratory Job Number: L751256-01, -02, -03, -06, -07,	-09, -10, -1	1, -13, -14	, -15, -16, -1	8, -19, -20, -2	21, -22, -2
Revi	ewer	Name: ESC Representative P1	rep Batch Number(s): WG773521 FL	.UOR	IDE			
$\#^{1}$	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1 (Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2 (OI	Initial and continuing calibration verification (ICCV and Co	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	✓				
S3 (О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
	Were ion abundance data within the method-required QC limits?		rs?			✓		
S4 (О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				✓		
S5 (OI	Raw data (NELAC section 1 appendix A glossary, and section	ion 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an analyst?	✓				
	Were data associated with manual integrations flagged on the raw data?				✓			
S6 (O	Dual column confirmation						
		Did dual column confirmation results meet the method-required	d QC?			✓		
S7 (O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	bject to appropriate checks?			✓		
S8]	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9]	I	Serial dilutions, post digestion spikes, and method of standa						
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10 (OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11 (OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12 (OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13 (OI	Compound/analyte identification procedures						
~		Are the procedures for compound/analyte identification docum	nented?	✓				\perp
S14 (OI	Demonstration of analyst competency (DOC)	CO/TEG 49					
		Was DOC conducted consistent with NELAC Chapter 5C or IS		√				+
015	0.1	Is documentation of the analyst's competency up-to-date and or		✓				\sqcup
S15 (OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, veri	iffied, and validated, where applicable?	✓				igspace
S16 (OI	Laboratory standard operating procedures (SOPs):	10					
		Are laboratory SOPs current and on file for each method perfor	rmed?	✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborate	ory Name	e: ESC Lab Sciences	LRC Date: 4/17/2015					
Project	Name: Lo	ovington Lea Refinery	Laboratory Job Number: L751256-26, -27, -28	, -29, and -30				
Reviewe	er Name:		Prep Batch Number(s):					
ESC Re	presenta	ative	WG773522 SULFATE					
# ¹	A^2	Description	·	Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample accept	✓					
ESC Re		all departures from standard conditions described in an exception report?						
Project Na Reviewer ESC Rep #1 R1 R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID nu	mbers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC	data?	✓				
R2	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by	calibration standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight	basis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with metha	nol per SW846 Method 5035?			√		
		If required for the project, are TICs reported?			-	✓		<u> </u>
R4	0	Surrogate recovery data						$oxed{oxed}$
		Were surrogates added prior to extraction?				✓		

		Were all COCs included in the LCS?
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?
		Were LCSs analyzed at the required frequency?
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?
		Was the LCSD RPD within QC limits?
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data

Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?

Were surrogate percent recoveries in all samples within the laboratory QC limits?

Were the project/method specified analytes included in the MS and MSD?

Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?

Were MS/MSD analyzed at the appropriate frequency?

Were MS/MSD RPDs within laboratory QC limits?

Analytical duplicate data

(an Exception Report should be completed for an item if "NR" or "No" is checked)

Test reports/summary forms for blank samples

Were appropriate type(s) of blanks analyzed?
Were blanks analyzed at the appropriate frequency?

Laboratory control samples (LCS):

Were blank concentrations < MQL?

R5

R6

R8

OI

OI

Were appropriate analytical duplicates analyzed for each matrix?

Were analytical duplicates analyzed at the appropriate frequency?

Were RPDs or relative standard deviations within the laboratory QC limits?

R9 OI Method quantitation limits (MQLs):

Are the MQLs for each method analyte included in the laboratory data package?

Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?

Are unadjusted MQLs and DCSs included in the laboratory data package?

R10 OI Other problems/anomalies

Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results?

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable; 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number

✓

✓

1

√

✓

Are all known problems/anomalies/special conditions noted in this LRC and ER?

Ap	pen	dix A (cont'd): Laboratory Review Checklist	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Tame: Lovington Lea Refinery La	aboratory Job Number: L751256-26, -27	7, -28	8, -29	9, and	I -30	
Rev	viewe	r Name: ESC Representative Pr	rep Batch Number(s): WG773522 SUL	LFAT	Έ			
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest stand	lard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	iate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and Co						
		Was the CCV analyzed at the method-required frequency?	, s	✓				1
		Were percent differences for each analyte within the method-re-	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				1
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	√				1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits				✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				✓		
S5	OI							
	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		✓				1	
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required	d QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	pject to appropriate checks?			✓		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standar	rd additions					
		Were percent differences, recoveries, and the linearity within th	ne QC limits specified in the method?			✓		Ī
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				1
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ed from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docume	ented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				
		Is documentation of the analyst's competency up-to-date and or		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, veri	fied, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfor	rmed?	√				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Revie	ew Checklist: Exception Reports
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773522 SULFAFI

Sample(s): MW-1, MW-6, MW-9, MW-29, MW-23 Samples(s) were analyzed for Anions by Method 9056

ER#: Description

¹ The relative percent differences exceeded laboratory limits for Fluoride

Laborator	y Name	e: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery Labo	oratory Job Number: L751256-09, -10, -23, -24, -25, -26	5, -27,	-28,	, -29,	-30,	-31,
Reviewer	Name:	Prep	Batch Number(s):					
ESC Rep	resenta	12	773528 8270TX					
# ¹	A ²			Vac	No I	NI A ³	ND ⁴	ER# ⁵
		Description (2.0.0)		162	IVO	NA	INIX	EK#
R1	OI	Chain-of-custody (C-O-C)			-			
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	eipt?	✓		/		
		Were all departures from standard conditions described in an exception report?				٧		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				ļ
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				ļ
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	-	/		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	Method 5035?			√		
		If required for the project, are TICs reported?				•		
R4	0	Surrogate recovery data		-				
		Were surrogates added prior to extraction?		√				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓	-			
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				ļ
		Were blanks analyzed at the appropriate frequency?		√				ļ
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?	√				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	p steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	√				
		Was the LCSD RPD within QC limits?		V	-			
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?				✓		
		Were MS/MSD analyzed at the appropriate frequency?			-	√		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				v		
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				√		ļ
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?			-	✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				ļ
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		•				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓	Щ			
		Was applicable and available technology used to lower the SDL to minimize the matrix in	interference effects on the sample results?	✓	\sqcup			-
		is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?		✓				
appropria	te retentio	re letter "R" must be included in the laboratory data package submitted in the TRRP-requipment of programments or programments, and general chemistry, when a straight be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	Laboratory Job Number: L751256-09, -10, -23, -24, -25, -	26, -27, -2	8, -29, -30	, -31, -32, -3	3, -34, -36, -	37, -38, -3
Rev	iewei	r Name: ESC Representative P	Prep Batch Number(s): WG773528 827	70TX				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	n analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	-	✓				
		Was the number of standards recommended in the method use	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropriate	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?	•	✓				
		Was the absolute value of the analyte concentration in the inor	rganic CCB < MDL?			✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?		✓				
		Were ion abundance data within the method-required QC limit	ts?	✓				
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-red	quired QC limits?	✓				
S5								
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?		✓				
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within t	the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or Is		✓				$oxed{oxed}$
		Is documentation of the analyst's competency up-to-date and of		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, ver	rified, and validated, where applicable?	✓	L	<u> </u>		
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo	ormed?	✓				
					<u> </u>			

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory	Name	ESC Lab Sciences	Date: 4/17/2015					
Project Na	me:Lo	vington Lea Refinery Labo	oratory Job Number: L751256-01, -02, -03, -04, -05, -06	5, -07,	-08,	, -09,	-10,	-11,+
Reviewer N	Name:	Prep	p Batch Number(s):					
ESC Repre	esenta	tive	G773564 V8260					
# ¹	A ²	Description		Yes	No I	NΔ ³	NR ⁴	ER# ⁵
# R1	01	Chain-of-custody (C-O-C)		103	110	110	1411	LIX#
KI	ΟI			1				
		Did samples meet the laboratory's standard conditions of sample acceptability upon rec	eceipt?	∨				
D.0	01	Were all departures from standard conditions described in an exception report?		Ť				
R2	OI	Sample and quality control (QC) identification		<u> </u>				
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓	_			
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stan	ndards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	6 Method 5035?	 		1		
		If required for the project, are TICs reported?		\vdash		•		
R4	0	Surrogate recovery data		\vdash				
		Were surrogates added prior to extraction?		✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparation	and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanu	up steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			✓			1
		Does the detectability check sample data document the laboratory's capability to detect	ct the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		<u> </u>	✓			2
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standa	ard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies					_	
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1				
		Was applicable and available technology used to lower the SDL to minimize the matrix	s interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program		1				
1 Items identif	fied by "	data package?	puired report(s). Items identified by the letter "C" should be retained and are	·	lable	iner -	au ost	for the
appropriate	e retentio	le letter "R" must be included in the laboratory data package submitted in the TRRP-reqin period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when int should be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checkl	ist: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Proj	ect N	fame: Lovington Lea Refinery	Laboratory Job Number: L751256-01, -02, -03, -04, -05,	-06, -07, -0	8, -09, -10), -11, -12, -1	13, -14, -15, -	-16, -17, -
Rev	ieweı	Name: ESC Representative	Prep Batch Number(s): WG773564 V8	260				
#1	\mathbf{A}^2	Description	``	Yes	No	NA ³	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for ea	ch analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method us	sed for all analytes?	✓				
		Were all points generated between the lowest and highest sta	andard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appro	priate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method	-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the in	organic CCB < MDL?			✓		
S3	Ο	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning		✓				
	Were ion abundance data within the method-required QC limits?		nits?	✓				
S4	O	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?		✓				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and se						
		Were the raw data (for example, chromatograms, spectral da		✓				
		Were data associated with manual integrations flagged on the raw data?		✓				
S6	O	Dual column confirmation						
		Did dual column confirmation results meet the method-requi	ired QC?			✓		
S7	O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data	subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of stan						
		Were percent differences, recoveries, and the linearity within	the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
~		Is the MDL either adjusted or supported by the analysis of D	CSs?	✓				
S11	IO	Proficiency test reports:						
040	0.7	Was the laboratory's performance acceptable on the applicab	le proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
040	0.7	Are all standards used in the analyses NIST-traceable or obtain	ained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	. 10	-				-
014	OI	Are the procedures for compound/analyte identification docu	imented?	✓				
S14	OI	Demonstration of analyst competency (DOC)	ICO/IEC 49					
		Was DOC conducted consistent with NELAC Chapter 5C or		√	1	-	1	+
015	0,1	Is documentation of the analyst's competency up-to-date and		✓				
S15	OI	Verification/validation documentation for methods (NELA		,				
04.5	0	Are all the methods used to generate the data documented, v	erified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method per	formed?	✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773564 V8260					

Sample(s): MW-10, MW-3, DUP-1, AC-2-26-15, MW-11, MW-27, MW-13, MW-14, EB-2-27-15-A, EB-2-27-15-B, MW-28, AC-2-23-14, MW-15, MW-16, MW-4, MW-2, AC-2-24-15, MW-12R, MW-20, Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B ER#: Description

- 1 The laboratory control sample or laboratory control sample duplicate recoveries were outside the laboratory control limits for Chloroethane
- 2 The matrix spike or matrix spike duplicate recoveries were over the laboratory control limits for Chloroethane.

Laborator	y Name	e: ESC Lab Sciences LRC I	Date: 4/17/2015					
Project Na	ame: Lo	vington Lea Refinery Labor	ratory Job Number: L751256-21, -22, -23, -24, -25, -26	i, -27,	-28,	, -29,	-30,	-31,
Reviewer	Name:	Prep	Batch Number(s):					
ESC Repi	resenta	12	773566 V8260					
# ¹	A ²			Voc	No B	NI A 3	ND ⁴	ER# ⁵
		Description		162	NO I	NA	INIX	ER#
R1	OI	Chain-of-custody (C-O-C)						-
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	eipt?	✓		√		
		Were all departures from standard conditions described in an exception report?				•		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				-
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓	_			
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		√				
		Were % moisture (or solids) reported for all soil and sediment samples?		√				-
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 N	Method 5035?			√		
5.4		If required for the project, are TICs reported?				_		
R4	О	Surrogate recovery data						-
		Were surrogates added prior to extraction?		√				-
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparation ar	e method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?					
		Were blank concentrations < MQL?		✓				-
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	o steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				-
		Does the detectability check sample data document the laboratory's capability to detect to	the COCs at the MDL used to calculate the SDLs?	√				-
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		V				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				√		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard	d?	√				
		Are unadjusted MQLs and DCSs included in the laboratory data package?						
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				<u> </u>
		Was applicable and available technology used to lower the SDL to minimize the matrix in	nterference effects on the sample results?	✓				<u> </u>
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for data package?	or the analytes, matrices and methods associated with this laboratory	✓				
appropria	te retentio	The letter "R" must be included in the laboratory data package submitted in the TRRP-requing period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when a port should be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-21, -22, -23, -24, -25, -	26, -27, -2	8, -29, -30	, -31, -32, -3	3, -34, -35, -	36, -37, -3
Rev	iewei	r Name: ESC Representative P	rep Batch Number(s): WG773566 V83	260				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				T I
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?				✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?	✓				
		Were ion abundance data within the method-required QC limit	ts?	✓				
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the raw data?						
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		T I
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				
		Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	✓	L			
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo	ormed?	✓				
					<u> </u>	<u> </u>		Ш

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory	Name	: ESC Lab Sciences	RC Date: 4/17/2015					
Project Nar	me:Lo	vington Lea Refinery Lal	boratory Job Number: L751256-32, -33, -34, -36, -37, -36	3, -39	, and	d -40		
Reviewer N	lame:	Pre	ep Batch Number(s):					
ESC Repre	esenta	ive	/G773634 PH					
# ¹	Т.	Description		Voc	No	NI A 3	NID ⁴	ER# ⁵
				Yes	INO	NA	INIK	ER#
R1	OI	Chain-of-custody (C-O-C)			-			
		Did samples meet the laboratory's standard conditions of sample acceptability upon i	receipt?		✓			1
		Were all departures from standard conditions described in an exception report?		V				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?			✓			1
		Other than those results < MQL, were all other raw values bracketed by calibration st	tandards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW8-	er SW846 Method 5035?			√		
		If required for the project, are TICs reported?				V		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
	1	Were surrogate percent recoveries in all samples within the laboratory QC limits?	rrogate percent recoveries in all samples within the laboratory QC limits?					
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?				✓		
		Were blanks analyzed at the appropriate frequency?				✓		
		Were method blanks taken through the entire analytical process, including preparatio	on and, if applicable, cleanup procedures?			✓		
	1	Were blank concentrations < MQL?				✓		
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and clea	anup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to dete	ect the COCs at the MDL used to calculate the SDLs?	✓				
	1	Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?				✓		
		Were MS/MSD analyzed at the appropriate frequency?				✓		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				✓		ļ
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stan-	ndard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓	Ш			
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the matr	rix interference effects on the sample results?	√				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progradata package?	·	1				

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Project Revie		y Name: ESC Lab Sciences LR						
Revie	-4 NI	·	RC Date: 4/17/2015					
#1	ect Name: Lovington Lea Refinery Laboratory Job Number: L751256-32					37, -38,	-39, a	nd -40
	ewer	Name: ESC Representative Pro	rep Batch Number(s): WG773634 PH					
04	A^2	Description	=	Yes	No	NA^3	NR ⁴	ER#5
S1 C		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each a	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?						
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropria	ate second source standard?	✓				
S2 (IC	Initial and continuing calibration verification (ICCV and CC	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-rec	quired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	✓				
S3 (С	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits	3?			✓		
S4 (С	Internal standards (IS):						
		Were IS area counts and retention times within the method-requ	aired QC limits?			✓		
S5 (IC	Raw data (NELAC section 1 appendix A glossary, and section	on 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6 C	С	Dual column confirmation						
		Did dual column confirmation results meet the method-required	1 QC?			✓		
S7 (С	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	ject to appropriate checks?			✓		
S8 I	[Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9 I	[Serial dilutions, post digestion spikes, and method of standar						
		Were percent differences, recoveries, and the linearity within the	e QC limits specified in the method?			✓		
S10 (IC	Method detection limit (MDL) studies						
\perp		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11 (IC	Proficiency test reports:						
046		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12 ()I	Standards documentation						
012 -	0.1	Are all standards used in the analyses NIST-traceable or obtained	ed from other appropriate sources?	✓				
S13 ()I	Compound/analyte identification procedures	. 10					
014	0.1	Are the procedures for compound/analyte identification docume	ented?	✓				
S14 (IJ	Demonstration of analyst competency (DOC)	O/IEC 49					
		Was DOC conducted consistent with NELAC Chapter 5C or ISo		√				<u> </u>
017 -	O.T.	Is documentation of the analyst's competency up-to-date and on		✓				
S15 (JI	Verification/validation documentation for methods (NELAC						
~ .		Are all the methods used to generate the data documented, verif	ned, and validated, where applicable?	✓				
S16 (OI	Laboratory standard operating procedures (SOPs):	10					
		Are laboratory SOPs current and on file for each method perform	rmed'?	✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773634 PH					

Sample(s): MW-25, DUP-3, MW-26, MW-19, DUP-2, MW-18, MW-8, MW-17R

Samples(s) were analyzed for pH by Method 9040C

ER#: Description

¹ The method specified holding times were exceeded for samples L751256-32, L751256-33, L751256-34, L751256-36, L751256-37, L751256-38, L751256-39, and L751256-40.

Laborator	y Name	e: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery Labo	oratory Job Number: L751256-01, -02, -03, -06, -07, -08	3, -09,	-10,	, -11,	-13,	-14,
Reviewer	Name:	Prep	Batch Number(s):					
ESC Rep	resenta	12	773711 NADICP					
# ¹	A ²			Voc	No I	NI A 3	ND ⁴	ER# ⁵
		Description (2.0.0)		162	IVO	NA	INIX	EK#
R1	OI	Chain-of-custody (C-O-C)		/				
		Did samples meet the laboratory's standard conditions of sample acceptability upon rece	eipt?	✓		√		
D.0	01	Were all departures from standard conditions described in an exception report?			-	•		
R2	OI	Sample and quality control (QC) identification						ļ
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		•				
R3	OI	Test reports		,	_			
		Were all samples prepared and analyzed within holding times?		√				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	√				
		Were calculations checked by a peer or supervisor?		√	-			
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis?		▼				
		Were % moisture (or solids) reported for all soil and sediment samples?		· ✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	Method 5035?	•		✓		
		If required for the project, are TICs reported?				✓		
R4	o	Surrogate recovery data						
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
110	O1	Were appropriate type(s) of blanks analyzed?		1				
		Were blanks analyzed at the appropriate frequency?		1				
		e method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?						
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
	-	Were all COCs included in the LCS?		1				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	p steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	✓				ļ
		Are unadjusted MQLs and DCSs included in the laboratory data package?		•				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓	\sqcup			-
		Was applicable and available technology used to lower the SDL to minimize the matrix in	•	✓	\sqcup			-
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?		✓				
appropria	ite retentio	re letter "R" must be included in the laboratory data package submitted in the TRRP-requipment of programments or programments, and general chemistry, when a straight be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ect N	ame: Lovington Lea Refinery L	aboratory Job Number: L751256-01, -02, -03, -06, -07, -	08, -09, -10	0, -11, -13	3, -14, -15, -1	6, -18, -19, -:	20, -21, -2+
Rev	iewei	Name: ESC Representative P	rep Batch Number(s): WG773711 NA	DICF)			
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest standard used to calculate the curve?						
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inor	ganic CCB < MDL?	✓				
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit	ts?			✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	Ο	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	Ο	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?		✓				
S9	I	Serial dilutions, post digestion spikes, and method of standa						
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
0.55	0	Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation	1.0					
040	0.7	Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	. 10					
014	07	Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)	SO/IEC 49	,				
		Was DOC conducted consistent with NELAC Chapter 5C or IS		√		-		
015	0,1	Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC		,				
06.5	0	Are all the methods used to generate the data documented, veri	iffied, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):	10					
		Are laboratory SOPs current and on file for each method perfo	rmed?	✓				1

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborato	ry Name	e: ESC Lab Sciences	RC Date: 4/17/2015					
Project N	ame:Lo	vington Lea Refinery Lab	boratory Job Number: L751256-25, -26, -27, -28, -29, -30), -31	, -32	, -33,	-34,	-36, ₊ í
Reviewer	Name:	Pre	ep Batch Number(s):					
ESC Rep	resenta		/G773713 NADICP					
<u> </u>				V	NI.	NI A 3	ND4	ER# ⁵
# ¹	A ²	Description		res	NO	NA	NK.	EK#
R1	OI	Chain-of-custody (C-O-C)		_	$\vdash \vdash$			
		Did samples meet the laboratory's standard conditions of sample acceptability upon re	receipt?	√	$\vdash \vdash$			
		Were all departures from standard conditions described in an exception report?		✓	$\vdash\vdash$			
R2	OI	Sample and quality control (QC) identification			Ш			
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√	Ш			ļ
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓	$\vdash \vdash$			
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓	Ш			
		Other than those results < MQL, were all other raw values bracketed by calibration sta	tandards?	✓	Ш			
		Were calculations checked by a peer or supervisor?		✓	\sqcup			
		Were all analyte identifications checked by a peer or supervisor?		✓	Ш			ļ
		Were sample detection limits reported for all analytes not detected?		✓	$\vdash \vdash$			
		Were all results for soil and sediment samples reported on a dry weight basis?		✓	\vdash			
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	$\vdash\vdash$			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW84	46 Method 5035?		$\vdash\vdash$	1		
		If required for the project, are TICs reported?			$\vdash\vdash$			
R4	0	Surrogate recovery data			Ш			
		Were surrogates added prior to extraction?		 	Н	√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			$\vdash\vdash$	✓		
R5	OI	Test reports/summary forms for blank samples			Ш			
		Were appropriate type(s) of blanks analyzed?		✓	\sqcup			
		Were blanks analyzed at the appropriate frequency?		√	\sqcup			
		Were method blanks taken through the entire analytical process, including preparation	on and, if applicable, cleanup procedures?	✓				1
		Were blank concentrations < MQL?			✓			-
R6	OI	Laboratory control samples (LCS):		L	Ш			
		Were all COCs included in the LCS?		✓	\sqcup			
		Was each LCS taken through the entire analytical procedure, including prep and clear	anup steps?	√	$\vdash \vdash$			
		Were LCSs analyzed at the required frequency?		✓	\vdash			ļ
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓	$\vdash\vdash$			
		Does the detectability check sample data document the laboratory's capability to dete	ect the COCs at the MDL used to calculate the SDLs?	√	$\vdash\vdash$			
		Was the LCSD RPD within QC limits?		_ <u> </u>	$\vdash \vdash$			
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data			$\vdash \vdash$			
		Were the project/method specified analytes included in the MS and MSD?		✓	$\vdash\vdash$			
		Were MS/MSD analyzed at the appropriate frequency?		1	H			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	$\vdash\vdash$			
		Were MS/MSD RPDs within laboratory QC limits?		✓	$\vdash\vdash$			
R8	OI	Analytical duplicate data			$\vdash \vdash$			
		Were appropriate analytical duplicates analyzed for each matrix?		<u> </u>	$\vdash \vdash$	√		
		Were analytical duplicates analyzed at the appropriate frequency?			$\vdash\vdash$	V		
		Were RPDs or relative standard deviations within the laboratory QC limits?		-	H	- ✓		
R9	OI	Method quantitation limits (MQLs):		L	\sqcup			ļ
		Are the MQLs for each method analyte included in the laboratory data package?		✓	$\vdash \vdash$			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stand	ndard?	✓	$\vdash \vdash$			-
		Are unadjusted MQLs and DCSs included in the laboratory data package?		Ľ	H			
R10	OI	Other problems/anomalies		<u> </u>	Ш			<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	$\vdash \vdash$			
		Was applicable and available technology used to lower the SDL to minimize the matri		✓	$\vdash \vdash$			-
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progradata package?	am for the analytes, matrices and methods associated with this laboratory	✓		į.		
		I						
		on period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, whe ort should be completed for an item if "NR" or "No" is checked).	en applicable); 3. INA = Not applicable; 4. INK = Not reviewed; 5. ER# = Exce	חטווע Re	sport i	uentific	auon r	iumber

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Pro	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-25, -26, -27, -28, -2	9, -30, -3	1, -32, -3	33, -34, -36	, -37, -38, -	39, and -40
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG773713 NA	DICF)			
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within OC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	d for all analytes?	✓				1
		Were all points generated between the lowest and highest stand		✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropriate second source standard?						
S2	OI	Initial and continuing calibration verification (ICCV and C						
		Was the CCV analyzed at the method-required frequency?	,	✓				1
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				1
		Was the ICAL curve verified for each analyte?		√				1
		Was the absolute value of the analyte concentration in the inor	ganic CCB < MDL?	√				1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		1
		Were ion abundance data within the method-required QC limit				√		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an analyst?	✓				1
		Were data associated with manual integrations flagged on the raw data?				√		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	d QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?		✓				
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?	✓				Ī
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				1
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				
		Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo.	rmed?	✓				
				<u> </u>				Ь

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG773713 NADIC					

Sample(s): RW-1, MW-1, MW-6, MW-9, MW-29, MW-23, MW-24, MW-25, DUP-3, MW-26,

MW-19, DUP-2, MW-18, MW-8, MW-17R

The method blank contained target analytes above the MDL but below the RDL

Laborator	y Name	: ESC Lab Sciences	LRC Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery	Laboratory Job Number: L751256-01, -02, -03, -06, -07, -0	9, -10	, -11	, -13	, -14,	-15,
Reviewer	Name:		Prep Batch Number(s):					
ESC Rep	resenta	tive	WG773759 SPCON					
# ¹	A^2	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)		1				<u> </u>
IXI	Ю	, , , , , , , , , , , , , , , , , , ,	naa saasiat0	1				+
		id samples meet the laboratory's standard conditions of sample acceptability upon receipt? Vere all departures from standard conditions described in an exception report?				1		+
R2	OI	Sample and quality control (QC) identification						
NZ	Ю			1				+
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				+
DO	01	Are all laboratory ID numbers cross-referenced to the corresponding QC data?		Ė				+
R3	OI	Test reports		/				1
		Were all samples prepared and analyzed within holding times?		· /				+
		Other than those results < MQL, were all other raw values bracketed by calibrati	on standards?	√				+
		Were calculations checked by a peer or supervisor?		✓				+
		Were all analyte identifications checked by a peer or supervisor? Were sample detection limits reported for all analytes not detected?		V ✓				+
		Were all results for soil and sediment samples reported on a dry weight basis?		1				1
		Were % moisture (or solids) reported for all soil and sediment samples?		1				1
		Were bulk soils/solids samples for volatile analysis extracted with methanol per	SW846 Method 5035?	†		1		†
		If required for the project, are TICs reported?		1		✓		
R4	О	Surrogate recovery data						1
		Were surrogates added prior to extraction?		1		1		†
		Were surrogate percent recoveries in all samples within the laboratory QC limits	?	1		√		1
R5	OI	Test reports/summary forms for blank samples	•					†
IXO	Ю			1				+
		Were appropriate type(s) of blanks analyzed? Were blanks analyzed at the appropriate frequency?		1				†
		Were method blanks taken through the entire analytical process, including prepa	aration and if applicable cleanup procedures?	· ✓				
		Were blank concentrations < MQL?	and and an approach of country proceeds of	✓				1
R6	OI	Laboratory control samples (LCS):						
110	01	Were all COCs included in the LCS?		1				+
		Was each LCS taken through the entire analytical procedure, including prep and	d cleanup steps?	· ✓				†
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to	o detect the COCs at the MDL used to calculate the SDLs?	/				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?				✓		
		Were MS/MSD analyzed at the appropriate frequency?				1		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				✓		
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	?	1				L
		Was applicable and available technology used to lower the SDL to minimize the	matrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation P data package?	rogram for the analytes, matrices and methods associated with this labor atory	1				
			RP-required report(s). Items identified by the letter "S" should be retained and may when applicable): 3. NA = Not applicable: 4. NR = Not reviewed: 5. FR# = Fxce					

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numbe (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-01, -02, -03, -06, -07,	-09, -10,	-11, -13,	-14, -15, -1	6, -18, -19, -	·20, and -21
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG773759 SP	CON				
#1	A^2	Description	_	Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2	OI							
		Was the CCV analyzed at the method-required frequency?						
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
L		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit				✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	quired QC limits?			✓		1
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section	ion 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		1
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		\				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						$oldsymbol{ol}}}}}}}}}}}}}}}}}}$
		Is documentation of the analyst's competency up-to-date and on file?						<u> </u>
S15	OI							
		Are all the methods used to generate the data documented, verified, and validated, where applicab						
S16	OI							
		Are laboratory SOPs current and on file for each method performed?						
		Are laboratory SOPs current and on file for each method performed?						

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		1 40 40 10 10 10 10 10 10 10 10 10 10 10 10 10						
Laboratory I	Name	: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Nam	ne:Lo	rington Lea Refinery Labo	oratory Job Number: L751256-41					
Reviewer Na	ame:	Prep	Batch Number(s):					
ESC Repres	senta	ive WG	773789 V8260				A3 NR4 ER#	
# ¹	A^2	Description		Yes	No	NA ³	NR⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
	0.	Did samples meet the laboratory's standard conditions of sample acceptability upon rec	ceint?	√				
		Were all departures from standard conditions described in an exception report?	o.pr.	✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	ndards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	Method 5035?			√		
	1	If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		✓				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
Were blanks analyzed at the appropriate frequency?		✓						
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?	√				
D.0	01	Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):		,				
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cleanu	up steps?	·				
		Were LCSs analyzed at the required frequency? Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		•	1			1
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	1	Ť			
		Was the LCSD RPD within QC limits?	and deduction in a contract the design and the desi	•	1			3
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓			2
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
	-	Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	✓				
	Are unadjusted MQLs and DCSs included in the laboratory data package?		✓					
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix i	interference effects on the sample results?	✓				
	s the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progdata package?			✓				
Items identifie	Intified by the letter "R" must be included in the laboratory data package submitted in the TR		uired report(s). Items identified by the letter "S" should be retained and made	de avai	lable	upon re	eauest :	for the

appropriate retention period; 2. O = organic analyses; la = inorganic analyses; and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	Laboratory Job Number: L751256-41					
Rev	viewe	r Name: ESC Representative P	Prep Batch Number(s): WG773789 V8	260				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	n analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				1
		Was the number of standards recommended in the method use	ed for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropriate	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C						
		Was the CCV analyzed at the method-required frequency?	, ,	✓				1
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		√				1
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?				✓		1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	g?	✓				1
		Were ion abundance data within the method-required QC limit		✓				
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-red	quired QC limits?	✓				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sect						
		Were the raw data (for example, chromatograms, spectral data)) reviewed by an analyst?	✓				1
		Were data associated with manual integrations flagged on the raw data?						
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within t	the QC limits specified in the method?			✓		1
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				1
		Is the MDL either adjusted or supported by the analysis of DC	CSs?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	e proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI							
		Are all the methods used to generate the data documented, verified, and validated, where applical						
S16	OI	**						
		Are laboratory SOPs current and on file for each method performed?						
				✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports Laboratory Name: ESC Lab Sciences. Project Name: Lovington Lea Refinery Reviewer Name: ESC Representative Laboratory Job Number: L751256 Prep Batch Numbers: WG773789 V8260

Sample(s): AC-2-27-15

Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B

ER#: Description

- 1 The laboratory control sample or laboratory control sample duplicate recoveries were outside the laboratory control limits for 1,1-Dichloroethane and 1,2-Dichloroethane
- The matrix spike or matrix spike duplicate recoveries were over the laboratory control limits for 1,2-Dichloroethane, 1,2-Dichloropropane, 2-Butanone (MEK), Acetone, and Bromodichloromethane.
- 3 The relative percent differences exceeded laboratory limits for 2-Butanone (MEK)

Laborato	ory Name	ESC Lab Sciences	RC Date: 4/17/2015					
Project N	Name: Lo	vington Lea Refinery Lal	boratory Job Number: L751256-01, -02, -03, -06, -07, -06	3, -09	, -10	, -11,	, -13,	-14,+
Project Name: Lovington Lea Refinery Laboratory Job Number: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -14 Reviewer Name: ESC Representative #1 A² Description R1 OI Chain-of-custody (C-O-C) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? Were all departures from standard conditions described in an exception report? R2 OI Sample and quality control (QC) identification Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Are all laboratory ID numbers cross-referenced to the corresponding QC data? R3 OI Test reports Were all samples prepared and analyzed within holding times? Other than those results < MQL, were all other raw values bracketed by calibration standards? Were calculations checked by a peer or supervisor? Were sample detection limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis? Laboratory Job Number: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -14 Yes No NA² NR⁴ ER								
ESC Re	presenta	tive	/G773842 ASDG					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
								†
			receipt?	1				†
						✓		
R2	OI							
				1				
		·		✓				
R3	OI							
	1-	,		/				+
			standards?	✓				
				✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW84	346 Method 5035?	₩		√		
		If required for the project, are TICs reported?		⊢		~		-
R4	0	Surrogate recovery data		╙				
		Were surrogates added prior to extraction?		Ь—		√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		_		✓		1
R5	OI	Test reports/summary forms for blank samples		Ц_				
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				1
		Were method blanks taken through the entire analytical process, including preparatio	on and, if applicable, cleanup procedures?	√				<u> </u>
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):		₩				
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and clea	anup steps?	∨				+
		Were LCSs analyzed at the required frequency?		√				+
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to dete	each the COCs at the MDL used to calculate the SDLs?	✓				+
		Was the LCSD RPD within QC limits?	teet the GOO3 at the MDE used to calculate the GDEs:	✓				1
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						1
1 (7	ĮOI.	Were the project/method specified analytes included in the MS and MSD?		1				+
		Were MS/MSD analyzed at the appropriate frequency?		1				1
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?		↓		✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?		▙		✓		<u> </u>
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stand	ndard?	\ \ \				<u> </u>
	Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				₩	
R10	OI	Other problems/anomalies		<u> </u>				<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√				<u> </u>
		Was applicable and available technology used to lower the SDL to minimize the matri		✓				\vdash
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progra data package?	am for the analytes, matrices and methods associated with this labor atory	1				
1. Items ide	entified by the	he letter "R" must be included in the laboratory data package submitted in the TRRP-re	required report(s). Items identified by the letter "S" should be retained and ma	de ava	ilable	upon re	equest	for the

appropriate retention period; 2. O = organic analyses; 1 = inorganic analyses; and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Pro	ject N	Name: Lovington Lea Refinery La	aboratory Job Number: L751256-01, -02, -03, -06, -07, -0	08, -09, -1	0, -11, -13	3, -14, -15, -	16, -18, -19, -	20, -21, -2
Rev	viewe	r Name: ESC Representative P1	rep Batch Number(s): WG773842 ASI	DG				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	•	✓				
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest stand		✓				
		Are ICAL data available for all instruments used?		✓				
	Has the initial calibration curve been verified using an appropriate second source standard?							
S2								
	Was the CCV analyzed at the method-required frequency?							
		Were percent differences for each analyte within the method-required QC limits?						
		Was the ICAL curve verified for each analyte?						
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	√				
S3	0	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?	√			1	
		Were ion abundance data within the method-required QC limits		1				
S4	0	Internal standards (IS):	•	·				
		Were IS area counts and retention times within the method-req	uired OC limits?	1			1	
S5	OI	Raw data (NELAC section 1 appendix A glossary, and secti		_				
		Were the raw data (for example, chromatograms, spectral data)		√				
		Were data associated with manual integrations flagged on the re				1		
S6	О	Dual column confirmation	arr data.			ľ		
	Ŭ	Did dual column confirmation results meet the method-required	d OC?			1		
S7	О	Tentatively identified compounds (TICs):	u ye.					
	Ŭ	If TICs were requested, were the mass spectra and TIC data sub	piect to appropriate checks?			1		
S8	I	Interference Check Sample (ICS) results:	.,					
		Were percent recoveries within method QC limits?		√				
S9	I	Serial dilutions, post digestion spikes, and method of standa	rd additions					
		Were percent differences, recoveries, and the linearity within the		1				
S10	OI	Method detection limit (MDL) studies	are the mean of th					
		Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	<i>\</i>				_
S11	OI	Proficiency test reports:		Ť				
	<u> </u>	Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	promotionely tools of evaluation studies.	Ť				
	-	Are all standards used in the analyses NIST-traceable or obtain	ed from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	Tom other appropriate boarces.	Ť				
		Are the procedures for compound/analyte identification docum	ented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	√				
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI	Verification/validation documentation for methods (NELAC		✓				
		Are all the methods used to generate the data documented, veri		√				
\$16	OI	Laboratory standard operating procedures (SOPs):	which applicable:	—				
510	OI	Are laboratory SOPs current and on file for each method perform	rmed?	√				
ı	Are laboratory SOPs current and on file for each method performed?							

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	LRC Date: 4/17/2015						
Project Na	ame:Lo	vington Lea Refinery	Laboratory Job Number: L751256-01, -02, -03, -06, -07, -0	9, -10	, -11	, -13,	, -14,	-15,
Reviewer	Name:		Prep Batch Number(s):					
ESC Rep	resenta	tive	WG773848 HG					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)		1				<u> </u>
IXI	Ю			1				+
		Did samples meet the laboratory's standard conditions of sample acceptability up Were all departures from standard conditions described in an exception report?	ооп гесеірт?	•		1		+
R2	OI	Sample and quality control (QC) identification						+
NZ	ОІ			1				+
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Are all laboratory ID numbers cross-referenced to the corresponding QC data?		1	-			+
D2	OI			Ė				+
R3	OI	Test reports		1				+
		Were all samples prepared and analyzed within holding times?		· /				+
		Other than those results < MQL, were all other raw values bracketed by calibration	on standards?	V ✓				+
		Were calculations checked by a peer or supervisor?		∨	-			+
		Were all analyte identifications checked by a peer or supervisor? Were sample detection limits reported for all analytes not detected?		∀				+
		Were all results for soil and sediment samples reported on a dry weight basis?		1				1
		Were % moisture (or solids) reported for all soil and sediment samples?		· /				1
		Were bulk soils/solids samples for volatile analysis extracted with methanol per \$	SW846 Method 5035?	<u> </u>		1		†
		If required for the project, are TICs reported?				✓		
R4	О	Surrogate recovery data						1
		Were surrogates added prior to extraction?				1		†
		Were surrogate percent recoveries in all samples within the laboratory QC limits:	3			√		1
R5	OI	Test reports/summary forms for blank samples						1
NO	Ю	, , , , , , , , , , , , , , , , , , , ,		1				+
		Were appropriate type(s) of blanks analyzed?		· /				+
		Were blanks analyzed at the appropriate frequency? Were method blanks taken through the entire analytical process, including prepa	ration and if applicable cleanup procedures?	▼				+
		Were blank concentrations < MQL?	ration and, it applicable, deanup procedures:	✓				1
R6	OI	Laboratory control samples (LCS):						
110	01	Were all COCs included in the LCS?		1				+
		Was each LCS taken through the entire analytical procedure, including prep and	cleanun stens?	√				1
		Were LCSs analyzed at the required frequency?	ordinap dopo.	✓				1
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to	detect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?				✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		1				†
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
	-	Were appropriate analytical duplicates analyzed for each matrix?				1		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		1				†
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	standard?	1	l			
	Are unadjusted MQLs and DCSs included in the laboratory data package?		✓					
R10	OI	Other problems/anomalies						
	J-1	Are all known problems/anomalies/special conditions noted in this LRC and ER?		1	\vdash			†
		Was applicable and available technology used to lower the SDL to minimize the		▼				+
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Pridata package?		1				
		e letter "R" must be included in the laboratory data package submitted in the TRF	RP-required report(s). Items identified by the letter "S" should be retained and may when applicable: 3. NA = Not applicable: 4. NR = Not reviewed: 5. FR# = Fxce					

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Pro	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-01, -02, -03, -06, -07, -0	9, -10, -1	1, -13, -14	, -15, -16, -1	8, -19, -20, -2	24, -21, -2+
Rev	iewe	r Name: ESC Representative P	rep Batch Number(s): WG773848 HG					
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within OC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	d for all analytes?	✓				1
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	8 \ 7 8						
	Was the CCV analyzed at the method-required frequency?							1
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				T
		Was the ICAL curve verified for each analyte?		✓				1
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		1
		Were ion abundance data within the method-required QC limit				✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	quired QC limits?			✓		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 1						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						1
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		Ī
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				1
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						$oldsymbol{ol}}}}}}}}}}}}}}}}}}$
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 2						
		Are all the methods used to generate the data documented, verified, and validated, where applicab						
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						
					<u> </u>			

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	e: ESC Lab Sciences LRC	Date: 4/17/2015					
Project Na	ame: Lo	vington Lea Refinery Labo	oratory Job Number: L751256-26, -27, -28, -29, -30, -31	, -32,	-33,	-34,	-36,	-37,
Reviewer	Name:	Prep	an exception report? boratory ID numbers? esponding QC data? spending QC data? bracketed by calibration standards? bracketed by calibration standards? visor? detected? a dry weight basis? ent samples? dwith methanol per SW846 Method 5035? el aboratory QC limits? visors detected? visors do detected? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors do dry weight basis? visors detected?					
ESC Repi	resenta	tive	773849 HG					
<u> </u>	A ²			Vaa	No B	1 A 3	ND ⁴	ED#5
# ¹		Description		res	NO I	NA.	NK	EK#
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon reci	eipt?	✓		,		
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?						
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	Method 5035?			√		
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanu	ip steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?				✓		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		√				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1				†
		Was applicable and available technology used to lower the SDL to minimize the matrix in	interference effects on the sample results?	√				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program		,				
		data package?		✓				
appropria	te retentio	re letter "R" must be included in the laboratory data package submitted in the TRRP-requipment on period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when soft should be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-26, -27, -28, -29, -	30, -31,	-32, -33	, -34, -36, -	-37, -38, -3	9, and -40
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG773849 HG					
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				1
		Were all points generated between the lowest and highest stand		✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration						
		Was the CCV analyzed at the method-required frequency?						
		Were percent differences for each analyte within the method-re	equired OC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?				1		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			/		
		Were ion abundance data within the method-required QC limit				√		1
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	uired OC limits?			/		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						1
		Were data associated with manual integrations flagged on the raw data?				√		1
S6	О	Dual column confirmation				Ė		
	_	Did dual column confirmation results meet the method-require	ed OC?			√		
S7	О	Tentatively identified compounds (TICs):						
	_	If TICs were requested, were the mass spectra and TIC data sul	biect to appropriate checks?			/		
S8	I	Interference Check Sample (ICS) results:	- January of the state of the s					
		Were percent recoveries within method QC limits?				1		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions			Ė		
		Were percent differences, recoveries, and the linearity within the				/		
S10	OI	Method detection limit (MDL) studies	(
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				†
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation	,	,				
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	F					
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI							
		Are all the methods used to generate the data documented, verified, and validated, where applicab						
S16	OI	Laboratory standard operating procedures (SOPs):	,	✓				
		Are laboratory SOPs current and on file for each method performed?						
l		Are laboratory SOPs current and on file for each method performed?						1

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	ESC Lab Sciences	Date: 4/17/2015					
Project Na	ame:Lc	vington Lea Refinery Labo	oratory Job Number: L751256-01, -02, -03, -06, -07, -08	3, -09,	-10,	-11,	-13,	-14,+
Reviewer	cert Name: Lovington Lea Refinery Laboratory Job Number: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -12, -12, -12, -13, -12, -12, -13, -12, -12, -13, -12, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -12, -13, -13, -12, -13, -13, -12, -13, -13, -12, -13, -13, -13, -13, -13, -13, -13, -13							
ESC Rep	resenta	tive	773850 HGD					
# ¹		<u> </u>		Voc	No.	M A 3	ND ⁴	ED#5
				res	INO I	NA	INK	EK#
R1	Ю							ļ
			eipt?	✓	\vdash	/		
						V		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?			_			
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		V				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stand	dards?	✓				ļ
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		-	-			
		Were sample detection limits reported for all analytes not detected?						
				✓				
		·	Method 5035?		\vdash	√		
						•		
R4	О	Surrogate recovery data				,		
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?						
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?		-			
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanur	p steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect	the COCs at the MDL used to calculate the SDLs?	✓	\vdash	1		
		Was the LCSD RPD within QC limits?				•		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data			-			
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		· ·	\vdash			
		Were MS/MSD RPDs within laboratory QC limits?		✓	\vdash			
R8	OI	Analytical duplicate data			-			
		Were appropriate analytical duplicates analyzed for each matrix?			-	√		
		Were analytical duplicates analyzed at the appropriate frequency?				·		
		Were RPDs or relative standard deviations within the laboratory QC limits?				✓		
R9	01	Method quantitation limits (MQLs):						ļ
		Are the MQLs for each method analyte included in the laboratory data package?		✓	-			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	rd?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		Ť				
R10	OI	Other problems/anomalies						<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	$\vdash \vdash$			
		Was applicable and available technology used to lower the SDL to minimize the matrix in		✓	\sqcup			-
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?		✓				
appropria	ite retentio	he letter "R" must be included in the laboratory data package submitted in the TRRP-requirence period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when a port should be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklist	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Pro	ject N	Jame: Lovington Lea Refinery La	aboratory Job Number: L751256-01, -02, -03, -06, -07, -0	08, -09, -1	0, -11, -13	, -14, -15, -1	16, -18, -19, -2	20, -21, -2
Rev	viewe	r Name: ESC Representative Pr	rep Batch Number(s): WG773850 HG	D				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	<i>-</i>	✓				
		Was the number of standards recommended in the method used	I for all analytes?	✓				
		Were all points generated between the lowest and highest stand	lard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	iate second source standard?	✓				
S2								
	Was the CCV analyzed at the method-required frequency?						1	
		Were percent differences for each analyte within the method-re	quired OC limits?	✓				
		Was the ICAL curve verified for each analyte?						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3								
		Was the appropriate compound for the method used for tuning?)			√		
		Were ion abundance data within the method-required QC limits				1		
S4	О	Internal standards (IS):	•			·		
		Were IS area counts and retention times within the method-requ	uired OC limits?			1		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section				·		
		Were the raw data (for example, chromatograms, spectral data)		√				
		Were data associated with manual integrations flagged on the ra				1		
S6	0	Dual column confirmation	arr daw.			·		
	Ŭ	Did dual column confirmation results meet the method-required	d OC?			√		
S7	О	Tentatively identified compounds (TICs):	40.					
		If TICs were requested, were the mass spectra and TIC data sub	piect to appropriate checks?			/		
S8	Ī	Interference Check Sample (ICS) results:	sjeet to appropriate enems.			Ť		
		Were percent recoveries within method QC limits?				1		
S9	Ī	Serial dilutions, post digestion spikes, and method of standar	rd additions			Ť		
		Were percent differences, recoveries, and the linearity within the				/		
S10	OI	Method detection limit (MDL) studies	e ve minus speemen in the memon.					
		Was a MDL study performed for each reported analyte?		/				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	√				
S11	OI	Proficiency test reports:						
	<u> </u>	Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	r	Ť				
		Are all standards used in the analyses NIST-traceable or obtain	ed from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	предоставления предос					
		Are the procedures for compound/analyte identification documents	ented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	√				
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI	Verification/validation documentation for methods (NELAC		✓				
		Are all the methods used to generate the data documented, veri		√				
S16	Oī	Laboratory standard operating procedures (SOPs):	,a randatea, miere appriedote:	_				
210	O1	Are laboratory SOPs current and on file for each method perfor	med?	√				
		2 110 laboratory 501 5 current and on the for each method perior	meg:	V				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	ESC Lab Sciences	Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery Labo	oratory Job Number: L751256-25, -26, -27, -28, -29, -30), -31,	-32,	, -33,	-34,	-36,
Reviewer	Name:	Prep	b Batch Number(s):					
ESC Rep	resenta	tive WG	5773851 HGD					
# ¹	A ²			Voc	No.	NI A ³	ND ⁴	ER# ⁵
		Description		res	INO I	NA	INK	EK#
R1	OI	Chain-of-custody (C-O-C)						ļ
		Did samples meet the laboratory's standard conditions of sample acceptability upon rec	ceipt?	✓	\vdash	/		
_		Were all departures from standard conditions described in an exception report?		\vdash		✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1	-			
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration stan	ndards?	✓				ļ
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√	-			
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓		,		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	6 Method 5035?	-	\vdash	1		
	_	If required for the project, are TICs reported?		\vdash		•		
R4	0	Surrogate recovery data				,		
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			\vdash	✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparation a	and, if applicable, cleanup procedures?	√	_			
		Were blank concentrations < MQL?		✓	\vdash			
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cleanu	up steps?	√				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect	t the COCs at the MDL used to calculate the SDLs?	✓	\vdash	√		
		Was the LCSD RPD within QC limits?				٧		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data			_			
		Were the project/method specified analytes included in the MS and MSD?		✓	\vdash			
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?						-
		Were MS/MSD RPDs within laboratory QC limits?		✓	\vdash			
R8	OI	Analytical duplicate data			_			
		Were appropriate analytical duplicates analyzed for each matrix?			_	√		
		Were analytical duplicates analyzed at the appropriate frequency?				٧		
		Were RPDs or relative standard deviations within the laboratory QC limits?		┢		✓		
R9	OI	Method quantitation limits (MQLs):						ļ
		Are the MQLs for each method analyte included in the laboratory data package?		✓	_			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standar	ard?	✓	\dashv			-
		Are unadjusted MQLs and DCSs included in the laboratory data package?		Ľ				
R10	OI	Other problems/anomalies		<u> </u>	\sqcup			<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	$\vdash \vdash$			
		Was applicable and available technology used to lower the SDL to minimize the matrix i	·	✓	\sqcup			-
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?		✓				
appropria	te retentio	he letter "R" must be included in the laboratory data package submitted in the TRRP-requin period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when not should be completed for an item if "NR" or "No" is checked).						

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Pro	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-25, -26, -27, -28, -29	9, -30, -3	1, -32, -3	33, -34, -36	, -37, -38, -3	39, and -40
Rev	iewe	r Name: ESC Representative Pr	rep Batch Number(s): WG773851 HG	D				
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				1
		Are ICAL data available for all instruments used?		✓				1
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?						
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit				✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	uired QC limits?			✓		1
S5	OI	Raw data (NELAC section 1 appendix A glossary, and secti	on 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	d QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		1
S9	I	Serial dilutions, post digestion spikes, and method of standa	rd additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						$oldsymbol{ol}}}}}}}}}}}}}}}}}}$
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, verified, and validated, where applicable			<u> </u>			
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						
<u> </u>					<u> </u>			

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborato	ory Name	ESC Lab Sciences	RC Date: 4/17/2015					
Project I	Name: Lo	vington Lea Refinery L	aboratory Job Number: L751256-22, -23, -24, and -25					
Reviewe	er Name:		Prep Batch Number(s):					
	presenta		NG773873 ALK					
-	 	I		I.	L		4	
# ¹	A ²	Description		Yes	No	NA	NR*	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	✓				
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		√				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓		,		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?	-		1		
D.4	0	If required for the project, are TICs reported?				,		
R4	0	Surrogate recovery data				/		
		Were surrogates added prior to extraction?		+		1		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				•		
R5	OI	Test reports/summary forms for blank samples		٠.				
		Were appropriate type(s) of blanks analyzed?		√				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparat	tion and, if applicable, cleanup procedures?	∨				
	0.1	Were blank concentrations < MQL?		Ť				
R6	OI	Laboratory control samples (LCS):		.				
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cli	eanup steps?	▼				
		Were LCSs analyzed at the required frequency?		→				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to de	start the COCs at the MDL used to calculate the SDLs2	▼				
		Was the LCSD RPD within QC limits?	etect the coos at the MDE used to calculate the SDES:	V ✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
IXI	OI.			1				
		Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		√				
		Were MS/MSD RPDs within laboratory QC limits?		1				
R8	OI	Analytical duplicate data		Ė				
IXO	OI.			1				
		Were appropriate analytical duplicates analyzed for each matrix? Were analytical duplicates analyzed at the appropriate frequency?		▼				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
. 10	01			1				
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	→	\vdash			
		Are unadjusted MQLs and DCSs included in the laboratory data package?		V	T			t
R10	OI	Other problems/anomalies			T			
	01	Are all known problems/anomalies/special conditions noted in this LRC and ER?		/				
		·	atrix interference effects on the sample results?	√				
	Was applicable and available technology used to lower the SDL to minimize the matrix interference effects on the sample results? Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?							

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	ppendix A (cont'd): Laboratory Review Checklist: Reportable Data									
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015	00.041.05						
Proj	ject N	lame: Lovington Lea Refinery	Laboratory Job Number: L751256-22, -2	23, -2	4, ar	nd -25				
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG773873 AL	K						
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5		
S1		Initial calibration (ICAL)								
		Were response factors and/or relative response factors for each	ch analyte within QC limits?	✓						
		Were percent RSDs or correlation coefficient criteria met?		✓						
		Was the number of standards recommended in the method us	ed for all analytes?	✓						
		Were all points generated between the lowest and highest sta	ndard used to calculate the curve?	✓						
		Are ICAL data available for all instruments used?		✓						
		Has the initial calibration curve been verified using an appropriate	priate second source standard?	✓						
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration							
		Was the CCV analyzed at the method-required frequency?		✓						
		Were percent differences for each analyte within the method-	required QC limits?	✓						
		Was the ICAL curve verified for each analyte?		✓						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?								
S3	О	Mass spectral tuning:								
		Was the appropriate compound for the method used for tunin	g?			✓		1		
		Were ion abundance data within the method-required QC limits?				✓				
S4	О	Internal standards (IS):								
		Were IS area counts and retention times within the method-required QC limits?				√				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section								
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						1		
		Were data associated with manual integrations flagged on the raw data?				✓				
S6	О	Dual column confirmation								
		Did dual column confirmation results meet the method-require	red QC?			✓				
S7	О	Tentatively identified compounds (TICs):								
		If TICs were requested, were the mass spectra and TIC data s	ubject to appropriate checks?			✓				
S8	I	Interference Check Sample (ICS) results:								
		Were percent recoveries within method QC limits?				✓				
S9	I	Serial dilutions, post digestion spikes, and method of stand	lard additions							
		Were percent differences, recoveries, and the linearity within	the QC limits specified in the method?			✓				
S10	OI	Method detection limit (MDL) studies								
		Was a MDL study performed for each reported analyte?		✓						
		Is the MDL either adjusted or supported by the analysis of D	CSs?	✓						
S11	OI	Proficiency test reports:								
		Was the laboratory's performance acceptable on the applicable	le proficiency tests or evaluation studies?	✓						
S12	OI	Standards documentation								
		Are all standards used in the analyses NIST-traceable or obta	ined from other appropriate sources?	✓						
S13	OI	Compound/analyte identification procedures								
		Are the procedures for compound/analyte identification docu	mented?	✓						
S14	OI	Demonstration of analyst competency (DOC)								
		Was DOC conducted consistent with NELAC Chapter 5C or		✓						
		Is documentation of the analyst's competency up-to-date and		✓						
S15	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section								
		Are all the methods used to generate the data documented, ve	erified, and validated, where applicable?	✓						
S16	OI	Laboratory standard operating procedures (SOPs):								
		Are laboratory SOPs current and on file for each method performed?								
							<u> </u>	<u> </u>		

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborato	ry Name	: ESC Lab Sciences	RC Date: 4/17/2015					
Project N	lame: Lo	vington Lea Refinery L	aboratory Job Number: L751256-24, -25, -26, -27, -28, -29	9, -30	, -31	, -32,	-33,	-34,
Reviewer	r Name:	P	Prep Batch Number(s):					
ESC Rep	resenta		WG773908 SBDG					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	·						
K I	Ю	Chain-of-custody (C-O-C)	n annatato	1				+
		Did samples meet the laboratory's standard conditions of sample acceptability upor Were all departures from standard conditions described in an exception report?	п тесеірі:	-		1		+
R2	OI							
KZ	Ю	Sample and quality control (QC) identification		1				\vdash
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Are all laboratory ID numbers cross-referenced to the corresponding QC data?		1				\vdash
D2	OI			Ė				
R3	OI	Test reports		/				+
		Were all samples prepared and analyzed within holding times?	atandarda 0	· /				+
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	▼				\vdash
		Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor?		V ✓				+
		Were sample detection limits reported for all analytes not detected?		\ \				
		Were all results for soil and sediment samples reported on a dry weight basis?		1				<u> </u>
		Were % moisture (or solids) reported for all soil and sediment samples?		/				†
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?	Ť		1		
		If required for the project, are TICs reported?				✓		
R4	О	Surrogate recovery data						
	I	Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
	0.	Were appropriate type(s) of blanks analyzed?		1				
		Were blanks analyzed at the appropriate frequency?		1				
		Were method blanks taken through the entire analytical process, including preparat	tion and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		1				
R6	OI	Laboratory control samples (LCS):						
	I	Were all COCs included in the LCS?		1				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to de	etect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?		1		✓		<u> </u>
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	√				
		e unadjusted MQLs and DCSs included in the laboratory data package?		✓				<u> </u>
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample results?	✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progdata package?		✓				
		e letter "R" must be included in the laboratory data package submitted in the TRRP period: 2 O = organic analyses: I = inorganic analyses (and general chemistry w						

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numbe (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checkl	ist: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Proj	ject N	Tame: Lovington Lea Refinery	Laboratory Job Number: L751256-24, -25, -26, -27, -26	3, -29, -30,	, -31, -32,	-33, -34, -3	6, -37, -38,	-39, and -40
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG773908 SE	DG				
#1	A^2	Description	``	Yes	No	NA ³	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	ch analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method us	sed for all analytes?	✓				
		Were all points generated between the lowest and highest sta	andard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appro	priate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-	-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	O	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?						
		Were ion abundance data within the method-required QC limits?						
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sec						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	O	Dual column confirmation						
		Did dual column confirmation results meet the method-requi	red QC?			✓		
S7	O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC datas	subject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						4
		Were percent recoveries within method QC limits?		✓				
S9	I	Serial dilutions, post digestion spikes, and method of stand						4
~		Were percent differences, recoveries, and the linearity within	the QC limits specified in the method?	✓				
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?	GG 9	√	-	-	1	+-
011	0.7	Is the MDL either adjusted or supported by the analysis of D	CSs?	✓				+
S11	OI	Proficiency test reports:	1 6					
013	OI	Was the laboratory's performance acceptable on the applicab	le proficiency tests or evaluation studies?	✓				_
S12	OI	Standards documentation	: 10 11 : 1 0	_				4
612	OI.	Are all standards used in the analyses NIST-traceable or obta	ained from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures		,			-	
Q1.4	OT	Are the procedures for compound/analyte identification docu	imented?	✓				
S14	OI	Demonstration of analyst competency (DOC) Was DOC conducted consistent with NELAC Chapter 5C or	ISO/IEC 42	/			_	
				√	-	-	1	+-
S15	Oī	Is documentation of the analyst's competency up-to-date and on file?						+
213	OI	Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section						+
016	01	Are all the methods used to generate the data documented, verified, and validated, where applica						
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method per	formed?	✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborator	y Name	: ESC Lab Sciences LR0	C Date: 4/17/2015					
Project N	ame:Lo	vington Lea Refinery Lab	poratory Job Number: L751256-31, -32, -33, -34, -36, -37	7, -38	, -39	, and	-40	
Reviewer	Name:	Pre	ep Batch Number(s):					
ESC Rep	resenta		G774030 FLUORIDE					
# ¹	- T -			V	NIO	NI A 3	NID4	ER# ⁵
		Description		res	NO	NA	NK	EK#
R1	OI	Chain-of-custody (C-O-C)		_	\vdash			-
		Did samples meet the laboratory's standard conditions of sample acceptability upon re	eceipt?	✓	\vdash	√		<u> </u>
D.0	01	Were all departures from standard conditions described in an exception report?			\vdash	•		-
R2	OI	Sample and quality control (QC) identification		✓	\vdash			-
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√	\vdash			<u> </u>
D.0	01	Are all laboratory ID numbers cross-referenced to the corresponding QC data?		ř	\vdash			-
R3	OI	Test reports		✓				<u> </u>
		Were all samples prepared and analyzed within holding times?		ļ	Н			
		Other than those results < MQL, were all other raw values bracketed by calibration sta	andards?	√	\vdash			-
		Were calculations checked by a peer or supervisor?		V	\vdash			-
		Were all analyte identifications checked by a peer or supervisor?		✓	\vdash			-
		Were sample detection limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis?		· /	H			
		Were % moisture (or solids) reported for all soil and sediment samples?		1	H			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW84	16 Method 5035?	•	H	1		
		If required for the project, are TICs reported?	10 Mountain 0000.		Ħ	✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		1	H	√		1
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			\Box	√		
R5	OI	OI Test reports/summary forms for blank samples						
110	01	Were appropriate type(s) of blanks analyzed?		1	\vdash			
		Were blanks analyzed at the appropriate frequency?		1	H			
		Were method blanks taken through the entire analytical process, including preparation	n and, if applicable, cleanup procedures?	√	\Box			
		Were blank concentrations < MQL?	Turing it appricately aleanap proceedation.	✓				
R6	OI	Laboratory control samples (LCS):						
	0.	Were all COCs included in the LCS?		/	H			
		Was each LCS taken through the entire analytical procedure, including prep and clear	nup steps?	✓				
		Were LCSs analyzed at the required frequency?	•	✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to deter	ect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓	Ш			
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stand	dard?	1				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		/	Ш			
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓	Ш			
		Was applicable and available technology used to lower the SDL to minimize the matrix	x interference effects on the sample results?	✓	Ш			<u> </u>
		is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?	m for the analytes, matrices and methods associated with this labor atory	✓				
1. Items iden	tified by th	e letter "R" must be included in the laboratory data package submitted in the TRRP-re	equired report(s). Items identified by the letter "S" should be retained and ma	de ava	ilable	upon r	eauest	for the

Interns identified by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items identified by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items identified by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items identified by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items identified by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is definited by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is definited by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is defined by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is defined by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is defined by the letter | X must be included in the laboratory data package submitted in the TRKP-required report(s). Items is defined by the later | X must be included in the Internal package submitted in the Internal package s

Ap	pen	dix A (cont'd): Laboratory Review Checklist	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Tame: Lovington Lea Refinery La	aboratory Job Number: L751256-31, -32, -3	33, -34	1, -36,	-37, -3	8, -39, 8	and -40
Rev	iewei	Name: ESC Representative Pr	rep Batch Number(s): WG774030 FLU	JORI	IDE			
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest stand-	ard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	ate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CO	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-red	quired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	O	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits	s?			✓		
S4	O	Internal standards (IS):						
		Were IS area counts and retention times within the method-requ	uired QC limits?			✓		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	O	Dual column confirmation						
		Did dual column confirmation results meet the method-required	d QC?			✓		
S7	O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub-	eject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standar						
		Were percent differences, recoveries, and the linearity within th	ne QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtained	ed from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
~		Are the procedures for compound/analyte identification docume	ented?	✓				
S14	OI							
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?					-	+
045	0	Is documentation of the analyst's competency up-to-date and on file?						
S15	OI							
		Are all the methods used to generate the data documented, verified, and validated, where applicable						
S16	OI							
		Are laboratory SOPs current and on file for each method performed?						
<u> </u>	<u> </u>						1	

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory	/ Name	: ESC Lab Sciences	C Date: 4/17/2015					
Project Na	me:Lo	vington Lea Refinery Lab	boratory Job Number: L751256-01, -02, -03, -06, -07, -08) , -10,	, -11,	, -13,	-14,	-15,
Reviewer I	Name:	Pre	ep Batch Number(s):					
ESC Repre	esenta		G774082 NO2NO3					
# ¹	A ²			Voc	No I	NI A ³	ND ⁴	ER# ⁵
		Description		res	NO I	NA	INK	EK#
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon re	receipt?	✓		/		
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration sta	andards?	✓				ļ
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		√				
		Were all results for soil and sediment samples reported on a dry weight basis?		√				
		Were % moisture (or solids) reported for all soil and sediment samples?	40 M d. 150050	√		1		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW84	46 Method 5035?			✓		
D.4		If required for the project, are TICs reported?						
R4	О	Surrogate recovery data		₩		√		
		Were surrogates added prior to extraction?		\vdash		./		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				•		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparation	n and, if applicable, cleanup procedures?	∨				
D.0		Were blank concentrations < MQL?		Ė				
R6	OI	Laboratory control samples (LCS):		_				ļ
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and clear	inup steps?	▼				
		Were LCSs analyzed at the required frequency?		· /				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to dete	port the COCs at the MDL used to calculate the SDLs2	√				
		Was the LCSD RPD within QC limits?	tot the Cocs at the MDE used to calculate the SDES:	√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
177	О	Were the project/method specified analytes included in the MS and MSD?		1				
		Were MS/MSD analyzed at the appropriate frequency?		·				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		√				
		Were MS/MSD RPDs within laboratory QC limits?		1				
R8	OI	Analytical duplicate data						
110	О	Were appropriate analytical duplicates analyzed for each matrix?		1				
		Were analytical duplicates analyzed at the appropriate frequency?		▼				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
113	О			1				
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration stance.	dord?	√				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	uaiu:	√				
R10	OI	Other problems/anomalies			\Box			
	Ы	<u> </u>		/	\vdash			
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	iv interference effects on the cample results?	✓	\vdash			-
		Was applicable and available technology used to lower the SDL to minimize the matri: Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program	·					
1 Items identi	ified by t	data package? e letter "R" must be included in the laboratory data package submitted in the TRRP-re		√ de avai	lahla :	Inon re	aulest.	for the
appropriate	e retentio	e letter. R. must be included in the laboratory data package submitted in the TRRP-re in period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, whe it should be completed for an item if "NR" or "No" is checked).						

in to is diecked).

Ap	pen	dix A (cont'd): Laboratory Review Checkli	ist: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Pro	ject N	lame: Lovington Lea Refinery	Laboratory Job Number: L751256-01, -02, -03, -06, -07,	-09, -10, -1	1, -13, -14	1, -15, -16, -1	8, -19, -20, -	21, -22, -2
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG774082 NC	D2NO	3			
#1	A^2	Description	*	Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	ch analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method us	sed for all analytes?	✓				1
		Were all points generated between the lowest and highest sta	ndard used to calculate the curve?	✓				1
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appro	priate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-	-required QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	O	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits?				✓		
S4	О	Internal standards (IS):						
~-		Were IS area counts and retention times within the method-required QC limits?				✓		oxdot
S5	OI	Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
0.6		Were data associated with manual integrations flagged on the raw data?				√		
S6	О	Dual column confirmation	1.0.00			,		
67	0	Did dual column confirmation results meet the method-requi	red QC?			✓		
S7	О	Tentatively identified compounds (TICs):	1: 44 1 1 0	-		,		-
S8	т	If TICs were requested, were the mass spectra and TIC data s	subject to appropriate checks?			✓		
30	1	Interference Check Sample (ICS) results: Were percent recoveries within method QC limits?				1		
S9	ī	Serial dilutions, post digestion spikes, and method of stand	dand additions			V		
3)	1	Were percent differences, recoveries, and the linearity within				1		-
S10	ΟI	Method detection limit (MDL) studies	the QC mints specified in the method?			•		+
510	OI	Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of D	CSe?	√				+
S11	OI	Proficiency test reports:	COST	•				
511	OI	Was the laboratory's performance acceptable on the applicab	le proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	ie proficiency tests of evaluation studies:	Ť				
	01	Are all standards used in the analyses NIST-traceable or obta	ained from other appropriate sources?	1				
S13	OI	Compound/analyte identification procedures	and non-one-uppropriate sources.	Ť				
	01	Are the procedures for compound/analyte identification docu	imented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						
		Is documentation of the analyst's competency up-to-date and		√				1
S15	OI	Verification/validation documentation for methods (NELA						
		Are all the methods used to generate the data documented, ve		1			Ī	
S16	OI	Laboratory standard operating procedures (SOPs):	* **					
		Are laboratory SOPs current and on file for each method performed?						
		,		✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborato	ry Name	: ESC Lab Sciences	LRC Date: 4/17/2015						
Project N	lame: Lo	vington Lea Refinery	Laboratory Job Number: L751256-26, -27, -28, -29, -30, -3	1, -32	., -33	3, -34	, -36,	-37,	
Reviewer	r Name:	Sentative WG774083 NO2NO3 A2 Description Yes No NA3 NR4 El OI Chain-of-custody (C-O-C) Did samples meet the laboratory's standard conditions of sample acceptability upon receipt? Were all departures from standard conditions described in an exception report? OI Sample and quality control (QC) identification Are all field sample ID numbers cross-referenced to the laboratory ID numbers? Are all laboratory ID numbers cross-referenced to the corresponding QC data? OI Test reports Were all samples prepared and analyzed within holding times? Other than those results < MQL, were all other raw values bracketed by calibration standards? Were calculations checked by a peer or supervisor? Were all analyte identifications checked by a peer or supervisor? Were sample detection limits reported for all analytes not detected? Were all results for soil and sediment samples reported on a dry weight basis? Were 6 moisture (or soilds) reported for all soil and sediment samples? Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?							
ESC Rep	resenta	tive							
# ¹				Yes	No	NA ³	NR ⁴	ER# ⁵	
R1		·		1.00					
K I	Ю			./				+	
			pon receipt?	\ *		1		+	
R2	OI					<u> </u>		1	
NZ	OI			1	-			+	
		· · · · · · · · · · · · · · · · · · ·		1	1			+	
D2	OI			Ė				+	
R3	OI	,		1				+	
			an alondonic	+				+	
		·	on standards?	+ -				+	
				+				+	
				+				1	
		· · ·		+ -				†	
				1				†	
			SW846 Method 5035?	Ť		√			
		If required for the project, are TICs reported?				✓			
R4	О	Surrogate recovery data							
	I	Were surrogates added prior to extraction?				√		1	
		Were surrogate percent recoveries in all samples within the laboratory QC limits	?			✓			
R5	OI	Test reports/summary forms for blank samples							
	0.	Were appropriate type(s) of blanks analyzed?		1					
		Were blanks analyzed at the appropriate frequency?		1				1	
		Were method blanks taken through the entire analytical process, including prepa	aration and, if applicable, cleanup procedures?	✓					
		Were blank concentrations < MQL?		✓					
R6	OI	Laboratory control samples (LCS):							
		Were all COCs included in the LCS?		1					
		Was each LCS taken through the entire analytical procedure, including prep and	I cleanup steps?	✓					
		Were LCSs analyzed at the required frequency?		✓					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓					
		Does the detectability check sample data document the laboratory's capability to	detect the COCs at the MDL used to calculate the SDLs?	✓					
		Was the LCSD RPD within QC limits?		✓	<u> </u>				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data							
		Were the project/method specified analytes included in the MS and MSD?		✓					
		Were MS/MSD analyzed at the appropriate frequency?		✓					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓					
		Were MS/MSD RPDs within laboratory QC limits?		✓					
R8	OI	Analytical duplicate data							
		Were appropriate analytical duplicates analyzed for each matrix?		✓					
		Were analytical duplicates analyzed at the appropriate frequency?		✓					
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓	ļ				
R9	OI	Method quantitation limits (MQLs):							
		Are the MQLs for each method analyte included in the laboratory data package?	·	1					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	standard?	√					
	Are unadjusted MQLs and DCSs included in the laboratory data package?		✓	_			<u> </u>		
R10	OI	Other problems/anomalies							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	· · · · · · · · · · · · · · · · · · ·	✓					
		Was applicable and available technology used to lower the SDL to minimize the	matrix interference effects on the sample results?	✓					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Podata package?		1					
		e letter "R" must be included in the laboratory data package submitted in the TRF	RP-required report(s). Items identified by the letter "S" should be retained and may when applicable: 3 NA = Not applicable: 4 NR = Not reviewed: 5 FR# = Fxce						

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-26, -27, -28, -29, -	30, -31,	-32, -33	, -34, -36, -	37, -38, -3	9, and -40
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG774083 NO	2NO	3			
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				İ
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand		✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration						
		Was the CCV analyzed at the method-required frequency?						
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?						
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit				✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	uired QC limits?			✓		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 1						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?						
		Is documentation of the analyst's competency up-to-date and on file?						
S15	OI							
		Are all the methods used to generate the data documented, verified, and validated, where applicable						
S16	OI							
		Are laboratory SOPs current and on file for each method performed?						
	l			✓	<u> </u>		l	

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laborato	ory Name	e: ESC Lab Sciences	RC Date: 4/17/2015					
Project N	Name: Lo	vington Lea Refinery La	aboratory Job Number: L751256-22, -23, -24, -25, -26, -2	7, -28	, -29	, -30,	-31,	-32,
Reviewe	r Name:	Pr	ers? ers? v ita? v ibration standards? v ibration standards? v per SW846 Method 5035? imits?					
ESC Re	presenta	tive	VG774086 SPCON					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)			П			
		Did samples meet the laboratory's standard conditions of sample acceptability upon	receipt?	1	П			†
		Were all departures from standard conditions described in an exception report?			П	✓		1
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1	П			†
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓	П			
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		-	П			
		Other than those results < MQL, were all other raw values bracketed by calibration s	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓	Ш			
		Were all results for soil and sediment samples reported on a dry weight basis?		✓	Ш			
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	Ш			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW8	846 Method 5035?	₩	H	√		
		If required for the project, are TICs reported?		\vdash	\vdash	•		-
R4	0	Surrogate recovery data		<u> </u>	Ш			<u> </u>
		Were surrogates added prior to extraction?		₩	\sqcup	√		-
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		\vdash	Н	~		+
R5	OI	Test reports/summary forms for blank samples			Ш			
		Were appropriate type(s) of blanks analyzed?		+	Ш			1
		Were blanks analyzed at the appropriate frequency?			H			
		Were method blanks taken through the entire analytical process, including preparation	ion and, if applicable, cleanup procedures?	<u> </u>	H			
.	٥.	Were blank concentrations < MQL?		Ť	\vdash			+
R6	OI	Laboratory control samples (LCS):		₩,	H			
		Were all COCs included in the LCS?		✓	H			
		Was each LCS taken through the entire analytical procedure, including prep and clear	anup steps?	\ \ \	\vdash			+
		Were LCSs analyzed at the required frequency? Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		· /	H			+
		Does the detectability check sample data document the laboratory's capability to det	tect the COCs at the MDL used to calculate the SDLs?	\ \ \	Н			
		Was the LCSD RPD within QC limits?	too the object of the metallic object.	√	П			
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data			П			1
	Ισ.	Were the project/method specified analytes included in the MS and MSD?			Н	1		
		Were MS/MSD analyzed at the appropriate frequency?			П	1		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				✓		
		Were MS/MSD RPDs within laboratory QC limits?				✓		
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓	Ш			
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓	Ш			
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓	Ш			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration star	ndard?	1	Ш			<u> </u>
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓	$\vdash \vdash$			₩
R10	OI	Other problems/anomalies		<u> </u>	Ш			<u> </u>
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	\sqcup			
		Was applicable and available technology used to lower the SDL to minimize the material	·	√	\sqcup			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progradata package?	ram for the analytes, matrices and methods associated with this labor atory	✓				
1. Items ide	entified by the	ne letter "R" must be included in the laboratory data package submitted in the TRRP-r	required report(s). Items identified by the letter "S" should be retained and ma	de ava	ilable	upon re	equest	for the

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numb (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklist	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences LF	RC Date: 4/17/2015					
Pro	ject N	Jame: Lovington Lea Refinery La	aboratory Job Number: L751256-22, -23, -24, -25, -26, -2	27, -28, -2	9, -30, -31	, -32, -33, -3	4, -36, -37, -3	38, -39, a
Rev	iewe	r Name: ESC Representative Pro	rep Batch Number(s): WG774086 SP	CON				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest stands	ard used to calculate the curve?	✓				
	Are ICAL data available for all instruments used?			✓				
	Has the initial calibration curve been verified using an appropriate second source standard?		✓					
S2	OI	Initial and continuing calibration verification (ICCV and CC	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-rec	quired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		√				
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	√				
S3	О	Mass spectral tuning:						
	Was the appropriate compound for the method used for tuning? Were ion abundance data within the method-required QC limits?)			√		
						√		
S4	О							
		Were IS area counts and retention times within the method-required QC limits?				1		
S5								
		Were the raw data (for example, chromatograms, spectral data)		✓				
		Were data associated with manual integrations flagged on the ra				√		
S6	О							
		Did dual column confirmation results meet the method-required	d OC?			√		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	pject to appropriate checks?			√		
S8	I	Interference Check Sample (ICS) results:	× 11 1					
		Were percent recoveries within method QC limits?				√		
S9	I	Serial dilutions, post digestion spikes, and method of standar	rd additions					
		Were percent differences, recoveries, and the linearity within th				✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		√				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	1				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	√				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtained	ed from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	1. 1					
		Are the procedures for compound/analyte identification docume	ented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and or		√	ĺ			
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, verif		1				
S16	OI	Laboratory standard operating procedures (SOPs):						
Ė		Are laboratory SOPs current and on file for each method perform	med?	1				
L		perior		Ľ	L	<u></u>		┖

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laboratory Name: ESC Lab Sciences LRC Date: 4/17/2015								
Project Na	ame:Lo	vington Lea Refinery La	aboratory Job Number: L751256-42 and 43					
Reviewer	Name:	Pı	rep Batch Number(s):					
ESC Rep	resenta		NG774378 V8260					
·				V		N 1 A 3	ND4	 #5
# ¹	A ²	Description		Yes	No	NA°	NK.	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	√				
		Were all departures from standard conditions described in an exception report?		✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration s	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	846 Method 5035?			√		
D.4		If required for the project, are TICs reported?				Ť		
R4	0	Surrogate recovery data		✓				
		Were surrogates added prior to extraction?		√				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		V				
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparati	ion and, if applicable, cleanup procedures?	∨				
		Were blank concentrations < MQL?		· •				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	√				
		Were LCSs analyzed at the required frequency?		· /				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	steet the COCe at the MDI wood to calculate the CDI of	✓				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs? Was the LCSD RPD within QC limits?						
R7	OI							
K/	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data		/				
		Were the project/method specified analytes included in the MS and MSD?		· /				
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		V	1			1
		Were MS/MSD RPDs within laboratory QC limits?			1			2
R8	OI	Analytical duplicate data			Ť			
NO	OI	, ,				/		
		Were appropriate analytical duplicates analyzed for each matrix?				∨		
		Were analytical duplicates analyzed at the appropriate frequency? Were RPDs or relative standard deviations within the laboratory QC limits?				1		
D0	OI					·		
R9	OI	Method quantitation limits (MQLs):		✓				
		Are the MQLs for each method analyte included in the laboratory data package?	andord?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration star	iiiuaiu !	7				
P10	OI	Are unadjusted MQLs and DCSs included in the laboratory data package?						
R10	OI	Other problems/anomalies		,				
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	striv interference effects on the commits resulted	√				
		Was applicable and available technology used to lower the SDL to minimize the mat is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progr		Ť				
		data package?	nam or the analytes, maintes and memous associated with this label atony	✓				

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-42 an	d 43				
Rev	viewe	Name: ESC Representative Pr	rep Batch Number(s): WG774378 V82	260				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within OC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	d for all analytes?	✓				1
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
	Are ICAL data available for all instruments used?		✓					
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration						
		Was the CCV analyzed at the method-required frequency?		✓				1
		Were percent differences for each analyte within the method-required QC limits?						
		Was the ICAL curve verified for each analyte?		✓	ĺ			
		Was the absolute value of the analyte concentration in the inor-	ganic CCB < MDL?		ĺ	✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?						
		Were ion abundance data within the method-required QC limits?						
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI							
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an analyst?	✓				1
		Were data associated with manual integrations flagged on the raw data?		✓				
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		Ī
S10	OI	Method detection limit (MDL) studies	•					
		Was a MDL study performed for each reported analyte?		✓				1
		Is the MDL either adjusted or supported by the analysis of DCs	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				
		Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	\	L			
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perform	rmed?	✓				
			•					

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG774378 V8260					

Sample(s): TRIP BLANK-1, TRIP BLANK-2

Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B

ER#: Description

1 The matrix spike or matrix spike duplicate recoveries were over the laboratory control limits for 1,2-Dichloroethane and Acetone. The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Styrene and Trichloroethene.

2 The relative percent differences exceeded laboratory limits for Styrene

Laboratory	y Name	: ESC Lab Sciences	LRC Date: 4/17/2015					
Project Na	ame:Lo	vington Lea Refinery	Laboratory Job Number: L751256-26, -27, -28, -29, -30, -3	1, -32	, -33	3, -34,	-36,	-37,
Reviewer	Name:		Prep Batch Number(s):					
ESC Repr	resenta	tive	WG774414 ALK					
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
 R1	OI	·		1.00				
K I	Ю	Chain-of-custody (C-O-C)		1				+
		Did samples meet the laboratory's standard conditions of sample acceptability u	pon receipt?	V ✓				+
D2	OI	Were all departures from standard conditions described in an exception report?		Ė				+
R2	OI	Sample and quality control (QC) identification		1				
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				+
DO	01	Are all laboratory ID numbers cross-referenced to the corresponding QC data?		Ė				+
R3	OI	Test reports		/				
		Were all samples prepared and analyzed within holding times?		-				+
		Other than those results < MQL, were all other raw values bracketed by calibration	on standards?	√				
		Were calculations checked by a peer or supervisor?		√				+
		Were all analyte identifications checked by a peer or supervisor?		✓				+
		Were sample detection limits reported for all analytes not detected?		▼				+
		Were all results for soil and sediment samples reported on a dry weight basis? Were % moisture (or solids) reported for all soil and sediment samples?		1				†
		Were bulk soils/solids samples for volatile analysis extracted with methanol per s	SW846 Method 5035?	+*		1		
		If required for the project, are TICs reported?		 		✓		1
R4	o	Surrogate recovery data						
117		,				/		+
		Were surrogates added prior to extraction? Were surrogate percent recoveries in all samples within the laboratory QC limits	2	+		1		1
R5	OI	Test reports/summary forms for blank samples	:					1
N3	ОІ	, , , , , , , , , , , , , , , , , , , ,		1				+
		Were appropriate type(s) of blanks analyzed?		· /				+
		Were blanks analyzed at the appropriate frequency? Were method blanks taken through the entire analytical process, including prepa	pration and if applicable cleanup procedures?	▼				+
		Were blank concentrations < MQL?	ланот апа, п аррпоавіе, оканар ргосеситез:	✓				1
R6	OI	Laboratory control samples (LCS):						
110	O1	Were all COCs included in the LCS?		1				+
		Was each LCS taken through the entire analytical procedure, including prep and	cleanun stens?	▼				1
		Were LCSs analyzed at the required frequency?	all all all all all all all all all all	√				1
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		√				
		Does the detectability check sample data document the laboratory's capability to	o detect the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?		1				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		1				†
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓			1
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		√				
		Were analytical duplicates analyzed at the appropriate frequency?		1				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?)	1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		✓				L
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?)	1				<u> </u>
		Was applicable and available technology used to lower the SDL to minimize the		· ✓	İ			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Pl data package?	·	√				
			RP-required report(s). Items identified by the letter "S" should be retained and may when applicable): 3 NA = Not applicable: 4 NR = Not reviewed: 5 FR# = Fxce					

appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification numbe (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/17/2015					
Proj	ect N	Tame: Lovington Lea Refinery L	aboratory Job Number: L751256-26, -27, -28, -29, -	30, -31,	-32, -33	, -34, -36, -	-37, -38, -3	9, and -40
Rev	iewei	Name: ESC Representative P	Prep Batch Number(s): WG774414 ALF	<				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	n analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				
		Was the number of standards recommended in the method use	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand		✓				
	Are ICAL data available for all instruments used?		✓					
		Has the initial calibration curve been verified using an appropriate	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration						
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-required QC limits?						
		Was the ICAL curve verified for each analyte?	- 1	√				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		√		1		1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				/		
		Were ion abundance data within the method-required QC limits?				√		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				/		1
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						_
		Were data associated with manual integrations flagged on the raw data?				√		
S6	О	Dual column confirmation				Ė		
		Did dual column confirmation results meet the method-require	ed OC?			√		
S7	О	Tentatively identified compounds (TICs):	,					
		If TICs were requested, were the mass spectra and TIC data su	biect to appropriate checks?			/		1
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				1		1
S9	Ī	Serial dilutions, post digestion spikes, and method of standa	ard additions					
	_	Were percent differences, recoveries, and the linearity within t				1		
S10	OI	Method detection limit (MDL) studies	and the minus specimen in the memori.					
	01	Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	√				t
S11	OI	Proficiency test reports:						
	<u> </u>	Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	- F					
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	The second secon					
		Are the procedures for compound/analyte identification docum	nented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or I	SO/IEC 4?	1				
		Is documentation of the analyst's competency up-to-date and of		√				1
S15	OI	Verification/validation documentation for methods (NELAC		•				
		Are all the methods used to generate the data documented, ver		1				
S16	Οī	Laboratory standard operating procedures (SOPs):	and variations, where applicable:	•				
510	01	Are laboratory SOPs current and on file for each method performance.	ormed?	./				
		2 no laboratory 5013 current and on the for each method perio	mines.	Are laboratory SOPs current and on file for each method performed?				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG774414 ALK					

Sample(s): MW-1, MW-6, MW-9, MW-29, MW-23, MW-24, MW-25, DUP-3, MW-26, MW-19,

DUP-2, MW-18, MW-8, MW-17R

Samples(s) were analyzed for Alkalinity by Method 2320 B-2011 ER#: Description

The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Alkalinity.

Laboratory Name: ESC Lab Sciences		: ESC Lab Sciences	LRC Date: 4/17/2015							
Project Na	me:Lo	vington Lea Refinery	Laboratory Job Number: L751256-07, -29, -30, -32, -33, -34, -36, -38, and -39							
Reviewer I	Name:		Prep Batch Number(s):							
ESC Repre	esenta	ive	WG774478 CHLORIDE							
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵		
R1	OI	Chain-of-custody (C-O-C)								
	0.	Did samples meet the laboratory's standard conditions of sample acceptability up	non receint?	1						
		Were all departures from standard conditions described in an exception report?	por roomer.	Ť		✓				
R2	OI	Sample and quality control (QC) identification								
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1						
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		√						
R3	OI	Test reports								
	<u> </u>	Were all samples prepared and analyzed within holding times?		1				 		
		Other than those results < MQL, were all other raw values bracketed by calibration	on standards?	√						
		Were calculations checked by a peer or supervisor?		✓						
		Were all analyte identifications checked by a peer or supervisor?		✓						
		Were sample detection limits reported for all analytes not detected?		✓						
		Were all results for soil and sediment samples reported on a dry weight basis?		✓						
		Were % moisture (or solids) reported for all soil and sediment samples?		✓						
		Were bulk soils/solids samples for volatile analysis extracted with methanol per S	SW846 Method 5035?	Ь—		✓				
		f required for the project, are TICs reported?		—		✓				
R4	O Surrogate recovery data									
		Were surrogates added prior to extraction?		Ь—		✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	?	—		✓				
R5	OI Test reports/summary forms for blank samples									
		Were appropriate type(s) of blanks analyzed?		✓				ļ		
		Were blanks analyzed at the appropriate frequency?		√						
		Were method blanks taken through the entire analytical process, including prepa	aration and, if applicable, cleanup procedures?	√						
		Were blank concentrations < MQL?		√						
R6	OI	Laboratory control samples (LCS):		₩.						
		Were all COCs included in the LCS?		√						
		Was each LCS taken through the entire analytical procedure, including prep and	cleanup steps?	▼						
		Were LCSs analyzed at the required frequency?		√				-		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to	detect the COCs at the MDL used to calculate the SDLs2	V						
		Was the LCSD RPD within QC limits?	detect the COOs at the MDE used to calculate the SDEs:	✓						
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data								
	0.	Were the project/method specified analytes included in the MS and MSD?				1				
		Were MS/MSD analyzed at the appropriate frequency?				1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				✓				
		Were MS/MSD RPDs within laboratory QC limits?				✓				
R8	OI	Analytical duplicate data								
		Were appropriate analytical duplicates analyzed for each matrix?		1						
		Were analytical duplicates analyzed at the appropriate frequency?		✓						
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓						
R9	OI	Method quantitation limits (MQLs):								
		Are the MQLs for each method analyte included in the laboratory data package?		1						
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	standard?	1						
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				<u> </u>		
R10	OI	Other problems/anomalies								
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓						
		Was applicable and available technology used to lower the SDL to minimize the	matrix interference effects on the sample results?	✓				<u> </u>		
		ls the laboratory NELAC-accredited under the Texas Laboratory Accreditation Pr data package?	rogram for the analytes, matrices and methods associated with this laboratory	✓						

. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/17/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L751256-07, -29, -3	30, -32	2, -33,	-34, -3	6, -38, a	and -39
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG774478 CH	LOR	IDE			
#1	A^2	Description	=	Yes	No	NA^3	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	d for all analytes?	✓				1
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
	Are ICAL data available for all instruments used?		✓					
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CCV) and continuing calibration						
		Was the CCV analyzed at the method-required frequency?	, 3	✓				1
		Were percent differences for each analyte within the method-required QC limits?						
		Was the ICAL curve verified for each analyte?		✓	ĺ			1
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?		√				
S3	О							
		Was the appropriate compound for the method used for tuning?				√		
		Were ion abundance data within the method-required QC limits?				✓		1
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?				1		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?						
		Were data associated with manual integrations flagged on the raw data?				√		1
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	d OC?			✓		
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			1		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		1
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the				√		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		√				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	√				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	• • •					
		Are the procedures for compound/analyte identification docum	nented?	√				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	\				
	<u> </u>	Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo.	rmed?	✓				
		1		Ţ				<u></u>

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		1 40 40 11 (0 0 110 11) 1 = 110 0 1 110 11						
Laboratory I	Name	ESC Lab Sciences	C Date: 4/17/2015					
Project Nam	ne:Lo	rington Lea Refinery Lal	boratory Job Number: L751256-37 and 40					
Reviewer N	ame:	Pre	ep Batch Number(s):					
ESC Repres	senta	ive	G775081 CHLORIDE					
# ¹	A^2	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
1 1	р.	Did samples meet the laboratory's standard conditions of sample acceptability upon r	receint?	√				
		Were all departures from standard conditions described in an exception report?	Notific.	√				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
110	ο.	Were all samples prepared and analyzed within holding times?		√				
		Other than those results < MQL, were all other raw values bracketed by calibration st	tandards?	√				
		Were calculations checked by a peer or supervisor?	an dan do .	√				
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW8-	46 Method 5035?			✓		
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI Test reports/summary forms for blank samples							
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparatio	on and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and clea	anup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to dete	ect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓	1			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		,	*			1
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		√				
		Were analytical duplicates analyzed at the appropriate frequency?						
	L.	Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		√				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stand	dard?	✓				
D40	01	Are unadjusted MQLs and DCSs included in the laboratory data package?						
R10	OI	Other problems/anomalies			-			
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		√	-			
		Was applicable and available technology used to lower the SDL to minimize the matri	•					
4 Home id40	od by 4	Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progra data package? • letter "R" must be included in the laboratory data package submitted in the TRRP-re	,	√ do avo	ilohi-	unar	201.2-1	for the
u. nems identific	ea ov th	e iener is, must be included in the laboratory data backade submitted in the TRRP-re	egunea reportist. Herris identified by the letter 5. should be retained and ma	ue ava	nane	UDON 1	cuuest	ioi ine

appropriate retention period; 2. O = organic analyses; la = inorganic analyses; and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checkl	ist: Reportable D	ata					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date:	4/17/2015					
Pro	ject N	fame: Lovington Lea Refinery	Laboratory Job Number:	L751256-37 an	d 40				
Rev	iewei	Name: ESC Representative	Prep Batch Number(s):	WG775081 CH	ILOR	IDE			
#1	A^2	Description	11		Yes	No	NA ³	NR ⁴	ER#5
		Initial calibration (ICAL)							
		Were response factors and/or relative response factors for ea	ch analyte within OC limi	its?	√				
		Were percent RSDs or correlation coefficient criteria met?			✓				
		Was the number of standards recommended in the method us	sed for all analytes?		✓				
		Were all points generated between the lowest and highest sta	andard used to calculate th	ne curve?	✓				
		Are ICAL data available for all instruments used?			✓				
		Has the initial calibration curve been verified using an appro	priate second source stan	dard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and	CCV) and continuing ca	alibration					
		Was the CCV analyzed at the method-required frequency?			✓				
		Were percent differences for each analyte within the method	-required QC limits?		✓				
		Was the ICAL curve verified for each analyte?			✓				
		Was the absolute value of the analyte concentration in the in	organic CCB < MDL?		✓				
S3	О	Mass spectral tuning:							
		Was the appropriate compound for the method used for tunii					✓		
		Were ion abundance data within the method-required QC lin	nits?				✓		
S4	О	Internal standards (IS):							
		Were IS area counts and retention times within the method-required QC limits?					✓		
S5	OI	11 S S S S S S S S S S S S S S S S S S							
		Were the raw data (for example, chromatograms, spectral da		<u>t?</u>	✓				—
0.6		Were data associated with manual integrations flagged on the raw data?				√			
S6	О	Dual column confirmation	. 1000				,		
67		Did dual column confirmation results meet the method-requi	ired QC?				✓		
S7	О	Tentatively identified compounds (TICs):	. 1.1	.1 .0			,		
S8	т	If TICs were requested, were the mass spectra and TIC data	subject to appropriate che	CKS!			✓		
30	1	Interference Check Sample (ICS) results: Were percent recoveries within method QC limits?					1		
S9	ī	Serial dilutions, post digestion spikes, and method of stan	dand additions				V		
37	1	Were percent differences, recoveries, and the linearity within		n the method?			1		_
S10	ΟI	Method detection limit (MDL) studies	i tile QC illilits specified i	ii tile iiletilou!			· •		
510	OI	Was a MDL study performed for each reported analyte?			1				
		Is the MDL either adjusted or supported by the analysis of D	OCSs?		√		†	<u> </u>	+
S11	OI	Proficiency test reports:	. 555.		Ĺ				
	<u> </u>	Was the laboratory's performance acceptable on the applicab	ole proficiency tests or eva	luation studies?	1				
S12	OI	Standards documentation	- p		Ė				
		Are all standards used in the analyses NIST-traceable or obtain	ained from other appropri	ate sources?	1				
S13	OI	Compound/analyte identification procedures	· · · · · · · · · · · · · · · · · · ·						
		Are the procedures for compound/analyte identification docu	umented?		1				
S14	OI	Demonstration of analyst competency (DOC)							
		Was DOC conducted consistent with NELAC Chapter 5C or	ISO/IEC 4?		✓			Ī	Ī
L	<u> </u>	Is documentation of the analyst's competency up-to-date and			✓				
S15	OI	Verification/validation documentation for methods (NELA	AC Chap 5 or ISO/IEC 17						
		Are all the methods used to generate the data documented, v			✓				
S16	OI	Laboratory standard operating procedures (SOPs):							
		Are laboratory SOPs current and on file for each method per	formed?		1				
									<u> </u>

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/17/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L751256					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG775081 CHLORIDE					

Sample(s): DUP-2, MW-17R

 $Samples(s) \ were \ analyzed \ for \ Anions \ by \ Method \ 9056$

ER#: Description

¹ The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Chloride.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

John Allen TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

Report Summary

Friday April 17, 2015

Report Number: L751256 Samples Received: 03/03/15 Client Project: 227000

Description: Lovington Lea Refinery

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Pam Langford , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.



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Tax I.D. 62-0814289

Est. 1970

Site ID :

Project # : 227000

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-01 Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID MW - 10

Collected By : Collection Date : John Allen 02/26/15 14:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	120 0.71 68.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	
Alkalinity	180	2.6	20.	mg/l	Ј6	2320 B-	03/04/15	1
Нд	7.7	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	900	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	540	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0043 0.00030 0.0026 0.0019	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.12 0.17 U 120 0.0016 U U 13. U U 2.4 U U 44. 0.0060	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	ט ט ט	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

Reported: 04/14/15 15:21 Revised: 04/17/15 09:26

L751256-01 (PH) - 7.7@20.4c

Page 2 of 164



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-01

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-10

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 14:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	
Chloroethane	U	0.00045	0.0050	mg/l	J 4 J5	8260B	03/09/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/l		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26 L751256-01 (PH) - 7.7@20.4c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-01

Project # : 227000

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-10

Collected By : John Allen Collection Date : 02/26/15 14:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	102.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	91.7			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/04/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	1
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26 L751256-01 (PH) - 7.7@20.4c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-01

Project #: 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-10

Collected By : John Allen Collection Date : 02/26/15 14:55

RDL Qualifier Method Date Parameter Result MDL Units Dil. 0.00037 0.010 8270 C 03/04/15 Nitrobenzene TT mq/11 mg/103/04/15 n-Nitrosodiphenylamine 0.00030 0.010 8270 C U 1 n-Nitrosodi-n-propylamine 0.00040 0.010 8270 C 03/04/15 ŢŢ mg/11 8270 C 03/04/15 Phenanthrene 0.00037 0.0010 mg/11 U Benzylbutyl phthalate 0.00028 0.0030 8270 C 03/04/15 TT mg/11 Bis(2-ethylhexyl)phthalate 0.00098 8270 C 0.00071 0.0030 J 03/04/15 mg/11 Di-n-butyl phthalate 0.0030 03/04/15 0.00083 0.00027 8270 C mq/1ıТ 1 8270 C Diethyl phthalate 0.00028 0.0030 1 TT mg/103/04/15 Dimethyl phthalate Di-n-octyl phthalate 0.00028 0.0030 8270 C 8270 C 8270 C 03/04/15 TT mg/11 IJ 0.00028 0.0030 mg/103/04/15 1 Pvrene TT 0.00033 0.0010 mg/103/04/15 1 Acid Extractables 4-Chloro-3-methylphenol IJ 0.00026 0.010 mg/18270 C 03/04/15 1 2-Chlorophenol U 0.00028 0.010 mg/18270 C 03/04/15 1

mg/12,4-Dichlorophenol U 0.00028 0.010 8270 C 03/04/15 1 2,4-Dimethylphenol U 0.00062 0.010 mg/18270 C 03/04/15 1 4,6-Dinitro-2-methylphenol U 0.0026 0.010 mg/18270 C 03/04/15 1 0.010 03/04/15 2,4-Dinitrophenol U 0.0032 mg/18270 C 1 U 0.00032 0.010 8270 C 03/04/15 1 2-Nitrophenol mg/10.0019 0.010 8270 C 2-Nitroaniline U mg/103/04/15 1 0.00031 8270 C 03/04/15 2-Methylphenol U 0.010 mg/11 3&4-Methyl Phenol 3-Nitroaniline U 0.00027 0.010 8270 C 03/04/15 mg/11 mg/18270 C 1 0.00031 0.010 03/04/15 U 4-Chloroaniline TT 0.00038 0.010 mg/18270 C 03/04/15 1 4-Nitroaniline ŢŢ 0.00035 0.010 mg/18270 C 03/04/15 1 0.0020 0.010 03/04/15 4-Nitrophenol ŢŢ 8270 C mq/11 8270 C 0.00031 Pentachlorophenol 0.010 03/04/15 1 TT mg/10.00033 0.010 Phenol U mg/18270 C 03/04/15 1 8270 C 8270 C 2,4,5-Trichlorophenol IJ 0 00024 0.010 mg/103/04/15 1 2,4,6-Trichlorophenol U 0.00030 0.010 mg/103/04/15 1 Surrogate Recovery 42.7 8270 C 2-Fluorophenol % Rec. 03/04/15 1

% Rec.

% Rec.

% Rec.

% Rec.

% Rec.

U = ND (Not Detected)

Phenol-d5

Nitrobenzene-d5

p-Terphenyl-d14

2-Fluorobiphenyl

2,4,6-Tribromophenol

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31.3

48.4

69.0

70.4

67.7

Reported: 04/14/15 15:21 Revised: 04/17/15 09:26

L751256-01 (PH) - 7.7@20.4c

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8270 C



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-02

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : MW-3

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	31. 1.5 74.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	190	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	8.0	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	1.9	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	650	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	420	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.019 U 0.00094 0.00057	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.061 0.16 U 25. U U U 2.5 U U 2.0 U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26 L751256-02 (PH) - 8.0@20.5c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-02

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-3

John Allen

Collected By : Collection Date : 02/26/15 16:45 Damamatan

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/09/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
2-Butanone (MEK)	IJ	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050 0.010	mg/1		8260B	03/09/15	1 1
4-Methyl-2-pentanone (MIBK) Methyl tert-butyl ether	Ū	0.0021 0.00037	0.010	mg/l mg/l		8260B 8260B	03/09/15 03/09/15	1
Naphthalene	IJ	0.0010	0.0010	mq/1		8260B	03/09/15	1
n-Propylbenzene	IJ	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	Ū	0.00033	0.0010	mq/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	IJ	0.00031	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	IJ	0.00013	0.0010	mq/1		8260B	03/09/15	1
Toluene	IJ	0.00037	0.0050	mq/1		8260B	03/09/15	1
1,1,1-Trichloroethane	IJ	0.00032	0.0010	mq/1		8260B	03/09/15	1
1,1,2-Trichloroethane	IJ	0.00038	0.0010	mg/1		8260B	03/09/15	ī
Trichloroethene	Ū	0.00040	0.0010	mq/1		8260B	03/09/15	ī
1,2,4-Trimethylbenzene	Ū	0.00037	0.0010	mq/1		8260B	03/09/15	ī
1,3,5-Trimethylbenzene	IJ	0.00039	0.0010	mq/1		8260B	03/09/15	ī
Vinyl chloride	Ū	0.00026	0.0010	mg/1		8260B	03/09/15	ī
Xylenes, Total	Ū	0.0011	0.0030	mg/l		8260B	03/09/15	ī
2 /	-						, ,	_

U = ND (Not Detected)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-02

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-3

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	103.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	93.8			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/04/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/l		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/l		8270 C	03/10/15	1
Biphenyl	U	0.00021	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/04/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/04/15	1
Caprolactam	Ū	0.00058	0.010	mg/l		8270 C	03/04/15	
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/04/15	1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/04/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/04/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	1
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/04/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/04/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/04/15	
Hexachloroethane	Ū	0.00036	0.010	mg/l		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mg/l		8270 C	03/04/15	
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/04/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mq/1		8270 C	03/04/15	
Naphthalene	Ū	0.00037	0.0010	mg/1		8270 C	03/04/15	
-				J .				

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26 L751256-02 (PH) - 8.0@20.5c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-02

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-3

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:45

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mq/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/l		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	U	0.00040	0.010	mg/l		8270 C	03/04/15	1
Phenanthrene	U	0.00037	0.0010	mg/l		8270 C	03/04/15	1
Benzylbutyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Bis(2-ethylhexyl)phthalate	0.0072	0.00071	0.0030	mg/1		8270 C	03/04/15	1
Di-n-butyl phthalate	0.00086	0.00027	0.0030	mg/1	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery								
2-Fluorophenol	39.7			% Rec.		8270 C	03/04/15	
Phenol-d5	30.4			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	49.1			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	72.6			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	73.4			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	71.3			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-03

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID DUP-1

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	32. 1.6 74.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	190	2.6	20.	mg/l		2320 B-	03/04/15	1
Нq	8.0	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.0	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	660	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	420	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.020 U 0.0011 0.00056	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.062 0.16 U 26. U U U 2.5 U U 2.0 0.0085 U 120 0.0088	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

Sample ID

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-03

Project # : 227000

Date Received : March 03, 2015

DUP-1

Description : Lovington Lea Refinery

Site ID :

Collected By : John Allen Collection Date : 02/26/15 16:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mg/l		8260B	03/09/15	ī
n-Butylbenzene	Ū	0.00036	0.0010	mq/1		8260B	03/09/15	
sec-Butylbenzene	IJ	0.00036	0.0010	mg/1		8260B	03/09/15	ī
tert-Butylbenzene	ŢŢ	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	IJ	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mq/1		8260B	03/09/15	1
Chlorobenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	1
Chlorodibromomethane	Ū	0.00033	0.0010	mq/1		8260B	03/09/15	
Chloroethane	Ū	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/l		8260B	03/09/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1 1
Tetrachloroethene	U	0.00037 0.00078	0.0010 0.0050	mg/l mg/l		8260B 8260B	03/09/15	1
Toluene	U						03/09/15	
1,1,1-Trichloroethane 1,1,2-Trichloroethane	IJ	0.00032 0.00038	0.0010 0.0010	mg/l mg/l		8260B 8260B	03/09/15 03/09/15	1 1
Trichloroethene	U	0.00038	0.0010	mq/1		8260B 8260B	03/09/15	1
1,2,4-Trimethylbenzene	Π 0	0.00040	0.0010	mg/1		8260B 8260B	03/09/15	1
1,3,5-Trimethylbenzene	Π 0	0.00037	0.0010	mq/1		8260B	03/09/15	1
Vinyl chloride	Π 0	0.00039	0.0010	mq/1		8260B	03/09/15	1
Xylenes, Total	IJ	0.00028	0.0010	mg/1		8260B	03/09/15	1
AYICHES, IULAI	U	0.0011	0.0030	1119/1		0200B	03/03/15	Τ.

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-03

Project # :

227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : DUP-1

Collected By : John Allen Collection Date : 02/26/15 16:55

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 102. % Rec. 8260B 03/09/15 1 Dibromofluoromethane 03/09/15 103. % Rec. 8260B 1 93.1 4-Bromofluorobenzene % Rec. 8260B 03/09/15 1 Base/Neutral Extractables 0.00032 0.00031 8270 C 8270 C Acenaphthene 0.0010 TT 03/09/15 mq/11 0.0010 03/09/15 Acenaphthylene TT mg/11 0.0027 0.010 03/09/15 8270 C Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/09/15 1 0.0015 Atrazine TT 0.010 mg/18270 C 03/09/15 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/09/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/09/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 8270 C 03/09/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/09/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/18270 C 03/09/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/10/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/09/15 1 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/09/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/09/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C U 0.010 mg/103/09/15 1 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/09/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/09/15 U 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 03/09/15 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/09/15 1 0.00016 03/09/15 Carbazole ŢŢ 0.010 8270 C mq/11 8270 C 0.0010 TT 0.00033 03/09/15 1 Chrysene mg/10.00020 03/10/15 0.000064 Dibenz(a,h)anthracene U mg/18270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/09/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 U 0.010 mg/103/09/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/09/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/09/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/09/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/09/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/09/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/09/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/09/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/09/15 0.00028 0.0010 8270 C Indeno(1,2,3-cd)pyrene U mg/103/09/15 1 8270 C Isophorone IJ 0.00027 0.010 mg/103/09/15 1 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/09/15 ma/11 2-Methylnaphthalene mg/18270 C 0.00031 0.0010 03/09/15 1 U 0.00037 0.0010 8270 C 03/09/15 Naphthalene U mg/1

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L751256-03 (PH) - 8.0@20.6c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-03

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID DUP-1

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/09/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/09/15	
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/l		8270 C	03/09/15	
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/09/15	
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/09/15	
Bis(2-ethylhexyl)phthalate	0.0034	0.00071	0.0030	mg/1		8270 C	03/09/15	
Di-n-butyl phthalate	0.00058	0.00027	0.0030	mg/1	J	8270 C	03/09/15	
Diethyl phthalate	U	0.00028	0.0030	mg/1	Ü	8270 C	03/09/15	
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/09/15	
Di-n-octyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/09/15	
Pyrene	Ū	0.00033	0.0010	mg/l		8270 C	03/09/15	
Acid Extractables				J.				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/09/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/09/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/l		8270 C	03/09/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/l		8270 C	03/09/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/09/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/09/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/09/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/09/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/09/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/09/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/09/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/09/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/09/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/09/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/09/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/09/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/09/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/09/15	1
Surrogate Recovery								_
2-Fluorophenol	43.5			% Rec.		8270 C	03/09/15	
Phenol-d5	32.2			% Rec.		8270 C	03/09/15	
Nitrobenzene-d5	55.6			% Rec.		8270 C	03/09/15	
2-Fluorobiphenyl	78.4			% Rec.		8270 C	03/09/15	
2,4,6-Tribromophenol	70.7			% Rec.		8270 C	03/09/15	
p-Terphenyl-d14	74.2			% Rec.		8270 C	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26 L751256-03 (PH) - 8.0@20.6c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

Site ID :

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-04

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: AC-2-26-15

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mq/1		8260B	03/09/15	1
Benzene	Ū	0.00033	0.0010	mg/1		8260B	03/09/15	
Bromodichloromethane	Ū	0.00038	0.0013	mg/l		8260B	03/09/15	
Bromoform	Ū	0.00047	0.0010	mg/l		8260B	03/09/15	
Bromomethane	Ū	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B	03/09/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/l	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	5 1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	5 1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	5 1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	5 1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/l		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/l		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	5 1

U = ND (Not Detected)

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-04

April 17, 2015

Site ID :

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : AC-2-26-15

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	TT	0.00037	0.0010	mq/l		8260B	03/09/15	1
1,2,4-111Methylbenzene 1,3,5-Trimethylbenzene	Ū	0.00037	0.0010	mq/1		8260B	03/09/15	
Vinyl chloride	IJ	0.00035	0.0010	mg/l		8260B	03/09/15	
Xylenes, Total	Ū	0.0011	0.0030	mg/l		8260B	03/09/15	
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	93.2			% Rec.		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-05

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-11

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 08:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mq/1		8260B	03/09/15	1
Benzene	0.0026	0.00033	0.0010	mq/1		8260B	03/09/15	
Bromodichloromethane	Ū	0.00038	0.0013	mg/1		8260B	03/09/15	
Bromoform	Ū	0.00047	0.0010	mg/1		8260B	03/09/15	
Bromomethane	Ū	0.00087	0.0050	mg/l		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	0.0019	0.00036	0.0010	mg/l		8260B	03/09/15	
tert-Butylbenzene	0.00067	0.00040	0.0010	mg/1	J	8260B	03/09/15	
Carbon disulfide	U	0.00028	0.0010	mg/l		8260B	03/09/15	1
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/09/15	
Chloroethane	U	0.00045	0.0050	mg/l	J4	8260B	03/09/15	1
Chloroform	Ū	0.00032	0.0050	mg/l		8260B	03/09/15	
Chloromethane	Ū	0.00028	0.0025	mg/l		8260B	03/09/15	
1,2-Dibromoethane	Ū	0.00038	0.0010	mg/l		8260B	03/09/15	
1,1-Dichloroethane	Ū	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
1,1-Dichloroethene	Ū	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	Ū	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	0.00099	0.00038	0.0010	mg/l	J	8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/09/15	1
Isopropylbenzene	0.00040	0.00033	0.0010	mg/1	J	8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
2-Butanone (MEK)	0.12	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/l		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
$1, \bar{1}, 2, 2$ -Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Toluene	U	0.00078	0.0050	mg/l		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
				_				

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:26

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Project # : 227000

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-05

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-11

Collected By : John Allen Collection Date : 02/27/15 08:30

1,2,4-Trimethylbenzene	Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Vivil chloride									
Sylenes, Total 0.0036 0.0011 0.0030 mg/l 8260B 03/09/15 1									
Surrogate Recovery Toluene-d8									
Toluene-dB		0.0036	0.0011	0.0030	mg/1		8260B	03/09/15	1
Dibromofluoromethane		100					0060-	00/00/15	
Base/Neutral Extractables									
Base/Neutral Extractables									
Acenaphthelee U 0.00031 0.0010 mg/1 8270 C 03/04/15 1 Acetophenone U 0.00031 0.0010 mg/1 8270 C 03/04/15 1 Acetophenone U 0.0027 0.010 mg/1 8270 C 03/04/15 1 Anthracene U 0.00029 0.0010 mg/1 8270 C 03/04/15 1 Anthracene U 0.00015 0.010 mg/1 8270 C 03/04/15 1 Benzo(a) anthracene U 0.0015 0.010 mg/1 8270 C 03/04/15 1 Benzaldehyde U 0.0014 0.010 mg/1 8270 C 03/04/15 1 Benzaldehyde U 0.0014 0.010 mg/1 8270 C 03/04/15 1 Benzo(b)fluoranthene U 0.00032 0.0010 mg/1 8270 C 03/04/15 1 Benzo(g), hiperylene U 0.00036 0.0010 mg/1 8270 C 03/04/15 1 Benzo(g), hiperylene U 0.00036 0.0010 mg/1 8270 C 03/04/15 1 Benzo(a) apyrene U 0.00038 0.0010 mg/1 8270 C 03/04/15 1 Benzo(a) pyrene U 0.00038 0.0010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) methane U 0.00038 0.0010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.0010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.0010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00034 0.010 mg/1 8270 C 03/04/15 1 Bis(2-chloroethy) ether U 0.00034 0.010 mg/1 8270 C 03/04/15 1 Carbazole U 0.00034 0.010 mg/1 8270 C 03/04/15 1 Carbazole U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Carbazole U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Carbazole U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Chrysene U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Dibenz(a,h) anthracene U 0.00034 0.010 mg/1 8270 C 03/04/15 1 Dibenz(a,h) anthracene U 0.00034 0.010 mg/1 8270 C 03/04/15 1 Dibenz(a) anthracene U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Dibenz(a) anthracene U 0.00038 0.010 mg/1 8270 C 03/04/15 1 Fluorene U 0.00031 0.010 mg/1 8270 C 03/04/15 1 Fluorene U 0.00033 0.010 mg/1 8270 C 03/04/15 1 Hexachloroet, and anthracene U 0.00033 0.010 mg/1 8270 C 03/04/15 1 Hexachloroet, anthracene U 0.00033 0.010 mg/1 8270 C 03/04/15 1 Hexachloroet, anthracene U 0.00033 0.010 mg	4-Bromofluorobenzene	93.8			% Rec.		8260B	03/09/15	1
Acenaphthylene	Base/Neutral Extractables								
Acetophenone Notation No	Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Anthracene Anthracene D O O O O O O O O O O O O	Acenaphthylene		0.00031	0.0010	mg/1		8270 C	03/04/15	1
Atrazine U 0.0015 0.010 mg/l 8270 C 03/04/15 1 Benzo(a)anthracene U 0.00032 0.0010 mg/l 8270 C 03/04/15 1 Benzaldehyde U 0.0014 0.010 mg/l 8270 C 03/04/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 mg/l 8270 C 03/04/15 1 Benzo(k)fluoranthene U 0.00036 0.0010 mg/l 8270 C 03/04/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 Benzo(a)pyrene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 Benzo(a)pyrene U 0.00038 0.00020 mg/l 8270 C 03/04/15 1 Bis(2-chlorethoxy)methane U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorethyl)ether U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorothyl)ether U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorothyl)ether U 0.00044 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorothyl)ether U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorothyl)ether U 0.00034 0.010 mg/l 8270 C 03/04/15 1 A-Bromophenyl-phenylether U 0.00033 0.010 mg/l 8270 C 03/04/15 1 A-Chlorothyhhalene U 0.00034 0.010 mg/l 8270 C 03/04/15 1 A-Chlorothyhhalene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 Caprolactam U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Carbazole U 0.00058 0.010 mg/l 8270 C 03/04/15 1 Carbazole U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Chrysene U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Dibenz(a,h)anthracene U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00064 0.00020 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00064 0.00020 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00064 0.0000 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00064 0.0000 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00064 0.0000 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00031 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00031 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Dibenzofuran U 0.00033 0.010 mg/l 8270 C 03/0	Acetophenone	-			mg/1		8270 C	03/04/15	
Benzo(a)anthracene									
Benzaldehyde									
Benzo(b)fluoranthene									
Benzo(k)fluoranthene									
Benzo(g,h,i)perylene									
Benzo(a)pyréne									
Biphenyl 0.00055 0.00021 0.010 mg/l J 8270 C 03/04/15 1 Bis(2-chlorethoxy)methane U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorothyl)ether U 0.0016 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlorotsopropyl)ether U 0.00044 0.010 mg/l 8270 C 03/04/15 1 4-Bromophenyl-phenylether U 0.00034 0.010 mg/l 8270 C 03/04/15 1 4-Chlorophenyl-phenylether U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 4-Chlorophenyl-phenylether U 0.00033 0.010 mg/l 8270 C 03/04/15 1 4-Chlorophenyl-phenylether U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Caprolactam U 0.00038 0.010 mg/l <td< td=""><td></td><td>-</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>		-							
Bis(2-chlorethoxy)methane U 0.00033 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chloroethyl)ether U 0.0016 0.010 mg/l 8270 C 03/04/15 1 Bis(2-chlororisopropyl)ether U 0.00044 0.010 mg/l 8270 C 03/04/15 1 4-Bromophenyl-phenylether U 0.00034 0.010 mg/l 8270 C 03/04/15 1 2-Chloropaphthalene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 4-Chlorophenyl-phenylether U 0.00033 0.0010 mg/l 8270 C 03/04/15 1 Caprolactam U 0.00038 0.010 mg/l 8270 C 03/04/15 1 Caprolactam U 0.00058 0.010 mg/l 8270 C 03/04/15 1 Caprolactam U 0.00016 0.010 mg/l 8270 C <th< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th<>									
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Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/04/15 1									
	Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010			8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-05

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-11

Site ID :

April 17, 2015

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 08:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/04/15	1
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	Ū	0.00037	0.0010	mq/1		8270 C	03/04/15	
Nitrobenzene	Ū	0.00037	0.010	mq/1		8270 C		
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Bis(2-ethylhexyl)phthalate	0.17	0.00071	0.0030	mg/l		8270 C	03/04/15	
Di-n-butyl phthalate	0.00071	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Dimethyl phthalate	0.00047	0.00028	0.0030	mg/l	J	8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C		
Phenol	0.0010	0.00033	0.010	mg/1	J	8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	25 5			0 5		0050 0	02/04/15	-
2-Fluorophenol	37.5			% Rec.		8270 C	03/04/15	
Phenol-d5	31.1			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	58.2			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	82.9			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	103.			% Rec. % Rec.		8270 C 8270 C	03/04/15	
p-Terphenyl-d14	75.2			6 KeC.		02/U C	03/04/15	Т

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-06

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-27

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	170 1.0 96.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	300	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.8	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1300	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	790	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0033 U 0.0029 0.0098	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.084 0.30 U 100 0.0038 U U 10. U U 3.4 0.0080 U 170 U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.10	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15 03/05/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-06 (PH) - 7.5@21.0c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-06

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-27

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/1		8260B	03/09/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/09/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/09/15	1
Chlorobenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/09/15	
Chloroethane	Ū	0.00045	0.0050	mg/l	J4	8260B	03/09/15	
Chloroform	Ū	0.00032	0.0050	mg/l		8260B	03/09/15	
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/09/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/l		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-06 (PH) - 7.5@21.0c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-06

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Project # : 227000

Sample ID : MW-27

Collected By : John Allen Collection Date : 02/27/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	103.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	91.8			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/04/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	1
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-06

Project #: 227000

Date Received : March 03, 2015
Description : Lovington Lea Refinery

Site ID :

% Rec.

Sample ID : MW-27

Collected By : John Allen Collection Date : 02/27/15 09:00

MDL RDL Qualifier Method Date Parameter Result Units Dil. 0.00037 0.010 8270 C 03/04/15 Nitrobenzene TT mq/11 mg/103/04/15 n-Nitrosodiphenylamine 0.00030 0.010 8270 C U 1 n-Nitrosodi-n-propylamine 0.00040 0.010 8270 C 03/04/15 ŢŢ mg/11 03/04/15 Phenanthrene 0.00037 0.0010 mg/18270 C 1 U Benzylbutyl phthalate 0.00028 0.0030 8270 C 03/04/15 TT mg/11 8270 C Bis(2-ethylhexyl)phthalate 0.00071 0.0030 03/04/15 IJ mg/11 Di-n-butyl phthalate 0.0030 03/04/15 0.00055 0.00027 8270 C mq/1ıΤ 1 8270 C Diethyl phthalate 0.00028 0.0030 1 TT mg/103/04/15 Dimethyl phthalate Di-n-octyl phthalate 0.00028 0.0030 8270 C 8270 C 8270 C 03/04/15 TT mg/11 IJ 0.00028 0.0030 mg/103/04/15 1 Pvrene TT 0.00033 0.0010 mg/103/04/15 1 Acid Extractables 4-Chloro-3-methylphenol IJ 0.00026 0.010 mg/18270 C 03/04/15 1 2-Chlorophenol U 0.00028 0.010 mg/18270 C 03/04/15 mg/12,4-Dichlorophenol U 0.00028 0.010 8270 C 03/04/15 1 2,4-Dimethylphenol 0.00062 0.010 mg/18270 C 03/04/15 1 U 4,6-Dinitro-2-methylphenol U 0.0026 0.010 mg/18270 C 03/04/15 1 0.010 03/04/15 2,4-Dinitrophenol U 0.0032 mg/18270 C 1 U 0.00032 0.010 8270 C 03/04/15 1 2-Nitrophenol mg/18270 C 2-Nitroaniline U 0.0019 0.010 mg/103/04/15 1 0.00031 8270 C 03/04/15 2-Methylphenol U 0.010 mg/11 3&4-Methyl Phenol 3-Nitroaniline U 0.00027 0.010 8270 C 03/04/15 mg/11 mg/18270 C 1 0.00031 0.010 03/04/15 U 4-Chloroaniline TT 0.00038 0.010 mg/l8270 C 03/04/15 1 4-Nitroaniline ŢŢ 0.00035 0.010 mg/18270 C 03/04/15 1 0.0020 03/04/15 4-Nitrophenol ŢŢ 0.010 8270 C mq/11 8270 C 0.00031 Pentachlorophenol 0.010 03/04/15 1 TT mg/10.00033 0.010 Phenol U mg/18270 C 03/04/15 1 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 8270 C 8270 C IJ 0 00024 0.010 mg/103/04/15 1 U 0.00030 0.010 mg/103/04/15 1 Surrogate Recovery 35.0 8270 C 2-Fluorophenol % Rec. 03/04/15 1 Phenol-d5 24.9 % Rec. 8270 C 03/04/15 1 Nitrobenzene-d5 42.2 % Rec. 8270 C 03/04/15 1 2-Fluorobiphenyl 66.3 % Rec. 8270 C 03/04/15 1 2,4,6-Tribromophenol 67.3 8270 C 03/04/15 % Rec. 1

U = ND (Not Detected)

p-Terphenyl-d14

MDL = Minimum Detection Limit = LOD = TRRP SDL

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68.5

Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

L751256-06 (PH) - 7.5@21.0c

03/04/15

8270 C



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Date

03/10/15

03/07/15

Dil.

10

1

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-07

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

MW - 13

Site ID :

Collected By : John Allen Collection Date : 02/27/15 09:30

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method
Chloride Fluoride Sulfate	550 0.38 59.	0.52 0.0099 0.077	10. 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056
Alkalinity	390	2.6	20.	mg/l		2320 B-

	Fluoride Sulfate	0.38 59.	0.0099	5.0	mg/l mg/l		9056	03/07/15	1	
	Alkalinity	390	2.6	20.	mg/l		2320 B-	03/04/15	1	
	Нд	7.0	-33.		su	JT8	9040C	03/04/15	1	
	Nitrate-Nitrite	0.056	0.020	0.10	mg/l	J	353.2	03/09/15	1	
	Specific Conductance	2500	-33.		umhos/cm	J	9050A	03/06/15	1	
	Dissolved Solids	1600	2.8	10.	mg/l		2540 C-	03/06/15	1	
	Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0034 U 0.0010 0.014	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1 1	
	Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1	
	Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.23 0.24 U 370 U 0.0047 U 42. 0.82 U 5.5 U 99.	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15 03/07/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
V	olatile Organics Acetone Benzene Bromodichloromethane	0.00034 U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l	J	8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1 1 1	

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-07

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-13 Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 09:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
sec-Butylbenzene	0.0050	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	0.00042	0.00040	0.0010	mg/l	J	8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/l		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/l		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/l		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-07

Project # : 227000

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-13

Collected By : John Allen Collection Date : 02/27/15 09:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	93.2			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/04/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/l		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/l		8270 C	03/10/15	1
Biphenyl	0.0051	0.00021	0.010	mg/l	J	8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/04/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/04/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/04/15	1
Carbazole	0.00021	0.00016	0.010	mg/l	J	8270 C	03/04/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	1
Dibenzofuran	0.00096	0.00034	0.010	mg/l	J	8270 C	03/04/15	1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/04/15	1
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/04/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-07 (PH) - 7.0@20.6c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-07

Project #: 227000

April 17, 2015

Date Received March 03, 2015 Description Lovington Lea Refinery

Site ID : Sample ID MW-13

Collected By : John Allen Collection Date : 02/27/15 09:30

RDL Qualifier Method Date Parameter Result MDL Units Dil. 0.00037 0.010 8270 C 03/04/15 Nitrobenzene TT mq/11 mg/103/04/15 n-Nitrosodiphenylamine U 0.00030 0.010 8270 C 1 n-Nitrosodi-n-propylamine 0.00040 0.010 8270 C 03/04/15 ŢŢ mg/11 03/04/15 Phenanthrene 0.00037 0.0010 mg/18270 C 1 U Benzylbutyl phthalate 0.00028 0.0030 8270 C 03/04/15 TT mg/11 Bis(2-ethylhexyl)phthalate 0.0043 8270 C 0.00071 0.0030 03/04/15 mg/11 Di-n-butyl phthalate 0.0030 03/04/15 0.00027 8270 C 0.00058 mq/1ιŢ 1 8270 C Diethyl phthalate 0.00028 0.0030 1 TT mg/103/04/15 Dimethyl phthalate Di-n-octyl phthalate 0.00035 0.00028 0.0030 8270 C 8270 C 8270 C 03/04/15 mg/1ıΤ 1 U 0.00028 0.0030 mg/103/04/15 1 Pvrene TT 0.00033 0.0010 mg/103/04/15 1 Acid Extractables 4-Chloro-3-methylphenol IJ 0.00026 0.010 mg/18270 C 03/04/15 1 2-Chlorophenol U 0.00028 0.010 mg/18270 C 03/04/15 1 mg/12,4-Dichlorophenol U 0.00028 0.010 8270 C 03/04/15 1 2,4-Dimethylphenol 0.00062 0.010 mg/18270 C 03/04/15 1 U 4,6-Dinitro-2-methylphenol U 0.0026 0.010 mg/18270 C 03/04/15 1 0.010 03/04/15 2,4-Dinitrophenol U 0.0032 mg/18270 C 1 0.00032 0.010 8270 C 03/04/15 1 2-Nitrophenol U mg/18270 C 2-Nitroaniline U 0.0019 0.010 mg/103/04/15 1 0.00031 8270 C 03/04/15 2-Methylphenol U 0.010 mg/11 3&4-Methyl Phenol 3-Nitroaniline U 0.00027 0.010 8270 C 03/04/15 mg/11 mg/18270 C 1 0.00031 0.010 03/04/15 U 4-Chloroaniline TT 0.00038 0.010 mg/l8270 C 03/04/15 1 4-Nitroaniline ŢŢ 0.00035 0.010 mg/18270 C 03/04/15 1 0.0020 03/04/15 4-Nitrophenol ŢŢ 0.010 8270 C mq/11 8270 C 0.00031 Pentachlorophenol 0.010 03/04/15 1 TT mg/10.00033 0.010 Phenol U mg/18270 C 03/04/15 1 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 8270 C 03/04/15 8270 C 03/04/15 IJ 0 00024 0.010 mg/11 U 0.00030 0.010 mg/11 Surrogate Recovery 36.5 8270 C 2-Fluorophenol % Rec. 03/04/15 1 Phenol-d5 28.3 % Rec. 8270 C 03/04/15 1 Nitrobenzene-d5 55.8 % Rec. 8270 C 03/04/15 1 2-Fluorobiphenyl 78.0 % Rec. 8270 C 03/04/15 1 2,4,6-Tribromophenol 93.3 8270 C 03/04/15 % Rec. 1 p-Terphenyl-d14 70.0 % Rec. 8270 C 03/04/15

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L751256-07 (PH) - 7.0@20.6c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-08

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-14

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 10:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Arsenic,Dissolved	0.0023	0.00025	0.0020	mg/l		6020	03/06/15	
Lead, Dissolved	U	0.00024	0.0020	mg/1		6020	03/06/15	
Molybdenum, Dissolved	0.0040	0.00014	0.0050	mg/1	J	6020	03/06/15	
Uranium,Dissolved	0.0047	0.00033	0.010	mg/1	J	6020	03/06/15	1
Aluminum,Dissolved	U	0.035	0.10	mg/l		6010B	03/06/15	
Barium,Dissolved	0.10	0.0017	0.0050	mg/1		6010B	03/06/15	
Boron, Dissolved	0.20	0.013	0.20	mg/1	J	6010B	03/06/15	
Cadmium, Dissolved	U	0.00070	0.0050	mg/1		6010B	03/06/15	
Calcium, Dissolved	120	0.046	1.0	mg/l	_	6010B	03/06/15	
Chromium, Dissolved	0.0026	0.0014	0.010	mg/1	J	6010B	03/06/15	
Cobalt, Dissolved	U	0.0023	0.010	mg/l		6010B	03/06/15	
Copper, Dissolved	U	0.0053	0.020	mg/l		6010B	03/06/15	
Iron, Dissolved	U	0.014	0.10	mg/l		6010B	03/06/15	
Magnesium, Dissolved	13.	0.011	1.0	mg/1		6010B	03/06/15	
Manganese,Dissolved Nickel,Dissolved	U	0.0012 0.0049	0.010 0.020	mg/l		6010B 6010B	03/06/15 03/06/15	
Potassium, Dissolved	3.3	0.0049	1.0	mg/l mg/l		6010B	03/06/15	
Selenium, Dissolved	3.3 U	0.10	0.020	mg/1		6010B	03/06/15	
Silver, Dissolved	Π 0	0.0074	0.020	mg/l		6010B	03/06/15	
Sodium, Dissolved	32.	0.0028	1.0	mg/1		6010B	03/07/15	
Zinc, Dissolved	0.0070	0.0059	0.050	mg/l	J	6010B	03/06/15	
Zinc, Dissolved	0.0070	0.0059	0.030	mg/ I	U	00106	03/00/13	1
Volatile Organics		0.010	1 0	4.7		0060-	00/00/15	
Acetone	U	0.010	1.0	mg/l		8260B	03/09/15	
Benzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	
Bromodichloromethane Bromoform	U	0.00038	0.0013	mg/1		8260B	03/09/15	
	U U	0.00047	0.0010	mg/l		8260B 8260B	03/09/15	
Bromomethane n-Butylbenzene	U	0.00087 0.00036	0.0050 0.0010	mg/l mg/l		8260B 8260B	03/09/15 03/09/15	
sec-Butylbenzene	Π 0	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	Π 0	0.00036	0.0010	mq/1		8260B	03/09/15	
Carbon disulfide	Ū	0.00040	0.0010	mg/l		8260B	03/09/15	
Carbon tetrachloride	Ū	0.00028	0.0010	mq/1		8260B	03/09/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/09/15	
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/09/15	
Chloroethane	IJ	0.00045	0.0050	mg/l	Ј4	8260B	03/09/15	
Chloroform	Ū	0.00032	0.0050	mg/1	0 1	8260B	03/09/15	
Chloromethane	Ū	0.00032	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	Ū	0.00038	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethane	IJ	0.00036	0.0010	mg/l		8260B	03/09/15	
1,2-Dichloroethane	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethene	Ū	0.00040	0.0010	mq/1		8260B	03/09/15	
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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-08

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-14

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 10:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
trans-1,2-Dichloroethene	Ū	0.00020	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	IJ	0.00031	0.0010	mg/l		8260B	03/09/15	
cis-1,3-Dichloropropene	Ū	0.00031	0.0010	mg/1		8260B	03/09/15	i
trans-1,3-Dichloropropene	Ū	0.00042	0.0010	mg/l		8260B	03/09/15	
Ethylbenzene	Ū	0.00038	0.0010	mg/l		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00036	0.0010	mg/l		8260B	03/09/15	
2-Hexanone	IJ	0.0038	0.010	mg/l		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
p-Isopropyltoluene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	
2-Butanone (MEK)	Ū	0.0033	0.010	mg/l		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/l		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	Ū	0.0010	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B	03/09/15	1
Naphthalene	Ū	0.0010	0.0010	mq/1		8260B	03/09/15	
n-Propylbenzene	Ū	0.00035	0.0010	mg/l		8260B	03/09/15	
Styrene	IJ	0.00033	0.0010	mg/l		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	Ū	0.00031	0.0010	mg/l		8260B	03/09/15	
Tetrachloroethene	Ū	0.00013	0.0010	mq/1		8260B	03/09/15	
Toluene	Ū	0.00037	0.0010	mg/l		8260B	03/09/15	
1,1,1-Trichloroethane	Ū	0.00078	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	Ū	0.00032	0.0010	mg/l		8260B	03/09/15	1
Trichloroethene	Ū	0.00038	0.0010	mq/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/09/15	
1,3,5-Trimethylbenzene	Ū	0.00037	0.0010	mg/l		8260B	03/09/15	
Vinyl chloride	Ū	0.00039	0.0010	mg/l		8260B	03/09/15	
Xylenes, Total	IJ	0.00028	0.0010	mq/1		8260B	03/09/15	
Surrogate Recovery	O	0.0011	0.0030	mg/ I		02001	03/03/13	_
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	105.			% Rec.		8260B	03/09/15	
4-Bromofluorobenzene	96.3			% Rec.		8260B	03/09/15	
4 BIOMOTIUOIODENZENE	20.3			· Nec.		0200B	03/05/13	_
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1

U = ND (Not Detected)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-08

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-14

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 10:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Benzo(a)pyrene	U	0.000038	0.00020	mq/l		8270 C	03/10/15	1
Biphenyl	Ū	0.00021	0.010	mg/l		8270 C	03/04/15	
Bis(2-chlorethoxy)methane	Ū	0.00033	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroethyl)ether	IJ	0.0016	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	Ū	0.00044	0.010	mg/l		8270 C		
4-Bromophenyl-phenylether	Ū	0.00034	0.010	mg/l		8270 C	03/04/15	
2-Chloronaphthalene	IJ	0.00033	0.0010	mg/l		8270 C	03/04/15	
4-Chlorophenyl-phenylether	Ū	0.00033	0.010	mg/l		8270 C	03/04/15	
Caprolactam	Ū	0.00058	0.010	mg/l		8270 C	03/04/15	
Carbazole	Ū	0.00036	0.010	mg/l		8270 C		
Chrysene	Ū	0.00033	0.0010	mg/l		8270 C	03/04/15	
Dibenz(a,h)anthracene	Ū	0.000064	0.00020	mg/l		8270 C	03/10/15	
Dibenzofuran	Ū	0.00034	0.010	mg/l		8270 C	03/04/15	
3,3-Dichlorobenzidine	Ū	0.0020	0.010	mg/l		8270 C	03/04/15	
2,4-Dinitrotoluene	Ū	0.0016	0.010	mg/l		8270 C	03/04/15	
2,6-Dinitrotoluene	Ū	0.00028	0.010	mg/l		8270 C	03/04/15	
Fluoranthene	Ū	0.00031	0.0010	mg/l		8270 C	03/04/15	
Fluorene	Ū	0.00031	0.0010	mg/l		8270 C	03/04/15	
Hexachlorobenzene	Ū	0.00032	0.0010	mg/l		8270 C	03/04/15	
Hexachloro-1,3-butadiene	Ū	0.00034	0.0010	mg/l		8270 C	03/04/15	
Hexachlorocyclopentadiene	Ū	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	Ū	0.00036	0.010	mg/l		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00038	0.010	mg/1		8270 C		_
Isophorone	Ū	0.00028	0.0010	mg/l		8270 C	03/04/15	
1-Methylnaphthalene	Ū	0.00027	0.010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/04/15	
Naphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/04/15	
Nitrobenzene	IJ	0.00037	0.0010	mg/l		8270 C	03/04/15	_
n-Nitrosodiphenylamine	Ū	0.00037	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/1		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	Ū	0.00037	0.0010	mg/1		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	0.0017	0.00028	0.0030	mg/l	J	8270 C	03/04/15	
Di-n-butyl phthalate	0.00070	0.00071	0.0030	mg/1	J	8270 C	03/04/15	
Diethyl phthalate	U.00070	0.00027	0.0030	mg/l	U	8270 C	03/04/15	
Dimethyl phthalate	IJ	0.00028	0.0030	mg/1		8270 C	03/04/15	
Di-n-octyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/04/15	
Pyrene	Ū	0.00033	0.0030	mg/1		8270 C	03/04/15	
Acid Extractables	U	0.00033	0.0010	III9/I		02/0 C	03/04/13	Τ.
4-Chloro-3-methylphenol	IJ	0.00026	0.010	mg/l		8270 C	03/04/15	1
2-Chlorophenol	Ū	0.00028	0.010	mq/1		8270 C	03/04/15	
2,4-Dichlorophenol	Ū	0.00028	0.010	mq/1		8270 C	03/04/15	
2,4-Dienforophenol	IJ	0.00028	0.010	mq/1		8270 C	03/04/15	
2,4 Dimechylphenor	U	0.00002	0.010	1119/1		02/0 C	03/04/13	Τ.

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-08

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-14

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 10:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/04/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/04/15	1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/04/15	1
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/04/15	1
2-Methylphenol	U	0.00031	0.010	mg/l		8270 C	03/04/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery								
2-Fluorophenol	42.3			% Rec.		8270 C	03/04/15	1
Phenol-d5	31.6			% Rec.		8270 C	03/04/15	1
Nitrobenzene-d5	51.4			% Rec.		8270 C	03/04/15	1
2-Fluorobiphenyl	75.3			% Rec.		8270 C	03/04/15	1
2,4,6-Tribromophenol	71.1			% Rec.		8270 C	03/04/15	1
p-Terphenyl-d14	68.1			% Rec.		8270 C	03/04/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-09

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : EB-2-27-15-A

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	0.25 U 0.44	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l	J J	9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	U	2.6	20.	mg/l		2320 B-	03/04/15	1
На	6.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	0.026	0.020	0.10	mg/l	J	353.2	03/09/15	1
Specific Conductance	1.6	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	11.	2.8	10.	mg/l	Т4	2540 C-	03/06/15	1
Antimony, Dissolved Arsenic, Dissolved Lead, Dissolved Molybdenum, Dissolved Thallium, Dissolved Uranium, Dissolved	U U U U U	0.00021 0.00025 0.00024 0.00014 0.00019 0.00033	0.0020 0.0020 0.0020 0.0050 0.0020 0.010	mg/l mg/l mg/l mg/l mg/l mg/l		6020 6020 6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Silver, Dissolved	U U U U O.056 U U U U U U U U U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.098	0.10 0.0050 0.20 0.0050 1.0 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone	U	0.010	1.0	mg/l		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-09 (PH) - 6.5@22.4c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-09

Site ID :

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : EB-2-27-15-A

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Benzene	U	0.00033	0.0010	mq/l		8260B	03/09/15	1
Bromodichloromethane	Ū	0.00038	0.0013	mg/1		8260B	03/09/15	1
Bromoform	Ū	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mg/1		8260B	03/09/15	i 1
n-Butylbenzene	IJ	0.00036	0.0010	mg/1		8260B	03/09/15	1
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	ī
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/09/15	1
Carbon disulfide	IJ	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	Ū	0.00038	0.0010	mq/1		8260B	03/09/15	1
Chlorobenzene	IJ	0.00035	0.0010	mq/1		8260B	03/09/15	ī
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	Ū	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	Ū	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	Ū	0.00028	0.0025	mg/l		8260B	03/09/15	1
1,2-Dibromoethane	Ū	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloroethane	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/l		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/l		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-09 (PH) - 6.5@22.4c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

Site ID :

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-09

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: EB-2-27-15-A

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1
Surrogate Recovery								
Toluene-d8	104.			% Rec.		8260B	03/09/15	
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	
4-Bromofluorobenzene	93.2			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/l		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/06/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C		
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C		
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C		
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/06/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-09 (PH) - 6.5@22.4c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-09

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : EB-2-27-15-A

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Naphthalene	IJ	0.00031	0.0010	mg/1		8270 C	03/06/15	ī
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	ī
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	ī
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/l		8270 C	03/06/15	1
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/06/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mg/l		8270 C	03/06/15	ī
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mq/1		8270 C	03/06/15	ī
Di-n-butyl phthalate	IJ	0.00027	0.0030	mg/l		8270 C	03/06/15	1
Diethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	1
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
Phenol	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	41.1			% Rec.		0070 0	02/06/15	1
2-Fluorophenol						8270 C	03/06/15	1
Phenol-d5 Nitrobenzene-d5	28.8 62.6			% Rec. % Rec.		8270 C 8270 C	03/06/15 03/06/15	1 1
Nitrobenzene-d5 2-Fluorobiphenyl	62.6 84.1			% Rec. % Rec.		8270 C 8270 C		1
2,4,6-Tribromophenol	84.1 74.7			% Rec. % Rec.		8270 C 8270 C	03/06/15	1
p-Terphenyl-d14	74.7			% Rec.		8270 C 8270 C	03/06/15 03/06/15	1
b-rerbiienlar-ara	/0.2			6 Ked.		02/U C	03/00/15	Т

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-10

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID

: EB-2-27-15-B

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	0.26 U 0.53	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l	J J	9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	U	2.6	20.	mg/l		2320 B-	03/04/15	1
На	5.2	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	0.025	0.020	0.10	mg/l	J	353.2	03/09/15	1
Specific Conductance	1.8	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	10.	2.8	10.	mg/l	JT4	2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	U U U	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l		6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U U U U U U U U U U U U U U U U U U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	0.015 U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l	J	8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-10 (PH) - 5.2@21.6c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-10

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : EB-2-27-15-B

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/1		8260B	03/09/15	
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B		
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B		
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B		
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B		
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B		
Chloroform	U	0.00032	0.0050	mg/l		8260B		
Chloromethane	U	0.00028	0.0025	mg/l		8260B		
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B		
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	, ,	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B		
trans-1,2-Dichloroethene	U U	0.00040	0.0010	mg/1		8260B		
1,2-Dichloropropane	U	0.00031	0.0010 0.0010	mg/1		8260B 8260B		
<pre>cis-1,3-Dichloropropene trans-1,3-Dichloropropene</pre>	U	0.00042 0.00042	0.0010	mg/l mg/l		8260B 8260B		
Ethylbenzene	Ū	0.00042	0.0010	mg/1		8260B 8260B		
Hexachloro-1,3-butadiene	Ω.	0.00038	0.0010	mg/1		8260B 8260B		
2-Hexanone	Ū	0.0038	0.0010	mq/1		8260B	03/09/15	
Isopropylbenzene	II O	0.0038	0.010	mg/1		8260B		
p-Isopropyltoluene	Ū	0.00035	0.0010	mq/1		8260B		
2-Butanone (MEK)	Ū	0.0033	0.010	mq/1		8260B	03/09/15	
Methylene Chloride	IJ	0.0010	0.0050	mg/l		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	Ū	0.0010	0.010	mg/1		8260B		
Methyl tert-butyl ether	Ū	0.00037	0.0010	mg/1		8260B		
Naphthalene	IJ	0.0010	0.0050	mq/1		8260B		
n-Propylbenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	
Styrene	Ū	0.00031	0.0010	mq/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	Ū	0.00013	0.0010	mg/1		8260B		
Tetrachloroethene	Ū	0.00037	0.0010	mq/1		8260B	03/09/15	
Toluene	Ū	0.00078	0.0050	mg/l		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/l		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-10

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : EB-2-27-15-B

Collected By : John Allen Collection Date : 02/27/15 11:30

Project # : 227000

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	91.9			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/06/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Naphthalene	U	0.00037	0.0010	mg/l		8270 C	03/06/15	1

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-10

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : EB-2-27-15-B

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 11:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Bis(2-ethylhexyl)phthalate	0.00082	0.00071	0.0030	mg/l	J	8270 C	03/06/15	1
Di-n-butyl phthalate	U	0.00027	0.0030	mg/l		8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U 	0.00031	0.010	mg/l		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/l		8270 C	03/06/15	
4-Nitroaniline	U 	0.00035	0.010	mg/l		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/l		8270 C	03/06/15	
Pentachlorophenol	Ū	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	IJ	0.00024 0.00030	0.010	mg/l mg/l		8270 C 8270 C	03/06/15 03/06/15	
Surrogate Recovery	U	0.00030	0.010	1119/1		8270 C	03/06/15	1
2-Fluorophenol	37.4			% Rec.		8270 C	03/06/15	1
Phenol-d5	26.7			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	66.2			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	90.8			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	69.8			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	76.2			% Rec.		8270 C	03/06/15	
b rerbitetili dra	10.4			0 1/60.		02/0 0	03/00/13	_

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

John Allen

ESC Sample # : L751256-11

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

April 17, 2015

Sample ID : MW-28

Project # : 227000

Collected By : John Allen Collection Date : 02/23/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	70. 1.6 72.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	190	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	7.3	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.8	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	770	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	500	2.8	10.	mg/l	Т8	2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0040 U 0.0018 0.0025	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.090 0.17 U 100 U 0.0055 U 12. U U 2.1 U 42. 0.017	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098	0.10 0.0050 0.20 0.0050 1.0 0.010 0.020 0.10 1.0 0.010 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-11

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-28

Collected By : John Allen Collection Date : 02/23/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/09/15	1
n-Butylbenzene	Ū	0.00036	0.0010	mq/1		8260B	03/09/15	1
sec-Butylbenzene	Ū	0.00036	0.0010	mq/1		8260B	03/09/15	1
tert-Butylbenzene	IJ	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	Ū	0.00038	0.0010	mq/1		8260B	03/09/15	1
Chlorobenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	1
Chlorodibromomethane	Ū	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	Ū	0.00045	0.0050	mq/1	J4	8260B	03/09/15	1
Chloroform	Ū	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	1
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-11 (PH) - 7.3@21.8c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-11

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-28

Project # : 227000

Collected By : John Allen Collection Date : 02/23/15 17:35

Surrogate Recovery Toluene-d8 103. % Rec. 8260B 03/09/15 1 Dibromofluoromethane 105. % Rec. 8260B 03/09/15 1 4-Bromofluorobenzene 94.8 % Rec. 8260B 03/09/15 1	
Dibromofluoromethane 105. % Rec. 8260B 03/09/15 1	
4-Bromofluorohenzene 94 8 % Rec 9260B 02/00/15 1	
1 DIGMOTITION 9 NEC. 0200B 03/05/15 1	
Base/Neutral Extractables	
Acenaphthene U 0.00032 0.0010 mg/l 8270 C 03/04/15 1	
Acenaphthylene U 0.00031 0.0010 mg/l 8270 C 03/04/15 1	
Acetophenone U 0.0027 0.010 mg/l 8270 C 03/04/15 1	
Anthracene U 0.00029 0.0010 mg/l 8270 C 03/04/15 1	
Atrazine U 0.0015 0.010 mg/l 8270 C 03/04/15 1	
Benzo(a)anthracene U 0.00032 0.0010 mg/l 8270 C 03/04/15 1	
Benzaldehyde U 0.0014 0.010 mg/l 8270 C 03/04/15 1	
Benzo(b)fluoranthene U 0.00027 0.0010 mg/l 8270 C 03/04/15 1	
Benzo(k)fluoranthene U 0.00036 0.0010 mg/l 8270 C 03/04/15 1	
Benzo(g,h,i)perylene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1	
Benzo(a)pyrene U 0.000038 0.00020 mg/l 8270 C 03/10/15 1	
Biphenyl U 0.00021 0.010 mg/l 8270 C 03/04/15 1	
Bis(2-chlorethoxy)methane U 0.00033 0.010 mg/l 8270 C 03/04/15 1	
Bis(2-chloroethyl)ether U 0.0016 0.010 mg/l 8270 C 03/04/15 1	
Bis(2-chloroisopropyl)ether U 0.00044 0.010 mg/l 8270 C 03/04/15 1	
4-Bromophenyl-phenylether U 0.00034 0.010 mg/l 8270 C 03/04/15 1	
2-Chloronaphthalene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1	
4-Chlorophenyl-phenylether U 0.00030 0.010 mg/l 8270 C 03/04/15 1	
Caprolactam U 0.00058 0.010 mg/l 8270 C 03/04/15 1	
Carbazole U 0.00016 0.010 mg/l 8270 C 03/04/15 1	
Chrysene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1	
Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/10/15 1	
Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/04/15 1	
3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/04/15 1	
2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/04/15 1	
2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/04/15 1	
Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/04/15 1	
Fluorene U 0.00032 0.0010 mg/l 8270 C 03/04/15 1	
Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/04/15 1	
Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/04/15 1	
Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/04/15 1	
Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/04/15 1	
Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/04/15 1	
Isophorone U 0.00027 0.010 mg/l 8270 C 03/04/15 1	
1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/04/15 1	
2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/04/15 1	
Naphthalene U 0.00037 0.0010 mg/l 8270 C 03/04/15 1	

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-11 (PH) - 7.3@21.8c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-11

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-28

Collected By : John Allen Collection Date : 02/23/15 17:35

Project # : 227000

Nitrobenzene U 0.00037 0.010 mg/l 8270 C 03/04/15 1 n-Nitrosodiphenylamine U 0.00030 0.010 mg/l 8270 C 03/04/15 1 n-Nitrosodi-n-propylamine U 0.00040 0.010 mg/l 8270 C 03/04/15 1 phenanthrene U 0.00037 0.0010 mg/l 8270 C 03/04/15 1 Benzylbutyl phthalate U 0.00037 0.0010 mg/l 8270 C 03/04/15 1 Bis(2-ethylhexyl)phthalate U 0.0015 0.00071 0.0030 mg/l 8270 C 03/04/15 1 Di-n-butyl phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-thyl phthalate U 0.00028 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Dimethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
n-Nitrosodiphenylamine U 0.00030 0.010 mg/l 8270 C 03/04/15 1 n-Nitrosodi-n-propylamine U 0.00040 0.010 mg/l 8270 C 03/04/15 1 Phenanthrene U 0.00037 0.0010 mg/l 8270 C 03/04/15 1 Benzylbutyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Bis(2-ethylhexyl)phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l B270 C 03/04/15 1
n-Nitrosodi-n-propylamine U 0.00040 0.010 mg/l 8270 C 03/04/15 1 Phenanthrene U 0.00037 0.0010 mg/l 8270 C 03/04/15 1 Benzylbutyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Bis(2-ethylhexyl)phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l B270 C 03/04/15 1
Phenanthrene U 0.00037 0.0010 mg/l 8270 C 03/04/15 1 Benzylbutyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Bis(2-ethylhexyl)phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Benzylbutyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1 Bis(2-ethylhexyl)phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Bis(2-ethylhexyl)phthalate 0.0015 0.00071 0.0030 mg/l J 8270 C 03/04/15 1 Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Di-n-butyl phthalate 0.00059 0.00027 0.0030 mg/l J 8270 C 03/04/15 1 Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Diethyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Di-n-octyl phthalate U 0.00028 0.0030 mg/l 8270 C 03/04/15 1
Pyrene U 0.00033 0.0010 mg/l 8270 C 03/04/15 1
Acid Extractables
4-Chloro-3-methylphenol U 0.00026 0.010 mg/l 8270 C 03/04/15 1
2-Chlorophenol U 0.00028 0.010 mg/l 8270 C 03/04/15 1
2,4-Dichlorophenol U 0.00028 0.010 mg/l 8270 C 03/04/15 1
2,4-Dimethylphenol U 0.00062 0.010 mg/l 8270 C 03/04/15 1
4,6-Dinitro-2-methylphenol U 0.0026 0.010 mg/l 8270 C 03/04/15 1
2,4-Dinitrophenol U 0.0032 0.010 mg/l 8270 C 03/04/15 1
2-Nitrophenol U 0.00032 0.010 mg/l 8270 C 03/04/15 1
2-Nitroaniline U 0.0019 0.010 mg/l 8270 C 03/04/15 1
2-Methylphenol U 0.00031 0.010 mg/l 8270 C 03/04/15 1
3&4-Methyl Phenol U 0.00027 0.010 mg/l 8270 C 03/04/15 1
3-Nitroaniline U 0.00031 0.010 mg/l 8270 C 03/04/15 1
4-Chloroaniline U 0.00038 0.010 mg/l 8270 C 03/04/15 1
4-Nitroaniline U 0.00035 0.010 mg/l 8270 C 03/04/15 1
4-Nitrophenol U 0.0020 0.010 mg/l 8270 C 03/04/15 1
Pentachlorophenol U 0.00031 0.010 mg/l 8270 C 03/04/15 1
Phenol 0.00033 0.00033 0.010 mg/l J 8270 C 03/04/15 1
2,4,5-Trichlorophenol U 0.00024 0.010 mg/l 8270 C 03/04/15 1
2,4,6-Trichlorophenol U 0.00030 0.010 mg/l 8270 C 03/04/15 1
Surrogate Recovery
2-Fluorophenol 32.8 % Rec. 8270 C 03/04/15 1
Phenol-d5 27.6 % Rec. 8270 C 03/04/15 1
Nitrobenzene-d5 43.0 % Rec. 8270 C 03/04/15 1
2-Fluorobiphenyl 66.8 % Rec. 8270 C 03/04/15 1
2,4,6-Tribromophenol 81.0 % Rec. 8270 C 03/04/15 1
p-Terphenyl-d14 69.3 % Rec. 8270 C 03/04/15 1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

L751256-11 (PH) - 7.3@21.8c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-12

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

: AC-2-23-14 Sample ID

Project # : 227000

Collected By : John Allen Collection Date : 02/23/15 18:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mg/1		8260B	03/09/15	1
Benzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Bromodichloromethane	U	0.00038	0.0013	mg/l		8260B	03/09/15	1
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/09/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/l		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/l		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	1
1,1,1-Trichloroethane	IJ	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane Trichloroethene	τι	0.00038 0.00040	0.0010 0.0010	mg/l		8260B 8260B	03/09/15	1 1
rrrentoroethene	U	0.00040	0.0010	mg/1		020UB	03/09/15	Т

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Page 43 of 164



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-12

Date Received : March 03, 2015

Description : Lovington Lea Refinery

: AC-2-23-14 Sample ID

Project # : 227000

April 17, 2015

Site ID :

Collected By : John Allen Collection Date : 02/23/15 18:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	TT	0.00037	0.0010	mg/l		8260B	03/09/15	1
1,3,5-Trimethylbenzene	Ū	0.00039	0.0010	mq/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	93.7			% Rec.		8260B	03/09/15	1

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Page 44 of 164



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-13

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-15

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 13:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	150 0.90 94.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	180	2.6	20.	mg/l		2320 B-	03/04/15	1
На	7.4	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	8.4	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1100	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	650	2.8	10.	mg/1		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0040 U 0.0024 0.0021	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.052 0.15 0.17 U 110 0.0034 U U 14. U U 3.2 U U 98. 0.012	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U 0.0023	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-13 (PH) - 7.4@21.3c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Project # : 227000

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-13

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID : Sample ID : MW-15

Collected By : John Allen Collection Date : 02/24/15 13:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B		1
Chloroform	0.0081	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B		1
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B		1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/09/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/09/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	1
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1
				-				

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-13 (PH) - 7.4@21.3c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Project # : 227000

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-13 Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-15

Collected By : John Allen Collection Date : 02/24/15 13:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	
4-Bromofluorobenzene	95.4			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/l		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-13 (PH) - 7.4@21.3c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-13

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-15

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 13:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mq/1		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/04/15	
Di-n-butyl phthalate	0.0016	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/l		8270 C	03/04/15	
2,4,6-Trichlorophenol	Ū	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	40 5			0 5		0050 0	00/04/15	1
2-Fluorophenol	42.7			% Rec.		8270 C	03/04/15	
Phenol-d5	33.3			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	58.9			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	80.7			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	85.5			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	74.0			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-14

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-16

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	20. 1.0 61.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	180	2.6	20.	mg/l		2320 B-	03/04/15	1
рН	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	1.9	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	570	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	360	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0051 U 0.0035 0.0016	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.042 0.098 0.17 U 76. U U U 8.2 0.0042 U 2.0 U U 36. 0.014	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	ប ប	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-14

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-16

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	Ū	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U 	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
trans-1,2-Dichloroethene	U U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	IJ	0.00031 0.00042	0.0010	mg/1		8260B	03/09/15	1
<pre>cis-1,3-Dichloropropene trans-1,3-Dichloropropene</pre>	IJ		0.0010	mg/1		8260B	03/09/15	1 1
Ethylbenzene	IJ	0.00042 0.00038	0.0010	mg/l mg/l		8260B 8260B	03/09/15	
Hexachloro-1,3-butadiene	IJ	0.00038	0.0010	mg/1		8260B 8260B	03/09/15 03/09/15	1
2-Hexanone	IJ	0.00026	0.0010	mq/1		8260B	03/09/15	1
Isopropylbenzene	IJ	0.0038	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	1
2-Butanone (MEK)	Ū	0.0033	0.010	mq/1		8260B	03/09/15	1
Methylene Chloride	IJ	0.0010	0.010	mq/1		8260B	03/09/15	ī
4-Methyl-2-pentanone (MIBK)	Ū	0.0010	0.010	mg/l		8260B	03/09/15	i
Methyl tert-butyl ether	Ū	0.00037	0.0010	mg/1		8260B	03/09/15	ī
Naphthalene	IJ	0.0010	0.0050	mq/1		8260B	03/09/15	1
n-Propylbenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	ī
Styrene	IJ	0.00031	0.0010	mg/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	Ū	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	Ū	0.00037	0.0010	mg/l		8260B	03/09/15	1
Toluene	Ū	0.00078	0.0050	mg/l		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-14 (PH) - 7.5@21.4c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-14

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-16

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	94.2			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-14 (PH) - 7.5@21.4c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-14

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-16

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mq/1		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/04/15	
Di-n-butyl phthalate	0.00032	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	25.6			. –		0000 ~	00/04/45	
2-Fluorophenol	35.6			% Rec.		8270 C	03/04/15	
Phenol-d5	27.4			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	49.5			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	69.5			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	70.5			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	61.3			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-15

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : MW-4

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 16:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	24. 1.1 66.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	180	2.6	20.	mg/l		2320 B-	03/04/15	1
На	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	580	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	390	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0046 0.00025 0.0034 0.0016	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	Ј Ј Ј	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	0.00011	0.000049	0.00020	mg/l	J	7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Mickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.090 0.15 U 75. U U U 8.6 U U 2.3 U U 36. U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.010 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-15 (PH) - 7.5@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-15

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-4

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 16:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/l		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-15

Site ID :

Date Received : March

03, 2015

Description : Lovington Lea Refinery

Sample ID MW-4

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 16:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	105.			% Rec.		8260B	03/09/15	
4-Bromofluorobenzene	94.7			% Rec.		8260B	03/09/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/04/15	1
Atrazine	U	0.0015	0.010	mg/l		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/04/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mq/1		8270 C	03/04/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/l		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Benzo(a)pyrene	Ū	0.000038	0.00020	mg/l		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	Ū	0.00033	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroethyl)ether	IJ	0.0016	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	Ū	0.00044	0.010	mg/l		8270 C	03/04/15	1
4-Bromophenyl-phenylether	Ū	0.00034	0.010	mg/1		8270 C	03/04/15	
2-Chloronaphthalene	Ū	0.00033	0.0010	mg/l		8270 C	03/04/15	
4-Chlorophenyl-phenylether	Ū	0.00030	0.010	mg/l		8270 C	03/04/15	
Caprolactam	Ū	0.00058	0.010	mg/l		8270 C	03/04/15	
Carbazole	IJ	0.00016	0.010	mg/l		8270 C	03/04/15	
Chrysene	Ū	0.00033	0.0010	mg/l		8270 C	03/04/15	
Dibenz(a,h)anthracene	IJ	0.000064	0.00020	mg/l		8270 C	03/10/15	
Dibenzofuran	IJ	0.00034	0.010	mq/l		8270 C	03/04/15	
3,3-Dichlorobenzidine	Ū	0.0020	0.010	mg/l		8270 C	03/04/15	
2,4-Dinitrotoluene	IJ	0.0016	0.010	mg/l		8270 C	03/04/15	
2,6-Dinitrotoluene	Ū	0.00028	0.010	mg/l		8270 C	03/04/15	
Fluoranthene	IJ	0.00031	0.0010	mg/l		8270 C	03/04/15	
Fluorene	Ū	0.00032	0.0010	mg/l		8270 C	03/04/15	
Hexachlorobenzene	IJ	0.00034	0.0010	mg/l		8270 C	03/04/15	
Hexachloro-1,3-butadiene	Ū	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	IJ	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	IJ	0.00036	0.010	mg/l		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	IJ	0.00038	0.0010	mg/l		8270 C	03/04/15	
Isophorone	IJ	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	IJ	0.00031	0.0010	mg/1		8270 C	03/01/15	
2-Methylnaphthalene	IJ	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	11	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Napitchatelle	U	0.0003/	0.0010	1119/1		02/0 C	03/04/15	Т

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-15 (PH) - 7.5@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-15

Date Received : March

03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID MW-4

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 16:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/1		8270 C	03/04/15	ī
Phenanthrene	IJ	0.00037	0.0010	mq/1		8270 C	03/04/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/04/15	ī
Bis(2-ethylhexyl)phthalate	0.013	0.00071	0.0030	mg/1		8270 C	03/04/15	ī
Di-n-butyl phthalate	0.00078	0.00027	0.0030	mg/1	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/04/15	1
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/04/15	1
2-Methylphenol	U	0.00031	0.010	mg/l		8270 C	03/04/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/l		8270 C	03/04/15	1
3-Nitroaniline	U	0.00031	0.010	mg/l		8270 C	03/04/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	1
2,4,6-Trichlorophenol	Ū	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	25.6			. –		0000 ~	00/04/15	
2-Fluorophenol	35.6			% Rec.		8270 C	03/04/15	1
Phenol-d5	27.6			% Rec.		8270 C	03/04/15	1
Nitrobenzene-d5	47.6			% Rec.		8270 C	03/04/15	1
2-Fluorobiphenyl	70.5			% Rec.		8270 C	03/04/15	1
2,4,6-Tribromophenol	75.7			% Rec.		8270 C	03/04/15	1
p-Terphenyl-d14	63.6			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-16

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : MW-2

Collected By : John Allen Collection Date : 02/24/15 17:30

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	130 0.92 94.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	210	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	7.4	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	7.9	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1100	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	710	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0037 U 0.0034 0.0026	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.090 0.21 U 120 U U U 13. U U 2.5 U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.10	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l		6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	
Volatile Organics Acetone Benzene Bromodichloromethane	U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

L751256-16 (PH) - 7.4@21.5c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-16

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-2

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/24/15 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/09/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/l		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/l	J4	8260B	03/09/15	1 1
Chloroform	0.00084	0.00032	0.0050	mg/1	J	8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/l		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/l		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-16

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-2

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	105.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	95.6			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/l		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-16

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID MW-2Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 17:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mq/1		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Bis(2-ethylhexyl)phthalate	0.0012	0.00071	0.0030	mg/l	J	8270 C	03/04/15	1
Di-n-butyl phthalate	0.00053	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/04/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/l		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	4.7 .7			. –		0000 ~	00/04/45	
2-Fluorophenol	41.1			% Rec.		8270 C	03/04/15	
Phenol-d5	31.5			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	50.9			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	73.3			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	76.2			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	68.0			% Rec.		8270 C	03/04/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-16 (PH) - 7.4@21.5c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-17

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : AC-2-24-15

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 18:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mq/1		8260B	03/09/15	1
Benzene	U	0.00033	0.0010	mg/l		8260B	03/09/15	1
Bromodichloromethane	U	0.00038	0.0013	mg/l		8260B	03/09/15	
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/09/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/l		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-17

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: AC-2-24-15

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/24/15 18:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/l		8260B	03/09/15	1
1,3,5-Trimethylbenzene	Ū	0.00039	0.0010	mg/1		8260B	03/09/15	1
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	106.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	91.5			% Rec.		8260B	03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-18

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-12R Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 09:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	29. 1.1 63.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	200	2.6	20.	mg/1		2320 B-	03/04/15	1
На	7.6	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	7.0	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	640	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	500	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0038 U 0.0042 0.0019	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.037 0.095 0.20 U 76. U U U 7.4 U U 2.3 U U 0.0081	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-18 (PH) - 7.6@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-18

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-12R Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 09:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B		
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/09/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/l		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B		
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B		
Chloroform	U	0.00032	0.0050	mg/1		8260B		
Chloromethane	U	0.00028	0.0025	mg/1		8260B		
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B		
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B		
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B		
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B		
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/l		8260B		
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B		
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B		
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B		
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B		
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B		
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B		
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B		
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B		
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U U	0.0010	0.0050 0.0010	mg/l mg/l		8260B 8260B		
n-Propylbenzene Styrene	U	0.00035 0.00031	0.0010			8260B 8260B	03/09/15 03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00031	0.0010	mg/l mg/l		8260B 8260B		
Tetrachloroethene	Ū	0.00013	0.0010	mq/1		8260B	03/09/15	
Toluene	Ū	0.00037	0.0010	mq/1		8260B		
1,1,1-Trichloroethane	Ω	0.00078	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	Ū	0.00032	0.0010	mq/1		8260B		
Trichloroethene	IJ	0.00038	0.0010	mq/1		8260B		
1,2,4-Trimethylbenzene	Ū	0.00037	0.0010	mq/1		8260B		
1,3,5-Trimethylbenzene	Ω	0.00037	0.0010	mg/l		8260B		
Vinyl chloride	IJ	0.00035	0.0010	mq/1		8260B	03/09/15	
Xylenes, Total	11	0.0011	0.0030	mq/1		8260B	03/09/15	
11/101105/ 10041	O	0.0011	0.0050	1119/1		02000	03/02/13	±

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-18

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Sample ID MW-12R

Collected By : Collection Date : John Allen 02/24/15 09:05 Project # : 227000

April 17, 2015

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	107.			% Rec.		8260B	03/09/15	
4-Bromofluorobenzene	92.5			% Rec.		8260B	03/09/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	ma/l		8270 C	03/04/15	1
Acenaphthylene	Ū	0.00031	0.0010	mg/l		8270 C	03/04/15	
Acetophenone	Ū	0.0027	0.010	mg/l		8270 C	03/04/15	
Anthracene	Ū	0.00029	0.0010	mg/l		8270 C	03/04/15	
Atrazine	Ū	0.0015	0.010	mg/l		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	1
Benzaldehyde	Ū	0.0014	0.010	mg/l		8270 C	03/04/15	
Benzo(b)fluoranthene	Ū	0.00027	0.0010	mg/l		8270 C	03/04/15	
Benzo(k)fluoranthene	Ū	0.00036	0.0010	mg/l		8270 C	03/04/15	
Benzo(q,h,i)perylene	IJ	0.00033	0.0010	ma/l		8270 C	03/04/15	
Benzo(a)pyrene	Ū	0.000038	0.00020	mg/l		8270 C	03/10/15	
Biphenyl	Ū	0.00021	0.010	mg/l		8270 C	03/04/15	
Bis(2-chlorethoxy)methane	Ū	0.00033	0.010	mg/l		8270 C	03/04/15	
Bis(2-chloroethyl)ether	Ū	0.0016	0.010	mg/l		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	Ū	0.00044	0.010	mg/l		8270 C	03/04/15	
4-Bromophenyl-phenylether	Ū	0.00034	0.010	mg/l		8270 C	03/04/15	
2-Chloronaphthalene	Ū	0.00033	0.0010	mg/l		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/04/15	1
Caprolactam	Ū	0.00058	0.010	mg/l		8270 C	03/04/15	
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/04/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/10/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/04/15	5 1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/04/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/04/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/04/15	5 1
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/04/15	5 1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/04/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/04/15	1
Hexachloroethane	U	0.00036	0.010	mg/l		8270 C	03/04/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/04/15	1
Isophorone	Ū	0.00027	0.010	mg/1		8270 C	03/04/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	5 1
Naphthalene	Ū	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-18 (PH) - 7.6@21.6c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-18

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-12R

Collected By : John Allen Collection Date : 02/24/15 09:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	ŢŢ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mq/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	ŢŢ	0.00040	0.010	mg/l		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/04/15	
Di-n-butyl phthalate	0.00077	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery								
2-Fluorophenol	37.1			% Rec.		8270 C	03/04/15	
Phenol-d5	27.6			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	40.7			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	60.7			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	61.0			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	60.8			% Rec.		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:27 L751256-18 (PH) - 7.6@21.6c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-19

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-20

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	120 0.65 56.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	180	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.6	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	910	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	690	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0031 U 0.0024 0.0026	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	0.038 0.11 0.17 U 120 0.0020 U U 13. U U 2.2 U U 42. 0.023	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-19

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-20

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	
Chloroethane	U	0.00045	0.0050	mg/l	J4	8260B	03/09/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/09/15	
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B		
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/09/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-19 Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-20

Collected By : John Allen Collection Date : 02/24/15 11:20

Project # : 227000

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	102.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	104.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	93.5			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-19

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-20

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 11:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	IJ	0.00030	0.010	mg/l		8270 C	03/04/15	
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	IJ	0.00037	0.0030	mg/l		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	IJ	0.00071	0.0030	mg/1		8270 C	03/04/15	
Di-n-butyl phthalate	0.00039	0.00071	0.0030	mg/l	J	8270 C	03/04/15	
Diethyl phthalate	U.UUUJJ	0.00028	0.0030	mg/1	O	8270 C	03/04/15	
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/04/15	
Di-n-octyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/04/15	
Pyrene	Ū	0.00033	0.0010	mg/1		8270 C	03/04/15	
Acid Extractables				5, =				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/l		8270 C	03/04/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/04/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery								
2-Fluorophenol	45.0			% Rec.		8270 C	03/04/15	
Phenol-d5	34.7			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	55.0			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	75.9			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	81.1			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	69.8			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-20

Date Received : March Description

03, 2015 : Lovington Lea Refinery

Site ID :

Project # : 227000

Sample ID : MW-5

Collected By : John Allen Collection Date : 02/24/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	21. 1.4 43.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	310	2.6	20.	mg/l		2320 B-	03/04/15	1
Нд	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.2	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	740	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	520	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0029 U 0.0045 0.0040	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.038 0.12 0.091 U 74. U U U 8.0 U U 3.0 U U 86. 0.0089	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.100	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/09/15 03/09/15 03/09/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-20 (PH) - 7.5@21.3c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-20

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-5

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/24/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	Ū	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1	J4	8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloroethane	U 	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
trans-1,2-Dichloroethene	U U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	IJ	0.00031 0.00042	0.0010	mg/1		8260B	03/09/15	1
<pre>cis-1,3-Dichloropropene trans-1,3-Dichloropropene</pre>	IJ		0.0010	mg/1		8260B	03/09/15	1 1
Ethylbenzene	IJ	0.00042 0.00038	0.0010	mg/l mg/l		8260B 8260B	03/09/15	
Hexachloro-1,3-butadiene	IJ	0.00038	0.0010	mg/1		8260B 8260B	03/09/15 03/09/15	1
2-Hexanone	IJ	0.00026	0.0010	mq/1		8260B	03/09/15	1
Isopropylbenzene	IJ	0.0038	0.0010	mg/1		8260B	03/09/15	1
p-Isopropyltoluene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	1
2-Butanone (MEK)	Ū	0.0033	0.010	mq/1		8260B	03/09/15	1
Methylene Chloride	IJ	0.0010	0.010	mq/1		8260B	03/09/15	ī
4-Methyl-2-pentanone (MIBK)	Ū	0.0010	0.010	mg/l		8260B	03/09/15	i
Methyl tert-butyl ether	Ū	0.00037	0.0010	mg/1		8260B	03/09/15	ī
Naphthalene	IJ	0.0010	0.0050	mg/l		8260B	03/09/15	1
n-Propylbenzene	Ū	0.00035	0.0010	mq/1		8260B	03/09/15	ī
Styrene	IJ	0.00031	0.0010	mg/1		8260B	03/09/15	1
1,1,2,2-Tetrachloroethane	Ū	0.00013	0.0010	mg/1		8260B	03/09/15	1
Tetrachloroethene	Ū	0.00037	0.0010	mg/l		8260B	03/09/15	1
Toluene	Ū	0.00078	0.0050	mg/l		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/09/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/09/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/09/15	1

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-20

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-5

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/24/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	105.			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	92.1			% Rec.		8260B	03/09/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

Sample ID

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-20

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-5

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	Ū	0.00037	0.010	mg/l		8270 C	03/04/15	5 1
n-Nitrosodiphenylamine	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
n-Nitrosodi-n-propylamine	U	0.00040	0.010	mg/1		8270 C	03/04/15	1
Phenanthrene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1
Benzylbutyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	0.0054	0.00071	0.0030	mg/1		8270 C	03/04/15	1
Di-n-butyl phthalate	0.00031	0.00027	0.0030	mg/1	J	8270 C	03/04/15	
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/l		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/l		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/l		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/l		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	5 1
Surrogate Recovery								
2-Fluorophenol	46.4			% Rec.		8270 C	03/04/15	
Phenol-d5	34.7			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	58.6			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	79.2			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	78.0			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	69.5			% Rec.		8270 C	03/04/15	5 1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-21

Project # : 227000

Site ID :

Date Received : March 03, 2015

Description

: Lovington Lea Refinery

Sample ID : MW-21

Collected By : John Allen Collection Date : 02/24/15 15:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	160 0.32 70.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	480	13.	100	mg/l		2320 B-	03/04/15	5
Нд	6.8	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.7	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1500	-33.		umhos/cm	J	9050A	03/06/15	1
Dissolved Solids	1100	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0017 0.00032 0.00074 0.0089	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/09/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Mickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.21 0.36 U 240 U U U 21. 0.028 U 3.0 U U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.100	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-21

Project #: 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-21

Collected By : John Allen Collection Date : 02/24/15 15:30

Parameter MDL RDL Units Qualifier Method Date Result Dil. Bromoform 0.00047 0.0010 8260B 03/08/15 TT mq/103/08/15 Bromomethane U 0.00087 0.0050 8260B mq/11 n-Butylbenzene 0.00036 0.0010 8260B 03/08/15 IJ mg/11 sec-Butvlbenzene 0.00036 0.0010 mg/18260B 03/08/15 1 U tert-Butylbenzene 0.00040 0.0010 8260B 03/08/15 TT mg/11 Carbon disulfide 0.00028 IJ 0.0010 8260B 03/08/15 mg/11 0.0010 0.00038 03/08/15 Carbon tetrachloride 8260B TT mq/11 0.00035 0.0010 03/08/15 1 Chlorobenzene TT mg/18260B 0.00033 0.0010 03/08/15 Chlorodibromomethane TT mg/18260B 1 Chloroethane IJ 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform TT 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 1,2-Dibromoethane IJ 0.00038 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethane U 0.00026 0.0010 mg/18260B 03/08/15 1 1,2-Dichloroethane U 0.00036 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethene 0.00040 0.0010 mg/18260B 03/08/15 1 U mg/1cis-1,2-Dichloroethene U 0.00026 0.0010 8260B 03/08/15 1 0.0010 8260B trans-1,2-Dichloroethene U 0.00040 mg/103/08/15 1 1,2-Dichloropropane 0.00031 0.0010 8260B 03/08/15 mg/10.00042 cis-1,3-Dichloropropene U 0.0010 mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 03/08/15 IJ 0.00042 0.0010 mg/18260B 1 Ethylbenzene U 0.00038 0.0010 8260B 03/08/15 mg/11 Hexachloro-1,3-butadiene 1 0.00026 0.0010 mg/18260B 03/08/15 U 2-Hexanone TT 0.0038 0.010 mg/18260B 03/08/15 1 Isopropylbenzene ŢŢ 0.00033 0.0010 mg/18260B 03/08/15 1 p-Isopropyltoluene 0.00035 0.0010 ŢŢ 8260B 03/08/15 mq/11 2-Butanone (MEK) 0.0039 0.010 8260B 03/08/15 1 TT mg/1Methylene Chloride 0.0010 0.0050 mg/lU 8260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) IJ 0.0021 0.010 mg/18260B 03/08/15 1 0.0010 0.00037 Methyl tert-butyl ether TT mg/18260B 03/08/15 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 0.00035 n-Propylbenzene IJ 0.0010 mg/18260B 03/08/15 1 ŢŢ 0.00031 0.0010 mg/18260B 03/08/15 1 Styrene 1,1,2,2-Tetrachloroethane U 0.00013 0.0010 mg/18260B 03/08/15 1 Tetrachloroethene U 0.00037 0.0010 mg/18260B 03/08/15 1 U 0.00078 0.0050 mg/18260B 03/08/15 Toluene 1,1,1-Trichloroethane ŢŢ 0.00032 0.0010 mg/18260B 03/08/15 1 1,1,2-Trichloroethane U 0.00038 0.0010 mg/18260B 03/08/15 0.00040 0.0010 8260B Trichloroethene TT mg/103/08/15 1 1,2,4-Trimethylbenzene IJ 0.00037 0.0010 mg/18260B 03/08/15 1 1,3,5-Trimethylbenzene U 0.00039 0.0010 mq/18260B 03/08/15 1 Vinyl chloride mg/10.00026 0.0010 8260B 03/08/15 1 TT 0.0011 0.0030 mg/18260B 03/08/15 Xylenes, Total U

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28

L751256-21 (PH) - 6.8@21.6c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-21

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-21

Collected By : John Allen Collection Date : 02/24/15 15:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.3			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	95.9			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	96.3			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/10/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/10/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/04/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/04/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-21 (PH) - 6.8@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-21

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-21

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 15:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/1		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mq/1		8270 C	03/04/15	
Phenanthrene	IJ	0.00037	0.0010	mq/1		8270 C	03/04/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/04/15	
Di-n-butyl phthalate	0.00033	0.00027	0.0030	mg/1	J	8270 C	03/04/15	
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Surrogate Recovery	00.6			. –		0000 ~	00/04/15	
2-Fluorophenol	23.6			% Rec.		8270 C	03/04/15	
Phenol-d5	17.0			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	26.5			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	39.7			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	35.4			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	35.1			% Rec.		8270 C	03/04/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-22

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-22

Project # : 227000

Collected By : John Allen Collection Date : 02/24/15 17:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	110 0.57 81.	0.10 0.020 0.15	2.0 0.20 10.	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	2
Alkalinity	390	13.	100	mg/l		2320 B-	03/05/15	5
На	7.1	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.3	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1200	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	820	2.8	10.	mg/l		2540 C-	03/04/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0025 0.00077 0.0014 0.012	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/09/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Mickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	0.037 0.18 0.21 U 160 U U 17. 0.0026 U 3.4 U T7. 0.019	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene	Ŭ U	0.010 0.00033	1.0 0.0010	mg/l mg/l		8260B 8260B	03/08/15 03/08/15	1
Bromodichloromethane	U	0.00038	0.0013	mg/1		8260B	03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-22 (PH) - 7.1@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-22

Date Received : March 03, 2015
Description : Lovington Lea Refinery

Description : Hovington

Project #: 227000

Site ID :

Sample ID : MW-22

Collected By : John Allen Collection Date : 02/24/15 17:15

MDL RDL Units Qualifier Method Date Parameter Result Dil. Bromoform 0.00047 0.0010 8260B 03/08/15 TT 1 mq/103/08/15 Bromomethane U 0.00087 0.0050 8260B mq/11 n-Butylbenzene 0.00036 0.0010 8260B 03/08/15 IJ mg/11 sec-Butvlbenzene 0.00036 0.0010 mg/18260B 03/08/15 1 U tert-Butylbenzene 0.00040 0.0010 8260B 03/08/15 TT mg/11 Carbon disulfide 0.00028 IJ 0.0010 8260B 03/08/15 mg/11 0.0010 0.00038 Carbon tetrachloride 8260B 03/08/15 TT mq/11 0.00035 0.0010 03/08/15 1 Chlorobenzene TT mg/18260B 0.0010 03/08/15 Chlorodibromomethane 0.00033 TT mg/18260B 1 Chloroethane IJ 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform TT 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 1,2-Dibromoethane IJ 0.00038 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethane U 0.00026 0.0010 mg/18260B 03/08/15 1 1,2-Dichloroethane U 0.00036 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethene 0.00040 0.0010 mg/18260B 03/08/15 1 U mg/1cis-1,2-Dichloroethene U 0.00026 0.0010 8260B 03/08/15 1 0.0010 8260B trans-1,2-Dichloroethene U 0.00040 mg/103/08/15 1 1,2-Dichloropropane 0.00031 0.0010 8260B 03/08/15 mg/10.00042 cis-1,3-Dichloropropene U 0.0010 mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 03/08/15 IJ 0.00042 0.0010 mg/18260B 1 Ethylbenzene U 0.00038 0.0010 8260B 03/08/15 mg/11 Hexachloro-1,3-butadiene 1 0.00026 0.0010 mg/18260B 03/08/15 U 2-Hexanone TT 0.0038 0.010 mg/18260B 03/08/15 1 Isopropylbenzene ŢŢ 0.00033 0.0010 mg/18260B 03/08/15 1 p-Isopropyltoluene 0.00035 0.0010 ŢŢ 8260B 03/08/15 mq/11 2-Butanone (MEK) 0.0039 0.010 8260B 03/08/15 1 TT mg/1Methylene Chloride 0.0010 0.0050 mg/lU 8260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) IJ 0.0021 0.010 mg/18260B 03/08/15 1 0.0010 0.00037 Methyl tert-butyl ether TT mg/18260B 03/08/15 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 0.00035 n-Propylbenzene IJ 0.0010 mg/18260B 03/08/15 1 ŢŢ 0.00031 0.0010 mg/18260B 03/08/15 1 Styrene 1,1,2,2-Tetrachloroethane U 0.00013 0.0010 mg/18260B 03/08/15 1 Tetrachloroethene U 0.00037 0.0010 mg/18260B 03/08/15 1 U 0.00078 0.0050 mg/18260B 03/08/15 Toluene 1,1,1-Trichloroethane ŢŢ 0.00032 0.0010 mg/18260B 03/08/15 1 1,1,2-Trichloroethane U 0.00038 0.0010 mg/18260B 03/08/15 Trichloroethene 0.00040 0.0010 8260B TT mg/103/08/15 1 03/08/15 1,2,4-Trimethylbenzene IJ 0.00037 0.0010 mg/18260B 1 1,3,5-Trimethylbenzene U 0.00039 0.0010 mq/18260B 03/08/15 1 Vinyl chloride mg/10.00026 0.0010 8260B 03/08/15 1 TT 0.0011 0.0030 mg/18260B 03/08/15 Xylenes, Total U

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L751256-22 (PH) - 7.1@21.6c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-22

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-22

Collected By : John Allen Collection Date : 02/24/15 17:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	98.9			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	96.5			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	97.4			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/04/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/04/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/04/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/04/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/04/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/04/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/13/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/04/15	
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/04/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/04/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/04/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/04/15	1
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/04/15	
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/04/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/04/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/13/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/04/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/04/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/04/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/04/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/04/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/04/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/04/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/04/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/04/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/04/15	1
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/04/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/04/15	1
Naphthalene	U	0.00037	0.0010	mg/l		8270 C	03/04/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28

L751256-22 (PH) - 7.1@21.6c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-22

Date Received : March

03, 2015 Description : Lovington Lea Refinery

Project # : 227000

Site ID :

Sample ID : MW-22

Collected By : John Allen Collection Date : 02/24/15 17:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	Ū	0.00037	0.010	mq/l		8270 C	03/04/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/l		8270 C	03/04/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/04/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/04/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/04/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/04/15	1
Di-n-butyl phthalate	0.00080	0.00027	0.0030	mg/l	J	8270 C	03/04/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/04/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/04/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/04/15	1
Acid Extractables				_				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/04/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/04/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/l		8270 C	03/04/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/04/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/04/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/04/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/04/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/04/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/04/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/04/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/04/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/04/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/04/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/04/15	
Pentachlorophenol	U	0.00031	0.010	mg/l		8270 C	03/04/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/04/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/04/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/l		8270 C	03/04/15	1
Surrogate Recovery								
2-Fluorophenol	40.6			% Rec.		8270 C	03/04/15	
Phenol-d5	29.1			% Rec.		8270 C	03/04/15	
Nitrobenzene-d5	52.5			% Rec.		8270 C	03/04/15	
2-Fluorobiphenyl	68.2			% Rec.		8270 C	03/04/15	
2,4,6-Tribromophenol	67.9			% Rec.		8270 C	03/04/15	
p-Terphenyl-d14	61.6			% Rec.		8270 C	03/04/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-22 (PH) - 7.1@21.6c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-23

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID MW - 30Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	75. 1.4 81.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	200	2.6	20.	mg/l		2320 B-	03/05/15	1
На	7.6	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	720	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	460	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0043 U 0.0027 0.0018	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/06/15 03/06/15 03/06/15 03/06/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/09/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.077 0.073 0.16 U 96. U U 12. 0.0066 U 2.2 U U 38. U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-23 (PH) - 7.6@21.7c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-23

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID MW - 30

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	Ū	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	ī
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	IJ	0.00036	0.0010	mg/1		8260B	03/08/15	ī
tert-Butylbenzene	IJ	0.00040	0.0010	mg/1		8260B	03/08/15	1
Carbon disulfide	IJ	0.00028	0.0010	mg/1		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	1
Chlorobenzene	Ū	0.00035	0.0010	mq/1		8260B	03/08/15	
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/08/15	
Chloroethane	Ū	0.00045	0.0050	mg/1		8260B	03/08/15	1
Chloroform	0.00072	0.00032	0.0050	mg/l	J	8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/08/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/l		8260B	03/08/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B	03/08/15	1
Naphthalene	U U	0.0010	0.0050	mg/1		8260B	03/08/15	1 1
n-Propylbenzene Styrene	Ū	0.00035 0.00031	0.0010 0.0010	mg/l		8260B 8260B	03/08/15 03/08/15	
1,1,2,2-Tetrachloroethane	Ū	0.00031	0.0010	mg/l mg/l		8260B 8260B	03/08/15	
Tetrachloroethene	Ū	0.00013	0.0010	mq/1		8260B	03/08/15	1
Toluene	Ŭ	0.00037	0.0010	mq/1		8260B	03/08/15	
1,1,1-Trichloroethane	Ū	0.00078	0.0010	mg/l		8260B	03/08/15	1
1,1,2-Trichloroethane	IJ	0.00032	0.0010	mg/1		8260B	03/08/15	1
Trichloroethene	Ū	0.00030	0.0010	mq/1		8260B	03/08/15	i 1
1,2,4-Trimethylbenzene	Ū	0.00037	0.0010	mg/1		8260B	03/08/15	1
1,3,5-Trimethylbenzene	Ū	0.00037	0.0010	mq/1		8260B	03/08/15	1
Vinyl chloride	Ŭ	0.00026	0.0010	mg/l		8260B	03/08/15	i
Xylenes, Total	IJ	0.0011	0.0030	mg/1		8260B	03/08/15	1
2,	-						, ,	_

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Page 84 of 164



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-23

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : MW - 30

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	94.2			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	97.6			% Rec.		8260B	03/08/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Acenaphthylene	Ū	0.00032	0.0010	mg/l		8270 C	03/06/15	
Acetophenone	IJ	0.0027	0.010	mg/l		8270 C	03/06/15	
Anthracene	IJ	0.00027	0.010	mg/l		8270 C	03/06/15	
Atrazine	IJ	0.0015	0.010	mg/l		8270 C		
Benzo(a)anthracene	IJ	0.00032	0.0010	mq/1		8270 C	03/06/15	
Benzaldehyde	Ū	0.0014	0.010	mg/l		8270 C	03/06/15	
Benzo(b)fluoranthene	Ū	0.00027	0.0010	mq/1		8270 C	03/06/15	
Benzo(k)fluoranthene	IJ	0.00027	0.0010	mg/l		8270 C		
Benzo(g,h,i)perylene	IJ	0.00033	0.0010	mg/l		8270 C	03/06/15	
Benzo(a)pyrene	IJ	0.00033	0.00020	mg/l		8270 C	03/07/15	
Biphenvl	Ū	0.000030	0.010	mq/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	Ū	0.00033	0.010	mg/l		8270 C	03/06/15	
Bis(2-chloroethyl)ether	IJ	0.0016	0.010	mg/l		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	IJ	0.00044	0.010	mg/l		8270 C	03/06/15	
4-Bromophenyl-phenylether	IJ	0.00034	0.010	mg/l		8270 C	03/06/15	
2-Chloronaphthalene	IJ	0.00033	0.0010	mg/1		8270 C	03/06/15	
4-Chlorophenyl-phenylether	IJ	0.00030	0.010	mq/1		8270 C	03/06/15	
Caprolactam	Ŭ	0.00058	0.010	mq/1		8270 C	03/06/15	
Carbazole	IJ	0.00016	0.010	mq/1		8270 C	03/06/15	
Chrysene	IJ	0.00033	0.0010	mg/1		8270 C	03/06/15	
Dibenz(a,h)anthracene	IJ	0.000064	0.00020	mg/1		8270 C		
Dibenzofuran	Ŭ	0.00034	0.010	mq/1		8270 C	03/06/15	
3,3-Dichlorobenzidine	IJ	0.0020	0.010	mq/1		8270 C	03/06/15	
2,4-Dinitrotoluene	ŢŢ	0.0016	0.010	mq/1		8270 C	03/06/15	
2,6-Dinitrotoluene	Ū	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	Ū	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	Ū	0.00032	0.0010	mg/l		8270 C	03/06/15	
Hexachlorobenzene	Ū	0.00034	0.0010	mg/l		8270 C	03/06/15	
Hexachloro-1,3-butadiene	Ū	0.00033	0.010	mg/l		8270 C	03/06/15	1
Hexachlorocyclopentadiene	Ū	0.0023	0.010	mg/l		8270 C	03/06/15	
Hexachloroethane	Ū	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Naphthalene	U	0.00037	0.0010	mg/l		8270 C	03/06/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-23

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-30

Site ID :

April 17, 2015

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 09:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/1		8270 C	03/06/15	ī
Phenanthrene	IJ	0.00037	0.0010	mq/1		8270 C	03/06/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/06/15	ī
Bis(2-ethylhexyl)phthalate	IJ	0.00071	0.0030	mg/1		8270 C	03/06/15	ī
Di-n-butyl phthalate	0.00028	0.00027	0.0030	mg/1	J	8270 C	03/06/15	1
Diethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/l		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/l		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	45.0			0 5		0050 0	00/06/15	1
2-Fluorophenol	45.0			% Rec.		8270 C	03/06/15	1
Phenol-d5	34.8			% Rec.		8270 C	03/06/15	1
Nitrobenzene-d5	61.1			% Rec.		8270 C	03/06/15	1
2-Fluorobiphenyl	88.2			% Rec.		8270 C	03/06/15	1
2,4,6-Tribromophenol	64.6			% Rec.		8270 C	03/06/15	1
p-Terphenyl-d14	71.4			% Rec.		8270 C	03/06/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-23 (PH) - 7.6@21.7c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-24

Project # : 227000

Site ID :

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-7

Collected By : John Allen Collection Date : 02/25/15 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	35. 0.71 60.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	210	2.6	20.	mg/l		2320 B-	03/05/15	1
На	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.0	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	640	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	420	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0055 0.00041 0.0011 0.0033	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	Ј Ј Ј	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.24 0.18 U 85. U U U 7.5 0.011 U 2.1 U U 45. 0.0083	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.10	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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. Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-24 (PH) - 7.5@21.4c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-24

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-7

Collected By : John Allen Collection Date : 02/25/15 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mq/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butvlbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	1
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/08/15	1
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/08/15	
Chloroethane	Ū	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B		1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/08/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/08/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-24 (PH) - 7.5@21.4c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-24

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID MW-7

Collected By : John Allen Collection Date : 02/25/15 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	88.5			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	96.0			% Rec.		8260B	03/08/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mq/l		8270 C	03/06/15	1
Acenaphthylene	Ū	0.00032	0.0010	mq/1		8270 C	03/06/15	
Acetophenone	IJ	0.0027	0.0010	mq/1		8270 C	03/06/15	
Anthracene	IJ	0.0027	0.010	mg/1		8270 C	03/06/15	
Atrazine	IJ	0.00029	0.0010	mg/1		8270 C		
Benzo(a)anthracene	IJ	0.0013	0.010	mq/1		8270 C	03/06/15	
Benzaldehyde	Ū	0.00032	0.0010	mq/1		8270 C	03/06/15	
Benzaldenyde Benzo(b)fluoranthene	Ū	0.0014	0.010					
Benzo(k)fluoranthene	IJ	0.00027	0.0010	mg/l mg/l		8270 C 8270 C	03/06/15 03/06/15	
	IJ							
Benzo(g,h,i)perylene	IJ	0.00033	0.0010 0.00020	mg/1		8270 C 8270 C		
Benzo(a)pyrene	-	0.000038	0.00020	mg/1		8270 C	03/07/15	
Biphenyl	U		0.010	mg/1			03/06/15	
Bis(2-chlorethoxy)methane	U U	0.00033 0.0016		mg/1		8270 C	03/06/15	
Bis(2-chloroethyl)ether	IJ		0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	-	0.00044	0.010	mg/1		8270 C	03/06/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C		
2-Chloronaphthalene	-	0.00033	0.0010	mg/1		8270 C		
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	
Carbazole	IJ	0.00016	0.010	mg/l		8270 C		
Chrysene	-	0.00033	0.0010	mg/1		8270 C	03/06/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C		
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C		
3,3-Dichlorobenzidine	-	0.0020	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	
2,6-Dinitrotoluene	Ŭ	0.00028	0.010	mg/l		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	
Fluorene	Ŭ	0.00032	0.0010	mg/l		8270 C	03/06/15	
Hexachlorobenzene	Ū	0.00034	0.0010	mg/l		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	Ŭ	0.00031	0.0010	mg/l		8270 C	03/06/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-24

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID MW-7

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 11:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	IJ	0.00030	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	IJ	0.00037	0.0030	mg/l		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	0.013	0.00071	0.0030	mg/1		8270 C	03/06/15	
Di-n-butyl phthalate	U	0.00071	0.0030	mg/l		8270 C	03/06/15	
Diethyl phthalate	IJ	0.00027	0.0030	mg/1		8270 C	03/06/15	
Dimethyl phthalate	IJ	0.00028	0.0030	mg/l		8270 C	03/06/15	
Di-n-octyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/06/15	
Pyrene	IJ	0.00033	0.0010	mg/1		8270 C	03/06/15	
Acid Extractables	-			5, =			,,	_
4-Chloro-3-methylphenol	U	0.00026	0.010	mq/1		8270 C	03/06/15	1
2-Chlorophenol	Ū	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	Ū	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	Ū	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	Ū	0.0026	0.010	mg/l		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/06/15	1 1 1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery								
2-Fluorophenol	27.2			% Rec.		8270 C	03/06/15	
Phenol-d5	22.8			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	32.4			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	47.7			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	37.6			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	43.8			% Rec.		8270 C	03/06/15	1

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REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-25

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : RW-1

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/25/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	26. 1.2 74.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/07/15 03/07/15 03/07/15	1
Alkalinity	180	2.6	20.	mg/l		2320 B-	03/05/15	1
Нд	7.5	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	1.6	0.020	0.10	mg/1		353.2	03/09/15	1
Specific Conductance	580	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	370	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.011 0.00042 0.0025 0.0018	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/09/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.15 0.19 U 69. U U 7.5 U U 2.3 U U 50.	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 1.0 0.010 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-25 (PH) - 7.5@21.4c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

Project # : 227000

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-25 Date Received : March

03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : RW-1

Collected By : John Allen Collection Date : 02/25/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/08/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/08/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/08/15	
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/08/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/l		8260B	03/08/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/08/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1
				-				

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-25 (PH) - 7.5@21.4c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-25

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID RW-1

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 13:10

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.3			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	95.9			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	98.1			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/l		8270 C	03/07/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/07/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/06/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/06/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/06/15	1
Hexachloroethane	Ū	0.00036	0.010	mg/l		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
Naphthalene	Ū	0.00037	0.0010	mg/1		8270 C	03/06/15	

U = ND (Not Detected)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-25

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : RW-1

Collected By : John Allen Collection Date : 02/25/15 13:10

Project # : 227000

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	Ū	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/l		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	0.0034	0.00071	0.0030	mg/l		8270 C	03/06/15	
Di-n-butyl phthalate	U	0.00027	0.0030	mg/l		8270 C	03/06/15	
Diethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	
Dimethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	
Di-n-octyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	
Pyrene	Ū	0.00033	0.0010	mg/l		8270 C	03/06/15	
Acid Extractables				3.				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/l		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/l		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/l		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery								_
2-Fluorophenol	47.5			% Rec.		8270 C	03/06/15	
Phenol-d5	35.8			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	61.7			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	84.2			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	74.4			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	73.2			% Rec.		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-26

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

MW-1

Site ID :

Collected By : John Allen Collection Date : 02/25/15 14:25

Project # : 227000

26. 1.1 66. 190 7.3	0.052 0.0099 0.077 2.6	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056 2320 B-	03/06/15 03/06/15 03/06/15	1 1 1
7.3	-33.	20.	mg/l		2320 B-	03/11/15	1
						03/11/13	Т
1.5			su	JT8	9040C	03/04/15	1
	0.020	0.10	mg/l		353.2	03/09/15	1
620	-33.		umhos/cm	J	9050A	03/09/15	1
390	2.8	10.	mg/l		2540 C-	03/06/15	1
0.012 0.00048 0.0025 0.0022	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	Ј Ј Ј	6020 6020 6020 6020	03/08/15 03/08/15	1 1 1
U	0.000049	0.00020	mg/l		7470A	03/06/15	1
U 0.13 0.18 U 87. U U U U 1.9 U 40. 0.0067	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 1.0 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15	1 1 1
,	620 390 0.012 .00048 0.0025 0.0022 U 0.13 0.18 U 87. U U U 1.9 U 40. 0.0067	620 -33. 390 2.8 0.012 0.00025 .00048 0.00024 0.0025 0.00014 0.0022 0.00033 U 0.000049 U 0.035 0.13 0.0017 0.18 0.013 U 0.00070 87. 0.046 U 0.0014 U 0.0023 U 0.0053 U 0.0053 U 0.014 8.1 0.011 U 0.0012 U 0.0049 1.9 0.10 U 0.0049 1.9 0.10 U 0.0074 U 0.0074 U 0.0078 40. 0.098 0.0067 0.0059	620 -33. 390 2.8 10. 0.012 0.00025 0.0020 .00048 0.00024 0.0020 0.0025 0.00014 0.0050 0.0022 0.00033 0.010 U 0.000049 0.00020 U 0.035 0.10 0.13 0.0017 0.0050 0.18 0.013 0.20 U 0.00070 0.0050 87. 0.046 1.0 U 0.0014 0.010 U 0.0023 0.010 U 0.0023 0.010 U 0.0053 0.20 U 0.014 0.10 U 0.0053 0.020 U 0.014 0.10 U 0.0023 0.010 U 0.0049 0.020 1.9 0.10 1.0 U 0.0049 0.020 1.9 0.10 1.0 U 0.0028 0.010 U 0.0028 0.010 U 0.0028 0.010 40. 0.098 1.0 0.0067 0.0059 0.050	620 -33. umhos/cm 390 2.8 10. mg/l 0.012 0.00025 0.0020 mg/l 0.0048 0.00024 0.0020 mg/l 0.0025 0.00014 0.0050 mg/l 0.0022 0.00033 0.010 mg/l U 0.00049 0.00020 mg/l U 0.0035 0.10 mg/l 0.13 0.0017 0.0050 mg/l 0.18 0.013 0.20 mg/l U 0.00070 0.0050 mg/l 0.18 0.013 0.20 mg/l U 0.00070 0.0050 mg/l 0.18 0.013 0.20 mg/l U 0.00070 0.0050 mg/l 87. 0.046 1.0 mg/l U 0.0014 0.010 mg/l U 0.0023 0.010 mg/l U 0.0053 0.020 mg/l U 0.0053 0.020 mg/l U 0.0049 0.020 mg/l 0 0.014 0.10 mg/l 0 0.012 0.010 mg/l 0 0.0049 0.020 mg/l 1.9 0.10 1.0 mg/l 0 0.0049 0.020 mg/l 1.9 0.10 1.0 mg/l 0 0.0028 0.010 mg/l 0 0.0028 0.010 mg/l 0 0.0067 0.0059 0.050 mg/l	620 -33. umhos/cm J 390 2.8 10. mg/l 0.012 0.00025 0.0020 mg/l .00048 0.00024 0.0020 mg/l 0.0025 0.00014 0.0050 mg/l 0.0022 0.00033 0.010 mg/l U 0.000049 0.00020 mg/l U 0.0035 0.10 mg/l 0.13 0.0017 0.0050 mg/l 0.18 0.013 0.20 mg/l U 0.00070 0.0050 mg/l 87. 0.046 1.0 mg/l U 0.0014 0.010 mg/l U 0.0023 0.010 mg/l U 0.0053 0.020 mg/l U 0.0053 0.020 mg/l U 0.0053 0.020 mg/l U 0.0054 0.010 mg/l U 0.0054 0.010 mg/l U 0.0058 0.020 mg/l 0 0.014 0.10 mg/l 0 0.014 0.10 mg/l 0 0.014 0.10 mg/l 0 0.014 0.10 mg/l 0 0.0049 0.020 mg/l 1.9 0.10 1.0 mg/l 0 0.0049 0.020 mg/l 1.9 0.10 1.0 mg/l 0 0.0028 0.010 mg/l 0 0.0067 0.0059 0.050 mg/l 0 0.0067 0.0059 0.050 mg/l 0 0.010 mg/l 0 0.0067 0.0059 0.050 mg/l 0 0.00033 0.0010 mg/l	620 -33. umhos/cm J 9050A 390 2.8 10. mg/l 2540 C- 0.012 0.00025 0.0020 mg/l 6020 0.0048 0.00024 0.0020 mg/l J 6020 0.0025 0.00014 0.0050 mg/l J 6020 0.0022 0.00033 0.010 mg/l J 6020 U 0.000049 0.00020 mg/l J 6020 U 0.00049 0.00020 mg/l J 6010B 0.13 0.0017 0.0050 mg/l 6010B 0.18 0.013 0.20 mg/l J 6010B U 0.00070 0.0050 mg/l 6010B U 0.00070 0.0050 mg/l 6010B U 0.0014 0.010 mg/l 6010B U 0.0023 0.010 mg/l 6010B U 0.0053 0.020 mg/l 6010B U 0.0053 0.020 mg/l 6010B U 0.0014 0.010 mg/l 6010B U 0.0053 0.020 mg/l 6010B U 0.0053 0.020 mg/l 6010B U 0.0053 0.020 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.10 mg/l 6010B U 0.0014 0.00 mg/l 6010B U 0.0014 0.00 mg/l 6010B U 0.0049 0.020 mg/l 6010B U 0.0049 0.020 mg/l 6010B U 0.0049 0.020 mg/l 6010B U 0.0049 0.020 mg/l 6010B U 0.0049 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B U 0.0074 0.020 mg/l 6010B	620 -33.

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-26 (PH) - 7.3@21.5c

Page 95 of 164



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-26

Project #: 227000

Date Received : March 03, 2015
Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-1

Collected By : John Allen Collection Date : 02/25/15 14:25

Parameter MDL RDL Units Qualifier Method Date Result Dil. Bromoform 0.00047 0.0010 8260B 03/08/15 TT mq/11 03/08/15 Bromomethane U 0.00087 0.0050 8260B mq/11 n-Butylbenzene 0.00036 0.0010 8260B 03/08/15 IJ mg/11 sec-Butvlbenzene 0.00036 0.0010 mg/18260B 03/08/15 1 U tert-Butylbenzene 0.00040 0.0010 8260B 03/08/15 TT mg/11 Carbon disulfide 0.00028 IJ 0.0010 8260B 03/08/15 mg/11 0.0010 0.00038 Carbon tetrachloride 8260B 03/08/15 TT mq/11 0.00035 0.0010 03/08/15 1 Chlorobenzene TT mg/18260B 0.0010 03/08/15 Chlorodibromomethane 0.00033 TT mg/18260B 1 Chloroethane IJ 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform TT 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 1,2-Dibromoethane IJ 0.00038 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethane U 0.00026 0.0010 mg/18260B 03/08/15 1 1,2-Dichloroethane U 0.00036 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethene U 0.00040 0.0010 mg/18260B 03/08/15 1 mg/1cis-1,2-Dichloroethene U 0.00026 0.0010 8260B 03/08/15 1 0.0010 trans-1,2-Dichloroethene U 0.00040 mg/18260B 03/08/15 1 1,2-Dichloropropane 0.00031 0.0010 8260B 03/08/15 mg/1cis-1,3-Dichloropropene 0.00042 0.0010 U mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 03/08/15 IJ 0.00042 0.0010 mg/18260B 1 Ethylbenzene U 0.00038 0.0010 8260B 03/08/15 mg/11 Hexachloro-1,3-butadiene 1 0.00026 0.0010 mg/18260B 03/08/15 U 2-Hexanone TT 0.0038 0.010 mg/18260B 03/08/15 1 Isopropylbenzene ŢŢ 0.00033 0.0010 mg/18260B 03/08/15 1 p-Isopropyltoluene 0.00035 0.0010 ŢŢ 8260B 03/08/15 mq/11 2-Butanone (MEK) 0.0039 0.010 8260B 03/08/15 1 TT mg/1Methylene Chloride 0.0010 0.0050 mg/lU 8260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) TT 0.0021 0.010 mg/18260B 03/08/15 1 0.0010 0.00037 Methyl tert-butyl ether TT mg/18260B 03/08/15 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 0.00035 n-Propylbenzene IJ 0.0010 mg/18260B 03/08/15 1 ŢŢ 0.00031 0.0010 mg/18260B 03/08/15 1 Styrene 1,1,2,2-Tetrachloroethane U 0.00013 0.0010 mg/18260B 03/08/15 1 Tetrachloroethene U 0.00037 0.0010 mg/18260B 03/08/15 1 U 0.00078 0.0050 mg/18260B 03/08/15 Toluene 1,1,1-Trichloroethane ŢŢ 0.00032 0.0010 mg/18260B 03/08/15 1 1,1,2-Trichloroethane U 0.00038 0.0010 mg/18260B 03/08/15 Trichloroethene 0.00040 0.0010 8260B TT mg/103/08/15 1 1,2,4-Trimethylbenzene IJ 0.00037 0.0010 mg/18260B 03/08/15 1 1,3,5-Trimethylbenzene U 0.00039 0.0010 mq/18260B 03/08/15 1 Vinyl chloride mg/10.00026 0.0010 8260B 03/08/15 1 TT 0.0011 0.0030 mg/18260B 03/08/15 Xylenes, Total U

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28

L751256-26 (PH) - 7.3@21.5c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015 John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-26

227000

Project # :

Date Received March 03, 2015

Description Lovington Lea Refinery

Site ID : Sample ID MW-1

Collected By John Allen Collection Date : 02/25/15 14:25

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 101. % Rec. 8260B 03/08/15 1 Dibromofluoromethane 8260B 03/08/15 95.2 % Rec. 1 4-Bromofluorobenzene 96.3 % Rec. 8260B 03/08/15 1 Base/Neutral Extractables 0.00032 0.0010 Acenaphthene TT 8270 C 03/06/15 mq/11 0.0010 8270 C 0.00031 03/06/15 Acenaphthylene 1 TT mg/10.0027 Acetophenone 0.010 03/06/15 8270 C TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/06/15 1 03/06/15 Atrazine TT 0.0015 0.010 mg/18270 C 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/06/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 mg/18270 C 03/06/15 mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/06/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/18270 C 03/06/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/07/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/06/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/06/15 U mg/1Bis(2-chloroethyl)ether 0.010 8270 C U 0.0016 mg/103/06/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/06/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/06/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/06/15 U 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 03/06/15 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/06/15 1 Carbazole 0.00016 ŢŢ 0.010 8270 C 03/06/15 mq/11 8270 C 0.0010 TT 0.00033 03/06/15 1 Chrysene mg/10.00020 03/07/15 0.000064 mg/1Dibenz(a.h)anthracene U 8270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/06/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 U 0.010 mg/103/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/06/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/06/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/18270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/06/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/06/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/06/15 Indeno(1,2,3-cd)pyrene 0.00028 0.0010 8270 C U mg/103/06/15 1 8270 C 03/06/15 Isophorone IJ 0.00027 0.010 mg/11 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/06/15 ma/11 2-Methylnaphthalene mg/18270 C 0.00031 0.0010 03/06/15 1 U 0.00037 0.0010 mg/18270 C 03/06/15 Naphthalene U

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28

L751256-26 (PH) - 7.3@21.5c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-26

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-1

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mq/1		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mq/1		8270 C	03/06/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	0.0036	0.00071	0.0030	mg/l		8270 C	03/06/15	
Di-n-butyl phthalate	U	0.00027	0.0030	mg/1		8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	22.5			. –		0000 ~	00/06/45	
2-Fluorophenol	33.6			% Rec.		8270 C	03/06/15	
Phenol-d5	27.6			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	43.1			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	71.3			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	84.6			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	77.0			% Rec.		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-26 (PH) - 7.3@21.5c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-27

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-6

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/25/15 15:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	42. 0.58 67.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/06/15 03/06/15 03/06/15	1
Alkalinity	270	2.6	20.	mg/l	Ј6	2320 B-	03/11/15	1
Нq	7.2	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	0.17	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	790	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	500	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0061 0.00072 0.0026 0.0066	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	Ј Ј Ј	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Mickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	0.092 0.19 0.19 U 100 U U U 0.015 11. 1.0 U 3.2 U U U 0.000	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 1.0 0.010 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Tax I.D. 62-0814289

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REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-27

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-6

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 15:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	1
n-Butylbenzene	ŢŢ	0.00036	0.0010	mq/1		8260B	03/08/15	1
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	1
tert-Butylbenzene	Ū	0.00040	0.0010	mq/1		8260B	03/08/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/08/15	1
Carbon tetrachloride	Ū	0.00038	0.0010	mq/1		8260B	03/08/15	1
Chlorobenzene	Ū	0.00035	0.0010	mg/1		8260B	03/08/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/08/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/08/15	1 1
Vinyl chloride	IJ	0.00026 0.0011	0.0010 0.0030	mg/l		8260B 8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8200B	03/08/15	Т

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-27 (PH) - 7.2@21.5c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-27

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-6

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 15:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.6			% Rec.		8260B	03/08/15	
Dibromofluoromethane	96.2			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	96.6			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/07/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/06/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/06/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/06/15	1
Hexachloroethane	Ū	0.00036	0.010	mg/l		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mg/l		8270 C	03/06/15	
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
Naphthalene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
•	-		- · · · · ·	J			-,	

U = ND (Not Detected)

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RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-27

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID MW-6

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 15:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene n-Nitrosodiphenylamine n-Nitrosodi-n-propylamine Phenanthrene Benzylbutyl phthalate Bis(2-ethylhexyl)phthalate Di-n-butyl phthalate Diethyl phthalate Dimethyl phthalate Dimethyl phthalate Di-n-octyl phthalate	U U U U 0.0012 0.00029 U U	0.00037 0.00030 0.00040 0.00037 0.00028 0.00071 0.00027 0.00028 0.00028	0.010 0.010 0.010 0.0010 0.0030 0.0030 0.0030 0.0030 0.0030	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1
Pyrene	IJ	0.00028	0.0010	mg/1		8270 C	03/06/15	
Acid Extractables 4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 4,6-Dinitro-2-methylphenol 2,4-Dinitrophenol 2-Nitrophenol 2-Nitrophenol 2-Nitroaniline 2-Methylphenol 3&4-Methyl Phenol 3-Nitroaniline 4-Chloroaniline 4-Nitroaniline 4-Nitrophenol Pentachlorophenol Phenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט ט	0.00033 0.00026 0.00028 0.00062 0.0026 0.0032 0.0019 0.00031 0.00037 0.00031 0.00035 0.0020 0.0031 0.00033	0.0010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1		8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1 1 1 1 1 1 1 1 1 1
Surrogate Recovery 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol p-Terphenyl-d14	27.3 19.5 54.3 81.5 83.6 72.3			% Rec. % Rec. % Rec. % Rec. % Rec. % Rec.		8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/06/15 03/06/15 03/06/15 03/06/15 03/06/15 03/06/15	1 1 1 1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-28

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-9

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	49. 0.69 69.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/06/15 03/06/15 03/06/15	1
Alkalinity	190	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.7	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.5	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	710	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	440	2.8	10.	mg/1		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0087 U 0.0014 0.0031	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/1		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.10 0.18 U 57. U U U 0 6.0 U U 2.6 U U 2.6 U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.020 0.10 0.010 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-28 (PH) - 7.7@21.5c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-28

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-9

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/1		8260B	03/08/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	, , -	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U U	0.00039	0.0010	mg/l		8260B	03/08/15	
Vinyl chloride	IJ	0.00026	0.0010 0.0030	mg/l		8260B 8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		ø⊿o∪B	03/08/15	Τ

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-28

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID MW-9

Project #: 227000 Collected By : John Allen Collection Date : 02/25/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	03/08/15	
Dibromofluoromethane	95.2			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	97.1			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/l		8270 C	03/06/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/l		8270 C	03/07/15	1
Biphenyl	U	0.00021	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/06/15	
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/07/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/l		8270 C	03/06/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/06/15	1
Hexachloroethane	Ū	0.00036	0.010	mg/l		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mg/l		8270 C	03/06/15	
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mq/1		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
Naphthalene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-28 (PH) - 7.7@21.5c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

April 17, 2015

ESC Sample # : L751256-28

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-9

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mq/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/l		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	U	0.00040	0.010	mg/l		8270 C	03/06/15	1
Phenanthrene	U	0.00037	0.0010	mg/l		8270 C	03/06/15	1
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Bis(2-ethylhexyl)phthalate	0.0023	0.00071	0.0030	mg/1	J	8270 C	03/06/15	1
Di-n-butyl phthalate	0.00029	0.00027	0.0030	mg/1	J	8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/l		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery								
2-Fluorophenol	46.3			% Rec.		8270 C	03/06/15	
Phenol-d5	35.4			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	63.8			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	83.1			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	79.6			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	72.2			% Rec.		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-29

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-29

Site ID :

Project # : 227000

Collected By : John Allen
Collection Date : 02/25/15 18:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	250 0.95 90.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	330	2.6	20.	mg/l		2320 B-	03/11/15	1
рН	7.2	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	5.6	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1600	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	1000	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0020 U 0.0012 0.0062	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.13 0.26 U 230 0.24 U U 31. U U 3.3 U U 83. 0.013	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	ט ט ט	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-29 (PH) - 7.2@21.3c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-29

Project # : 227000

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-29

Collected By : John Allen
Collection Date : 02/25/15 18:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mq/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mg/l		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butvlbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	1
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/08/15	1
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/08/15	
Chloroethane	Ū	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B		1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/08/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/08/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-29 (PH) - 7.2@21.3c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-29

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-29

Project # : 227000

Collected By : John Allen
Collection Date : 02/25/15 18:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.7			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	95.2			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	97.7			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/06/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	1
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/06/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-29 (PH) - 7.2@21.3c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-29

Date Received : March Description

03, 2015 : Lovington Lea Refinery

Site ID :

Sample ID : MW-29

Project # : 227000

Collected By : John Allen
Collection Date : 02/25/15 18:40

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/06/15	
n-Nitrosodiphenylamine	U	0.00030	0.010	mg/l		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	U	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	U	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/1	-	8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	0.00078	0.00071	0.0030	mg/l	J	8270 C	03/06/15	
Di-n-butyl phthalate	U U	0.00027 0.00028	0.0030	mg/1		8270 C 8270 C	03/06/15	
Diethyl phthalate	IJ	0.00028	0.0030	mg/1			03/06/15	
Dimethyl phthalate	IJ	0.00028	0.0030	mg/1		8270 C	03/06/15	
Di-n-octyl phthalate	IJ	0.00028		mg/l		8270 C	03/06/15	
Pyrene Acid Extractables	U	0.00033	0.0010	mg/1		8270 C	03/06/15	Ι Τ
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/06/15	1
2-Chlorophenol	IJ	0.00028	0.010	mq/1		8270 C	03/06/15	
2,4-Dichlorophenol	IJ	0.00028	0.010	mq/1		8270 C	03/06/15	
2,4-Dieniorophenor	IJ	0.00028	0.010	mg/l		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	Ū	0.00062	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrophenol	IJ	0.0020	0.010	mg/l		8270 C	03/06/15	
2-Nitrophenol	II	0.00032	0.010	mq/1		8270 C	03/06/15	
2-Nitrophenoi 2-Nitroaniline	IJ	0.00032	0.010	mg/l		8270 C	03/06/15	
2-Nitroaniiine 2-Methylphenol	Ū	0.00031	0.010	mg/l		8270 C	03/06/15	
3&4-Methyl Phenol	IJ	0.00031	0.010	mg/l		8270 C	03/06/15	
3-Nitroaniline	IJ	0.00027	0.010	mg/l		8270 C	03/06/15	
4-Chloroaniline	IJ	0.00031	0.010	mg/l		8270 C	03/06/15	
4-Nitroaniline	Ū	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	Ū	0.0020	0.010	mg/l		8270 C	03/06/15	
Pentachlorophenol	IJ	0.00031	0.010	mq/1		8270 C	03/06/15	
Phenol	0.00039	0.00033	0.010	mg/l	J	8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1	G	8270 C	03/06/15	
2,4,6-Trichlorophenol	IJ	0.00030	0.010	mg/1		8270 C	03/06/15	
Surrogate Recovery	· ·	0.0000	0.010	5/ =		02/0 0	00,00,10	_
2-Fluorophenol	40.9			% Rec.		8270 C	03/06/15	1
Phenol-d5	30.8			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	57.3			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	86.0			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	74.7			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	72.8			% Rec.		8270 C	03/06/15	

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-29 (PH) - 7.2@21.3c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-30

Project # : 227000

Date Received : March 03, 2015

Description

: Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-23

Collected By : John Allen Collection Date : 02/25/15 10:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	57. 0.63 92.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	260	2.6	20.	mg/l		2320 B-	03/11/15	1
На	7.3	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	3.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1700	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	1000	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0024 0.00031 0.0017 0.0052	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	0.042 0.11 0.21 U 230 U U U 25. U U U 4.0 U U 0.046	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-30 (PH) - 7.3@21.3c

Page 111 of 164



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-30

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : MW-23

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 10:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mq/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B		
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/08/15	
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B	03/08/15	
Chloroethane	Ū	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	Ū	0.00032	0.0050	mg/l		8260B		
Chloromethane	Ū	0.00028	0.0025	mg/l		8260B	03/08/15	
1,2-Dibromoethane	Ū	0.00038	0.0010	mg/l		8260B		
1,1-Dichloroethane	Ū	0.00026	0.0010	mg/l		8260B		
1,2-Dichloroethane	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
1,1-Dichloroethene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
cis-1,2-Dichloroethene	Ū	0.00026	0.0010	mg/l		8260B	03/08/15	
trans-1,2-Dichloroethene	Ū	0.00040	0.0010	mg/l		8260B		
1,2-Dichloropropane	Ū	0.00031	0.0010	mg/1		8260B		
cis-1,3-Dichloropropene	Ū	0.00042	0.0010	mg/l		8260B	03/08/15	
trans-1,3-Dichloropropene	Ū	0.00042	0.0010	mg/l		8260B	03/08/15	
Ethylbenzene	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	
Hexachloro-1,3-butadiene	Ū	0.00026	0.0010	mg/l		8260B		
2-Hexanone	Ū	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	Ū	0.00033	0.0010	mg/l		8260B	03/08/15	
p-Isopropyltoluene	Ū	0.00035	0.0010	mg/l		8260B	03/08/15	
2-Butanone (MEK)	Ū	0.0039	0.010	mg/l		8260B		
Methylene Chloride	Ū	0.0010	0.0050	mg/l		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	Ū	0.0021	0.010	mg/1		8260B		
Methyl tert-butyl ether	Ū	0.00037	0.0010	mg/l		8260B	03/08/15	
Naphthalene	Ū	0.0010	0.0050	mg/l		8260B		
n-Propylbenzene	Ū	0.00035	0.0010	mg/l		8260B		
Styrene	Ū	0.00031	0.0010	mg/l		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	Ū	0.00013	0.0010	mg/l		8260B		
Tetrachloroethene	ŢŢ	0.00037	0.0010	mg/l		8260B	03/08/15	
Toluene	Ū	0.00078	0.0050	mg/l		8260B	03/08/15	
1,1,1-Trichloroethane	Ū	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	Ū	0.00038	0.0010	mq/1		8260B	03/08/15	
Trichloroethene	Ū	0.00040	0.0010	mq/1		8260B	03/08/15	
1,2,4-Trimethylbenzene	Ū	0.00037	0.0010	mq/1		8260B		
1,3,5-Trimethylbenzene	Ū	0.00039	0.0010	mg/l		8260B	03/08/15	
Vinyl chloride	Ū	0.00026	0.0010	mg/l		8260B	03/08/15	
Xylenes, Total	11	0.0011	0.0030	mg/l		8260B	03/08/15	1
	Ü	0.0011	3.0000	5/ =		02000	20,00,10	-

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-30 (PH) - 7.3@21.3c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

227000

Project # :

REPORT OF ANALYSIS

April 17, 2015 John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-30

Date Received March 03, 2015 Description Lovington Lea Refinery

Site ID : Sample ID MW - 23

Collected By John Allen Collection Date : 02/25/15 10:20

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 103. % Rec. 8260B 03/08/15 1 Dibromofluoromethane 03/08/15 89.2 % Rec. 8260B 1 4-Bromofluorobenzene 95.5 % Rec. 8260B 03/08/15 1 Base/Neutral Extractables 0.00032 0.0010 8270 C 8270 C Acenaphthene TT 03/06/15 mq/11 0.00031 Acenaphthylene 03/06/15 TT mg/11 0.0027 0.010 03/06/15 8270 C Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/06/15 1 0.0015 Atrazine TT 0.010 mg/18270 C 03/06/15 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/06/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 8270 C 03/06/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/06/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/18270 C 03/06/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/07/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/06/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/06/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/06/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/06/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/06/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/06/15 U 03/06/15 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/06/15 1 0.00016 Carbazole ŢŢ 0.010 8270 C 03/06/15 mq/11 8270 C 0.0010 TT 0.00033 1 Chrysene mg/103/06/15 03/07/15 0.000064 0.00020 Dibenz(a.h)anthracene U mg/18270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/06/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 03/06/15 U 0.010 mg/11 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/06/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/06/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/06/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/06/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/06/15 mg/1Hexachloroethane U 0.00036 0.010 8270 C 03/06/15 0.00028 0.0010 8270 C Indeno(1,2,3-cd)pyrene U mg/103/06/15 1 8270 C Isophorone IJ 0.00027 0.010 mg/103/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/06/15 ma/11 2-Methylnaphthalene mg/18270 C 0.00031 0.0010 03/06/15 1 U 0.00037 0.0010 8270 C 03/06/15 Naphthalene U mg/1

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L751256-30 (PH) - 7.3@21.3c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-30

Date Received : March 03, 2015 : Lovington Lea Refinery

Description

Site ID :

Sample ID : MW-23

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 10:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Bis(2-ethylhexyl)phthalate	0.00074	0.00071	0.0030	mg/l	J	8270 C	03/06/15	1
Di-n-butyl phthalate	U	0.00027	0.0030	mg/l		8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/l		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/l		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/l		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/l		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	IJ	0.00024 0.00030	0.010	mg/l mg/l		8270 C 8270 C	03/06/15 03/06/15	
Surrogate Recovery	U	0.00030	0.010	1119/1		8270 C	03/06/15	1
2-Fluorophenol	42.8			% Rec.		8270 C	03/06/15	1
Phenol-d5	33.0			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	60.5			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	82.4			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	73.9			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	71.9			% Rec.		8270 C	03/06/15	
b rerbuent ara	11.9			0 1/60.		02/0 C	03/00/13	_

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-31

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-24

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 13:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	24. 2.7 42.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/06/15 03/06/15 03/06/15	1
Alkalinity	190	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.7	-33.		su	JT8	9040C	03/04/15	1
Nitrate-Nitrite	2.8	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	580	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	360	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0055 U 0.0025 0.0026	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	0.040 0.078 0.19 U 81. U U U 10. U U U 1.9 U U 37. 0.013	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020 0.020	mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1 mg/1	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-31 (PH) - 7.7@21.0c

Page 115 of 164



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-31

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-24

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 13:15

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	1
n-Butylbenzene	ŢŢ	0.00036	0.0010	mq/1		8260B	03/08/15	1
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	1
tert-Butylbenzene	Ū	0.00040	0.0010	mq/1		8260B	03/08/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/08/15	1
Carbon tetrachloride	Ū	0.00038	0.0010	mq/1		8260B	03/08/15	1
Chlorobenzene	Ū	0.00035	0.0010	mg/1		8260B	03/08/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/08/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/l		8260B	03/08/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2,4-Trimethylbenzene	IJ	0.00037	0.0010	mg/l		8260B	03/08/15	1
1,3,5-Trimethylbenzene Vinyl chloride	IJ	0.00039 0.00026	0.0010 0.0010	mg/l		8260B	03/08/15	1 1
	IJ	0.00026	0.0010	mg/l		8260B 8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8200B	03/08/15	Т

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-31 (PH) - 7.7@21.0c



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Tax I.D. 62-0814289

Est. 1970

Site ID :

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-31

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Sample ID : MW-24 Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 13:15

Surrogate Recovery	Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Dibromofluoromethane	Surrogate Recovery								
Base/Neutral Extractables	Toluene-d8	99.4			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables	Dibromofluoromethane	98.2			% Rec.		8260B	03/08/15	1
Acenaphthene U	4-Bromofluorobenzene	97.3			% Rec.		8260B	03/08/15	1
Acenaphthylene	Base/Neutral Extractables								
Acetophenome U	Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Anthracene Atrazine U 0.00029 0.0010 mg/1 8270 C 03/06/15 1 Benzo(a)anthracene U 0.00032 0.0010 mg/1 8270 C 03/06/15 1 Benzo(b)fluoranthene U 0.00032 0.0010 mg/1 8270 C 03/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 mg/1 8270 C 03/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 mg/1 8270 C 03/06/15 1 Benzo(b)fluoranthene U 0.00036 0.0010 mg/1 8270 C 03/06/15 1 Benzo(g),h,i)perylene U 0.00033 0.0010 mg/1 8270 C 03/06/15 1 Benzo(a)pyrene U 0.00033 0.0010 mg/1 8270 C 03/06/15 1 Benzo(a)pyrene U 0.00033 0.0010 mg/1 8270 C 03/06/15 1 Bishenyl	Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Atrazine	Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Benzo(a)anthracene	Anthracene		0.00029	0.0010	mg/1		8270 C	03/06/15	1
Benzaldehyde	Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(b)fluoranthene	Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Benzo(k)fluoranthene	Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	1
Benzo(a) yrene	Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Biphenyl	Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Bis(2-chloroethyl)ether U 0.0016 0.010 mg/l 8270 C 03/06/15 1 Bis(2-chloroisopropyl)ether U 0.00034 0.010 mg/l 8270 C 03/06/15 1 4-Bromophenyl-phenylether U 0.00033 0.010 mg/l 8270 C 03/06/15 1 2-Chloronaphthalene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 4-Chlorophenyl-phenylether U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00058 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/0	Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	1
Bis(2-chloroethyl)ether	Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether U 0.00044 0.010 mg/l 8270 C 03/06/15 1 4-Bromophenyl-phenylether U 0.00034 0.010 mg/l 8270 C 03/06/15 1 2-Chloronaphthalene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 4-Chlorophenyl-phenylether U 0.00030 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00058 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.00034 0.0010 mg/l 8270 C 03/06/15	Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
4-Bromophenyl-phenylether U 0.00034 0.010 mg/l 8270 C 03/06/15 1 2-Chloronaphthalene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 4-Chlorophenyl-phenylether U 0.00030 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00058 0.010 mg/l 8270 C 03/06/15 1 Carbazole U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.000034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.00034 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l <	Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	1
2-Chloronaphthalene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 4-Chlorophenyl-phenylether U 0.00030 0.010 mg/l 8270 C 03/06/15 1 Carbazole U 0.00058 0.010 mg/l 8270 C 03/06/15 1 Carbazole U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.00034 0.0020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.00020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.00020 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00038 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether U 0.00030 0.010 mg/l 8270 C 03/06/15 1 Caprolactam U 0.00018 0.010 mg/l 8270 C 03/06/15 1 Carbazole U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.000034 0.010 mg/l 8270 C 03/06/15 1 Jay-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00031 0.0010 mg/l 8270	4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	1
Caprolactam U 0.00058 0.010 mg/l 8270 C 03/06/15 1 Carbazole U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Carbazole U 0.00016 0.010 mg/l 8270 C 03/06/15 1 Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 <tr< td=""><td>4-Chlorophenyl-phenylether</td><td>U</td><td>0.00030</td><td>0.010</td><td>mg/1</td><td></td><td>8270 C</td><td>03/06/15</td><td>1</td></tr<>	4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Chrysene U 0.00033 0.0010 mg/l 8270 C 03/06/15 1 Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/06/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00027 0.010 mg/l 8270 C 03/06/15 1 Indenophrhalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Indenophrhalene	Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene U 0.000064 0.00020 mg/l 8270 C 03/07/15 1 Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00034 0.0010 mg	Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	1
Dibenzofuran U 0.00034 0.010 mg/l 8270 C 03/06/15 1 3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocthane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Indenophrane U 0.00031 0.0010 mg/l	Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
3,3-Dichlorobenzidine U 0.0020 0.010 mg/l 8270 C 03/06/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	
2,4-Dinitrotoluene U 0.0016 0.010 mg/l 8270 C 03/06/15 1 2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U	Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	
2,6-Dinitrotoluene U 0.00028 0.010 mg/l 8270 C 03/06/15 1 Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Fluoranthene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 I-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	1
Fluorene U 0.00032 0.0010 mg/l 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
Hexachlorobenzene U 0.00034 0.0010 mg/l 8270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Hexachloro-1,3-butadiene U 0.00033 0.010 mg/l 8270 C 03/06/15 1 1 Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 1		U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene U 0.0023 0.010 mg/l 8270 C 03/06/15 1 Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	1
Hexachloroethane U 0.00036 0.010 mg/l 8270 C 03/06/15 1 Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Indeno(1,2,3-cd)pyrene U 0.00028 0.0010 mg/l 8270 C 03/06/15 1 Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	1
Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	1
Isophorone U 0.00027 0.010 mg/l 8270 C 03/06/15 1 1-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1 2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/06/15	1
2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1		U	0.00027	0.010	mg/l		8270 C	03/06/15	1
2-Methylnaphthalene U 0.00031 0.0010 mg/l 8270 C 03/06/15 1	1-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Naphthalene U 0.00037 0.0010 mg/l 8270 C 03/06/15 1		U	0.00031	0.0010			8270 C	03/06/15	1
	Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-31 (PH) - 7.7@21.0c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015 John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-31

Project #: 227000

Date Received March 03, 2015 Description Lovington Lea Refinery

Site ID : Sample ID MW - 2.4

Collected By : John Allen Collection Date : 02/25/15 13:15

RDL Qualifier Method Date Parameter Result MDL Units Dil. 0.00037 0.010 8270 C 03/06/15 Nitrobenzene TT mq/1mg/103/06/15 n-Nitrosodiphenylamine 0.00030 0.010 8270 C U 1 n-Nitrosodi-n-propylamine 0.00040 0.010 8270 C 03/06/15 ŢŢ mg/11 03/06/15 Phenanthrene 0.00037 0.0010 mg/18270 C 1 U Benzylbutyl phthalate 0.00028 0.0030 8270 C 03/06/15 TT mg/11 8270 C Bis(2-ethylhexyl)phthalate 0.00071 0.0030 03/06/15 IJ mg/11 Di-n-butyl phthalate 0.0030 0.00027 0.00031 8270 C 03/06/15 mg/1ıΤ 1 8270 C 0.00028 0.0030 1 Diethyl phthalate TT mg/103/06/15 Dimethyl phthalate Di-n-octyl phthalate 0.00028 0.0030 8270 C 8270 C 8270 C TT mg/103/06/15 1 IJ 0.00028 0.0030 mg/103/06/15 1 03/06/15 Pvrene TT 0.00033 0.0010 mg/11 Acid Extractables 4-Chloro-3-methylphenol IJ 0.00026 0.010 mg/18270 C 03/06/15 1 2-Chlorophenol U 0.00028 0.010 mg/18270 C 03/06/15 mg/12,4-Dichlorophenol U 0.00028 0.010 8270 C 03/06/15 1 2,4-Dimethylphenol 0.00062 0.010 mg/18270 C 03/06/15 1 U 4,6-Dinitro-2-methylphenol U 0.0026 0.010 mg/18270 C 03/06/15 1 2,4-Dinitrophenol U 0.0032 0.010 mg/18270 C 03/06/15 1 U 0.00032 0.010 8270 C 03/06/15 2-Nitrophenol mg/12-Nitroaniline U 0.0019 0.010 mg/18270 C 03/06/15 1 0.00031 8270 C 03/06/15 2-Methylphenol U 0.010 mg/11 3&4-Methyl Phenol 3-Nitroaniline U 0.00027 0.010 8270 C 03/06/15 mg/11 mg/18270 C 1 0.00031 0.010 03/06/15 U 4-Chloroaniline TT 0.00038 0.010 mg/18270 C 03/06/15 1 4-Nitroaniline ŢŢ 0.00035 0.010 mg/18270 C 03/06/15 1 0.0020 03/06/15 4-Nitrophenol ŢŢ 0.010 8270 C mq/11 8270 C Pentachlorophenol 0.00031 0.010 03/06/15 1 TT mg/10.010 0.00033 Phenol U mg/18270 C 03/06/15 1 8270 C 03/06/15 8270 C 03/06/15 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol IJ 0.00024 0.010 mg/11 U 0.00030 0.010 mg/11 Surrogate Recovery 8270 C 2-Fluorophenol 43.7 % Rec. 03/06/15 1 Phenol-d5 32.8 % Rec. 8270 C 03/06/15 1 Nitrobenzene-d5 60.8 % Rec. 8270 C 03/06/15 1 2-Fluorobiphenyl 81.5 % Rec. 8270 C 03/06/15 1 2,4,6-Tribromophenol 72.9 8270 C 03/06/15 % Rec. 1 p-Terphenyl-d14 72.8 % Rec. 8270 C 03/06/15

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L751256-31 (PH) - 7.7@21.0c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-32

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-25

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	38. 0.73 69.	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	340	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.3	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	3.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1400	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	870	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0023 0.00050 0.0029 0.0078	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Silver, Dissolved Silver, Dissolved Silver, Dissolved	0.13 0.20 0.23 U 170 0.0016 U U 20. U 0.0056 4.4 U 110 0.0086	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.020 0.10 1.0 0.010 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	u u u	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-32

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Sample ID

: MW-25

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/1		8260B	03/08/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	, , -	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U U	0.00039	0.0010	mg/l		8260B	03/08/15	
Vinyl chloride	IJ	0.00026	0.0010 0.0030	mg/l		8260B 8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		ø⊿o∪B	03/08/15	Τ

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REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-32

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-25

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.5			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	96.3			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	96.9			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/07/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/06/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/06/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:28 L751256-32 (PH) - 7.3@20.0c

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12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-32

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-25

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Bis(2-ethylhexyl)phthalate	U	0.00071	0.0030	mg/l		8270 C	03/06/15	1
Di-n-butyl phthalate	U	0.00027	0.0030	mg/l		8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/l		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/l		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/l		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/l		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/l		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Surrogate Recovery								
2-Fluorophenol	47.0			% Rec.		8270 C	03/06/15	1
Phenol-d5	33.8			% Rec.		8270 C	03/06/15	1
Nitrobenzene-d5	62.3			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	84.3			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	77.2			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	73.1			% Rec.		8270 C	03/06/15	1

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Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-33

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : DUP-3

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	180 0.71 69.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	340	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.1	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	3.1	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1400	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	840	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0023 0.00026 0.0011 0.0080	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.20 0.22 U 170 0.0017 U U 20. U 0.0054 4.4 U U 120 0.014	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Date Received : March

03, 2015 Description : Lovington Lea Refinery

Sample ID : DUP-3

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/25/15 14:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mg/l		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
tert-Butvlbenzene	U	0.00040	0.0010	mg/l		8260B	03/08/15	1
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B		
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B		
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/08/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	Ū	0.00045	0.0050	mg/l		8260B		
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/l		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/08/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B		
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B		
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B		
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/l		8260B		
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B		
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/08/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/08/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1

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Tax I.D. 62-0814289

Dil.

Est. 1970

REPORT OF ANALYSIS

MDL

Result

U

IJ

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U

U

U

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U

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IJ

U

U

U

RDL

John Allen TRC Solutions

Collected By

Parameter

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-33

Units Qualifier Method Date

Date Received March 03, 2015

Description

Collection Date :

Lovington Lea Refinery

Sample ID

DIIP-3

Site ID :

April 17, 2015

John Allen 02/25/15 14:35 Project # : 227000

Surrogate Recovery Toluene-d8 99.2 % Rec. 8260B 03/08/15 1 Dibromofluoromethane 03/08/15 97.3 % Rec. 8260B 1 4-Bromofluorobenzene 96.2 % Rec. 8260B 03/08/15 1 Base/Neutral Extractables 0.00032 0.00031 0.0010 8270 C 8270 C Acenaphthene TT 03/06/15 mq/11 Acenaphthylene 03/06/15 TT mg/11 0.0027 0.010 03/06/15 8270 C Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/06/15 1 0.0015 03/06/15 Atrazine TT 0.010 mg/18270 C 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/06/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 8270 C 03/06/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/06/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 8270 C 03/06/15 1 mg/1mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/07/15 Biphenyl 0.00023 0.00021 0.010 mg/18270 C 03/06/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/06/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/06/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/06/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/06/15 mg/11 2-Chloronaphthalene 8270 C 1 0.00033 0.0010 mg/103/06/15 U 03/06/15 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 1 Caprolactam 0.00058 0.010 mg/18270 C 03/06/15 IJ 1 0.00016 Carbazole ŢŢ 0.010 8270 C 03/06/15 mq/11 8270 C 0.0010 0.00033 1 Chrysene TT mg/103/06/15 0.00020 03/07/15 0.000064 Dibenz(a.h)anthracene U mg/18270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/06/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 03/06/15 U 0.010 mg/11

0.0016

0.00028

0.00031

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mg/1

U = ND (Not Detected)

2,4-Dinitrotoluene

2,6-Dinitrotoluene

Hexachlorobenzene

Hexachloroethane

Hexachloro-1,3-butadiene

Indeno(1,2,3-cd)pyrene

1-Methylnaphthalene

2-Methylnaphthalene

Hexachlorocyclopentadiene

Fluoranthene

Fluorene

Isophorone

Naphthalene

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L751256-33 (PH) - 7.1@18.9c

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April 17, 2015

John Allen

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ESC Sample # : L751256-33

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : DUP-3

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 14:35

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/l		8270 C	03/06/15	ī
Phenanthrene	IJ	0.00037	0.0010	mq/1		8270 C	03/06/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/06/15	ī
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/1		8270 C	03/06/15	ī
Di-n-butyl phthalate	0.00032	0.00027	0.0030	mg/1	J	8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables				_				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	1
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	20.6			0 5		0050 0	02/06/15	1
2-Fluorophenol	39.6			% Rec.		8270 C	03/06/15	1
Phenol-d5	28.7			% Rec.		8270 C	03/06/15	1
Nitrobenzene-d5	58.0			% Rec.		8270 C	03/06/15	1
2-Fluorobiphenyl	81.7			% Rec.		8270 C	03/06/15	1
2,4,6-Tribromophenol	77.0			% Rec.		8270 C	03/06/15	1
p-Terphenyl-d14	71.6			% Rec.		8270 C	03/06/15	1

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-33 (PH) - 7.1@18.9c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-34

Date Received : March Description

03, 2015 : Lovington Lea Refinery

Site ID :

Sample ID : MW-26

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	190 0.71 110	0.26 0.0099 0.39	5.0 0.10 25.	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/10/15	1
Alkalinity	240	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.3	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	2.3	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1300	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	790	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0024 U 0.0011 0.0041	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.051 0.099 0.18 U 170 U U 0.058 20. 0.0022 U 3.0 U 83. 0.015	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	О П П	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-34

Date Received March 03, 2015 Lovington Lea Refinery

Description

Site ID :

Sample ID MW-26 Project #: 227000

Collected By : John Allen Collection Date : 02/25/15 17:55

RDL Units Qualifier Method Date Parameter Result MDL Dil. Bromoform 0.00047 0.0010 8260B 03/08/15 TT 1 mq/103/08/15 Bromomethane U 0.00087 0.0050 mg/18260B 1 n-Butylbenzene 0.00036 0.0010 8260B 03/08/15 ŢŢ mg/11 03/08/15 sec-Butvlbenzene 0.00036 0.0010 mg/18260B 1 U tert-Butylbenzene 0.00040 0.0010 8260B 03/08/15 TT mg/11 Carbon disulfide 0.00028 IJ 0.0010 8260B 03/08/15 mg/11 0.0010 0.00038 Carbon tetrachloride 8260B 03/08/15 TT mq/11 0.00035 0.0010 1 Chlorobenzene TT mg/18260B 03/08/15 0.00033 0.0010 03/08/15 Chlorodibromomethane TT mg/18260B 1 Chloroethane IJ 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform TT 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 1,2-Dibromoethane IJ 0.00038 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethane U 0.00026 0.0010 mg/18260B 03/08/15 1 1,2-Dichloroethane U 0.00036 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethene 0.00040 0.0010 mg/18260B 03/08/15 1 U mg/1cis-1,2-Dichloroethene U 0.00026 0.0010 8260B 03/08/15 1 0.0010 trans-1,2-Dichloroethene U 0.00040 mg/18260B 03/08/15 1 1,2-Dichloropropane 0.00031 0.0010 8260B 03/08/15 mg/1cis-1,3-Dichloropropene U 0.00042 0.0010 mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 03/08/15 U 0.00042 0.0010 mg/18260B 1 Ethylbenzene U 0.00038 0.0010 8260B 03/08/15 mg/11 Hexachloro-1,3-butadiene 1 0.00026 0.0010 mg/18260B 03/08/15 U 2-Hexanone TT 0.0038 0.010 mg/18260B 03/08/15 1 Isopropylbenzene ŢŢ 0.00033 0.0010 mg/18260B 03/08/15 1 p-Isopropyltoluene 0.00035 ŢŢ 0.0010 8260B 03/08/15 mq/11 2-Butanone (MEK) 0.0039 0.010 8260B 03/08/15 1 TT mg/10.0050 Methylene Chloride 0.0010 U mg/18260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) IJ 0.0021 0.010 mg/18260B 03/08/15 1 0.0010 03/08/15 0.00037 Methyl tert-butyl ether U mg/18260B 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 0.00035 n-Propylbenzene IJ 0.0010 mg/18260B 03/08/15 1 IJ 0.00031 0.0010 mg/18260B 03/08/15 1 Styrene 1,1,2,2-Tetrachloroethane U 0.00013 0.0010 mg/18260B 03/08/15 1 Tetrachloroethene U 0.00037 0.0010 mg/18260B 03/08/15 1 U 0.00078 0.0050 mg/18260B 03/08/15 Toluene 0.0010 1,1,1-Trichloroethane ŢŢ 0.00032 mg/18260B 03/08/15 1 1,1,2-Trichloroethane 0.0012 0.00038 0.0010 mg/18260B 03/08/15 0.00040 0.0010 Trichloroethene U mg/18260B 03/08/15 1 1,2,4-Trimethylbenzene IJ 0.00037 0.0010 mg/18260B 03/08/15 1 1,3,5-Trimethylbenzene U 0.00039 0.0010 8260B 03/08/15 ma/11 Vinyl chloride mg/10.00026 0.0010 8260B 03/08/15 1 U 0.0011 0.0030 8260B 03/08/15 Xylenes, Total U mg/1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

L751256-34 (PH) - 7.3@18.7c

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-34

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : MW-26

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	99.1			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	96.9			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	95.7			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/l		8270 C	03/06/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	1
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Benzaldehyde	U	0.0014	0.010	mg/l		8270 C	03/06/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/l		8270 C	03/06/15	1
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/l		8270 C	03/07/15	1
Biphenyl	U	0.00021	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/l		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/l		8270 C	03/07/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/l		8270 C	03/06/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
Fluoranthene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/l		8270 C	03/06/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/l		8270 C	03/06/15	1
Hexachloroethane	U	0.00036	0.010	mg/l		8270 C	03/06/15	1
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/l		8270 C	03/06/15	1
Isophorone	Ū	0.00027	0.010	mg/l		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/1		8270 C	03/06/15	
Naphthalene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-34

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-26

Project # : 227000

Collected By : John Allen Collection Date : 02/25/15 17:55

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00030	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mq/1		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/06/15	
Di-n-butyl phthalate	0.00035	0.00027	0.0030	mg/l	J	8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	Ū	0.00024	0.010	mg/l		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	46.6			0 5		0050 0	02/06/15	1
2-Fluorophenol	46.6			% Rec.		8270 C	03/06/15	
Phenol-d5	33.2			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	60.3			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	82.0			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	73.7			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	71.4			% Rec.		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : L751256-35

Date Received : March 03, 2015
Description : Lovington Lea Refinery

bescription : novington nea

Site ID :

Project #: 227000

Sample ID : AC-2-25-15

Collected By : John Allen Collection Date : 02/25/15 19:00

RDL Units Qualifier Method Date Result MDL Dil. Parameter Volatile Organics Acetone ŢŢ 0.010 1.0 mq/18260B 03/08/15 1 0.0010 0.00033 03/08/15 Benzene ŢŢ mg/18260B 1 0.0013 03/08/15 Bromodichloromethane 0.00038 mg/18260B 1 U Bromoform 0.00047 0.0010 8260B 03/08/15 TT mg/11 0.00087 Bromomet.hane IJ 0.0050 8260B 03/08/15 mg/11 0.0010 n-Butvlbenzene 0.00036 03/08/15 TT 8260B mq/11 sec-Butylbenzene 0.00036 0.0010 1 TT mg/18260B 03/08/15

0.00040 0.0010 03/08/15 tert-Butylbenzene U mg/18260B 1 Carbon disulfide IJ 0.00028 0.0010 mg/18260B 03/08/15 1 Carbon tetrachloride TT 0.00038 0.0010 mg/18260B 03/08/15 1 Chlorobenzene U 0.00035 0.0010 mg/18260B 03/08/15 1 Chlorodibromomethane IJ 0.00033 0.0010 mg/18260B 03/08/15 1 Chloroethane U 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform U 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 mg/11,2-Dibromoethane U 0.00038 0.0010 8260B 03/08/15 1 0.0010 1,1-Dichloroethane U 0.00026 mg/18260B 03/08/15 1 1,2-Dichloroethane 0.00036 0.0010 8260B 03/08/15 U mg/10.00040 1,1-Dichloroethene U 0.0010 mg/18260B 03/08/15 1 03/08/15 cis-1,2-Dichloroethene U 0.00026 0.0010 mg/18260B 1 trans-1,2-Dichloroethene 1,2-Dichloropropane U 0.00040 0.0010 8260B 03/08/15 mg/11 1 0.00031 0.0010 mg/18260B 03/08/15 U cis-1,3-Dichloropropene TT 0.00042 0.0010 mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 0.00042 0.0010 mg/18260B 03/08/15 IJ 1 0.00038 Ethylbenzene ŢŢ 0.0010 8260B 03/08/15 mq/11 Hexachloro-1,3-butadiene 0.00026 0.0010 8260B 03/08/15 1 TT mg/10.010 0.0038 2-Hexanone U mg/18260B 03/08/15 1 0.00033 Isopropylbenzene IJ 0.0010 mg/18260B 03/08/15 1 03/08/15 0.0010 p-Isopropyltoluene TT 0.00035 mg/18260B 1 2-Butanone (MEK) Methylene Chloride U 0.0039 0.010 mg/18260B 03/08/15 1 0.0050 IJ 0.0010 mg/18260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) IJ 0.0021 0.010 mg/18260B 03/08/15 1 0.00037 Methyl tert-butyl ether U 0.0010 mg/18260B 03/08/15 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 n-Propylbenzene U 0.00035 0.0010 mg/18260B 03/08/15

0.00031

0.00013

0.00037

0.00078

0.00032

0.00038

0.00040

0.0010

0.0010

0.0010

0.0050

0.0010

0.0010

0.0010

mg/1

mg/1

mg/1

mg/1

ma/1

mg/1

mg/1

Trichloroethene
U = ND (Not Detected)

Tetrachloroethene

1,1,1-Trichloroethane 1,1,2-Trichloroethane

1,1,2,2-Tetrachloroethane

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

Styrene

Toluene

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TT

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U

TT

U

Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

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03/08/15

03/08/15

03/08/15

03/08/15

03/08/15

03/08/15

8260B 03/08/15

1

1

1

1

1

8260B

8260B

8260B

8260B

8260B

8260B



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-35

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: AC-2-25-15

Project # : 227000

April 17, 2015

Site ID :

Collected By : John Allen Collection Date : 02/25/15 19:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	TT	0.00037	0.0010	mq/l		8260B	03/08/15	1
1,3,5-Trimethylbenzene	Ū	0.00037	0.0010	mg/1		8260B	03/08/15	
Vinyl chloride	Ū	0.00026	0.0010	mg/l		8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1
Surrogate Recovery								
Toluene-d8	99.4			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	94.9			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	94.9			% Rec.		8260B	03/08/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L751256-36

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-19

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	140 0.87 82.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	210	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.4	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	2.3	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1000	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	630	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0046 U 0.0032 0.0025	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Potassium, Dissolved Selenium, Dissolved Selenium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.070 0.22 U 110 U U U U U U U U U U U U U U U U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 0.10	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-36

Project # : 227000

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-19

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/08/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/08/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B		
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B		
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B		
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B		
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B		
Chloroethane	U	0.00045	0.0050	mg/1		8260B		
Chloroform	U	0.00032	0.0050	mg/l		8260B		
Chloromethane	U	0.00028	0.0025	mg/l		8260B		
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B		
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B		
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	, , -	
1,1-Dichloroethene	U	0.00040	0.0010	mg/l		8260B		
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B		
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B		
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B		
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B		
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B		
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B		
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	, , -	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B		
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B		
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B		
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B		
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B		
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B		
1,1,2,2-Tetrachloroethane	U 	0.00013	0.0010	mg/1		8260B		
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B		
Toluene	U 	0.00078	0.0050	mg/1		8260B	, , -	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B		
Trichloroethene	Ū	0.00040	0.0010	mg/1		8260B		
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B		
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/08/15	
Vinyl chloride	-	0.00026	0.0010	mg/1		8260B	03/08/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/08/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-36

Date Received : March

03, 2015

Description : Lovington Lea Refinery

Sample ID MW-19 Site ID :

Project # : 227000

John Allen

Collected By : Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	90.3			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	95.3			% Rec.		8260B	03/08/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/06/15	1
Acenaphthylene	IJ	0.00031	0.0010	mq/1		8270 C	03/06/15	
Acetophenone	IJ	0.0027	0.010	mq/1		8270 C	03/06/15	
Anthracene	IJ	0.00029	0.0010	mq/1		8270 C	03/06/15	
Atrazine	IJ	0.0015	0.010	mq/1		8270 C	03/06/15	
Benzo(a)anthracene	IJ	0.00032	0.0010	mq/1		8270 C	03/06/15	
Benzaldehyde	IJ	0.0014	0.010	mq/1		8270 C	03/06/15	
Benzo(b)fluoranthene	IJ	0.00027	0.0010	mq/1		8270 C	03/06/15	
Benzo(k)fluoranthene	Ū	0.00036	0.0010	mg/1		8270 C	03/06/15	
Benzo(q,h,i)perylene	Ū	0.00033	0.0010	mg/1		8270 C	03/06/15	
Benzo(a)pyrene	Ū	0.000038	0.00020	mg/l		8270 C	03/07/15	
Biphenyl	Ū	0.00021	0.010	mg/l		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	Ū	0.00033	0.010	mg/l		8270 C	03/06/15	
Bis(2-chloroethyl)ether	Ū	0.0016	0.010	mg/l		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether	Ū	0.00044	0.010	mg/l		8270 C	03/06/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/l		8270 C	03/06/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/l		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/l		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/07/15	1
Dibenzofuran	U	0.00034	0.010	mg/l		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/06/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1

U = ND (Not Detected)

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Tax I.D. 62-0814289

Est. 1970

ESC Sample # : L751256-36

Site ID :

REPORT OF ANALYSIS

John Allen

April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-19

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	U	0.00030	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	U	0.00040	0.010	mg/1		8270 C	03/06/15	1
Phenanthrene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	0.00093	0.00071	0.0030	mg/1	J	8270 C	03/06/15	
Di-n-butyl phthalate	U	0.00027	0.0030	mg/1		8270 C	03/06/15	
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								_
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/l		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	
2-Nitroaniline	U U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol 3&4-Methyl Phenol	IJ	0.00031 0.00027	0.010	mg/l		8270 C 8270 C	03/06/15 03/06/15	
3-Nitroaniline	IJ	0.00027	0.010	mg/l		8270 C	03/06/15	
4-Chloroaniline	IJ	0.00031	0.010	mg/l		8270 C	03/06/15	
4-Chioroaniline 4-Nitroaniline	IJ	0.00038	0.010	mg/l mg/l		8270 C	03/06/15	
4-Nitrophenol	IJ	0.00033	0.010	mq/1		8270 C	03/06/15	
Pentachlorophenol	IJ	0.0020	0.010	mg/1		8270 C	03/06/15	
Phenol	IJ	0.00031	0.010	mq/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	Ū	0.00033	0.010	mq/1		8270 C	03/06/15	
2,4,5-111chlorophenol	IJ	0.00024	0.010	mg/1		8270 C	03/06/15	
Surrogate Recovery	0	0.00030	0.010	1119/1		0270 C	03/00/13	_
2-Fluorophenol	46.7			% Rec.		8270 C	03/06/15	1
Phenol-d5	35.6			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	60.8			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	83.2			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	76.5			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	72.8			% Rec.		8270 C	03/06/15	
L E-1011/ 1 01 1				· 1.00.			-5,00,15	_

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-36 (PH) - 7.4@18.9c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-37

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : DUP-2

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	130 0.86 85.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/11/15 03/06/15 03/06/15	
Alkalinity	220	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.7	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	2.4	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1100	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	660	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0046 U 0.0030 0.0025	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.089 0.069 0.21 U 110 U U U U 10. U U 2.8 U U 0 0.013	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.011 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 0.020 1.0 0.020 1.0 0.020 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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MDL = Minimum Detection Limit = LOD = TRRP SDL
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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-37 (PH) - 7.7@19.9c

Page 137 of 164



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-37

Project #: 227000

Date Received March 03, 2015 Lovington Lea Refinery

Description

Site ID : Sample ID DIIP-2

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter MDL RDL Qualifier Method Date Result Units Dil. Bromoform 0.00047 0.0010 8260B 03/08/15 TT 1 mq/103/08/15 Bromomethane U 0.00087 0.0050 mg/18260B 1 n-Butylbenzene 0.00036 0.0010 8260B 03/08/15 IJ mg/11 sec-Butvlbenzene 0.00036 0.0010 mg/18260B 03/08/15 1 U tert-Butylbenzene 0.00040 0.0010 8260B 03/08/15 TT mg/11 Carbon disulfide 0.00028 IJ 0.0010 8260B 03/08/15 mg/11 0.0010 0.00038 03/08/15 Carbon tetrachloride 8260B TT mq/11 0.00035 0.0010 1 Chlorobenzene TT mg/18260B 03/08/15 0.00033 0.0010 03/08/15 Chlorodibromomethane TT mg/18260B 1 Chloroethane IJ 0.00045 0.0050 mg/18260B 03/08/15 1 Chloroform TT 0.00032 0.0050 mg/18260B 03/08/15 1 Chloromethane U 0.00028 0.0025 mg/18260B 03/08/15 1 1,2-Dibromoethane IJ 0.00038 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethane U 0.00026 0.0010 mg/18260B 03/08/15 1 1,2-Dichloroethane U 0.00036 0.0010 mg/18260B 03/08/15 1 1,1-Dichloroethene 0.00040 0.0010 mg/18260B 03/08/15 1 U mg/1cis-1,2-Dichloroethene U 0.00026 0.0010 8260B 03/08/15 1 0.0010 trans-1,2-Dichloroethene U 0.00040 mg/18260B 03/08/15 1 1,2-Dichloropropane 0.00031 0.0010 8260B 03/08/15 mg/1cis-1,3-Dichloropropene U 0.00042 0.0010 mg/18260B 03/08/15 1 trans-1,3-Dichloropropene 03/08/15 U 0.00042 0.0010 mg/18260B 1 Ethylbenzene U 0.00038 0.0010 8260B 03/08/15 mg/11 Hexachloro-1,3-butadiene 1 0.00026 0.0010 mg/18260B 03/08/15 U 2-Hexanone TT 0.0038 0.010 mg/18260B 03/08/15 1 Isopropylbenzene ŢŢ 0.00033 0.0010 mg/18260B 03/08/15 1 p-Isopropyltoluene 0.00035 ŢŢ 0.0010 8260B 03/08/15 mq/11 2-Butanone (MEK) 0.0039 0.010 8260B 03/08/15 1 TT mg/10.0010 0.0050 Methylene Chloride U mg/18260B 03/08/15 1 4-Methyl-2-pentanone (MIBK) IJ 0.0021 0.010 mg/18260B 03/08/15 1 0.0010 03/08/15 0.00037 Methyl tert-butyl ether TT mg/18260B 1 Naphthalene U 0.0010 0.0050 mg/18260B 03/08/15 1 0.00035 n-Propylbenzene IJ 0.0010 mg/18260B 03/08/15 1 ŢŢ 0.00031 0.0010 mg/18260B 03/08/15 1 Styrene 1,1,2,2-Tetrachloroethane U 0.00013 0.0010 mg/18260B 03/08/15 1 Tetrachloroethene U 0.00037 0.0010 mg/18260B 03/08/15 1 U 0.00078 0.0050 mg/18260B 03/08/15 Toluene 0.0010 1,1,1-Trichloroethane ŢŢ 0.00032 mg/18260B 03/08/15 1 1,1,2-Trichloroethane U 0.00038 0.0010 mg/18260B 03/08/15 0.00040 0.0010 Trichloroethene TT mg/18260B 03/08/15 1 1,2,4-Trimethylbenzene IJ 0.00037 0.0010 mg/18260B 03/08/15 1 1,3,5-Trimethylbenzene U 0.00039 0.0010 8260B 03/08/15 ma/11 Vinyl chloride mg/10.00026 0.0010 8260B 03/08/15 1 TT 0.0011 0.0030 8260B 03/08/15 Xylenes, Total U mg/1

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L751256-37 (PH) - 7.7@19.9c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-37

Date Received :

March 03, 2015

Description

: Lovington Lea Refinery

Sample ID

DUP-2

Site ID :

Project # : 227000

Collected By : John Allen

Collection Date : 02/26/15 13:20 Darameter

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	96.9			% Rec.		8260B	03/08/15	
4-Bromofluorobenzene	96.3			% Rec.		8260B	03/08/15	
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	ma/l		8270 C	03/06/15	5 1
Acenaphthylene	IJ	0.00031	0.0010	mq/1		8270 C	03/06/15	
Acetophenone	IJ	0.0027	0.010	mq/1		8270 C	03/06/15	
Anthracene	IJ	0.00029	0.0010	mg/l		8270 C	03/06/15	
Atrazine	Ū	0.0015	0.010	mg/l		8270 C	03/06/15	
Benzo(a)anthracene	IJ	0.00032	0.0010	mg/l		8270 C	03/06/15	
Benzaldehyde	Ū	0.0014	0.010	mg/l		8270 C	03/06/15	
Benzo(b)fluoranthene	IJ	0.00027	0.0010	mq/1		8270 C	03/06/15	
Benzo(k)fluoranthene	IJ	0.00036	0.0010	mg/1		8270 C	03/06/15	
Benzo(q,h,i)perylene	Ū	0.00033	0.0010	mg/l		8270 C	03/06/15	
Benzo(a)pyrene	IJ	0.000038	0.00020	mg/l		8270 C	03/07/15	
Biphenyl	IJ	0.00021	0.010	mq/1		8270 C	03/06/15	
Bis(2-chlorethoxy)methane	IJ	0.00033	0.010	mq/1		8270 C	03/06/15	
Bis(2-chloroethyl)ether	IJ	0.0016	0.010	mq/1		8270 C	03/06/15	
Bis(2-chloroisopropyl)ether	IJ	0.00044	0.010	mg/l		8270 C	03/06/15	
4-Bromophenyl-phenylether	IJ	0.00034	0.010	mq/1		8270 C	03/06/15	
2-Chloronaphthalene	IJ	0.00033	0.0010	mg/1		8270 C		
4-Chlorophenyl-phenylether	IJ	0.00030	0.010	mq/1		8270 C	03/06/15	
Caprolactam	IJ	0.00058	0.010	mq/1		8270 C	03/06/15	
Carbazole	IJ	0.00016	0.010	mg/1		8270 C	03/06/15	
Chrysene	IJ	0.00033	0.0010	mg/l		8270 C	03/06/15	
Dibenz(a,h)anthracene	IJ	0.000064	0.00020	mg/1		8270 C	03/07/15	
Dibenzofuran	IJ	0.00034	0.010	mg/l		8270 C	03/06/15	
3,3-Dichlorobenzidine	Ū	0.0020	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/l		8270 C	03/06/15	
2,6-Dinitrotoluene	Ū	0.00028	0.010	mg/l		8270 C	03/06/15	
Fluoranthene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
Fluorene	Ū	0.00032	0.0010	mg/l		8270 C	03/06/15	
Hexachlorobenzene	Ū	0.00034	0.0010	mg/l		8270 C	03/06/15	
Hexachloro-1,3-butadiene	Ū	0.00033	0.010	mg/l		8270 C	03/06/15	
Hexachlorocyclopentadiene	Ū	0.0023	0.010	mg/l		8270 C	03/06/15	
Hexachloroethane	Ū	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	Ū	0.00028	0.0010	mq/1		8270 C	03/06/15	
Isophorone	Ū	0.00027	0.010	mq/1		8270 C	03/06/15	
1-Methylnaphthalene	Ū	0.00031	0.0010	mq/1		8270 C	03/06/15	
2-Methylnaphthalene	Ū	0.00031	0.0010	mg/l		8270 C	03/06/15	
Naphthalene	Ū	0.00037	0.0010	mg/1		8270 C	03/06/15	
-				J .				

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-37

Date Received : March 03, 2015 Description : Lovington Lea Refinery

DUP-2

Site ID :

April 17, 2015

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:20

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/1		8270 C	03/06/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/1		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Bis(2-ethylhexyl)phthalate	U	0.00071	0.0030	mg/l		8270 C	03/06/15	1
Di-n-butyl phthalate	U	0.00027	0.0030	mg/l		8270 C	03/06/15	
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	
Di-n-octyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/l		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	Ū	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	41.4			% Rec.		8270 C	02/06/15	1
2-Fluorophenol Phenol-d5	31.2			% Rec.		8270 C	03/06/15 03/06/15	
Nitrobenzene-d5	55.3			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	79.1			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	76.5			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	69.6			% Rec.		8270 C	03/06/15	1
5 rerbuent-dra	09.0			· NEC.		02/0 C	03/00/13	Τ.

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-38

Date Received : March Description

03, 2015

: Lovington Lea Refinery

Site ID :

Sample ID : MW-18

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	130 0.68 97.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	230	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.7	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	3.5	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1100	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	670	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0026 0.00026 0.0020 0.0039	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.069 0.10 0.26 U 160 U 0.0061 0.022 14. U U 2.6 U U	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.10	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	บ บ บ	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-38

Project # : 227000

April 17, 2015

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-18

Collected By : John Allen Collection Date : 02/26/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	Ū	0.00087	0.0050	mq/1		8260B	03/08/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/08/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/08/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/1		8260B	03/08/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/08/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/1		8260B	03/08/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/08/15	
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/08/15	
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/08/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	, , -	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/08/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
1,3,5-Trimethylbenzene	U U	0.00039	0.0010	mg/l		8260B	03/08/15	
Vinyl chloride	IJ	0.00026	0.0010 0.0030	mg/l		8260B 8260B	03/08/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		ø⊿o∪B	03/08/15	Τ

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-38 (PH) - 7.7@19.8c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen TRC Solutions April 17, 2015

505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-38

227000

Project # :

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-18

Collected By : John Allen Collection Date : 02/26/15 15:00

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 103. % Rec. 8260B 03/08/15 1 Dibromofluoromethane 03/08/15 89.3 % Rec. 8260B 1 4-Bromofluorobenzene 94.7 % Rec. 8260B 03/08/15 1 Base/Neutral Extractables 0.0010 8270 C 8270 C Acenaphthene 0.00032 TT 03/06/15 mq/11 0.00031 Acenaphthylene 03/06/15 TT mg/11 0.0027 0.010 03/06/15 8270 C Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/06/15 1 0.0015 03/06/15 Atrazine TT 0.010 mg/18270 C 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/06/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 8270 C 03/06/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/06/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/18270 C 03/06/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/07/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/06/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/06/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/06/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/06/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/06/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/06/15 U 03/06/15 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/06/15 1 Carbazole 0.00016 ŢŢ 0.010 8270 C 03/06/15 mq/11 8270 C 0.0010 TT 0.00033 03/06/15 1 Chrysene mg/10.00020 03/07/15 0.000064 Dibenz(a,h)anthracene U mg/18270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/06/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 03/06/15 U 0.010 mg/11 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/06/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/06/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/06/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/06/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/06/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/06/15 0.00028 0.0010 8270 C Indeno(1,2,3-cd)pyrene U mg/103/06/15 1 8270 C 03/06/15 Isophorone IJ 0.00027 0.010 mg/11 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/06/15 ma/11 2-Methylnaphthalene mg/18270 C 0.00031 0.0010 03/06/15 1 U 0.00037 0.0010 8270 C 03/06/15 Naphthalene U mg/1

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L751256-38 (PH) - 7.7@19.8c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-38

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-18

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/26/15 15:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/1		8270 C	03/06/15	ī
Phenanthrene	IJ	0.00037	0.0010	mg/1		8270 C	03/06/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/06/15	ī
Bis(2-ethylhexyl)phthalate	0.00081	0.00071	0.0030	mg/1	J	8270 C	03/06/15	ī
Di-n-butyl phthalate	Ū	0.00027	0.0030	mg/1		8270 C	03/06/15	1
Diethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/l		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/l		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	42.6			0 5		0050 0	02/06/15	1
2-Fluorophenol	43.6			% Rec.		8270 C	03/06/15	1
Phenol-d5	32.6			% Rec.		8270 C	03/06/15	1
Nitrobenzene-d5	58.9			% Rec.		8270 C	03/06/15	1
2-Fluorobiphenyl	83.6			% Rec.		8270 C	03/06/15	1
2,4,6-Tribromophenol	80.5			% Rec.		8270 C	03/06/15	1
p-Terphenyl-d14	70.9			% Rec.		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-39

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : MW-8

Project # : 227000

April 17, 2015

Collected By : John Allen Collection Date : 02/26/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	220 0.49 86.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/10/15 03/06/15 03/06/15	1
Alkalinity	310	2.6	20.	mg/l		2320 B-	03/11/15	1
Нд	7.5	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	7.0	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1600	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	960	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0055 U 0.00083 0.0073	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Boron, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved Sodium, Dissolved	0.11 0.20 0.23 U 200 U U U 23. U U 4.2 U U U 0.0059	0.035 0.0017 0.013 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.20 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.020 0.020	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	В	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/08/15 03/08/15 03/08/15	1

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REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-39

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-8

Project # : 227000

Site ID :

Collected By : John Allen Collection Date : 02/26/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/08/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/08/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/08/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/08/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/08/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/08/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/08/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/08/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/08/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/08/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/08/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
2-Hexanone	U	0.0038	0.010	mg/l		8260B	03/08/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/08/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/l		8260B	03/08/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/08/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/08/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/08/15	1
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
1,3,5-Trimethylbenzene	IJ	0.00039	0.0010	mg/1		8260B	03/08/15	1
Vinyl chloride	-	0.00026	0.0010	mg/1		8260B	03/08/15	1 1
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/08/15	Т

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015 John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample # : T-751256-39

227000

Project # :

Date Received March 03, 2015

Description Lovington Lea Refinery

Site ID : Sample ID MW-8

Collected By John Allen Collection Date : 02/26/15 16:30

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 100. % Rec. 8260B 03/08/15 1 Dibromofluoromethane 03/08/15 96.3 % Rec. 8260B 1 4-Bromofluorobenzene 96.3 % Rec. 8260B 03/08/15 1 Base/Neutral Extractables 0.0010 8270 C 8270 C Acenaphthene 0.00032 TT 03/06/15 mq/11 0.00031 Acenaphthylene 03/06/15 TT mg/11 0.0027 0.010 03/06/15 8270 C Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/06/15 1 0.0015 03/06/15 Atrazine TT 0.010 mg/18270 C 1 0.00032 Benzo(a)anthracene U 0.0010 mg/18270 C 03/06/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/06/15 1 Benzo(b)fluoranthene U 0.00027 0.0010 8270 C 03/06/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/06/15 1 Benzo(g,h,i)perylene U 0.00033 0.0010 mg/18270 C 03/06/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/07/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/06/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/06/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/06/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/06/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/06/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/06/15 U 03/06/15 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/06/15 1 Carbazole 0.00016 ŢŢ 0.010 8270 C 03/06/15 mq/11 8270 C 0.0010 TT 0.00033 03/06/15 1 Chrysene mg/10.00020 03/07/15 0.000064 Dibenz(a,h)anthracene U mg/18270 C 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/06/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 03/06/15 U 0.010 mg/11 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/06/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/06/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/06/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/06/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/06/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/06/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/06/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/06/15 Indeno(1,2,3-cd)pyrene 0.00028 0.0010 8270 C U mg/103/06/15 1 8270 C 03/06/15 Isophorone IJ 0.00027 0.010 mg/11 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/06/15 ma/11 2-Methylnaphthalene mg/18270 C 0.00031 0.0010 03/06/15 1 U 0.00037 0.0010 8270 C 03/06/15 Naphthalene U mg/1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL

RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

L751256-39 (PH) - 7.5@19.8c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

Sample ID

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-39

Date Received : March 03, 2015 Description : Lovington Lea Refinery

: MW-8

Site ID :

April 17, 2015

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mg/1		8270 C	03/06/15	ī
Phenanthrene	IJ	0.00037	0.0010	mg/1		8270 C	03/06/15	ī
Benzylbutyl phthalate	IJ	0.00028	0.0030	mq/1		8270 C	03/06/15	ī
Bis(2-ethylhexyl)phthalate	0.082	0.00071	0.0030	mg/1		8270 C	03/06/15	ī
Di-n-butyl phthalate	0.00034	0.00027	0.0030	mg/1	J	8270 C	03/06/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Dimethyl phthalate	Ū	0.00028	0.0030	mg/1		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/l		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	1
2-Nitrophenol	U	0.00032	0.010	mg/l		8270 C	03/06/15	1
2-Nitroaniline	U	0.0019	0.010	mg/l		8270 C	03/06/15	1
2-Methylphenol	U	0.00031	0.010	mg/l		8270 C	03/06/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/l		8270 C	03/06/15	1
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery	40 5			0 5		0050 0	00/06/15	1
2-Fluorophenol	48.5			% Rec.		8270 C	03/06/15	1
Phenol-d5	37.0			% Rec.		8270 C	03/06/15	1
Nitrobenzene-d5	62.4			% Rec.		8270 C	03/06/15	1
2-Fluorobiphenyl	82.0			% Rec.		8270 C	03/06/15	1
2,4,6-Tribromophenol	83.5			% Rec.		8270 C	03/06/15	1
p-Terphenyl-d14	75.5			% Rec.		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-39 (PH) - 7.5@19.8c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-40

Date Received : March 03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-17R

Site ID :

April 17, 2015

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	150 0.65 75.	0.26 0.0099 0.077	5.0 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/11/15 03/06/15 03/06/15	1
Alkalinity	220	2.6	20.	mg/l		2320 B-	03/11/15	1
Нq	7.6	-33.		su	JT8	9040C	03/05/15	1
Nitrate-Nitrite	2.6	0.020	0.10	mg/l		353.2	03/09/15	1
Specific Conductance	1100	-33.		umhos/cm	J	9050A	03/09/15	1
Dissolved Solids	670	2.8	10.	mg/l		2540 C-	03/06/15	1
Arsenic,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0028 0.00030 0.0013 0.0030	0.00025 0.00024 0.00014 0.00033	0.0020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l	Ј Ј Ј	6020 6020 6020 6020	03/08/15 03/08/15 03/08/15 03/08/15	1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/06/15	1
Aluminum, Dissolved Barium, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Zinc, Dissolved	0.046 0.12 U 160 0.0022 U U 16. U 2.5 U U 47. 0.023	0.035 0.0017 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	JB J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15 03/09/15	1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane Bromoform	บ บ บ	0.010 0.00033 0.00038 0.00047	1.0 0.0010 0.0013 0.0010	mg/l mg/l mg/l mg/l		8260B 8260B 8260B 8260B	03/08/15 03/08/15 03/08/15 03/08/15	1 1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-40 (PH) - 7.6@19.6c

Page 149 of 164



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-40

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : MW-17R

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromomethane	Ū	0.00087	0.0050	mq/l		8260B	03/08/15	1
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B		ī
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B		
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B		
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B		
Carbon tetrachloride	Ū	0.00038	0.0010	mg/1		8260B		
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B		
Chlorodibromomethane	Ū	0.00033	0.0010	mg/l		8260B		
Chloroethane	Ū	0.00045	0.0050	mg/l		8260B		
Chloroform	Ū	0.00032	0.0050	mg/l		8260B		
Chloromethane	Ū	0.00028	0.0025	mg/l		8260B		1
1,2-Dibromoethane	Ū	0.00038	0.0010	mg/l		8260B		
1,1-Dichloroethane	Ū	0.00026	0.0010	mg/l		8260B		
1,2-Dichloroethane	Ū	0.00036	0.0010	mg/l		8260B		
1,1-Dichloroethene	Ū	0.00040	0.0010	mg/l		8260B		
cis-1,2-Dichloroethene	Ū	0.00026	0.0010	mg/l		8260B		
trans-1,2-Dichloroethene	Ū	0.00040	0.0010	mg/l		8260B	03/08/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/l		8260B	03/08/15	1
cis-1,3-Dichloropropene	Ū	0.00042	0.0010	mg/l		8260B		
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/l		8260B	03/08/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/08/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/08/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/08/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B		
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/08/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/08/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/08/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/08/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/08/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/08/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/08/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/08/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/08/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/08/15	
Toluene	U	0.00078	0.0050	mg/1		8260B		
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B		
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/08/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B		
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B		1
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B		
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B		
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/08/15	1
Surrogate Recovery								

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-40

Site ID :

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : MW-17R

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Toluene-d8	103.			% Rec.		8260B	03/08/15	1
Dibromofluoromethane	90.2			% Rec.		8260B	03/08/15	1
4-Bromofluorobenzene	94.5			% Rec.		8260B	03/08/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	1
Acetophenone	U	0.0027	0.010	mg/1		8270 C	03/06/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/06/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/06/15	
Benzo(a)anthracene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	1
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/06/15	1
Benzo(b)fluoranthene	U	0.00027	0.0010	mg/1		8270 C	03/06/15	
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/06/15	
Benzo(g,h,i)perylene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/13/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/06/15	1
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/06/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/06/15	
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/06/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/06/15	1
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/06/15	1
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/13/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/06/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/06/15	1
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/06/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/06/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/06/15	1
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/06/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/06/15	1
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/06/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/06/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/06/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/06/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/l		8270 C	03/06/15	1
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/06/15	1
Nitrobenzene	U	0.00037	0.010	mg/1		8270 C	03/06/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-40

Date Received : March

03, 2015

Description

: Lovington Lea Refinery

Sample ID

: MW-17R

Site ID :

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 13:05

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/l		8270 C	03/06/15	1
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/l		8270 C	03/06/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/06/15	
Benzylbutyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/06/15	
Bis(2-ethylhexyl)phthalate	U	0.00071	0.0030	mg/l		8270 C	03/06/15	
Di-n-butyl phthalate	0.00034	0.00027	0.0030	mg/1	J	8270 C	03/06/15	
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/06/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/06/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/06/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/06/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/06/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/06/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/06/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/06/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/06/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/06/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/06/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/06/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/06/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/06/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/06/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/06/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/06/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/06/15	1
Surrogate Recovery								
2-Fluorophenol	42.3			% Rec.		8270 C	03/06/15	
Phenol-d5	33.2			% Rec.		8270 C	03/06/15	
Nitrobenzene-d5	61.6			% Rec.		8270 C	03/06/15	
2-Fluorobiphenyl	83.2			% Rec.		8270 C	03/06/15	
2,4,6-Tribromophenol	78.4			% Rec.		8270 C	03/06/15	
p-Terphenyl-d14	71.3			% Rec.		8270 C	03/06/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29 L751256-40 (PH) - 7.6@19.6c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-41

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID : Project # : 227000

April 17, 2015

Sample ID : AC-2-27-15

Collected By : John Allen Collection Date : 02/27/15 12:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mg/1		8260B	03/10/15	1
Benzene	U	0.00033	0.0010	mg/1		8260B	03/10/15	1
Bromodichloromethane	U	0.00038	0.0013	mg/1		8260B	03/10/15	1
Bromoform	U	0.00047	0.0010	mg/1		8260B	03/10/15	1
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/10/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/10/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/10/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/10/15	1
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/10/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/10/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/10/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/10/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/10/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/10/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/10/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/10/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1	J4	8260B	03/10/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l	J4	8260B	03/10/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/10/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/10/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/10/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/10/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/10/15	1
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/10/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/10/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/10/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/10/15	1
Isopropylbenzene	U	0.00033	0.0010	mg/l		8260B	03/10/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/10/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1	J3	8260B	03/10/15	1
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/10/15	1
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/10/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/10/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/10/15	1
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/10/15	1
Styrene	U	0.00031	0.0010	mg/1		8260B	03/10/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/10/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/10/15	1
Toluene	U	0.00078	0.0050	mg/1		8260B	03/10/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/10/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/10/15	1
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/10/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-41

Date Received : March Description

03, 2015 : Lovington Lea Refinery

Site ID :

Sample ID : AC-2-27-15

Project # : 227000

Collected By : John Allen Collection Date : 02/27/15 12:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	TT	0.00037	0.0010	mg/l		8260B	03/10/15	1
1,3,5-Trimethylbenzene	Ū	0.00039	0.0010	mq/1		8260B	03/10/15	
Vinyl chloride	Ū	0.00026	0.0010	mg/l		8260B	03/10/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/10/15	1
Surrogate Recovery								
Toluene-d8	100.			% Rec.		8260B	03/10/15	1
Dibromofluoromethane	102.			% Rec.		8260B	03/10/15	1
4-Bromofluorobenzene	98.9			% Rec.		8260B	03/10/15	1

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

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Tax I.D. 62-0814289

Est. 1970

Project # : 227000

REPORT OF ANALYSIS

John Allen April 17, 2015

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-42

Date Received : March 03, 2015 Description : Lovington Lea Refinery

Site ID : Sample ID : TRIP BLANK-1

Collected By : John Allen Collection Date : 02/26/15 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mg/1		8260B	03/09/15	
Benzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
Bromodichloromethane	U	0.00038	0.0013	mg/1		8260B	03/09/15	1
Bromoform	U	0.00047	0.0010	mg/1		8260B	03/09/15	
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/09/15	
n-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/09/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/09/15	
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/l		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/09/15	1
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/09/15	1

U = ND (Not Detected)

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Tax I.D. 62-0814289

14X 1.D. 02-001420

Est. 1970

REPORT OF ANALYSIS

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

April 17, 2015

Project # : 227000

ESC Sample # : L751256-42

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Sample ID : TRIP BLANK-1

Site ID :

Collected By : John Allen Collection Date : 02/26/15 00:00

Result MDL RDL Units Qualifier Method Date Dil. Parameter 0.00037 0.0010 1,2,4-Trimethylbenzene U 8260B 03/09/15 1 mq/1mg/10.0010 1,3,5-Trimethylbenzene 03/09/15 U 0.00039 8260B 1 mg/103/09/15 Vinyl chloride 0.00026 0.0010 8260B ŢŢ 1 Xylenes, Total Surrogate Recovery 03/09/15 0.0011 0.0030 mg/l8260B 1 U 103. % Rec. 8260B 03/09/15 Toluene-d8 1 Dibromofluoromethane 8260B 03/09/15 8260B 03/09/15 96.2 % Rec. 1 4-Bromofluorobenzene 104. 1 % Rec.

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Reported: 04/14/15 15:21 Revised: 04/17/15 09:29

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 17, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L751256-43

Date Received : March 03, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : TRIP BLANK-2

Collected By : John Allen Collection Date : 02/26/15 00:00

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mg/1		8260B	03/09/15	1
Benzene	Ū	0.00033	0.0010	ma/l		8260B	03/09/15	
Bromodichloromethane	U	0.00038	0.0013	mg/l		8260B	03/09/15	1
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/09/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/09/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/09/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
Carbon disulfide	U	0.00028	0.0010	mg/l		8260B	03/09/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/09/15	
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/09/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/09/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/09/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/09/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/09/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/09/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/09/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/09/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/09/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/09/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/09/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/09/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/09/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/09/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/09/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/09/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/09/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/09/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/09/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/09/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/09/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/09/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/09/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

03, 2015

ESC Sample # : L751256-43

Date Received : March

Description : Lovington Lea Refinery

Site ID :

April 17, 2015

Sample ID : TRIP BLANK-2

Project # : 227000

Collected By : John Allen Collection Date : 02/26/15 00:00

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	ΤŢ	0.00037	0.0010	mg/l		8260B	03/09/15	1
1,3,5-Trimethylbenzene	Ū	0.00039	0.0010	mq/1		8260B	03/09/15	
Vinyl chloride	Ū	0.00026	0.0010	mg/l		8260B	03/09/15	1
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/09/15	1
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/09/15	1
Dibromofluoromethane	96.0			% Rec.		8260B	03/09/15	1
4-Bromofluorobenzene	102.			% Rec.		8260B	03/09/15	1

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L751256-01 M0773500 SAMP Alkalinity R3023049 J6	Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
W6773711 SAMP	L751256-01	WG773500	SAMP	Alkalinity	R3023049	 J6
N6773711 SAMP		WG773711	SAMP		R3023179	J
WG773482 SAMP PH Specific Conductance R3022390 J		WG773711	SAMP	Chromium, Dissolved	R3023179	J
NG773759 SAMP		WG773711	SAMP	Zinc,Dissolved	R3023179	J
WG773341 SAMP Bir(2-ethylhexyl)phthalate R3022985						
WG7773341 SAMP						
MG773564 SAMP						
MG773842 SAMP						
WG773842 SAMP						
MG773941						
L751256-02 WG773711 SAMP Boron, Dissolved R3023179 JT WG773759 SAMP PH R3022866 JT R3023865 JT WG773759 SAMP Specific Conductance R3023290 JT R3022865 JT WG773564 SAMP Chloroethame R3023298 JT WG773642 SAMP Chloroethame R3023288 JT JT WG773642 SAMP WG773642 SAMP WG773642 SAMP WG773642 SAMP WG773642 SAMP WG773642 SAMP WG773642 SAMP WG773711 SAMP Selenium, Dissolved R3023179 JT WG773711 SAMP R500, Dissolved R3023179 JT WG773712 SAMP WG773742 SAMP WG773742 SAMP WG773742 SAMP WG773742 SAMP WG773742 SAMP WG773643 SAMP WG773643 SAMP WG773642 SAMP WG773642 SAMP WG773643 SAMP WG773644 SAMP WG773644 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773641 SAMP WG773643 SAMP WG773644 SAMP W						
MG7733159 SAMP Di-n-butyl phthalate R3023290 J	T 751056 00					
WG773759 SAMP Specific Conductance R3032290 J	L/51256-U2					
MG773341 SAMP Di-n-butyl phthalate R3022985 J						
WG773844 SAMP				5		
NG773844						
WG773841 SAMP						
L751256-03 WG773711 SAMP SAMP Schenium, Dissolved R3023179 J						
WG773711 SAMP	T-751256-03					
WG773111 SAMP	2701200 00					
WG773482 SAMP PH R3002866 JT8 WG77373759 SAMP Specific Conductance R3023801 J WG7733541 SAMP Din-nbutyl phthalate R3023881 J WG7733542 SAMP Molyodenum, Dissolved R3023417 J WG773842 SAMP Chloroethane R3023588 J4 WG773842 SAMP Chloroethane R3023417 J L751256-04 WG773564 SAMP Chloroethane R3023588 J4 L751256-05 WG773341 SAMP Biphenyl R3022985 J WG773341 SAMP Din-butyl phthalate R3022985 J WG773341 SAMP Din-butyl phthalate R3022985 J WG773341 SAMP Din-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3023588 J4 WG773564 SAMP Chloroethane R3023588 J4 WG773564 SAMP SAMP Ethylbenzene R3023588 J4 WG773564 SAMP					R3023179	
WG773341 SAMP		WG773482	SAMP		R3022866	JT8
WG773564 SAMP		WG773759	SAMP	Specific Conductance	R3023290	J
WG773842 SAMP		WG773341	SAMP	Di-n-butyl phthalate	R3023881	J
NG773842 SAMP		WG773564	SAMP	Chloroethane	R3023588	J4
L751256-04 WG773564 SAMP Biphenyl R3022985 J			SAMP			
L751256-05 WG773341 SAMP Di-n-butyl phthalate R3022985 J						
WG773341 SAMP Din-thutyl phthalate R3022985 J						
MG773341 SAMP	L751256-05					
MG773364 SAMP						
MG773564 SAMP Chloroethane R3023588 J4 MG773564 SAMP Ethylbenzene R3023588 J4 MG773564 SAMP Ethylbenzene R3023588 J4 MG773564 SAMP Ethylbenzene R3023588 J4 MG773564 SAMP Ethylbenzene R3023588 J4 L751256-06 MG773711 SAMP Chromium,Dissolved R3023179 J MG7737311 SAMP Selenium,Dissolved R3023179 J MG773759 SAMP Selenium,Dissolved R3023290 J MG773564 SAMP Di-n-butyl phthalate R3022985 J MG773564 SAMP Chloroethane R3023985 J MG773842 SAMP Chloroethane R3023417 J MG773842 SAMP Chloroethane R3023417 J L751256-07 MG773711 SAMP Cobalt,Dissolved R3023417 J MG773711 SAMP Cobalt,Dissolved R3023405 J MG7737482 SAMP PH R3022866 JT8 MG7737482 SAMP Specific Conductance R302390 J MG7737482 SAMP Specific Conductance R302390 J MG7737482 SAMP Biphenyl R3022865 J MG773341 SAMP Samp Specific Conductance R302390 J MG773341 SAMP Biphenyl R302285 J MG773341 SAMP Dibenzofuran R3022985 J MG773341 SAMP Dibenzofuran R3022985 J MG773341 SAMP Dibenzofuran R3022985 J MG773564 SAMP Dibenzofuran R3022985 J MG773564 SAMP Dibenzofuran R3023588 J MG773564 SAMP Dibenzofuran R3023588 J MG773564 SAMP Dibenzofuran R3023588 J MG773564 SAMP Chloroethane R3023588 J MG773564 SAMP Chloroethane R3023588 J MG773564 SAMP Chloroethane R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP Bis(2-ethylbenzene R3023313 J MG773341 SAMP						
MG773564 SAMP						
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L751256-06 WG773711 SAMP Lsopropylbenzene R3023588 J						
L751256-06 WG773711 SAMP						
WG773711	L751256-06					
WG773482 SAMP Specific Conductance R30222866 JT8 WG773341 SAMP Di-n-butyl phthalate R3022285 J WG773341 SAMP Chloroethane R3022388 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J WG773711 SAMP Cobalt, Dissolved R3023405 J WG7737482 SAMP PH R3022866 JT8 WG7737482 SAMP PH R3022866 JT8 WG773759 SAMP Specific Conductance R3023300 J WG773341 SAMP SAMP Specific Conductance R3023290 J WG773341 SAMP SAMP Specific Conductance R3022985 J WG773341 SAMP Biphenyl R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773364 SAMP Di-n-butyl phthalate R3023588 J WG773564 SAMP Chloroethane R3023588 J WG773564 SAMP Chloroethane R3023313 J WG773711 SAMP Chloroethane R3023313 J WG773711 SAMP Chrouium, Dissolved R3023313 J WG773711 SAMP Chrouium, Dissolved R3023313 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773711 SAMP Chrouium, Dissolved R3023313 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773711 SAMP Chrouium, Dissolved R3023313 J WG773564 SAMP Di-n-butyl phthalate R3022985 J WG773764 SAMP Di-n-butyl phthalate R3022985 J WG77364 SAMP Chloroethane R3023588 J4 WG77364 SAMP Chloroethane R3023588 J4 WG77364 SAMP Chloroethane R3023588 J4 WG77364 SAMP Chloroethane R3023313 J WG77364 SAMP Chloroethane R3023313 J WG77364 SAMP Chloroethane R3023313 J WG77364 SAMP Chloroethane R3023317 J WG77364 SAMP Chloroethane R3023317 J WG77364 SAMP Chloroethane R3023317 J WG77						
WG773341						
NG773564 SAMP Chloroethane R3023588 J4		WG773759	SAMP	Specific Conductance	R3023290	J
WG773842 SAMP Molybdenum, Dissolved R3023417 J J		WG773341	SAMP	Di-n-butyl phthalate	R3022985	J
L751256-07 WG773711 SAMP Cobalt, Dissolved R3023417 J WG773711 SAMP Cobalt, Dissolved R3023405 J WG773711 SAMP Zinc, Dissolved R3023405 J WG773712 SAMP pH R3022866 JT8 WG7737482 SAMP pH R3022866 JT8 WG773759 SAMP Specific Conductance R3023290 J WG774082 SAMP Nitrate-Nitrite R3023672 J WG773341 SAMP Biphenyl R3022985 J WG773341 SAMP Biphenyl R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Dimethyl phthalate R3022985 J WG773564 SAMP Benzene R3023588 J WG773564 SAMP Benzene R3023588 J WG773564 SAMP Chloroethane R3023588 J WG773564 SAMP Molybdenum, Dissolved R302313 J WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Bis (2-ethylhexyl) phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022313 J WG773711 SAMP Bis (2-ethylhexyl) phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773342 SAMP Molybdenum, Dissolved R3023313 J WG773342 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP Molybdenum, Dissolved R3023317 J WG773842 SAMP WG773842 SAMP Molybdenum, Dissolved R3023317 J		WG773564	SAMP	Chloroethane	R3023588	J4
L751256-07 WG773711 SAMP Cobalt, Dissolved R3023405 J WG773482 SAMP pH R3022866 JT8 WG773759 SAMP Specific Conductance R3023290 J WG773481 SAMP Biphenyl R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dimethyl phthalate R3022985 J WG773564 SAMP Dimethyl phthalate R3022985 J WG773564 SAMP Benzene R3023588 J WG773564 SAMP Chloroethane R3023588 J WG773842 SAMP Molybdenum, Dissolved R302313 J WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Bis (2-ethylhexyl) phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773711 SAMP Bis (2-ethylhexyl) phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773342 SAMP Molybdenum, Dissolved R3023117 J L751256-09 WG773842 SAMP Wolybdenum, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J			SAMP			
WG773711 SAMP						
WG773482 SAMP PH	L751256-07					
WG773759 SAMP Specific Conductance R3023290 J						
WG774082 SAMP Nitrate-Nitrite R3023672 J						
WG773341 SAMP Biphenyl R3022985 J						
WG7773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Dibenzofuran R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773341 SAMP Dimethyl phthalate R3022985 J WG77341 SAMP Dimethyl phthalate R3022985 J WG773564 SAMP Benzene R3023588 J WG773564 SAMP Etrt-Butylbenzene R3023588 J WG773564 SAMP Chloroethane R3023588 J WG773564 SAMP Molybdenum, Dissolved R3023588 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022588 J4 WG77364 SAMP Chloroethane R3022588 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP WG773842 SAMP WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773842 SAMP WG77						
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WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Benzene R3022588 J WG773564 SAMP Ert-Butylbenzene R3023588 J WG773564 SAMP Chloroethane R3023588 J WG773564 SAMP Molybdenum, Dissolved R3023588 J WG773842 SAMP Molybdenum, Dissolved R3023313 J WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Zinc, Dissolved R3023313 J WG773711 SAMP Zinc, Dissolved R3023313 J WG773341 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022588 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Molybdenum, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
WG773364 SAMP Benzene R3022985 J						
WG773564 SAMP Benzene R3023588 J WG773564 SAMP tert-Butylbenzene R3023588 J WG773564 SAMP Chloroethane R3023588 J4 WG773564 SAMP Molybdenum, Dissolved R3023417 J L751256-08 WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Zinc, Dissolved R3023313 J WG773711 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022588 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J WG773842 SAMP Calcium, Dissolved R3023313 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
WG773564 SAMP tert-Butylbenzene R3023588 J						
WG773842 SAMP Molybdenum, Dissolved R3023417 J			SAMP	tert-Butylbenzene	R3023588	J
L751256-08 WG773711 SAMP Boron, Dissolved R3023313 J WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Zinc, Dissolved R3023313 J WG773341 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022985 J WG773842 SAMP Molybdenum, Dissolved R3023588 J4 WG773842 SAMP Wolybdenum, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J		WG773564	SAMP	Chloroethane	R3023588	J4
WG773711 SAMP Chromium, Dissolved R3023313 J WG773711 SAMP Zinc, Dissolved R3023313 J WG773341 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022985 J WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J		WG773842	SAMP	Molybdenum,Dissolved	R3023417	J
WG773711 SAMP Zinc, Dissolved R3023313 J WG773341 SAMP Bis(2-ethylhexyl)phthalate R3022985 J WG773341 SAMP Di-n-butyl phthalate R3022985 J WG773564 SAMP Chloroethane R3022588 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J	L751256-08					
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WG773564 SAMP Chloroethane R3023588 J4 WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
WG773842 SAMP Molybdenum, Dissolved R3023417 J WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
WG773842 SAMP Uranium, Dissolved R3023417 J L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
L751256-09 WG773711 SAMP Calcium, Dissolved R3023313 J						
·	T.751256-00					
WG773521 SAMP Chloride R3023544 J	T17TZ70-03			Chloride		J

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Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
	WG773521	SAMP	Sulfate	R3023544	– ———— Ј
	WG773482	SAMP	рН	R3022866	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773487	SAMP	Dissolved Solids	R3023169	T4
	WG774082	SAMP	Nitrate-Nitrite Chloroethane	R3023672	Ј J4
L751256-10	WG773564 WG773711	SAMP SAMP	Zinc, Dissolved	R3023588 R3023313	J 4
1/31230-10	WG773711 WG773521	SAMP	Chloride	R3023513	J
	WG773521	SAMP	Sulfate	R3023544	J
	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773487	SAMP	Dissolved Solids	R3023169	JT4
	WG774082	SAMP	Nitrate-Nitrite	R3023672	J
	WG773528 WG773564	SAMP SAMP	Bis(2-ethylhexyl)phthalate Acetone	R3023272 R3023588	J J
	WG773564	SAMP	Chloroethane	R3023588	J4
L751256-11	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711	SAMP	Copper, Dissolved	R3023313	J
	WG773711	SAMP	Zinc, Dissolved	R3023313	J
	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773477	SAMP	Dissolved Solids	R3022906 R3022985	Т8 Ј
	WG773341 WG773341	SAMP SAMP	Bis(2-ethylhexyl)phthalate Di-n-butyl phthalate	R3022985	J
	WG773311	SAMP	Phenol	R3022985	J
	WG773564	SAMP	Chloroethane	R3023588	J4
	WG773842	SAMP	Molybdenum, Dissolved	R3023417	J
	WG773842	SAMP	Uranium, Dissolved	R3023417	J
L751256-12	WG773564	SAMP	Chloroethane	R3023588	J4
L751256-13	WG773711 WG773711	SAMP SAMP	Aluminum,Dissolved Boron,Dissolved	R3023313 R3023313	J J
	WG773711 WG773711	SAMP	Chromium, Dissolved	R3023313	J
	WG773711	SAMP	Zinc, Dissolved	R3023313	J
	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J
	WG773564	SAMP	Chloroethane	R3023588	J4
	WG773842 WG773842	SAMP SAMP	Molybdenum, Dissolved Uranium, Dissolved	R3023417 R3023417	J J
L751256-14	WG773711	SAMP	Aluminum, Dissolved	R3023313	J
	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711	SAMP	Manganese, Dissolved	R3023313	J
	WG773711	SAMP	Zinc, Dissolved	R3023313	J
	WG773485	SAMP	pH	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J J
	WG773341 WG773564	SAMP SAMP	Di-n-butyl phthalate Chloroethane	R3022985 R3023588	J4
	WG773842	SAMP	Molybdenum, Dissolved	R3023417	J
	WG773842	SAMP	Uranium, Dissolved	R3023417	J
L751256-15	WG773848	SAMP	Mercury	R3023706	J
	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773485	SAMP	pH	R3022867	JT8
	WG773759 WG773341	SAMP SAMP	Specific Conductance Di-n-butyl phthalate	R3023290 R3022985	J J
	WG773541 WG773564	SAMP	Chloroethane	R3022563	J4
	WG773842	SAMP	Lead, Dissolved	R3023417	J
	WG773842	SAMP	Molybdenum, Dissolved	R3023417	J
	WG773842	SAMP	Uranium, Dissolved	R3023417	J
L751256-16	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Bis(2-ethylhexyl)phthalate Di-n-butyl phthalate	R3022985	J J
	WG773341 WG773564	SAMP SAMP	Chloroethane	R3022985 R3023588	Ј J4
	WG773564	SAMP	Chloroform	R3023588	J
	WG773842	SAMP	Molybdenum, Dissolved	R3023417	J
	WG773842	SAMP	Uranium, Dissolved	R3023417	J
L751256-17	WG773564	SAMP	Chloroethane	R3023588	J4
L751256-18	WG773711	SAMP	Aluminum, Dissolved	R3023313	J
	WG773711	SAMP	Zinc,Dissolved	R3023313	J TTP 0
	WG773485	SAMP	рН	R3022867	JT8

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Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J
	WG773564	SAMP	Chloroethane	R3023588	J4
	WG773842	SAMP	Molybdenum, Dissolved	R3023417	J
L751256-19	WG773842 WG773711	SAMP SAMP	Uranium,Dissolved Aluminum,Dissolved	R3023417 R3023313	J J
П/31230-19	WG773711 WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711 WG773711	SAMP	Chromium, Dissolved	R3023313	J
	WG773711	SAMP	Zinc, Dissolved	R3023313	J
	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J 4
	WG773564	SAMP	Chloroethane	R3023588	J4
	WG773842 WG773842	SAMP SAMP	Molybdenum,Dissolved Uranium,Dissolved	R3023417 R3023417	J J
L751256-20	WG773711	SAMP	Aluminum, Dissolved	R3023417	J
2,01200 20	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711	SAMP	Zinc,Dissolved	R3023313	J
	WG773485	SAMP	рН	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J
	WG773564	SAMP	Chloroethane	R3023588	J4 Ј
	WG773842 WG773842	SAMP SAMP	Molybdenum,Dissolved Uranium,Dissolved	R3023417 R3023417	J
L751256-21	WG773711	SAMP	Zinc, Dissolved	R3023417	J
2,01200 21	WG773485	SAMP	pH	R3022867	JT8
	WG773759	SAMP	Specific Conductance	R3023290	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J
	WG773842	SAMP	Arsenic, Dissolved	R3023417	J
	WG773842	SAMP	Lead, Dissolved	R3023417	J
	WG773842 WG773842	SAMP SAMP	Molybdenum,Dissolved Uranium,Dissolved	R3023417 R3023417	J J
L751256-22	WG773711	SAMP	Aluminum, Dissolved	R3023313	J
2,01200 22	WG773711	SAMP	Manganese, Dissolved	R3023313	J
	WG773711	SAMP	Zinc,Dissolved	R3023313	J
	WG773485	SAMP	рН	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773341	SAMP	Di-n-butyl phthalate	R3022985	J J
	WG773842 WG773842	SAMP SAMP	Lead, Dissolved Molybdenum, Dissolved	R3023417 R3023417	J
L751256-23	WG773711	SAMP	Aluminum, Dissolved	R3023313	J
	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711	SAMP	Manganese,Dissolved	R3023313	J
	WG773485	SAMP	Н	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528 WG773566	SAMP SAMP	Di-n-butyl phthalate Chloroform	R3023272 R3023687	J J
	WG773842	SAMP	Molybdenum, Dissolved	R3023087 R3023417	J
	WG773842	SAMP	Uranium, Dissolved	R3023417	J
L751256-24	WG773711	SAMP	Boron, Dissolved	R3023313	J
	WG773711	SAMP	Zinc,Dissolved	R3023313	J
	WG773485	SAMP	pH	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773908 WG773908	SAMP SAMP	Lead, Dissolved Molybdenum, Dissolved	R3023458 R3023458	J J
	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-25	WG773713	SAMP	Boron, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773485	SAMP	рН	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908 WG773908	SAMP SAMP	Molybdenum,Dissolved Uranium,Dissolved	R3023458 R3023458	J J
L751256-26	WG773908 WG773713	SAMP	Boron, Dissolved	R3023458 R3023536	J J
	WG773713 WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773485	SAMP	pH	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
	WG773908	SAMP	Uranium,Dissolved	R3023458	J

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Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L751256-27	WG773713	SAMP	Aluminum,Dissolved	R3023536	- ———— ЈВ
	WG773713	SAMP	Boron, Dissolved	R3023536	J
	WG773713	SAMP	Iron, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG774414	SAMP	Alkalinity	R3024109	J6
	WG773485	SAMP	pH Specific Conductors	R3022867	JT8
	WG774086 WG773528	SAMP SAMP	Specific Conductance Bis(2-ethylhexyl)phthalate	R3023563 R3023272	J J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
	WG773908	SAMP	Uranium,Dissolved	R3023458	J
L751256-28	WG773713	SAMP	Boron, Dissolved	R3023536	J
	WG773485	SAMP	pH	R3022867	JT8
	WG774086 WG773528	SAMP SAMP	Specific Conductance Bis(2-ethylhexyl)phthalate	R3023563 R3023272	J J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023272	J
	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-29	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773485	SAMP	рН	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Bis(2-ethylhexyl)phthalate	R3023272	J
	WG773528	SAMP	Phenol Molybdenum,Dissolved	R3023272	J T
	WG773908 WG773908	SAMP SAMP	Uranium, Dissolved	R3023458 R3023458	J J
L751256-30	WG773713	SAMP	Aluminum, Dissolved	R3023436	JВ
2701200 00	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773485	SAMP	рН	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Bis(2-ethylhexyl)phthalate	R3023272	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J -
	WG773908 WG773908	SAMP SAMP	Molybdenum, Dissolved Uranium, Dissolved	R3023458 R3023458	J J
L751256-31	WG773713	SAMP	Aluminum, Dissolved	R3023436	JВ
11/31230 31	WG773713	SAMP	Boron, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773485	SAMP	рН	R3022867	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J J
L751256-32	WG773908 WG773713	SAMP SAMP	Uranium,Dissolved Aluminum,Dissolved	R3023458 R3023536	В
11/31230 32	WG773713	SAMP	Chromium, Dissolved	R3023536	J
	WG773713	SAMP	Nickel, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773634	SAMP	рН	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
L751256-33	WG773908 WG773713	SAMP SAMP	Uranium,Dissolved Chromium,Dissolved	R3023458 R3023536	J J
⊔/31230-33	WG773713 WG773713	SAMP	Nickel, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Biphenyl	R3023272	J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved Uranium, Dissolved	R3023458	J T
L751256-34	WG773908 WG773713	SAMP SAMP	Aluminum, Dissolved	R3023458 R3023536	J JB
T17T770-34	WG773713 WG773713	SAMP	Boron, Dissolved	R3023536	J
	WG773713	SAMP	Iron, Dissolved	R3023536	J
	WG773713	SAMP	Manganese, Dissolved	R3023536	J
	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773634	SAMP	рН	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Molybdenum,Dissolved	R3023458	J

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Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
	WG773908	SAMP	Uranium,Dissolved	R3023458	J
L751256-36	WG773713	SAMP	Zinc, Dissolved	R3023536	J
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Bis(2-ethylhexyl)phthalate	R3023272	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J -
T 7 F 1 O F C 2 7	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-37	WG773713	SAMP	Aluminum, Dissolved	R3023536	JB -
	WG773713	SAMP	Zinc,Dissolved	R3023536	J
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
T751056 20	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-38	WG773713	SAMP	Aluminum, Dissolved	R3023536	JB -
	WG773713	SAMP	Copper, Dissolved	R3023536	J
	WG773713	SAMP	Iron,Dissolved Zinc,Dissolved	R3023536	J J
	WG773713	SAMP	•	R3023536	
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Bis(2-ethylhexyl)phthalate	R3023272	J
	WG773908	SAMP	Lead, Dissolved	R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
T751056 20	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-39	WG773713	SAMP	Aluminum, Dissolved	R3023536	В
	WG773713	SAMP	Zinc,Dissolved	R3023536	J
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance	R3023563	J
	WG773528	SAMP	Di-n-butyl phthalate	R3023272	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
T 7 F 1 O F 6 4 O	WG773908	SAMP	Uranium, Dissolved	R3023458	J
L751256-40	WG773713	SAMP	Aluminum,Dissolved Chromium,Dissolved	R3023536	JB -
	WG773713	SAMP		R3023536	J
	WG773713	SAMP	Zinc,Dissolved	R3023536	J
	WG773634	SAMP	pH	R3023069	JT8
	WG774086	SAMP	Specific Conductance Di-n-butyl phthalate	R3023563	J
	WG773528	SAMP	Lead, Dissolved	R3023272	J
	WG773908	SAMP		R3023458	J
	WG773908	SAMP	Molybdenum, Dissolved	R3023458	J
T7E10E6 //1	WG773908	SAMP	Uranium, Dissolved	R3023458	J T4
L751256-41	WG773789	SAMP	1,1-Dichloroethane	R3023835	J4
	WG773789 WG773789	SAMP SAMP	1,2-Dichloroethane	R3023835 R3023835	J4 J3
	WG//3/09	SAMP	2-Butanone (MEK)	K3U23833	U S

Attachment B Explanation of QC Qualifier Codes

Qualifier	Meaning
В	$(\mbox{\sc EPA})$ - The indicated compound was found in the associated method blank as well as the laboratory sample.
J	$({\ensuremath{\mathtt{EPA}}})$ - Estimated value below the lowest calibration point. Confidence correlates with concentration.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
Т4	(ESC) - Additional method/sample information: QNS - Quantity Not Sufficient
Т8	(ESC) - Additional method/sample information: Sample(s) received past/too close to holding time expiration.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision The agreement between a set of samples or between duplicate samples.

 Relates to how close together the results are and is represented by

 Relative Percent Difference.
- Surrogate Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773521

Analysis Date: 3/7/2015 12:52:00 PM Analyst: 236

Instrument ID: IC-5

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Chloride	16887-00-6	< 1.00	< 0.0519	
Fluoride	16984-48-8	< 0.100	< 0.00990	
Sulfate	14808-79-8	< 5.00	< 0.0774	

	Laboratory Control Sample (LCS)									
					Control					
Analyte	Dil	True Value	Found	% Rec	Limits	Qual				
Chloride	1	40	40.071	100	90 - 110					
Fluoride	1	8	8.2521	103	90 - 110					
Sulfate	1	40	40.141	100	90 - 110					

Laboratory Control Sample Duplicate (LCSD)											
	Control										
Analyte	Dil	True Value	Found	% Rec	Limits	Qual					
Chloride	1	40	39.679	99	90 - 110						
Fluoride	1	8	8.1947	102	90 - 110						
Sulfate	1	40	39.760	99	90 - 110						

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Di	il Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Chloride	1	40	40.071	100	39.679	99	90 - 110		1	20	
Fluoride	1	8	8.2521	103	8.1947	102	90 - 110		1	20	
Sulfate	1	40	40.141	100	39.760	99	90 - 110		1	20	



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TN00003

Quality Control Summary

Test: Anions by M

Project No: 227000

Lovington Lea Refinery Project:

Collection Date: 2/26/2015

3/6/2015 7:02:00 PM Analysis Date:

Instrument ID: IC-10

Sample Numbers: L751256-26, -27, -28, -29, -30

SDG: L75 TRC Solutions -		
Method 9056	,	
	Matrix:	Water - mg/L

Analytic Batch: WG773522

EPA ID:

Analyst: 183

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Chloride	16887-00-6	< 1.00	< 0.0519	
Fluoride	16984-48-8	< 0.100	< 0.00990	
Sulfate	14808-79-8	< 5.00	< 0.0774	

Laboratory Control Sample (LCS)							
					Control		
Analyte	Dil	True Value	Found	% Rec	Limits	Qual	
Chloride	1	40	39.441	99	90 - 110		
Fluoride	1	8	7.9679	100	90 - 110		
Sulfate	1	40	39.629	99	90 - 110		

Laboratory Control Sample Duplicate (LCSD)								
Control Analyte Dil True Value Found % Rec Limits Oual								
Analyte	Dil	True value	Found	% Rec	Limits	Qual		
Chloride	1	40	39.892	100	90 - 110			
Fluoride	1	8	8.0427	101	90 - 110			
Sulfate	1	40	39.935	100	90 - 110			

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Di	l Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Chloride	1	40	39.441	99	39.892	100	90 - 110		1	20	
Fluoride	1	8	7.9679	100	8.0427	101	90 - 110		1	20	
Sulfate	1	40	39.629	99	39.935	100	90 - 110		1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774030

Analysis Date: 3/6/2015 1:48:00 PM Analyst: 236

Instrument ID: IC-9

Sample Numbers: L751256-31, -32, -33, -34, -36, -37, -38, -39, -40

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Chloride	16887-00-6	< 1.00	< 0.0519	
Fluoride	16984-48-8	< 0.100	< 0.00990	
Nitrate	14797-55-8	< 0.100	< 0.0227	
Sulfate	14808-79-8	< 5.00	< 0.0774	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L Project: Lovington Lea Refinery EPA ID: TN00003

Instrument ID: IC-5

Sample Numbers: L751256-07, -29, -30, -32, -33, -34, -36, -38, -39

Method Blank						
Analyte	CAS	PQL	MDL	Qualifier		
Chloride	16887-00-6	< 1.00	< 0.0519			
Sulfate	14808-79-8	< 5.00	< 0.0774			

Laboratory Control Sample (LCS)							
Control Analyte Dil True Value Found % Rec Limits Oual							
Analyte Chloride	1	40	40.328	101	90 - 110	Quai	
Sulfate	1	40	40.395	101	90 - 110		

Laboratory Control Sample Duplicate (LCSD)							
Control Analyte Dil True Value Found % Rec Limits Oual							
Chloride	1	40	40.201	101	90 - 110		
Sulfate	1	40	40.452	101	90 - 110		

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Chloride	1	40	40.328	101	40.201	101	90 - 110		0	20	<u> </u>
Sulfate	1	40	40.395	101	40.452	101	90 - 110		0	20	



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TN00003

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000

Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/11/2015 9:30:00 PM

Instrument ID: IC-9

Sample Numbers: L751256-37, -40

SDG: L/51	1250	
TRC Solutions -	Austin, TX	
Method 9056		
	Matrix:	Water - mg/L

Analytic Batch: WG775081
Analyst: 236

EPA ID:

	Method Blank	ζ		
Analyte	CAS	PQL	MDL	Qualifier
Chloride	16887-00-6	< 1.00	0.142	
Sulfate	14808-79-8	< 5.00	< 0.0774	

	Laborato	ry Control Sai	mple (LCS))		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Chloride	1	40	39.832	100	90 - 110	
Sulfate	1	40	39.668	99	90 - 110	

L	aboratory Cor	ntrol Sample I	Ouplicate (LCSD)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Chloride	1	40	39.878	100	90 - 110	
Sulfate	1	40	39.616	99	90 - 110	

	Laboratory Con	trol San	nple / L	aborat	ory Co	ntrol Sa	ample Du	ıplicat	e		
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Chloride	1	40	39.832	100	39.878	100	90 - 110		0	20	
Sulfate	1	40	39.668	99	39.616	99	90 - 110		0	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774030

Analysis Date: 3/6/2015 1:48:00 PM Analyst: 236

Instrument ID: IC-9

Sample Numbers: L751256-31, -32, -33, -34, -36, -37, -38, -39, -40

	Laborato	ry Control Sai	mple (LCS))		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Chloride	1	40	39.686	99	90 - 110	_
Fluoride	1	8	7.9467	99	90 - 110	
Nitrate	1	8	8.1036	101	90 - 110	
Sulfate	1	40	39.610	99	90 - 110	

	Laboratory Con	ntrol Sample I	Ouplicate (1	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Chloride	1	40	39.517	99	90 - 110	
Fluoride	1	8	7.8243	98	90 - 110	
Nitrate	1	8	8.1114	101	90 - 110	
Sulfate	1	40	39.222	98	90 - 110	

	Laboratory Control Sample / Laboratory Control Sample Duplicate										
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Chloride	1	40	39.686	99	39.517	99	90 - 110		0	20	
Fluoride	1	8	7.9467	99	7.8243	98	90 - 110		2	20	
Nitrate	1	8	8.1036	101	8.1114	101	90 - 110		0	20	
Sulfate	1	40	39.610	99	39.222	98	90 - 110		1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773521

Analysis Date: 3/7/2015 12:52:00 PM Analyst: 236

Instrument ID: IC-5

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25

		Sample D	uplicate			
		L75125	56-02			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Chloride	1	31.138	30.977	1	20	_
Fluoride	1	1.5191	1.5087	1	20	
Sulfate	1	74.059	73.651	1	20	

Sample Duplicate										
	L751256-25									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier				
Chloride	1	25.853	25.889	0	20					
Fluoride	1	1.1723	1.1812	1	20					

		Ma	trix Spi	ke / Ma	atrix Sp	pike Du	ıplicate					
				L75	1256-09)						
		Spike							% Rec		Control	
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Chloride	1	50	0.2519	47.609	95	49.708	99	80 - 120		4	20	
Fluoride	1	5	< 0.0099	4.8112	96	5.0029	100	80 - 120		4	20	
Sulfate	1	50	0.4456	47 021	95	49.835	99	80 - 120		4	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000

Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/6/2015 7:02:00 PM

Instrument ID: IC-10

Sample Numbers: L751256-26, -27, -28, -29, -30

DDG: L/S		
TRC Solutions -	· Austin, TX	
Method 9056	,	
	Matrix:	Water - mg/L
ea Refinery	EPA ID:	TN00003

Analyst: 183

Analytic Batch: WG773522

		Sample D	uplicate			
		L75087	76-05			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Chloride	1	45.067	45.761	2	20	
Fluoride	1	0.128	0.1424	11	20	
Sulfate	1	2.3855	2.3731	1	20	

		Sample D	uplicate			
		L75118	31-01			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Chloride	20	781.58	839.98	7	20	_
Fluoride	20	0.7898	2.7303	110	20	P1

Matrix Spike / Matrix Spike Duplicate												
L751256-30												
Spike Control % Rec Control F									DDD			
			G .	3.50	0 (30	3.503	0 (70			D.D.D.		
Analyte	Dil		Sample	MS	% Rec	MSD	% Rec	Control Limits		RPD	Limits	Qual
Analyte Fluoride	Dil		Sample 0.6331	MS 5.8468	% Rec 104	MSD 5.755	% Rec 102			RPD 2		



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774030

Analysis Date: 3/6/2015 1:48:00 PM Analyst: 236

Instrument ID: IC-9

Sample Numbers: L751256-31, -32, -33, -34, -36, -37, -38, -39, -40

Sample Duplicate									
L751256-31									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Chloride	1	24.040	24.085	0	20				
Fluoride	1	2.6798	2.6752	0	20				
Nitrate	1	2.5479	2.5997	2	20				
Sulfate	1	42.186	42.177	0	20				

Sample Duplicate									
L751382-02									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Chloride	1	7.1206	7.0392	1	20				
Fluoride	1	0.3478	0.3463	0	20				
Nitrate	1	< 0.0227	< 0.0227		20				

		Mat	trix Spi	ke / Ma	atrix S _I	pike Du	ıplicate					
				L75	1754-01							
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Chloride	1	50	0.6011	49.868	99	50.045	99	80 - 120		0	20	
Fluoride	1	5	0.0392	4.9041	97	4.9163	98	80 - 120		0	20	
Nitrate	1	5	0.156	5.0161	97	5.1037	99	80 - 120		2	20	
Sulfate	1	50	5.3069	54.316	98	54.492	98	80 - 120		0	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774478

Analysis Date: 3/10/2015 12:05:00 PM Analyst: 236

Instrument ID: IC-5

Sample Numbers: L751256-07, -29, -30, -32, -33, -34, -36, -38, -39

Sample Duplicate									
		L75125	56-07						
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Chloride	10	549.72	525.13	5	20	_			
Sulfate	10	54.946	51.906	6	20				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Anions by Method 9056

Project No: 227000

Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/11/2015 9:30:00 PM

Instrument ID: IC-9

Sample Numbers: L751256-37, -40

TRC Solutions - Austin, TX									
Method 9056	,								
	Matrix:	Water - mg/L							
Lea Refinery	EPA ID:	TN00003							

Analystic Batch: WG775081 Analyst: 236

Sample Duplicate									
		L75138	32-02						
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Chloride		7.5528	7.2314	4	20				
Cilioriae	_	1.3320	7.2314	7	20				

Sample Duplicate									
		L75277	76-01						
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Chloride	1	12.871	12.868	0	20	_			
Sulfate	1	19.575	18.314	7	20				

Matrix Spike / Matrix Spike Duplicate												
L751598-03												
Spike Control % Rec Control												
			~ .	3.50							Control	
Analyte	Dil		Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
Analyte Chloride	Dil		Sample 2.2284	MS 33.097	% Rec 62	MSD 34.425	% Rec 64					



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773500

Analysis Date: 3/4/2015 1:45:00 PM Analyst: 239

Instrument ID: TITRATION

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Alkalinity		< 20.0	< 2.61						

Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Anaryte	DII	Truc value	Found	/0 RCC	Limits	Quai			
Alkalinity	1	100	102	102	85 - 115				

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Alkalinity	1	100	101	100	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Alkalinity	1	100	102	102	101	100	85 - 115		0.99	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000

Project: Lovington Lea Refinery Collection Date: 2/26/2015

Analysis Date: 3/5/2015 12:28:00 PM

Instrument ID: TITRATION

Sample Numbers: L751256-22, -23, -24, -25

Matrix: Water - mg/L EPA ID: TN00003 Analytic Batch: WG773873

Analyst: 239

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Alkalinity		< 20.0	< 2.61	

	Laborato	ry Control Sai	mple (LCS)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual
Alkalinity	1	100	103	103	85 - 115	- Quui
Aikaiiiity	1	100	103	103	03 - 113	

	Laboratory Con	ntrol Sample I	Ouplicate (LCSD)							
Analyte	Control True Value Found % Rec Limits Oual										
Alkalinity	1	100	105	105	85 - 115						

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	D	il Spik	e LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Alkalinity	1	100	103	103	105	105	85 - 115		1.92	20	<u></u>



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774414

Analysis Date: 3/11/2015 8:23:00 AM Analyst: 239

Instrument ID: TITRATION

Sample Numbers: L751256-26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Alkalinity		< 20.0	< 2.61	

	Laborato	ry Control Sai	mple (LCS)			
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual
Analyte	DII	Truc value	Found	/0 IXCC	Limits	Quai
Alkalinity	1	100	104	104	85 - 115	

	Laboratory Con	ntrol Sample I	Duplicate (LCSD)							
Analyte	Control vte Dil True Value Found % Rec Limits Oual										
Alkalinity	1	100	101	101	85 - 115	Q 32332					

	Laboratory Control Sample / Laboratory Control Sample Duplicate										
							Control	% Rec		Control	RPD
Analyte	Di	il Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Alkalinity	1	100	104	104	101	101	85 - 115		2.93	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773500

Analysis Date: 3/4/2015 1:45:00 PM Analyst: 239

Instrument ID: TITRATION

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21

		Sample D	uplicate			
		L75090)9-01			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Alkalinity	5	520	521	0.19	20	_

		Sample D	uplicate			
		L75125	56-21			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Alkalinity	5	480	474	1.26	20	

Matrix Spike / Matrix Spike Duplicate												
L751256-01												
Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits		RPD	Control Limits	RPD Qual
Alkalinity	1	100	180	246	66	247	70 10	80 - 120	J6	0.41	20	Zum



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773873

Analysis Date: 3/5/2015 12:28:00 PM Analyst: 239

Instrument ID: TITRATION

Sample Numbers: L751256-22, -23, -24, -25

Sample Duplicate									
L751256-23									
Analyte	nalyte Dil Sample Result DUP Result % RPD Limit Qualifie								
Alkalinity	1	200	194	3.05	20				

Sample Duplicate									
L751256-24									
Analyte Dil Sample Result DUP Result % RPD Limit Qualifier									
Alkalinity	1	210	207	1.44	20				

Matrix Spike / Matrix Spike Duplicate												
L751256-22												
Spike Control % Rec Control RPD Analyte Dil Value Sample MS % Rec MSD % Rec Limits Qual RPD Limits Qua								RPD Oual				
Alkalinity	5	100	390	828	87.6	836	89.2	80 - 120	Quui	0.96	20	Quui



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Alkalinity by Method 2320 B-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774414

Analysis Date: 3/11/2015 8:23:00 AM Analyst: 239

Instrument ID: TITRATION

Alkalinity

Sample Numbers: L751256-26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

220

L751256-26										
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier				
Alkalinity	1	190	192	1.05	20	_				
		Sample D	uplicate							
		L75125	56-40							
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier				

Sample Duplicate

Matrix Spike / Matrix Spike Duplicate												
L751256-27												
Spike Control % Rec Control RPI Analyte Dil Value Sample MS % Rec MSD % Rec Limits Qual RPD Limits Qua												
Analyte	Dil	vaiue	Sample	MS	% Kec	MSD	% Kec	Limits	Qual	RPD	Limits	Qual
Alkalinity	1	100	270	339	69	340	70	80 - 120	J6	0.29	20	

221

0.45

20



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Nitrate-Nitrite by Method 353.2

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774082

Analysis Date: 3/9/2015 4:17:00 AM Analyst: 578

Instrument ID: LACHAT5

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Nitrate-Nitrite	7727-37-9	< 0.100	< 0.0197						

Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Nitrate-Nitrite	1	5	5.27	105	90 - 110	Quinz.			

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Nitrate-Nitrite									

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Di	il Spike	e LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Nitrate-Nitrite	1	5	5.27	105	5.25	105	90 - 110		0.38	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Nitrate-Nitrite by Method 353.2

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774083

Analysis Date: 3/9/2015 6:33:00 AM Analyst: 578

Instrument ID: LACHAT5

Sample Numbers: L751256-26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Nitrate-Nitrite	7727-37-9	< 0.100	< 0.0197						

Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Nitrate-Nitrite	1	5	5.1	102	90 - 110	Quui			

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Nitrate-Nitrite									

Laboratory Control Sample / Laboratory Control Sample Duplicate												
								Control	% Rec		Control	RPD
Analyte	D	il Sp	ike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Nitrate-Nitrite		1 :	5	5.1	102	5.17	103	90 - 110		1.36	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Nitrate-Nitrite by Method 353.2

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774082

Analysis Date: 3/9/2015 4:17:00 AM Analyst: 578

Instrument ID: LACHAT5

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25

		Sample D	uplicate			
		L75125	56-14			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Nitrate-Nitrite	1	1.9	1.86	0	20	

		Sample D	uplicate						
L751256-24									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Nitrate-Nitrite	1	2	2.04	0	20				

Matrix Spike / Matrix Spike Duplicate												
				L75	1256-25							
Spike Control % Rec Control RPD Analyte Dil Value Sample MS % Rec MSD % Rec Limits Qual RPD Limits Qua						RPD Oual						
Nitrate-Nitrite	1	5	1.6	6.5	98	6.57	99.4	90 - 110	Quui	1.07	20	Quui



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Nitrate-Nitrite by Method 353.2

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774083

Analysis Date: 3/9/2015 6:33:00 AM Analyst: 578

Instrument ID: LACHAT5

Sample Numbers: L751256-26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

		Sample D	uplicate			
		L75125	56-36			
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier
Nitrate-Nitrite	1	2.3	2.33	0	20	_

		Sample D	uplicate						
L751256-40									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Nitrate-Nitrite	1	2.6	2.63	0	20				

Matrix Spike / Matrix Spike Duplicate												
				L75	1256-34	ļ						
Spike Control % Rec Control RPD Analyte Dil Value Sample MS % Rec MSD % Rec Limits Qual RPD Limits Qua						RPD Oual						
Nitrate-Nitrite	1	5	2.3	7.24	98.8	7.2	98	90 - 110	Q 11112	0.55	20	Z 11112



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Specific Concuctance by Method 9050A

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773759

Analysis Date: 3/6/2015 3:05:00 PM Analyst: 599

Instrument ID: ORION VS-2

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21

	Method Blank		
Analyte	CAS	PQL	Qualifier
Specific Conductance	SPCON	2.14	

Laboratory Control Sample (LCS)								
Control Analyte Dil True Value Found % Rec Limits Oual								
Analyte	DII	True value	Found	/0 Rec	Limits	Quai		
Specific Conductance	1	759	778	103	85 - 115			

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Specific Conductance 1 759 778 103 85 - 115									

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Specific Conductance	1	759	778	103	778	103	85 - 115		0	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Specific Concuctance by Method 9050A

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774086

Analysis Date: 3/9/2015 10:10:00 AM Analyst: 645

Instrument ID: ORION VS-2

Sample Numbers: L751256-22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

	Method Blank		
Analyte	CAS	PQL	Qualifier
Specific Conductance	SPCON	1.01	

Laboratory Control Sample (LCS)								
Control Analyte Dil True Value Found % Rec Limits Oual								
	1	20 2 2 20 20 2				Quai		
Specific Conductance	1	759	812	107	85 - 115			

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Qual									
Specific Conductance	1	759	809	107	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Specific Conductance	1	759	812	107	809	107	85 - 115		0.37	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Specific Concuctance by Method 9050A

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773759

Analysis Date: 3/6/2015 3:05:00 PM Analyst: 599

Instrument ID: ORION VS-2

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21

Sample Duplicate								
L751256-01								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
Specific Conductance	1	900	900	0	20			

Sample Duplicate								
L751256-21								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
Specific Conductance	1	1500	1512	0.8	20			



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Specific Concuctance by Method 9050A

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774086

Analysis Date: 3/9/2015 10:10:00 AM Analyst: 645

Instrument ID: ORION VS-2

Sample Numbers: L751256-22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

Sample Duplicate								
L751256-22								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
Specific Conductance	1	1200	1200	0	20	_		

Sample Duplicate								
L751382-01								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
Specific Conductance	1	740	745	0.67	20			



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773477

Analysis Date: 3/4/2015 2:18:00 PM Analyst: 36

Instrument ID: WETBAL2

Sample Numbers: L751256-11, -13, -14, -15, -16, -18, -19, -20, -21, -22

Method Blank								
Analyte	CAS	PQL	MDL	Qualifier				
Dissolved Solids	DSOLIDS	< 10.0	< 2.82					

Laboratory Control Sample (LCS)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Dissolved Solids	1	8800	8460	96.1	85 - 115				

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Dissolved Solids	1	8800	8500	96.6	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Di	l Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Dissolved Solids	1	8800	8460	96.1	8500	96.6	85 - 115		0.47	5	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773484

Analysis Date: 3/6/2015 6:57:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-23, -24, -25, -26, -27, -28, -29, -30, -31, -32

	Method Blank								
Analyte	CAS	PQL	MDL	Qualifier					
Dissolved Solids	DSOLIDS	< 10.0	< 2.82						

	Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual				
Dissolved Solids	1	8800	8800	100	85 - 115	Quui				

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Control Dil True Value Found % Rec Limits Oua								
Dissolved Solids	1	8800	8710	99	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate												
								Control	% Rec		Control	RPD
Analyte]	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Dissolved Solids		1	8800	8800	100	8710	99	85 - 115		1.03	5	<u>.</u>



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773487

Analysis Date: 3/6/2015 7:22:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -33, -34, -36

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Dissolved Solids	DSOLIDS	< 10.0	< 2.82						

Laboratory Control Sample (LCS)										
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual				
Dissolved Solids	1	8800	8700	98.9	85 - 115					

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Control Dil True Value Found % Rec Limits Oual								
Dissolved Solids	1	8800	8730	99.2	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Dissolved Solids	1	8800	8700	98.9	8730	99.2	85 - 115		0.34	5	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773490

Analysis Date: 3/6/2015 6:35:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-37, -38, -39, -40

Method Blank								
Analyte	CAS	PQL	MDL	Qualifier				
Dissolved Solids	DSOLIDS	< 10.0	< 2.82					

	Laboratory Control Sample (LCS)								
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Dissolved Solids	1	8800	8710	99	85 - 115				

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Oual									
Dissolved Solids	1	8800	8750	99.4	85 - 115				

	Laboratory Control Sample / Laboratory Control Sample Duplicate											
								Control	% Rec		Control	RPD
Analyte	Ι)il	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Dissolved Solids		1	8800	8710	99	8750	99.4	85 - 115		0.46	5	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773477

Analysis Date: 3/4/2015 2:18:00 PM Analyst: 36

Instrument ID: WETBAL2

Sample Numbers: L751256-11, -13, -14, -15, -16, -18, -19, -20, -21, -22

Sample Duplicate									
L751256-22									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Dissolved Solids	1	822.67	825.33	0.32	5				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773484

Analysis Date: 3/6/2015 6:57:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-23, -24, -25, -26, -27, -28, -29, -30, -31, -32

Sample Duplicate									
L751256-23									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Dissolved Solids	1	461	463	0.43	5				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773487

Analysis Date: 3/6/2015 7:22:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-01, -02, -03, -06, -07, -09, -10, -33, -34, -36

		Sample D	uplicate					
L751256-01								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
Dissolved Solids	1	540	544	0.74	5			



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Total Dissolved Solids by Method 2540 C-2011

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773490

Analysis Date: 3/6/2015 6:35:00 AM Analyst: 36

Instrument ID: WETBAL1

Sample Numbers: L751256-37, -38, -39, -40

Sample Duplicate									
L751101-01									
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier			
Dissolved Solids	1	437	434	0.69	5				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: pH by Method 9040C

Project No: 227000

Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/4/2015 9:36:00 AM

Instrument ID: ORION VS-1

Sample Numbers: L751256-01, -02, -03, -06, -07, -09

Matrix: Water - mg/L EPA ID: TN00003

Analytic Batch: WG773482 Analyst: 661

	Laboratory Control Sample (LCS)							
					Control			
Analyte	Dil	True Value	Found	% Rec	Limits	Qual		
pH	1	5.9	5.83	98.8	98.3 - 101.7			

	Laboratory Control Sample Duplicate (LCSD)							
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual		
pH	1	5 0	5.84	99	98.3 - 101.7	Quui		
htt	1	3.7	3.04	フフ	70.3 - 101.7			

	Laboratory Control Sample / Laboratory Control Sample Duplicate											
								Control	% Rec		Control	RPD
Analyte]	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
pН		1	5.9	5.83	98.8	5.84	99	98.3 -		0.17	20	
								101.7				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: pH by Method 9040C

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773485

Analysis Date: 3/4/2015 10:41:00 AM Analyst: 661

Instrument ID: ORION VS-1

Sample Numbers: L751256-10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31

	Laboratory Control Sample (LCS)							
	D'I	70 TV 1	т	0/ T D	Control	0.1		
Analyte	Dil	True Value	Found	% Rec	Limits	Qual		
pH	1	5.9	5.85	99.2	98.3 - 101.7			

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Control te Dil True Value Found % Rec Limits Oual								
Analyte	Dil True value Found /6 Rec Limits Quai								
pН	1 5.9 5.85 99.2 98.3 - 101.7								

	Laboratory Control Sample / Laboratory Control Sample Duplicate											
								Control	% Rec		Control	RPD
Analyte	D	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
pН	1	1	5.9	5.85	99.2	5.85	99.2	98.3 -		0	20	
								101.7				



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Water - mg/L TN00003

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Matrix:

EPA ID:

Test: pH by Method 9040C

227000 Project No: Project: Lovington Lea Refinery

Instrument ID: ORION VS-1

Sample Numbers: L751256-32, -33, -34, -36, -37, -38, -39, -40

Collection Date: 2/26/2015 Analytic Batch: WG773634 Analysis Date: 3/5/2015 1:09:00 PM Analyst: 661

Laboratory Control Sample (LCS)								
	Control							
Analyte	Dil	True Value	Found	% Rec	Limits	Qual		
pH	1	5.9	5.85	99.2	98.3 - 101.7			

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Control Dil True Value Found % Rec Limits Oual								
Analyte	Dif True value Found 70 Rec Limits Qual								
pH	1	5.9	5.86	99.3	98.3 - 101.7				

	Laboratory Control Sample / Laboratory Control Sample Duplicate											
								Control	% Rec		Control	RPD
Analyte		Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
pН		1	5.9	5.85	99.2	5.86	99.3	98.3 -		0.17	20	
								101.7				



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Water - mg/L

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: pH by Method 9040C

Project No: 227000

Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/4/2015 9:36:00 AM

Instrument ID: ORION VS-1

Sample Numbers: L751256-01, -02, -03, -06, -07, -09

EPA ID: TN00003 **Analytic Batch: WG773482**

Matrix:

Analyst: 661

		Sample D	uplicate					
L750851-01								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
pH	1	7.3	7.3	0	1			
		Commle D	liaa4a					

Sample Duplicate								
L751256-09								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
pН	1	6.5	6.47	0.46	1			



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: pH by Method 9040C

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773485

Analysis Date: 3/4/2015 10:41:00 AM Analyst: 661

Instrument ID: ORION VS-1

Sample Numbers: L751256-10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31

		Sample D	uplicate					
L751256-10								
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier		
pН	1	5.2	5.23	0.58	1			
		Sample D	unlicate					

Sample Duplicate							
L751256-31							
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier	
pH	1	7.7	7.67	0.39	1		



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Water - mg/L TN00003

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Matrix:

EPA ID:

Analyst:

0.4

Analytic Batch: WG773634

661

Test: pH by Method 9040C

Project No: 227000
Project: Lovington Lea Refinery

Collection Date: 2/26/2015

Analysis Date: 3/5/2015 1:09:00 PM

Instrument ID: ORION VS-1

pH

Sample Numbers: L751256-32, -33, -34, -36, -37, -38, -39, -40

1

		Sample D	uplicate			
		L75114	48-10			
Analyte	Dil	Sample Result	DIJP Result	% RPD	Limit	Onalifie

7.5

		Sample D	uplicate				
L751401-01							
Analyte	Dil	Sample Result	DUP Result	% RPD	Limit	Qualifier	
nH	1	0.0	0.0	0	1		

78.47



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773848

Analysis Date: 3/6/2015 10:53:00 PM Analyst: 572
Instrument ID: CVAA5, CVAA4 Prep Date: 3/5/2015

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Mercury	7439-97-6	< 0.200	< 0.0490						

Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
Mercury	1	3	2.9688	99	85 - 115	Quui			

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Qual									
Mercury	1	3	2.9717	99	85 - 115	Q trus			

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Mercury	1	3	2.9688	99	2.9717	99	85 - 115		0	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773849

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Mercury	7439-97-6	< 0.200	< 0.0490						

Laboratory Control Sample (LCS)									
Control Analyte Dil True Value Found % Rec Limits Qual									
Mercury	1	3	3.1870	106	85 - 115	Q 3-312			

Laboratory Control Sample Duplicate (LCSD)									
Analyte	Control Alvte Dil True Value Found % Rec Limits Oual								
Mercury	1	3	3.2213	107	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate											
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Mercury	1	3	3.1870	106	3.2213	107	85 - 115		1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773850

 Analysis Date:
 3/6/2015 5:37:00 PM
 Analyst:
 572

 Instrument ID:
 CVAA3
 Prep Date:
 3/5/2015

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Mercury, Dissolved	7439-97-6	< 0.200	< 0.0490						

Laboratory Control Sample (LCS)									
Control									
Analyte	Dil	True Value	Found	% Rec	Limits	Qual			
Mercury, Dissolved	1	3	3.0316	101	85 - 115				

Laboratory Control Sample Duplicate (LCSD)									
Control Analyte Dil True Value Found % Rec Limits Qual									
Mercury, Dissolved	1	3	3.0860	103	85 - 115				

Laboratory Control Sample / Laboratory Control Sample Duplicate												
								Control	% Rec		Control	RPD
Analyte	I	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Mercury, Dissolved		1	3	3.0316	101	3.0860	103	85 - 115		2	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773851

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Mercury, Dissolved	7439-97-6	< 0.200	< 0.0490						

	Laboratory Control Sample (LCS)										
Amalista	Dil	True Value	Found	% Rec	Control Limits	Oual					
Analyte	ווע	True value	Found	% Rec	Liiiits	Quai					
Mercury, Dissolved	1	3	3.4183	114	85 - 115						

Laboratory Control Sample Duplicate (LCSD)										
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual				
Mercury, Dissolved	1	3	3.2697	109	85 - 115					

Laboratory Control Sample / Laboratory Control Sample Duplicate												
								Control	% Rec		Control	RPD
Analyte		Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Mercury, Dissolved		1	3	3.4183	114	3.2697	109	85 - 115		4	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773848

Analysis Date: 3/6/2015 10:53:00 PM Analyst: 572
Instrument ID: CVAA5, CVAA4 Prep Date: 3/5/2015

Matrix Spike / Matrix Spike Duplicate												
L751256-24												
Analyta	Dil	Spike	Sample	MC	% Rec	MSD	0/. D oo	Control Limits		RPD	Control Limits	
Analyte Mercury	<u>ווע</u> 1	3		3.1713	106	3.4792	116	80 - 120	Quai	9	20	Qual



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773849

Matrix Spike / Matrix Spike Duplicate												
L751527-02												
A so allowed	Dil	Spike	C1-	MC	0/ D	MCD	0/ D	Control			Control	
Analyte	Dil	value	Sample		% Rec			Limits	Qual	RPD	Limits	Qual
Mercury	1	3	< 0.049	3.0777	103	3.1998	107	80 - 120		4	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773850

 Analysis Date:
 3/6/2015 5:37:00 PM
 Analyst:
 572

 Instrument ID:
 CVAA3
 Prep Date:
 3/5/2015

	Matrix Spike / Matrix Spike Duplicate											
				L75	1256-24	ļ.						
A 1.4	D.II	Spike	G 1	3.40	0/ D	MCD	0/ T D	Control			Control	
Analyte	Dil	value	Sample	MS	% Rec	MSD	% Kec	Limits	Qual	RPD	Limits	Qual
Mercury.Dissolved	1	3	< 0.049	3.0865	103	3.1038	103	80 - 120		1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Mercury by Method 7470A

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773851

Matrix Spike / Matrix Spike Duplicate												
				L75	1256-25	5						
		Spike						Control			Control	
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Mercury, Dissolved	1	3	< 0.049	3.1323	104	2.8790	96	80 - 120		8	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

	Method Blan	ık		
Analyte	CAS	PQL	MDL	Qualifier
Aluminum, Dissolved	7429-90-5	< 0.100	< 0.0350	
Barium, Dissolved	7440-39-3	< 0.00500	< 0.00170	
Beryllium, Dissolved	7440-41-7	< 0.00200	< 0.000700	
Boron, Dissolved	7440-42-8	< 0.200	< 0.0126	
Cadmium, Dissolved	7440-43-9	< 0.00500	< 0.000700	
Calcium, Dissolved	7440-70-2	< 1.00	< 0.0463	
Chromium, Dissolved	7440-47-3	< 0.0100	< 0.00140	
Cobalt, Dissolved	7440-48-4	< 0.0100	< 0.00230	
Copper, Dissolved	7440-50-8	< 0.0200	< 0.00530	
Iron, Dissolved	7439-89-6	< 0.100	< 0.0141	
Magnesium, Dissolved	7439-95-4	< 1.00	< 0.0111	
Manganese, Dissolved	7439-96-5	< 0.0100	< 0.00120	
Nickel, Dissolved	7440-02-0	< 0.0200	< 0.00490	
Potassium, Dissolved	7440-09-7	< 1.00	< 0.102	
Selenium, Dissolved	7782-49-2	< 0.0200	< 0.00740	
Silver, Dissolved	7440-22-4	< 0.0100	< 0.00280	
Sodium, Dissolved	7440-23-5	< 1.00	0.193	
Vanadium, Dissolved	7440-62-2	< 0.0200	0.00241	
Zinc, Dissolved	7440-66-6	< 0.0500	< 0.00590	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773713

	Method Blan	ık		
Analyte	CAS	PQL	MDL	Qualifier
Aluminum, Dissolved	7429-90-5	< 0.100	0.0769	J
Barium, Dissolved	7440-39-3	< 0.00500	< 0.00170	
Beryllium, Dissolved	7440-41-7	< 0.00200	< 0.000700	
Boron, Dissolved	7440-42-8	< 0.200	< 0.0126	
Cadmium, Dissolved	7440-43-9	< 0.00500	< 0.000700	
Calcium, Dissolved	7440-70-2	< 1.00	< 0.0463	
Chromium, Dissolved	7440-47-3	< 0.0100	< 0.00140	
Cobalt, Dissolved	7440-48-4	< 0.0100	< 0.00230	
Copper, Dissolved	7440-50-8	< 0.0200	< 0.00530	
Iron,Dissolved	7439-89-6	< 0.100	< 0.0141	
Magnesium, Dissolved	7439-95-4	< 1.00	< 0.0111	
Manganese, Dissolved	7439-96-5	< 0.0100	< 0.00120	
Nickel, Dissolved	7440-02-0	< 0.0200	< 0.00490	
Potassium, Dissolved	7440-09-7	< 1.00	< 0.102	
Selenium, Dissolved	7782-49-2	< 0.0200	< 0.00740	
Silver, Dissolved	7440-22-4	< 0.0100	< 0.00280	
Sodium, Dissolved	7440-23-5	< 1.00	< 0.0985	
Vanadium, Dissolved	7440-62-2	< 0.0200	0.00400	
Zinc,Dissolved	7440-66-6	< 0.0500	< 0.00590	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

Laboratory Control Sample (LCS)										
					Control					
Analyte	Dil	True Value	Found	% Rec	Limits	Qual				
Aluminum, Dissolved	1	1	1.0318	103	80 - 120					
Barium, Dissolved	1	1	1.0380	104	80 - 120					
Beryllium, Dissolved	1	1	1.0465	105	80 - 120					
Boron, Dissolved	1	1	1.0490	105	80 - 120					
Cadmium, Dissolved	1	1	1.0601	106	80 - 120					
Calcium, Dissolved	1	10	9.8840	99	80 - 120					
Chromium, Dissolved	1	1	0.9935	99	80 - 120					
Cobalt, Dissolved	1	1	1.0455	105	80 - 120					
Copper, Dissolved	1	1	1.0369	104	80 - 120					
Iron,Dissolved	1	1	1.0185	102	80 - 120					
Magnesium, Dissolved	1	10	9.4208	94	80 - 120					
Manganese, Dissolved	1	0.5	0.5122	102	80 - 120					
Nickel, Dissolved	1	1	1.0272	103	80 - 120					
Potassium, Dissolved	1	10	10.240	102	80 - 120					
Selenium, Dissolved	1	1	1.0784	108	80 - 120					
Silver, Dissolved	1	1	1.0539	105	80 - 120					
Sodium, Dissolved	1	10	9.9462	99	80 - 120					
Vanadium, Dissolved	1	1	1.0514	105	80 - 120					
Zinc,Dissolved	1	1	1.0048	100	80 - 120					



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

Laboratory Control Sample Duplicate (LCSD)										
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual				
Aluminum, Dissolved	1	1	1.0158	102	80 - 120					
Barium, Dissolved	1	1	1.0452	105	80 - 120					
Beryllium, Dissolved	1	1	1.0529	105	80 - 120					
Boron, Dissolved	1	1	1.0346	103	80 - 120					
Cadmium, Dissolved	1	1	1.0681	107	80 - 120					
Calcium, Dissolved	1	10	9.9232	99	80 - 120					
Chromium, Dissolved	1	1	0.9988	100	80 - 120					
Cobalt, Dissolved	1	1	1.0542	105	80 - 120					
Copper, Dissolved	1	1	1.0237	102	80 - 120					
Iron,Dissolved	1	1	1.0193	102	80 - 120					
Magnesium, Dissolved	1	10	9.5216	95	80 - 120					
Manganese, Dissolved	1	0.5	0.5153	103	80 - 120					
Nickel, Dissolved	1	1	1.0362	104	80 - 120					
Potassium, Dissolved	1	10	10.264	103	80 - 120					
Selenium, Dissolved	1	1	1.0902	109	80 - 120					
Silver, Dissolved	1	1	1.0621	106	80 - 120					
Sodium, Dissolved	1	10	10.005	100	80 - 120					
Vanadium, Dissolved	1	1	1.0614	106	80 - 120					
Zinc, Dissolved	1	1	1.0072	101	80 - 120					



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

Laboratory Control Sample / Laboratory Control Sample Duplicate										
							Control	% Rec	Control RPD	
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual % RP	D Limits Qual	
Aluminum, Dissolved	1	1	1.0318	103	1.0158	102	80 - 120	2	20	
Barium, Dissolved	1	1	1.0380	104	1.0452	105	80 - 120	1	20	
Beryllium, Dissolved	1	1	1.0465	105	1.0529	105	80 - 120	1	20	
Boron, Dissolved	1	1	1.0490	105	1.0346	103	80 - 120	1	20	
Cadmium, Dissolved	1	1	1.0601	106	1.0681	107	80 - 120	1	20	
Calcium, Dissolved	1	10	9.8840	99	9.9232	99	80 - 120	0	20	
Chromium, Dissolved	1	1	0.9935	99	0.9988	100	80 - 120	1	20	
Cobalt, Dissolved	1	1	1.0455	105	1.0542	105	80 - 120	1	20	
Copper,Dissolved	1	1	1.0369	104	1.0237	102	80 - 120	1	20	
Iron,Dissolved	1	1	1.0185	102	1.0193	102	80 - 120	0	20	
Magnesium, Dissolved	1	10	9.4208	94	9.5216	95	80 - 120	1	20	
Manganese, Dissolved	1	0.5	0.5122	102	0.5153	103	80 - 120	1	20	
Nickel, Dissolved	1	1	1.0272	103	1.0362	104	80 - 120	1	20	
Potassium, Dissolved	1	10	10.240	102	10.264	103	80 - 120	0	20	
Selenium, Dissolved	1	1	1.0784	108	1.0902	109	80 - 120	1	20	
Silver, Dissolved	1	1	1.0539	105	1.0621	106	80 - 120	1	20	
Sodium, Dissolved	1	10	9.9462	99	10.005	100	80 - 120	1	20	
Vanadium, Dissolved	1	1	1.0514	105	1.0614	106	80 - 120	1	20	
Zinc,Dissolved	1	1	1.0048	100	1.0072	101	80 - 120	0	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773713

	Laborato	ry Control Sai	mple (LCS))		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
Aluminum,Dissolved	1	1	1.0140	101	80 - 120	
Barium, Dissolved	1	1	1.0656	107	80 - 120	
Beryllium, Dissolved	1	1	1.0566	106	80 - 120	
Boron, Dissolved	1	1	1.0356	104	80 - 120	
Cadmium, Dissolved	1	1	1.0657	107	80 - 120	
Calcium, Dissolved	1	10	10.199	102	80 - 120	
Chromium, Dissolved	1	1	0.9954	100	80 - 120	
Cobalt, Dissolved	1	1	1.0496	105	80 - 120	
Copper, Dissolved	1	1	1.0241	102	80 - 120	
Iron,Dissolved	1	1	1.0480	105	80 - 120	
Magnesium, Dissolved	1	10	9.9740	100	80 - 120	
Manganese, Dissolved	1	0.5	0.5156	103	80 - 120	
Nickel, Dissolved	1	1	1.0326	103	80 - 120	
Potassium, Dissolved	1	10	9.7095	97	80 - 120	
Selenium, Dissolved	1	1	1.0785	108	80 - 120	
Silver, Dissolved	1	1	1.0625	106	80 - 120	
Sodium, Dissolved	1	10	10.769	108	80 - 120	
Vanadium, Dissolved	1	1	1.0425	104	80 - 120	
Zinc,Dissolved	1	1	1.0172	102	80 - 120	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773713

	Laboratory Con	ntrol Sample I	Ouplicate (1	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Aluminum, Dissolved	1	1	0.9515	95	80 - 120	
Barium, Dissolved	1	1	1.0323	103	80 - 120	
Beryllium, Dissolved	1	1	1.0212	102	80 - 120	
Boron, Dissolved	1	1	1.0004	100	80 - 120	
Cadmium, Dissolved	1	1	1.0278	103	80 - 120	
Calcium, Dissolved	1	10	9.9087	99	80 - 120	
Chromium, Dissolved	1	1	0.9639	96	80 - 120	
Cobalt, Dissolved	1	1	1.0088	101	80 - 120	
Copper, Dissolved	1	1	0.9951	100	80 - 120	
Iron,Dissolved	1	1	0.9955	100	80 - 120	
Magnesium, Dissolved	1	10	9.6288	96	80 - 120	
Manganese, Dissolved	1	0.5	0.5032	101	80 - 120	
Nickel, Dissolved	1	1	0.9994	100	80 - 120	
Potassium, Dissolved	1	10	9.5356	95	80 - 120	
Selenium, Dissolved	1	1	1.0463	105	80 - 120	
Silver, Dissolved	1	1	1.0325	103	80 - 120	
Sodium, Dissolved	1	10	10.353	104	80 - 120	
Vanadium, Dissolved	1	1	1.0241	102	80 - 120	
Zinc,Dissolved	1	1	0.9928	99	80 - 120	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773713

Labora	tory Cont	rol San	ple / L	aborat	ory Co	ntrol Sa	ample Du	uplicate		
							Control	% Rec		Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual %	RPD	Limits Qual
Aluminum, Dissolved	1	1	1.0140	101	0.9515	95	80 - 120		6	20
Barium, Dissolved	1	1	1.0656	107	1.0323	103	80 - 120		3	20
Beryllium, Dissolved	1	1	1.0566	106	1.0212	102	80 - 120		3	20
Boron, Dissolved	1	1	1.0356	104	1.0004	100	80 - 120		3	20
Cadmium, Dissolved	1	1	1.0657	107	1.0278	103	80 - 120		4	20
Calcium, Dissolved	1	10	10.199	102	9.9087	99	80 - 120		3	20
Chromium, Dissolved	1	1	0.9954	100	0.9639	96	80 - 120		3	20
Cobalt, Dissolved	1	1	1.0496	105	1.0088	101	80 - 120		4	20
Copper, Dissolved	1	1	1.0241	102	0.9951	100	80 - 120		3	20
Iron,Dissolved	1	1	1.0480	105	0.9955	100	80 - 120		5	20
Magnesium, Dissolved	1	10	9.9740	100	9.6288	96	80 - 120		4	20
Manganese, Dissolved	1	0.5	0.5156	103	0.5032	101	80 - 120		2	20
Nickel, Dissolved	1	1	1.0326	103	0.9994	100	80 - 120		3	20
Potassium, Dissolved	1	10	9.7095	97	9.5356	95	80 - 120		2	20
Selenium, Dissolved	1	1	1.0785	108	1.0463	105	80 - 120		3	20
Silver,Dissolved	1	1	1.0625	106	1.0325	103	80 - 120		3	20
Sodium, Dissolved	1	10	10.769	108	10.353	104	80 - 120		4	20
Vanadium, Dissolved	1	1	1.0425	104	1.0241	102	80 - 120		2	20
Zinc,Dissolved	1	1	1.0172	102	0.9928	99	80 - 120		2	20



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

		Serial Di	ilution							
L751256-01										
Analyte	Dil	Sample Result	SD Result	% RPD	Limit	Qualifier				
Aluminum, Dissolved	5	< 0.035	< 0.175		10					
Barium, Dissolved	5	0.1159	0.1127	3	10					
Beryllium, Dissolved	5	< 0.0007	< 0.0035		10					
Boron, Dissolved	5	0.1707	0.2030	19	10					
Cadmium, Dissolved	5	< 0.0007	< 0.0035		10					
Calcium, Dissolved	5	124.60	109.81	12	10					
Chromium, Dissolved	5	0.0016	< 0.007	97	10					
Cobalt, Dissolved	5	< 0.0023	< 0.0115		10					
Copper, Dissolved	5	< 0.0053	< 0.0265		10					
Iron,Dissolved	5	< 0.0141	< 0.0705		10					
Magnesium, Dissolved	5	13.499	11.740	13	10					
Manganese, Dissolved	5	< 0.0012	< 0.006		10					
Nickel, Dissolved	5	< 0.0049	< 0.0245		10					
Potassium, Dissolved	5	2.4391	1.9792	19	10					
Selenium, Dissolved	5	< 0.0074	< 0.037		10					
Silver, Dissolved	5	< 0.0028	< 0.014		10					
Sodium, Dissolved	5	43.896	37.224	15	10					
Vanadium, Dissolved	5	0.0229	0.0309	35	10					
Zinc, Dissolved	5	0.0060	< 0.0295	232	10					



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773711

Analysis Date: 3/5/2015 5:58:00 PM Analyst: 388

Instrument ID: ICP12, ICP13 Prep Date: 3/4/2015

	Matrix Spike / Matrix Spike Duplicate											
				L75	1256-01							
A malusta	D:I	Spike	Commis	MC	0/ Dag	MCD	0/ Dag	Control	% Rec	DDD	Control	RPD
Analyte Aluminum,Dissolved	Dil	Value	Sample <0.035	MS 1.0871	% Rec 109	MSD 1.0643	% Rec 106	Limits 75 - 125	Qual	RPD 2	Limits 20	Qual
Barium, Dissolved	1	1	0.1159	1.1659	109	1.1574	104	75 - 125 75 - 125		∠ 1	20	
	1	1								1		
Beryllium, Dissolved	1	1	< 0.0007		109	1.0716	107	75 - 125		1	20	
Boron, Dissolved	1	1		1.2209	105	1.2253	105	75 - 125		0	20	
Cadmium, Dissolved	1	1	< 0.0007		112	1.1081	111	75 - 125		1	20	
Calcium, Dissolved	1	10		136.83	122	134.43	98	75 - 125		2	20	
Chromium, Dissolved	1	1		1.0000	100	1.0003	100	75 - 125		0	20	
Cobalt, Dissolved	1	1	< 0.0023		109	1.0888	109	75 - 125		0	20	
Copper, Dissolved	1	1	< 0.0053	1.0361	104	1.0454	104	75 - 125		1	20	
Iron,Dissolved	1	1	< 0.0141	0.9920	99	0.9907	99	75 - 125		0	20	
Magnesium, Dissolved	1	10	13.499	23.241	97	22.910	94	75 - 125		1	20	
Manganese, Dissolved	1	0.5	< 0.0012	0.5155	102	0.5128	102	75 - 125		1	20	
Nickel, Dissolved	1	1	< 0.0049	1.0675	107	1.0665	107	75 - 125		0	20	
Potassium, Dissolved	1	10	2.4391	12.897	105	12.920	105	75 - 125		0	20	
Selenium, Dissolved	1	1	< 0.0074	1.1727	117	1.1629	116	75 - 125		1	20	
Silver, Dissolved	1	1	< 0.0028	1.0990	110	1.1020	110	75 - 125		0	20	
Sodium, Dissolved	1	10	43.896	54.037	101	54.071	102	75 - 125		0	20	
Vanadium, Dissolved	1	1	0.0229	1.0920	107	1.0899	107	75 - 125		0	20	
Zinc,Dissolved	1	1	0.0060	1.0335	103	1.0197	101	75 - 125		1	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773713

		Serial Di	ilution			
		L75159	08-01			
Analyte	Dil	Sample Result	SD Result	% RPD	Limit	Qualifier
Aluminum,Dissolved	5	0.1463	0.2925	100	10	
Barium, Dissolved	5	0.0654	0.0647	1	10	
Beryllium, Dissolved	5	< 0.0007	< 0.0035		10	
Boron, Dissolved	5	0.0692	0.1231	0	10	
Cadmium, Dissolved	5	< 0.0007	< 0.0035		10	
Calcium, Dissolved	5	56.423	52.090	8	10	
Chromium, Dissolved	5	< 0.0014	< 0.007		10	
Cobalt, Dissolved	5	< 0.0023	< 0.0115		10	
Copper, Dissolved	5	< 0.0053	< 0.0265		10	
Iron,Dissolved	5	0.0810	< 0.0705	0	10	
Magnesium, Dissolved	5	3.6171	3.7309	3	10	
Manganese, Dissolved	5	0.0031	< 0.006	0	10	
Nickel, Dissolved	5	< 0.0049	< 0.0245		10	
Potassium, Dissolved	5	2.8448	2.6972	5	10	
Selenium, Dissolved	5	0.0412	< 0.037	35	10	
Silver, Dissolved	5	< 0.0028	< 0.014		10	
Sodium, Dissolved	5	15.633	15.168	3	10	
Vanadium, Dissolved	5	0.0072	0.0469	550	10	
Zinc, Dissolved	5	< 0.0059	< 0.0295		10	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6010B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773713

		Ma	trix Spi	ke / Ma	atrix S _l	pike Du	ıplicate					
				L75	1598-01							
Amaluta	Dil	Spike	Comple	MC	0/ D oo	MCD	0/ Dag	Control	% Rec	DDD	Control	RPD
Analyte Aluminum, Dissolved	ווע <u></u> 1	Value	Sample 0.1463	MS 0.9798	% Rec 83	1.0832	% Rec 94	Limits 75 - 125	Qual	RPD 10	Limits 20	Qual
Barium, Dissolved	1	1		1.0938	103	1.1149	105	75 - 125 75 - 125		2	20	
Beryllium, Dissolved	1	1	< 0.0007		103	1.0495	105	75 - 125 75 - 125		3	20	
Boron, Dissolved	1	1			97	1.0640	99	75 - 125 75 - 125		3	20	
Cadmium, Dissolved	1	1	< 0.0007		104	1.0650	106	75 - 125		2	20	
Calcium, Dissolved	1	10	56.423	66.919	105	67.863	114	75 - 125		1	20	
Chromium, Dissolved	1	1	< 0.0014	0.9588	96	0.9883	99	75 - 125		3	20	
Cobalt, Dissolved	1	1	< 0.0023	1.0301	103	1.0536	105	75 - 125		2	20	
Copper, Dissolved	1	1	< 0.0053	0.9870	99	1.0133	101	75 - 125		3	20	
Iron,Dissolved	1	1	0.0810	1.0348	95	1.0650	98	75 - 125		3	20	
Magnesium, Dissolved	1	10	3.6171	13.081	95	13.409	98	75 - 125		2	20	
Manganese, Dissolved	1	0.5	0.0031	0.5024	100	0.5156	102	75 - 125		3	20	
Nickel, Dissolved	1	1	< 0.0049	1.0136	101	1.0363	103	75 - 125		2	20	
Potassium, Dissolved	1	10	2.8448	12.311	95	12.587	97	75 - 125		2	20	
Selenium, Dissolved	1	1	0.0412	1.0704	103	1.0981	106	75 - 125		3	20	
Silver, Dissolved	1	1	< 0.0028	1.0400	104	1.0658	107	75 - 125		2	20	
Sodium, Dissolved	1	10	15.633	25.278	96	26.109	105	75 - 125		3	20	
Vanadium, Dissolved	1	1	0.0072	1.0281	102	1.0435	104	75 - 125		1	20	
Zinc, Dissolved	1	1	< 0.0059	0.9883	98	1.0205	102	75 - 125		3	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773842

Analysis Date: 3/6/2015 5:34:00 PM Analyst: 428
Instrument ID: ICPMS8 Prep Date: 3/4/2015
Sample Numbers: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Antimony, Dissolved	7440-36-0	< 2.00	0.892	
Arsenic, Dissolved	7440-38-2	< 2.00	0.594	
Lead,Dissolved	7439-92-1	< 2.00	0.798	
Molybdenum, Dissolved	7439-98-7	< 5.00	0.817	
Thallium, Dissolved	7440-28-0	< 2.00	0.748	
Uranium, Dissolved	7440-61-1	< 10.0	< 0.330	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773908

Analysis Date: 3/8/2015 1:12:00 PM Analyst: 117
Instrument ID: ICPMS8 Prep Date: 3/5/2015

Sample Numbers: L751256-24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

	Method Blan	k		
Analyte	CAS	PQL	MDL	Qualifier
Antimony, Dissolved	7440-36-0	< 2.00	0.286	
Arsenic, Dissolved	7440-38-2	< 2.00	< 0.250	
Lead, Dissolved	7439-92-1	< 2.00	0.372	
Molybdenum, Dissolved	7439-98-7	< 5.00	< 0.140	
Thallium, Dissolved	7440-28-0	< 2.00	0.257	
Uranium,Dissolved	7440-61-1	< 10.0	< 0.330	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773842

Analysis Date: 3/6/2015 5:34:00 PM Analyst: 428
Instrument ID: ICPMS8 Prep Date: 3/4/2015
Sample Numbers: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23

Laboratory Control Sample (LCS)											
	Control										
Analyte	Dil	True Value	Found	% Rec	Limits	Qual					
Antimony, Dissolved	1	50	57.391	115	80 - 120						
Arsenic, Dissolved	1	50	56.928	114	80 - 120						
Lead,Dissolved	1	50	54.037	108	80 - 120						
Molybdenum, Dissolved	1	50	53.238	106	80 - 120						
Thallium, Dissolved	1	50	52.693	105	80 - 120						
Uranium, Dissolved	1	50	52.962	106	80 - 120						

Laboratory Control Sample Duplicate (LCSD)											
		Control									
Analyte	Dil	True Value	Found	% Rec	Limits	Qual					
Antimony, Dissolved	1	50	58.030	116	80 - 120	_					
Arsenic, Dissolved	1	50	52.949	106	80 - 120						
Lead,Dissolved	1	50	54.023	108	80 - 120						
Molybdenum, Dissolved	1	50	53.670	107	80 - 120						
Thallium, Dissolved	1	50	53.512	107	80 - 120						
Uranium, Dissolved	1	50	53.320	107	80 - 120						

Laboratory Control Sample / Laboratory Control Sample Duplicate										
							Control	% Rec	Control RPD	
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual % RI	PD Limits Qual	
Antimony, Dissolved	1	50	57.391	115	58.030	116	80 - 120	1	20	
Arsenic, Dissolved	1	50	56.928	114	52.949	106	80 - 120	7	20	
Lead, Dissolved	1	50	54.037	108	54.023	108	80 - 120	0	20	
Molybdenum, Dissolved	1	50	53.238	106	53.670	107	80 - 120	1	20	
Thallium,Dissolved	1	50	52.693	105	53.512	107	80 - 120	2	20	
Uranium, Dissolved	1	50	52.962	106	53.320	107	80 - 120	1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773908

Analysis Date: 3/8/2015 1:12:00 PM Analyst: 117
Instrument ID: ICPMS8 Prep Date: 3/5/2015

Sample Numbers: L751256-24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -36, -37, -38, -39, -40

Laboratory Control Sample (LCS)									
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual			
Antimony, Dissolved	1	50	53.633	107	80 - 120				
Arsenic, Dissolved	1	50	52.202	104	80 - 120				
Lead,Dissolved	1	50	51.992	104	80 - 120				
Molybdenum, Dissolved	1	50	51.297	103	80 - 120				
Thallium, Dissolved	1	50	51.204	102	80 - 120				
Uranium, Dissolved	1	50	51.332	103	80 - 120				

Laboratory Control Sample Duplicate (LCSD)									
					Control				
Analyte	Dil	True Value	Found	% Rec	Limits	Qual			
Antimony, Dissolved	1	50	53.324	107	80 - 120				
Arsenic, Dissolved	1	50	53.413	107	80 - 120				
Lead, Dissolved	1	50	51.280	103	80 - 120				
Molybdenum, Dissolved	1	50	51.027	102	80 - 120				
Thallium, Dissolved	1	50	51.172	102	80 - 120				
Uranium, Dissolved	1	50	51.446	103	80 - 120				

Laboratory Control Sample / Laboratory Control Sample Duplicate									
							Control	% Rec	Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual % RPI	D Limits Qual
Antimony, Dissolved	1	50	53.633	107	53.324	107	80 - 120	1	20
Arsenic, Dissolved	1	50	52.202	104	53.413	107	80 - 120	2	20
Lead,Dissolved	1	50	51.992	104	51.280	103	80 - 120	1	20
Molybdenum, Dissolved	1	50	51.297	103	51.027	102	80 - 120	1	20
Thallium, Dissolved	1	50	51.204	102	51.172	102	80 - 120	0	20
Uranium,Dissolved	1	50	51.332	103	51.446	103	80 - 120	0	20



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773842

Analysis Date: 3/6/2015 5:34:00 PM Analyst: 428
Instrument ID: ICPMS8 Prep Date: 3/4/2015
Sample Numbers: L751256-01, -02, -03, -06, -07, -08, -09, -10, -11, -13, -14, -15, -16, -18, -19, -20, -21, -22, -23

Serial Dilution										
L750234-05										
Analyte	Dil	Sample Result	SD Result	% RPD	Limit	Qualifier				
Antimony, Dissolved	5	< 0.21	<1.05		10	_				
Arsenic, Dissolved	5	0.5322	<1.25	0	10					
Lead,Dissolved	5	0.4525	<1.2	0	10					
Molybdenum, Dissolved	5	0.1493	< 0.7	0	10					
Thallium, Dissolved	5	0.3490	< 0.95	0	10					
Uranium, Dissolved	5	< 0.33	< 1.65		10					

Matrix Spike / Matrix Spike Duplicate												
L750234-05												
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Antimony, Dissolved	1	50	< 0.21	56.852	113	59.007	118	75 - 125		4	20	
Arsenic, Dissolved	1	50	0.5322	55.826	111	54.053	107	75 - 125		3	20	
Lead,Dissolved	1	50	0.4525	53.798	107	52.408	104	75 - 125		3	20	
Molybdenum, Dissolved	1	50	0.1493	52.998	106	53.780	107	75 - 125		1	20	
Thallium, Dissolved	1	50	0.3490	52.579	104	51.792	103	75 - 125		2	20	
Uranium,Dissolved	1	50	< 0.33	53.150	106	51.565	103	75 - 125		3	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Trace Metals by Method 6020

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773908

Analysis Date: 3/8/2015 1:12:00 PM Analyst: 117
Instrument ID: ICPMS8 Prep Date: 3/5/2015

Serial Dilution									
L751256-24									
Analyte	Dil	Sample Result	SD Result	% RPD	Limit	Qualifier			
Antimony, Dissolved	5	0.2334	<1.05	139	10				
Arsenic, Dissolved	5	5.5200	5.2287	5	10				
Lead,Dissolved	5	0.4131	<1.2	63	10				
Molybdenum, Dissolved	5	1.0854	1.0645	2	10				
Thallium, Dissolved	5	0.2672	< 0.95	39	10				
Uranium, Dissolved	5	3.3309	3.3286	0	10				

Matrix Spike / Matrix Spike Duplicate												
				L75	1256-24	ļ						
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Antimony, Dissolved	1	50	0.2334	51.559	103	54.064	108	75 - 125		5	20	
Arsenic, Dissolved	1	50	5.5200	56.248	101	58.682	106	75 - 125		4	20	
Lead,Dissolved	1	50	0.4131	50.808	101	52.833	105	75 - 125		4	20	
Molybdenum, Dissolved	1	50	1.0854	50.514	99	52.321	102	75 - 125		4	20	
Thallium, Dissolved	1	50	0.2672	50.560	101	51.894	103	75 - 125		3	20	
Uranium, Dissolved	1	50	3.3309	54.578	102	55.449	104	75 - 125		2	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000130	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Hexanone	591-78-6	< 0.0100	< 0.00382	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 1.00	< 0.0100	
Benzene	71-43-2	< 0.00100	< 0.000331	
Bromodichloromethane	75-27-4	< 0.00125	< 0.000380	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon disulfide	75-15-0	< 0.00100	< 0.000275	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

Method Blank									
Analyte	CAS	PQL	MDL	Qualifier					
Styrene	100-42-5	< 0.00100	< 0.000307						
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399						
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372						
Toluene	108-88-3	< 0.00500	< 0.000780						
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396						
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419						
Trichloroethene	79-01-6	< 0.00100	< 0.000398						
Vinyl chloride	75-01-4	< 0.00100	< 0.000259						
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106						



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000130	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Hexanone	591-78-6	< 0.0100	< 0.00382	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 1.00	< 0.0100	
Benzene	71-43-2	< 0.00100	< 0.000331	
Bromodichloromethane	75-27-4	< 0.00125	< 0.000380	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon disulfide	75-15-0	< 0.00100	< 0.000275	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
Styrene	100-42-5	< 0.00100	< 0.000307	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372	
Toluene	108-88-3	< 0.00500	< 0.000780	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419	
Trichloroethene	79-01-6	< 0.00100	< 0.000398	
Vinyl chloride	75-01-4	< 0.00100	< 0.000259	
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000130	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Hexanone	591-78-6	< 0.0100	< 0.00382	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 1.00	< 0.0100	
Benzene	71-43-2	< 0.00100	< 0.000331	
Bromodichloromethane	75-27-4	< 0.00125	< 0.000380	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon disulfide	75-15-0	< 0.00100	< 0.000275	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene Saphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

	Method Blan	ık		
Analyte	CAS	PQL	MDL	Qualifier
Styrene	100-42-5	< 0.00100	< 0.000307	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372	
Toluene	108-88-3	< 0.00500	< 0.000780	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419	
Trichloroethene	79-01-6	< 0.00100	< 0.000398	
Vinyl chloride	75-01-4	< 0.00100	< 0.000259	
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
1,1,1-Trichloroethane	71-55-6	< 0.00100	< 0.000319	
1,1,2,2-Tetrachloroethane	79-34-5	< 0.00100	< 0.000130	
1,1,2-Trichloroethane	79-00-5	< 0.00100	< 0.000383	
1,1-Dichloroethane	75-34-3	< 0.00100	< 0.000259	
1,1-Dichloroethene	75-35-4	< 0.00100	< 0.000398	
1,2,4-Trimethylbenzene	95-63-6	< 0.00100	< 0.000373	
1,2-Dibromoethane	106-93-4	< 0.00100	< 0.000381	
1,2-Dichloroethane	107-06-2	< 0.00100	< 0.000361	
1,2-Dichloropropane	78-87-5	< 0.00100	< 0.000306	
1,3,5-Trimethylbenzene	108-67-8	< 0.00100	< 0.000387	
2-Butanone (MEK)	78-93-3	< 0.0100	< 0.00393	
2-Hexanone	591-78-6	< 0.0100	< 0.00382	
4-Methyl-2-pentanone (MIBK)	108-10-1	< 0.0100	< 0.00214	
Acetone	67-64-1	< 1.00	< 0.0100	
Benzene	71-43-2	< 0.00100	< 0.000331	
Bromodichloromethane	75-27-4	< 0.00125	< 0.000380	
Bromoform	75-25-2	< 0.00100	< 0.000469	
Bromomethane	74-83-9	< 0.00500	< 0.000866	
Carbon disulfide	75-15-0	< 0.00100	< 0.000275	
Carbon tetrachloride	56-23-5	< 0.00100	< 0.000379	
Chlorobenzene	108-90-7	< 0.00100	< 0.000348	
Chlorodibromomethane	124-48-1	< 0.00100	< 0.000327	
Chloroethane	75-00-3	< 0.00500	< 0.000453	
Chloroform	67-66-3	< 0.00500	< 0.000324	
Chloromethane	74-87-3	< 0.00250	< 0.000276	
cis-1,2-Dichloroethene	156-59-2	< 0.00100	< 0.000260	
cis-1,3-Dichloropropene	10061-01-5	< 0.00100	< 0.000418	
Ethylbenzene	100-41-4	< 0.00100	< 0.000384	
Hexachloro-1,3-butadiene	87-68-3	< 0.00100	< 0.000256	
Isopropylbenzene	98-82-8	< 0.00100	< 0.000326	
Methyl tert-butyl ether	1634-04-4	< 0.00100	< 0.000367	
Methylene Chloride	75-09-2	< 0.00500	< 0.00100	
Naphthalene	91-20-3	< 0.00500	< 0.00100	
n-Butylbenzene	104-51-8	< 0.00100	< 0.000361	
n-Propylbenzene	103-65-1	< 0.00100	< 0.000349	
p-Isopropyltoluene	99-87-6	< 0.00100	< 0.000350	
sec-Butylbenzene	135-98-8	< 0.00100	< 0.000365	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Method Blan	ık		
Analyte	CAS	PQL	MDL	Qualifier
Styrene	100-42-5	< 0.00100	< 0.000307	
tert-Butylbenzene	98-06-6	< 0.00100	< 0.000399	
Tetrachloroethene	127-18-4	< 0.00100	< 0.000372	
Toluene	108-88-3	< 0.00500	< 0.000780	
trans-1,2-Dichloroethene	156-60-5	< 0.00100	< 0.000396	
trans-1,3-Dichloropropene	10061-02-6	< 0.00100	< 0.000419	
Trichloroethene	79-01-6	< 0.00100	< 0.000398	
Vinyl chloride	75-01-4	< 0.00100	< 0.000259	
Xylenes, Total	1330-20-7	< 0.00300	< 0.00106	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

	Laboratory Control Sample (LCS)						
					Control		
Analyte	Dil	True Value	Found	% Rec	Limits	Qual	
1,1,1-Trichloroethane	1	0.025	0.0226	90.4	73.2 - 123		
1,1,2,2-Tetrachloroethane	1	0.025	0.0252	101	70.7 - 122		
1,1,2-Trichloroethane	1	0.025	0.0225	90.1	77.7 - 118		
1,1-Dichloroethane	1	0.025	0.0238	95.2	70.7 - 126		
1,1-Dichloroethene	1	0.025	0.0223	89.2	67.8 - 129		
1,2,4-Trimethylbenzene	1	0.025	0.0206	82.3	75 - 123		
1,2-Dibromoethane	1	0.025	0.0224	89.8	76.6 - 121		
1,2-Dichloroethane	1	0.025	0.0209	83.5	68.8 - 124		
1,2-Dichloropropane	1	0.025	0.0254	102	76.5 - 119		
1,3,5-Trimethylbenzene	1	0.025	0.0209	83.8	75.6 - 124		
2-Butanone (MEK)	1	0.125	0.1289	103	55 - 149		
2-Hexanone	1	0.125	0.1275	102	65.6 - 144		
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1386	111	70.5 - 133		
Acetone	1	0.125	0.1145	91.6	35.6 - 163		
Benzene	1	0.025	0.0210	83.8	74.8 - 121		
Bromodichloromethane	1	0.025	0.0239	95.7	75.1 - 116		
Bromoform	1	0.025	0.0244	97.7	67.5 - 130		
Bromomethane	1	0.025	0.0316	126	49.9 - 162		
Carbon disulfide	1	0.025	0.0188	75.1	64.6 - 140		
Carbon tetrachloride	1	0.025	0.0229	91.5	70.2 - 123		
Chlorobenzene	1	0.025	0.0215	85.9	78.1 - 119		
Chlorodibromomethane	1	0.025	0.0232	92.8	74 - 121		
Chloroethane	1	0.025	0.0372	149	61.7 - 135	J4	
Chloroform	1	0.025	0.0221	88.3	76 - 121		
Chloromethane	1	0.025	0.0239	95.8	61.5 - 129		
cis-1,2-Dichloroethene	1	0.025	0.0221	88.5	76 - 119		
cis-1,3-Dichloropropene	1	0.025	0.0238	95.4	78.2 - 120		
Ethylbenzene	1	0.025	0.0211	84.4	78.8 - 122		
Hexachloro-1,3-butadiene	1	0.025	0.0254	102	64.7 - 129		
Isopropylbenzene	1	0.025	0.0214	85.6	78.6 - 132		
Methyl tert-butyl ether	1	0.025	0.0227	91	71.2 - 126		
Methylene Chloride	1	0.025	0.0213	85	70.3 - 120		
Naphthalene	1	0.025	0.0222	89	68.4 - 128		
n-Butylbenzene	1	0.025	0.0237	95	76.2 - 126		
n-Propylbenzene	1	0.025	0.0216	86.3	78.2 - 122		
p-Isopropyltoluene	1	0.025	0.0217	87	74 - 131		



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

	Laboratory Control Sample (LCS)								
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual			
sec-Butylbenzene	1	0.025	0.0213	85.2	74.4 - 127	Quai			
Styrene	1	0.025	0.0215	86.1	80.4 - 126				
tert-Butylbenzene	1	0.025	0.0216	86.6	75.3 - 126				
Tetrachloroethene	1	0.025	0.0220	87.9	72.6 - 126				
Toluene	1	0.025	0.0218	87.3	79.7 - 116				
trans-1,2-Dichloroethene	1	0.025	0.0224	89.7	72.6 - 121				
trans-1,3-Dichloropropene	1	0.025	0.0241	96.5	74.3 - 123				
Trichloroethene	1	0.025	0.0219	87.5	77.7 - 118				
Vinyl chloride	1	0.025	0.0249	99.7	65.9 - 128				
Xylenes, Total	1	0.075	0.0628	83.8	78.7 - 121				



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

	Laboratory Co	ontrol Sample I	Ouplicate (LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0224	89.6	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0251	101	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0218	87.1	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0233	93.3	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0222	89	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0205	82	75 - 123	
1,2-Dibromoethane	1	0.025	0.0226	90.5	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0205	82.1	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0253	101	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0209	83.6	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1283	103	55 - 149	
2-Hexanone	1	0.125	0.1243	99.5	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1336	107	70.5 - 133	
Acetone	1	0.125	0.1105	88.4	35.6 - 163	
Benzene	1	0.025	0.0206	82.5	74.8 - 121	
Bromodichloromethane	1	0.025	0.0237	94.8	75.1 - 116	
Bromoform	1	0.025	0.0238	95.4	67.5 - 130	
Bromomethane	1	0.025	0.0317	127	49.9 - 162	
Carbon disulfide	1	0.025	0.0184	73.6	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0228	91.1	70.2 - 123	
Chlorobenzene	1	0.025	0.0214	85.5	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0230	91.9	74 - 121	
Chloroethane	1	0.025	0.0365	146	61.7 - 135	J4
Chloroform	1	0.025	0.0220	87.8	76 - 121	
Chloromethane	1	0.025	0.0233	93.1	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0225	89.8	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0235	94.1	78.2 - 120	
Ethylbenzene	1	0.025	0.0213	85.2	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0255	102	64.7 - 129	
Isopropylbenzene	1	0.025	0.0217	86.9	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0221	88.6	71.2 - 126	
Methylene Chloride	1	0.025	0.0202	80.6	70.3 - 120	
Naphthalene	1	0.025	0.0217	86.6	68.4 - 128	
n-Butylbenzene	1	0.025	0.0236	94.6	76.2 - 126	
n-Propylbenzene	1	0.025	0.0218	87.2	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0222	88.7	74 - 131	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

	Laboratory Co	ontrol Sample I	Ouplicate (LCSD)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual
sec-Butylbenzene	1	0.025	0.0216	86.5	74.4 - 127	Quai
Styrene	1	0.025	0.0217	86.8	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0218	87.3	75.3 - 126	
Tetrachloroethene	1	0.025	0.0218	87.3	72.6 - 126	
Toluene	1	0.025	0.0218	87.1	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0218	87.3	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0242	96.7	74.3 - 123	
Trichloroethene	1	0.025	0.0216	86.2	77.7 - 118	
Vinyl chloride	1	0.025	0.0242	96.7	65.9 - 128	
Xylenes, Total	1	0.075	0.0626	83.5	78.7 - 121	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

Laborator	y Cont	trol San	nple / L	aborat	ory Co	ntrol S	ample Du	ıplicat	e	
							Control	% Rec		Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec		Qual		Limits Qual
1,1,1-Trichloroethane	1	0.025	0.0226	90.4	0.0224	89.6	73.2 - 123		0.89	20
1,1,2,2-Tetrachloroethane	1	0.025	0.0252	101	0.0251	101	70.7 - 122		0.31	20
1,1,2-Trichloroethane	1	0.025	0.0225	90.1	0.0218	87.1	77.7 - 118		3.42	20
1,1-Dichloroethane	1	0.025	0.0238	95.2	0.0233	93.3	70.7 - 126		2.04	20
1,1-Dichloroethene	1	0.025	0.0223	89.2	0.0222	89	67.8 - 129		0.28	20
1,2,4-Trimethylbenzene	1	0.025	0.0206	82.3	0.0205	82	75 - 123		0.28	20
1,2-Dibromoethane	1	0.025	0.0224	89.8	0.0226	90.5	76.6 - 121		0.76	20
1,2-Dichloroethane	1	0.025	0.0209	83.5	0.0205	82.1	68.8 - 124		1.69	20
1,2-Dichloropropane	1	0.025	0.0254	102	0.0253	101	76.5 - 119		0.64	20
1,3,5-Trimethylbenzene	1	0.025	0.0209	83.8	0.0209	83.6	75.6 - 124		0.23	20
2-Butanone (MEK)	1	0.125	0.1289	103	0.1283	103	55 - 149		0.43	20
2-Hexanone	1	0.125	0.1275	102	0.1243	99.5	65.6 - 144		2.53	20
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1386	111	0.1336	107	70.5 - 133		3.61	20
Acetone	1	0.125	0.1145	91.6	0.1105	88.4	35.6 - 163		3.52	23.9
Benzene	1	0.025	0.0210	83.8	0.0206	82.5	74.8 - 121		1.61	20
Bromodichloromethane	1	0.025	0.0239	95.7	0.0237	94.8	75.1 - 116		0.9	20
Bromoform	1	0.025	0.0244	97.7	0.0238	95.4	67.5 - 130		2.44	20
Bromomethane	1	0.025	0.0316	126	0.0317	127	49.9 - 162		0.23	20
Carbon disulfide	1	0.025	0.0188	75.1	0.0184	73.6	64.6 - 140		1.91	20
Carbon tetrachloride	1	0.025	0.0229	91.5	0.0228	91.1	70.2 - 123		0.42	20
Chlorobenzene	1	0.025	0.0215	85.9	0.0214	85.5	78.1 - 119		0.44	20
Chlorodibromomethane	1	0.025	0.0232	92.8	0.0230	91.9	74 - 121		1.04	20
Chloroethane	1	0.025	0.0372	149	0.0365	146	61.7 - 135	J4	1.66	20
Chloroform	1	0.025	0.0221	88.3	0.0220	87.8	76 - 121		0.51	20
Chloromethane	1	0.025	0.0239	95.8	0.0233	93.1	61.5 - 129		2.88	20
cis-1,2-Dichloroethene	1	0.025	0.0221	88.5	0.0225	89.8	76 - 119		1.51	20
cis-1,3-Dichloropropene	1	0.025	0.0238	95.4	0.0235	94.1	78.2 - 120		1.35	20
Ethylbenzene	1	0.025	0.0211	84.4	0.0213	85.2	78.8 - 122		0.91	20
Hexachloro-1,3-butadiene	1	0.025	0.0254	102	0.0255	102	64.7 - 129		0.17	20
Isopropylbenzene	1	0.025	0.0214	85.6	0.0217	86.9	78.6 - 132		1.46	20
Methyl tert-butyl ether	1	0.025	0.0227	91	0.0221	88.6	71.2 - 126		2.69	20
Methylene Chloride	1	0.025	0.0213	85	0.0202	80.6	70.3 - 120		5.28	20
Naphthalene	1	0.025	0.0222	89	0.0217	86.6	68.4 - 128		2.68	20
n-Butylbenzene	1	0.025	0.0237	95	0.0236	94.6	76.2 - 126		0.41	20
n-Propylbenzene	1	0.025	0.0216	86.3	0.0218	87.2	78.2 - 122		1.01	20
p-Isopropyltoluene	1	0.025	0.0217	87	0.0222	88.7	74 - 131		2	20



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

Laborate	ory Cont	rol San	ple / L	aborate	ory Co	ntrol S	ample Du	plicate	e		
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
sec-Butylbenzene	1	0.025	0.0213	85.2	0.0216	86.5	74.4 - 127		1.43	20	
Styrene	1	0.025	0.0215	86.1	0.0217	86.8	80.4 - 126		0.77	20	
tert-Butylbenzene	1	0.025	0.0216	86.6	0.0218	87.3	75.3 - 126		0.84	20	
Tetrachloroethene	1	0.025	0.0220	87.9	0.0218	87.3	72.6 - 126		0.68	20	
Toluene	1	0.025	0.0218	87.3	0.0218	87.1	79.7 - 116		0.17	20	
trans-1,2-Dichloroethene	1	0.025	0.0224	89.7	0.0218	87.3	72.6 - 121		2.77	20	
trans-1,3-Dichloropropene	1	0.025	0.0241	96.5	0.0242	96.7	74.3 - 123		0.15	20	
Trichloroethene	1	0.025	0.0219	87.5	0.0216	86.2	77.7 - 118		1.48	20	
Vinyl chloride	1	0.025	0.0249	99.7	0.0242	96.7	65.9 - 128		3.05	20	
Xylenes, Total	1	0.075	0.0628	83.8	0.0626	83.5	78.7 - 121		0.31	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Laborato	ry Control Sai	mple (LCS)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0220	87.9	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0229	91.5	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0237	94.9	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0213	85	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0201	80.4	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0233	93.2	75 - 123	
1,2-Dibromoethane	1	0.025	0.0236	94.4	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0222	88.7	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0226	90.4	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0239	95.6	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1050	84	55 - 149	
2-Hexanone	1	0.125	0.1071	85.7	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1104	88.3	70.5 - 133	
Acetone	1	0.125	0.0969	77.6	35.6 - 163	
Benzene	1	0.025	0.0210	83.9	74.8 - 121	
Bromodichloromethane	1	0.025	0.0235	94	75.1 - 116	
Bromoform	1	0.025	0.0246	98.6	67.5 - 130	
Bromomethane	1	0.025	0.0329	132	49.9 - 162	
Carbon disulfide	1	0.025	0.0185	74.1	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0228	91	70.2 - 123	
Chlorobenzene	1	0.025	0.0244	97.5	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0247	98.9	74 - 121	
Chloroethane	1	0.025	0.0289	116	61.7 - 135	
Chloroform	1	0.025	0.0208	83.1	76 - 121	
Chloromethane	1	0.025	0.0192	76.9	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0213	85.2	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0222	88.9	78.2 - 120	
Ethylbenzene	1	0.025	0.0242	96.8	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0223	89.3	64.7 - 129	
Isopropylbenzene	1	0.025	0.0241	96.5	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0210	83.8	71.2 - 126	
Methylene Chloride	1	0.025	0.0202	81	70.3 - 120	
Naphthalene	1	0.025	0.0206	82.5	68.4 - 128	
n-Butylbenzene	1	0.025	0.0233	93.1	76.2 - 126	
n-Propylbenzene	1	0.025	0.0237	94.9	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0239	95.5	74 - 131	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Laborato	ry Control Sai	mple (LCS)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Oual
sec-Butylbenzene	1	0.025	0.0238	95.1	74.4 - 127	Quui
Styrene	1	0.025	0.0228	91.2	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0237	94.9	75.3 - 126	
Tetrachloroethene	1	0.025	0.0255	102	72.6 - 126	
Toluene	1	0.025	0.0221	88.2	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0204	81.4	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0234	93.5	74.3 - 123	
Trichloroethene	1	0.025	0.0241	96.5	77.7 - 118	
Vinyl chloride	1	0.025	0.0239	95.4	65.9 - 128	
Xylenes, Total	1	0.075	0.0720	96	78.7 - 121	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Laboratory Con	ntrol Sample I	Ouplicate (l	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0213	85.3	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0225	90	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0235	94.1	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0203	81.3	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0197	79	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0226	90.4	75 - 123	
1,2-Dibromoethane	1	0.025	0.0235	94	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0215	86	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0223	89	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0234	93.6	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1049	83.9	55 - 149	
2-Hexanone	1	0.125	0.1085	86.8	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1099	87.9	70.5 - 133	
Acetone	1	0.125	0.0910	72.8	35.6 - 163	
Benzene	1	0.025	0.0206	82.4	74.8 - 121	
Bromodichloromethane	1	0.025	0.0232	92.8	75.1 - 116	
Bromoform	1	0.025	0.0246	98.3	67.5 - 130	
Bromomethane	1	0.025	0.0311	124	49.9 - 162	
Carbon disulfide	1	0.025	0.0181	72.2	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0221	88.6	70.2 - 123	
Chlorobenzene	1	0.025	0.0239	95.4	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0241	96.2	74 - 121	
Chloroethane	1	0.025	0.0283	113	61.7 - 135	
Chloroform	1	0.025	0.0203	81.2	76 - 121	
Chloromethane	1	0.025	0.0191	76.3	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0208	83	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0219	87.8	78.2 - 120	
Ethylbenzene	1	0.025	0.0234	93.5	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0226	90.4	64.7 - 129	
Isopropylbenzene	1	0.025	0.0235	94	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0208	83.2	71.2 - 126	
Methylene Chloride	1	0.025	0.0200	80.1	70.3 - 120	
Naphthalene	1	0.025	0.0209	83.5	68.4 - 128	
n-Butylbenzene	1	0.025	0.0229	91.8	76.2 - 126	
n-Propylbenzene	1	0.025	0.0230	92	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0233	93.4	74 - 131	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No:227000Matrix:Water - mg/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

	Laboratory Co	ontrol Sample l	Ouplicate (LCSD)		
Analyta	Dil	True Value	Found	% Rec	Control Limits	Oual
Analyte sec-Butylbenzene	1	0.025	0.0234	93.4	74.4 - 127	Quai
Styrene	1	0.025	0.0234	89.4	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0232	92.9	75.3 - 126	
Tetrachloroethene	1	0.025	0.0251	100	72.6 - 126	
Toluene	1	0.025	0.0218	87	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0200	80.1	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0232	92.8	74.3 - 123	
Trichloroethene	1	0.025	0.0241	96.4	77.7 - 118	
Vinyl chloride	1	0.025	0.0232	92.8	65.9 - 128	
Xylenes, Total	1	0.075	0.0707	94.2	78.7 - 121	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

Laborator	y Cont	trol San	nple / L	aborat	ory Co	ntrol S	ample Du	plicat	e		
							Control	% Rec	<u>.</u>	Control R	PD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec		Qual		Limits Q	
1,1,1-Trichloroethane	1	0.025	0.0220	87.9	0.0213	85.3	73.2 - 123		3.01	20	
1,1,2,2-Tetrachloroethane	1	0.025	0.0229	91.5	0.0225	90	70.7 - 122		1.57	20	
1,1,2-Trichloroethane	1	0.025	0.0237	94.9	0.0235	94.1	77.7 - 118		0.83	20	
1,1-Dichloroethane	1	0.025	0.0213	85	0.0203	81.3	70.7 - 126		4.42	20	
1,1-Dichloroethene	1	0.025	0.0201	80.4	0.0197	79	67.8 - 129		1.75	20	
1,2,4-Trimethylbenzene	1	0.025	0.0233	93.2	0.0226	90.4	75 - 123		3.05	20	
1,2-Dibromoethane	1	0.025	0.0236	94.4	0.0235	94	76.6 - 121		0.39	20	
1,2-Dichloroethane	1	0.025	0.0222	88.7	0.0215	86	68.8 - 124		3.11	20	
1,2-Dichloropropane	1	0.025	0.0226	90.4	0.0223	89	76.5 - 119		1.6	20	
1,3,5-Trimethylbenzene	1	0.025	0.0239	95.6	0.0234	93.6	75.6 - 124		2.16	20	
2-Butanone (MEK)	1	0.125	0.1050	84	0.1049	83.9	55 - 149		0.08	20	
2-Hexanone	1	0.125	0.1071	85.7	0.1085	86.8	65.6 - 144		1.31	20	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1104	88.3	0.1099	87.9	70.5 - 133		0.4	20	
Acetone	1	0.125	0.0969	77.6	0.0910	72.8	35.6 - 163		6.34	23.9	
Benzene	1	0.025	0.0210	83.9	0.0206	82.4	74.8 - 121		1.7	20	
Bromodichloromethane	1	0.025	0.0235	94	0.0232	92.8	75.1 - 116		1.28	20	
Bromoform	1	0.025	0.0246	98.6	0.0246	98.3	67.5 - 130		0.31	20	
Bromomethane	1	0.025	0.0329	132	0.0311	124	49.9 - 162		5.69	20	
Carbon disulfide	1	0.025	0.0185	74.1	0.0181	72.2	64.6 - 140		2.52	20	
Carbon tetrachloride	1	0.025	0.0228	91	0.0221	88.6	70.2 - 123		2.73	20	
Chlorobenzene	1	0.025	0.0244	97.5	0.0239	95.4	78.1 - 119		2.19	20	
Chlorodibromomethane	1	0.025	0.0247	98.9	0.0241	96.2	74 - 121		2.69	20	
Chloroethane	1	0.025	0.0289	116	0.0283	113	61.7 - 135		2.42	20	
Chloroform	1	0.025	0.0208	83.1	0.0203	81.2	76 - 121		2.31	20	
Chloromethane	1	0.025	0.0192	76.9	0.0191	76.3	61.5 - 129		0.81	20	
cis-1,2-Dichloroethene	1	0.025	0.0213	85.2	0.0208	83	76 - 119		2.59	20	
cis-1,3-Dichloropropene	1	0.025	0.0222	88.9	0.0219	87.8	78.2 - 120		1.3	20	
Ethylbenzene	1	0.025	0.0242	96.8	0.0234	93.5	78.8 - 122		3.5	20	
Hexachloro-1,3-butadiene	1	0.025	0.0223	89.3	0.0226	90.4	64.7 - 129		1.23	20	
Isopropylbenzene	1	0.025	0.0241	96.5	0.0235	94	78.6 - 132		2.65	20	
Methyl tert-butyl ether	1	0.025	0.0210	83.8	0.0208	83.2	71.2 - 126		0.73	20	
Methylene Chloride	1	0.025	0.0202	81	0.0200	80.1	70.3 - 120		1.11	20	
Naphthalene	1	0.025	0.0206	82.5	0.0209	83.5	68.4 - 128		1.26	20	
n-Butylbenzene	1	0.025	0.0233	93.1	0.0229	91.8	76.2 - 126		1.44	20	
n-Propylbenzene	1	0.025	0.0237	94.9	0.0230	92	78.2 - 122		3.14	20	
p-Isopropyltoluene	1	0.025	0.0239	95.5	0.0233	93.4	74 - 131		2.2	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

Laborate	ory Cont	rol San	nple / L	aborat	ory Co	ntrol S	ample Du	plicate	9		
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
sec-Butylbenzene	1	0.025	0.0238	95.1	0.0234	93.4	74.4 - 127		1.76	20	
Styrene	1	0.025	0.0228	91.2	0.0224	89.4	80.4 - 126		2.04	20	
tert-Butylbenzene	1	0.025	0.0237	94.9	0.0232	92.9	75.3 - 126		2.18	20	
Tetrachloroethene	1	0.025	0.0255	102	0.0251	100	72.6 - 126		1.74	20	
Toluene	1	0.025	0.0221	88.2	0.0218	87	79.7 - 116		1.33	20	
trans-1,2-Dichloroethene	1	0.025	0.0204	81.4	0.0200	80.1	72.6 - 121		1.63	20	
trans-1,3-Dichloropropene	1	0.025	0.0234	93.5	0.0232	92.8	74.3 - 123		0.73	20	
Trichloroethene	1	0.025	0.0241	96.5	0.0241	96.4	77.7 - 118		0.11	20	
Vinyl chloride	1	0.025	0.0239	95.4	0.0232	92.8	65.9 - 128		2.77	20	
Xylenes, Total	1	0.075	0.0720	96	0.0707	94.2	78.7 - 121		1.91	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

	Laborato	ory Control Sai	mple (LCS))		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0301	120	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0256	102	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0244	97.4	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0317	127	70.7 - 126	J4
1,1-Dichloroethene	1	0.025	0.0317	127	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0236	94.2	75 - 123	
1,2-Dibromoethane	1	0.025	0.0251	100	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0323	129	68.8 - 124	J4
1,2-Dichloropropane	1	0.025	0.0295	118	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0234	93.5	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1659	133	55 - 149	
2-Hexanone	1	0.125	0.1390	111	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1513	121	70.5 - 133	
Acetone	1	0.125	0.1463	117	35.6 - 163	
Benzene	1	0.025	0.0288	115	74.8 - 121	
Bromodichloromethane	1	0.025	0.0287	115	75.1 - 116	
Bromoform	1	0.025	0.0259	104	67.5 - 130	
Bromomethane	1	0.025	0.0294	118	49.9 - 162	
Carbon disulfide	1	0.025	0.0296	119	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0289	116	70.2 - 123	
Chlorobenzene	1	0.025	0.0241	96.3	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0244	97.6	74 - 121	
Chloroethane	1	0.025	0.0316	126	61.7 - 135	
Chloroform	1	0.025	0.0300	120	76 - 121	
Chloromethane	1	0.025	0.0290	116	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0282	113	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0281	112	78.2 - 120	
Ethylbenzene	1	0.025	0.0247	98.7	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0222	88.6	64.7 - 129	
Isopropylbenzene	1	0.025	0.0241	96.5	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0300	120	71.2 - 126	
Methylene Chloride	1	0.025	0.0279	111	70.3 - 120	
Naphthalene	1	0.025	0.0290	116	68.4 - 128	
n-Butylbenzene	1	0.025	0.0237	94.7	76.2 - 126	
n-Propylbenzene	1	0.025	0.0240	96.2	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0228	91.1	74 - 131	
rrry	•	0.020	3.0 0	/		



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

	Laborato	ry Control Sai	nple (LCS)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
sec-Butylbenzene	1	0.025	0.0236	94.3	74.4 - 127	
Styrene	1	0.025	0.0256	102	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0232	92.8	75.3 - 126	
Tetrachloroethene	1	0.025	0.0239	95.7	72.6 - 126	
Toluene	1	0.025	0.0258	103	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0284	114	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0274	109	74.3 - 123	
Trichloroethene	1	0.025	0.0255	102	77.7 - 118	
Vinyl chloride	1	0.025	0.0313	125	65.9 - 128	
Xylenes, Total	1	0.075	0.0734	97.8	78.7 - 121	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

La	boratory Co	ntrol Sample I	Ouplicate (1	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0263	105	73.2 - 123	<u></u>
1,1,2,2-Tetrachloroethane	1	0.025	0.0269	108	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0243	97.4	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0265	106	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0287	115	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0242	96.8	75 - 123	
1,2-Dibromoethane	1	0.025	0.0261	105	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0265	106	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0268	107	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0234	93.5	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1340	107	55 - 149	
2-Hexanone	1	0.125	0.1378	110	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1339	107	70.5 - 133	
Acetone	1	0.125	0.1293	103	35.6 - 163	
Benzene	1	0.025	0.0255	102	74.8 - 121	
Bromodichloromethane	1	0.025	0.0266	106	75.1 - 116	
Bromoform	1	0.025	0.0260	104	67.5 - 130	
Bromomethane	1	0.025	0.0270	108	49.9 - 162	
Carbon disulfide	1	0.025	0.0258	103	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0246	98.6	70.2 - 123	
Chlorobenzene	1	0.025	0.0252	101	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0243	97.3	74 - 121	
Chloroethane	1	0.025	0.0276	110	61.7 - 135	
Chloroform	1	0.025	0.0261	104	76 - 121	
Chloromethane	1	0.025	0.0262	105	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0266	106	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0263	105	78.2 - 120	
Ethylbenzene	1	0.025	0.0247	98.9	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0203	81.4	64.7 - 129	
Isopropylbenzene	1	0.025	0.0249	99.5	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0255	102	71.2 - 126	
Methylene Chloride	1	0.025	0.0259	103	70.3 - 120	
Naphthalene	1	0.025	0.0271	108	68.4 - 128	
n-Butylbenzene	1	0.025	0.0251	100	76.2 - 126	
n-Propylbenzene	1	0.025	0.0249	99.8	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0230	92	74 - 131	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

	Laboratory Co	ontrol Sample I	Ouplicate (LCSD)		
Analyte	Dil	True Value	Found	% Rec	Control Limits	Qual
sec-Butylbenzene	1	0.025	0.0241	96.3	74.4 - 127	
Styrene	1	0.025	0.0264	106	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0235	94.1	75.3 - 126	
Tetrachloroethene	1	0.025	0.0246	98.5	72.6 - 126	
Toluene	1	0.025	0.0247	98.7	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0266	106	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0264	105	74.3 - 123	
Trichloroethene	1	0.025	0.0264	106	77.7 - 118	
Vinyl chloride	1	0.025	0.0291	116	65.9 - 128	
Xylenes, Total	1	0.075	0.0747	99.6	78.7 - 121	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

Analyte Dil Spike LCS % Rec LCSD % Rec Limits Qual % RPD Limits Qual 1,1,1-Trichloroethane 1 0.025 0.0301 120 0.0263 105 73.2 - 123 13.6 20 1,1,2,2-Tetrachloroethane 1 0.025 0.0256 102 0.0269 108 70.7 - 122 4.9 20 1,1,2-Trichloroethane 1 0.025 0.0244 97.4 0.0243 97.4 77.7 - 118 0.08 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0265 106 70.7 - 126 J4 17.8 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dichloroethane 1 0.025 0.0251 100 0.0261 105 <td< th=""></td<>
Analyte Dil Spike LCS % Rec LCSD % Rec Limits Qual % RPD Limits Qual 1,1,1-Trichloroethane 1 0.025 0.0301 120 0.0263 105 73.2 - 123 13.6 20 1,1,2,2-Tetrachloroethane 1 0.025 0.0256 102 0.0269 108 70.7 - 122 4.9 20 1,1,2-Trichloroethane 1 0.025 0.0244 97.4 0.0243 97.4 77.7 - 118 0.08 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0265 106 70.7 - 126 J4 17.8 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2-A-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dichloroethane 1 0.025 0.0231 129 0.0265 106<
1,1,2,2-Tetrachloroethane 1 0.025 0.0256 102 0.0269 108 70.7 - 122 4.9 20 1,1,2-Trichloroethane 1 0.025 0.0244 97.4 0.0243 97.4 77.7 - 118 0.08 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0265 106 70.7 - 126 J4 17.8 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dibromoethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloroethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.125
1,1,2-Trichloroethane 1 0.025 0.0244 97.4 0.0243 97.4 77.7 - 118 0.08 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0265 106 70.7 - 126 J4 17.8 20 1,1-Dichloroethane 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dichloroethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloropropane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125
1,1-Dichloroethane 1 0.025 0.0317 127 0.0265 106 70.7 - 126 J4 17.8 20 1,1-Dichloroethene 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dichloroethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloropethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125
1,1-Dichloroethene 1 0.025 0.0317 127 0.0287 115 67.8 - 129 9.67 20 1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dibromoethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloroethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.14
1,2,4-Trimethylbenzene 1 0.025 0.0236 94.2 0.0242 96.8 75 - 123 2.66 20 1,2-Dibromoethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloroethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288
1,2-Dibromoethane 1 0.025 0.0251 100 0.0261 105 76.6 - 121 4.08 20 1,2-Dichloroethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
1,2-Dichloroethane 1 0.025 0.0323 129 0.0265 106 68.8 - 124 J4 19.8 20 1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
1,2-Dichloropropane 1 0.025 0.0295 118 0.0268 107 76.5 - 119 9.44 20 1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
1,3,5-Trimethylbenzene 1 0.025 0.0234 93.5 0.0234 93.5 75.6 - 124 0.03 20 2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
2-Butanone (MEK) 1 0.125 0.1659 133 0.1340 107 55 - 149 21.3 20 J3 2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
2-Hexanone 1 0.125 0.1390 111 0.1378 110 65.6 - 144 0.85 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
4-Methyl-2-pentanone (MIBK) 1 0.125 0.1513 121 0.1339 107 70.5 - 133 12.2 20 Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
Acetone 1 0.125 0.1463 117 0.1293 103 35.6 - 163 12.3 23.9 Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
Benzene 1 0.025 0.0288 115 0.0255 102 74.8 - 121 12 20
Bromodichloromethane 1 0.025 0.0287 115 0.0266 106 751-116 7.7 20
Divinionionioni 1 0.025 0.0201 115 0.0200 100 15.1 110 1.1 20
Bromoform 1 0.025 0.0259 104 0.0260 104 67.5 - 130 0.17 20
Bromomethane 1 0.025 0.0294 118 0.0270 108 49.9 - 162 8.43 20
Carbon disulfide 1 0.025 0.0296 119 0.0258 103 64.6 - 140 13.6 20
Carbon tetrachloride 1 0.025 0.0289 116 0.0246 98.6 70.2 - 123 15.9 20
Chlorobenzene 1 0.025 0.0241 96.3 0.0252 101 78.1 - 119 4.59 20
Chlorodibromomethane 1 0.025 0.0244 97.6 0.0243 97.3 74 - 121 0.23 20
Chloroethane 1 0.025 0.0316 126 0.0276 110 61.7 - 135 13.6 20
Chloroform 1 0.025 0.0300 120 0.0261 104 76 - 121 13.8 20
Chloromethane 1 0.025 0.0290 116 0.0262 105 61.5 - 129 10 20
cis-1,2-Dichloroethene 1 0.025 0.0282 113 0.0266 106 76 - 119 5.86 20
cis-1,3-Dichloropropene 1 0.025 0.0281 112 0.0263 105 78.2 - 120 6.59 20
Ethylbenzene 1 0.025 0.0247 98.7 0.0247 98.9 78.8 - 122 0.21 20
Hexachloro-1,3-butadiene 1 0.025 0.0222 88.6 0.0203 81.4 64.7 - 129 8.58 20
Isopropylbenzene 1 0.025 0.0241 96.5 0.0249 99.5 78.6 - 132 3.12 20
Methyl tert-butyl ether 1 0.025 0.0300 120 0.0255 102 71.2 - 126 16.3 20
Methylene Chloride 1 0.025 0.0279 111 0.0259 103 70.3 - 120 7.47 20
Naphthalene 1 0.025 0.0290 116 0.0271 108 68.4 - 128 6.68 20
n-Butylbenzene 1 0.025 0.0237 94.7 0.0251 100 76.2 - 126 5.98 20
n-Propylbenzene 1 0.025 0.0240 96.2 0.0249 99.8 78.2 - 122 3.67 20
p-Isopropyltoluene 1 0.025 0.0228 91.1 0.0230 92 74 - 131 0.98 20



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

Labora	Laboratory Control Sample / Laboratory Control Sample Duplicate											
								% Rec		Control		
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual	
sec-Butylbenzene	1	0.025	0.0236	94.3	0.0241	96.3	74.4 - 127		2.03	20		
Styrene	1	0.025	0.0256	102	0.0264	106	80.4 - 126		3.29	20		
tert-Butylbenzene	1	0.025	0.0232	92.8	0.0235	94.1	75.3 - 126		1.44	20		
Tetrachloroethene	1	0.025	0.0239	95.7	0.0246	98.5	72.6 - 126		2.95	20		
Toluene	1	0.025	0.0258	103	0.0247	98.7	79.7 - 116		4.41	20		
trans-1,2-Dichloroethene	1	0.025	0.0284	114	0.0266	106	72.6 - 121		6.54	20		
trans-1,3-Dichloropropene	1	0.025	0.0274	109	0.0264	105	74.3 - 123		3.69	20		
Trichloroethene	1	0.025	0.0255	102	0.0264	106	77.7 - 118		3.63	20		
Vinyl chloride	1	0.025	0.0313	125	0.0291	116	65.9 - 128		7.37	20		
Xylenes, Total	1	0.075	0.0734	97.8	0.0747	99.6	78.7 - 121		1.8	20		



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Laborato	ry Control Sai	mple (LCS)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0224	89.6	73.2 - 123	
1,1,2,2-Tetrachloroethane	1	0.025	0.0220	88.1	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0212	84.8	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0214	85.7	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0213	85.3	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0228	91.3	75 - 123	
1,2-Dibromoethane	1	0.025	0.0216	86.5	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0226	90.4	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0223	89	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0225	89.9	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1258	101	55 - 149	
2-Hexanone	1	0.125	0.1232	98.6	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1235	98.8	70.5 - 133	
Acetone	1	0.125	0.1187	94.9	35.6 - 163	
Benzene	1	0.025	0.0204	81.5	74.8 - 121	
Bromodichloromethane	1	0.025	0.0212	84.7	75.1 - 116	
Bromoform	1	0.025	0.0220	88.2	67.5 - 130	
Bromomethane	1	0.025	0.0248	99.3	49.9 - 162	
Carbon disulfide	1	0.025	0.0171	68.3	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0221	88.5	70.2 - 123	
Chlorobenzene	1	0.025	0.0226	90.2	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0229	91.7	74 - 121	
Chloroethane	1	0.025	0.0253	101	61.7 - 135	
Chloroform	1	0.025	0.0213	85	76 - 121	
Chloromethane	1	0.025	0.0185	74.1	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0207	82.7	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0216	86.3	78.2 - 120	
Ethylbenzene	1	0.025	0.0216	86.3	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0225	90.1	64.7 - 129	
Isopropylbenzene	1	0.025	0.0231	92.4	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0213	85.2	71.2 - 126	
Methylene Chloride	1	0.025	0.0193	77	70.3 - 120	
Naphthalene	1	0.025	0.0215	86	68.4 - 128	
n-Butylbenzene	1	0.025	0.0232	92.6	76.2 - 126	
n-Propylbenzene	1	0.025	0.0228	91.2	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0228	91.3	74 - 131	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Laborato	ry Control Sai	mple (LCS))		
Analyta	Dil	True Value	Found	% Rec	Control Limits	Oual
Analyte sec-Butvlbenzene	1 DII	0.025	0.0227	90.6	74.4 - 127	Quai
•	1					
Styrene	1	0.025	0.0218	87.3	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0230	91.9	75.3 - 126	
Tetrachloroethene	1	0.025	0.0229	91.4	72.6 - 126	
Toluene	1	0.025	0.0215	86.1	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0191	76.6	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0204	81.6	74.3 - 123	
Trichloroethene	1	0.025	0.0222	88.8	77.7 - 118	
Vinyl chloride	1	0.025	0.0208	83.3	65.9 - 128	
Xylenes, Total	1	0.075	0.0658	87.7	78.7 - 121	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Laboratory C	ontrol Sample	Duplicate ((LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,1,1-Trichloroethane	1	0.025	0.0226	90.3	73.2 - 123	E
1,1,2,2-Tetrachloroethane	1	0.025	0.0219	87.5	70.7 - 122	
1,1,2-Trichloroethane	1	0.025	0.0213	85.1	77.7 - 118	
1,1-Dichloroethane	1	0.025	0.0215	86	70.7 - 126	
1,1-Dichloroethene	1	0.025	0.0210	84.1	67.8 - 129	
1,2,4-Trimethylbenzene	1	0.025	0.0221	88.5	75 - 123	
1,2-Dibromoethane	1	0.025	0.0212	84.7	76.6 - 121	
1,2-Dichloroethane	1	0.025	0.0229	91.7	68.8 - 124	
1,2-Dichloropropane	1	0.025	0.0222	88.8	76.5 - 119	
1,3,5-Trimethylbenzene	1	0.025	0.0218	87.1	75.6 - 124	
2-Butanone (MEK)	1	0.125	0.1305	104	55 - 149	
2-Hexanone	1	0.125	0.1264	101	65.6 - 144	
4-Methyl-2-pentanone (MIBK)	1	0.125	0.1291	103	70.5 - 133	
Acetone	1	0.125	0.1219	97.6	35.6 - 163	
Benzene	1	0.025	0.0205	82.1	74.8 - 121	
Bromodichloromethane	1	0.025	0.0213	85.3	75.1 - 116	
Bromoform	1	0.025	0.0225	90	67.5 - 130	
Bromomethane	1	0.025	0.0251	100	49.9 - 162	
Carbon disulfide	1	0.025	0.0169	67.7	64.6 - 140	
Carbon tetrachloride	1	0.025	0.0221	88.3	70.2 - 123	
Chlorobenzene	1	0.025	0.0217	86.6	78.1 - 119	
Chlorodibromomethane	1	0.025	0.0227	90.8	74 - 121	
Chloroethane	1	0.025	0.0258	103	61.7 - 135	
Chloroform	1	0.025	0.0213	85.2	76 - 121	
Chloromethane	1	0.025	0.0184	73.6	61.5 - 129	
cis-1,2-Dichloroethene	1	0.025	0.0204	81.7	76 - 119	
cis-1,3-Dichloropropene	1	0.025	0.0211	84.4	78.2 - 120	
Ethylbenzene	1	0.025	0.0213	85	78.8 - 122	
Hexachloro-1,3-butadiene	1	0.025	0.0233	93.1	64.7 - 129	
Isopropylbenzene	1	0.025	0.0225	89.9	78.6 - 132	
Methyl tert-butyl ether	1	0.025	0.0215	86.1	71.2 - 126	
Methylene Chloride	1	0.025	0.0194	77.7	70.3 - 120	
Naphthalene	1	0.025	0.0226	90.5	68.4 - 128	
n-Butylbenzene	1	0.025	0.0236	94.3	76.2 - 126	
n-Propylbenzene	1	0.025	0.0225	89.9	78.2 - 122	
p-Isopropyltoluene	1	0.025	0.0223	89.4	74 - 131	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

	Laboratory Co	ontrol Sample I	Ouplicate (LCSD)		
Analyta	Dil	True Value	Found	% Rec	Control Limits	Oval
Analyte	DII 1					Qual
sec-Butylbenzene	1	0.025	0.0223	89.2	74.4 - 127	
Styrene	1	0.025	0.0218	87.3	80.4 - 126	
tert-Butylbenzene	1	0.025	0.0226	90.5	75.3 - 126	
Tetrachloroethene	1	0.025	0.0218	87.4	72.6 - 126	
Toluene	1	0.025	0.0215	86	79.7 - 116	
trans-1,2-Dichloroethene	1	0.025	0.0193	77.3	72.6 - 121	
trans-1,3-Dichloropropene	1	0.025	0.0209	83.7	74.3 - 123	
Trichloroethene	1	0.025	0.0225	90	77.7 - 118	
Vinyl chloride	1	0.025	0.0210	83.9	65.9 - 128	
Xylenes, Total	1	0.075	0.0643	85.7	78.7 - 121	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

Malyte	Laborato	ry Cont	rol San	nple / L	aborat	ory Co	ntrol S	ample Du	ıplicat	e		
Nanlyte								Control	% Rec		Control	RPD
I.I. Trichloroethane	Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec					
1,1,2-Trichloroethane	1,1,1-Trichloroethane	1		0.0224	89.6	0.0226	90.3	73.2 - 123				
1,1-Dichloroethane	1,1,2,2-Tetrachloroethane	1	0.025	0.0220	88.1	0.0219	87.5	70.7 - 122		0.66	20	
1,1-Dichloroethene 1 0.025 0.0213 85.3 0.0210 84.1 67.8 - 129 1.46 20 1,2,4-Trimethylbenzene 1 0.025 0.0218 81.3 0.0212 88.5 75 - 123 3.16 20 1,2-Dichloroethane 1 0.025 0.0216 86.5 0.0212 84.7 76.6 - 121 2.14 20 1,2-Dichloroethane 1 0.025 0.0223 89 0.0222 88.8 76.5 - 119 0.28 20 1,3,5-Trimethylbenzene 1 0.025 0.0225 89.9 0.0218 85.7 75.6 - 124 3.22 20 2-Butanone (MIEK) 1 0.125 0.125 0.123 98.8 0.126 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 97.6 35.6 - 163 2.73 23.2 29 Bromodichloromethane 1 0.025 0.0248 81.5 0.0205 82.1<	1,1,2-Trichloroethane	1	0.025	0.0212	84.8	0.0213	85.1	77.7 - 118		0.39	20	
1,2,4-Trimethylbenzene 1 0.025 0.0228 91.3 0.0221 88.5 75 - 123 3.16 20 1,2-Dibromoethane 1 0.025 0.0216 86.5 0.0212 84.7 76.6 - 121 2.14 20 1,2-Dichloroethane 1 0.025 0.0223 89 0.0222 88.8 76.5 - 119 0.28 20 1,3,5-Trimethylbenzene 1 0.025 0.0223 89 0.0218 87.1 75.6 - 124 3.22 20 2-Butanone (MEK) 1 0.125 0.1235 101 0.1305 104 55 - 149 3.68 20 2-Hexanone 1 0.125 0.1235 98.8 0.1291 103 70.5 - 133 4.47 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0248 81.5 0.025 82.1 74.8 - 121 0.64 20 </th <th>1,1-Dichloroethane</th> <th>1</th> <th>0.025</th> <th>0.0214</th> <th>85.7</th> <th>0.0215</th> <th>86</th> <th>70.7 - 126</th> <th></th> <th>0.39</th> <th>20</th> <th></th>	1,1-Dichloroethane	1	0.025	0.0214	85.7	0.0215	86	70.7 - 126		0.39	20	
1,2-Dibromoethane 1 0.025 0.0216 86.5 0.0212 84.7 76.6 - 121 2.14 20 1,2-Dichloroethane 1 0.025 0.0226 90.4 0.0229 91.7 68.8 - 124 1.51 20 1,2-Dichloropropane 1 0.025 0.0223 89 0.0222 88.8 76.5 - 119 0.28 20 1,3,5-Trimethylbenzene 1 0.025 0.0225 89.9 0.0221 88.7 75.6 - 119 0.28 20 2-Butanone (MEK) 1 0.125 0.1235 0.126 0.126 0.126 0.126 0.126 0.125 0.1235 98.6 0.124 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.6 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0214 81.5 0.0213 85.1 74.8 - 121 0.64 20 Bromodichloromethane 1	1,1-Dichloroethene	1	0.025	0.0213	85.3	0.0210	84.1	67.8 - 129		1.46	20	
1,2-Dichloroethane 1 0.025 0.0226 90.4 0.0229 91.7 68.8 - 124 1.51 20 1,2-Dichloropropane 1 0.025 0.0223 89 0.0222 88.8 76.5 - 119 0.28 20 1,3,5-Trimethylbenzene 1 0.025 0.0225 89.9 0.0218 87.1 75.6 - 124 3.22 20 2-Butanone (MEK) 1 0.125 0.1235 98.6 0.1264 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 103 70.5 - 133 4.47 20 Acctone 1 0.125 0.1387 94.9 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromoform 1 0.025 0.0214 81.2 0.0225 90 67.5 - 130 2.07 20	1,2,4-Trimethylbenzene	1	0.025	0.0228	91.3	0.0221	88.5	75 - 123		3.16	20	
1,2-Dichloropropane 1 0.025 0.0225 89 0.0222 88.8 76.5 - 119 0.28 20 1,3,5-Trimethylbenzene 1 0.025 0.0225 89.9 0.0218 87.1 75.6 - 124 3.22 20 2-Butanone (MEK) 1 0.125 0.1235 0.1231 98.6 0.1261 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 103 70.5 - 133 4.47 20 Acetone 1 0.125 0.1235 98.8 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromoform 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoform 1 0.025 0.0214 89.3 0.0251 80.2 44.8 - 121 0.64	1,2-Dibromoethane	1	0.025	0.0216	86.5	0.0212	84.7	76.6 - 121		2.14	20	
1,3,5-Trimethylbenzene 1 0.025 0.0225 89.9 0.0218 87.1 75.6 - 124 3.22 20 2-Butanone (MEK) 1 0.125 0.1258 101 0.1305 104 55 - 149 3.68 20 2-Hexanone 1 0.125 0.1232 98.6 0.1264 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoferm 1 0.025 0.0224 89.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0218 85.5 0.0221 88.3 70.2 - 18 88.3 70.2 - 18 </th <th>1,2-Dichloroethane</th> <th>1</th> <th>0.025</th> <th>0.0226</th> <th>90.4</th> <th>0.0229</th> <th>91.7</th> <th>68.8 - 124</th> <th></th> <th>1.51</th> <th>20</th> <th></th>	1,2-Dichloroethane	1	0.025	0.0226	90.4	0.0229	91.7	68.8 - 124		1.51	20	
2-Butanone (MEK) 1 0.125 0.1258 101 0.1305 104 55 - 149 3.68 20 2-Hexanone 1 0.125 0.1232 98.6 0.1264 101 65.6 - 144 2.55 20 4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 103 70.5 - 133 4.47 20 Acetone 1 0.125 0.1187 94.9 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoform 1 0.025 0.0220 88.2 0.0225 90 67.5 - 130 2.07 20 Bromomethane 1 0.025 0.0218 89.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0211 88.5 0.0211 88.3 70.2 - 123 0.22 20 Chlorodibromomethane 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorodibromomethane 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chlorodibromomethane 1 0.025 0.0213 85 0.021 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0213 85 0.021 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0213 85 0.021 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0213 85 0.0213 85.0 76 - 121 0.26 20 Chloromethane 1 0.025 0.0213 85 0.0213 85.0 76 - 121 0.26 20 Chloromethane 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 cis-1,2-Dichloroethene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylenzene 1 0.025 0.0213 85.0 0.0215 86.0 0.0215 86.1 71.2 - 126 1.03 20 Methylenzene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 Naphthalene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	1,2-Dichloropropane	1	0.025	0.0223	89	0.0222	88.8	76.5 - 119		0.28	20	
2-Hexanone	1,3,5-Trimethylbenzene	1	0.025	0.0225	89.9	0.0218	87.1	75.6 - 124		3.22	20	
4-Methyl-2-pentanone (MIBK) 1 0.125 0.1235 98.8 0.1291 103 70.5 - 133 4.47 20 Acetone 1 0.125 0.1187 94.9 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 1116 0.71 20 Bromoform 1 0.025 0.02248 89.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0211 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorodibromomethane 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 <	2-Butanone (MEK)	1	0.125	0.1258	101	0.1305	104	55 - 149		3.68	20	
Acetone 1 0.125 0.1187 94.9 0.1219 97.6 35.6 - 163 2.73 23.9 Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoform 1 0.025 0.0224 89.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0214 88.5 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0214 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorobenzene 1 0.025 0.0225 90.2 0.0217 86.6 78.1 - 119 4.08 20	2-Hexanone	1	0.125	0.1232	98.6	0.1264	101	65.6 - 144		2.55	20	
Benzene 1 0.025 0.0204 81.5 0.0205 82.1 74.8 - 121 0.64 20 Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoform 1 0.025 0.0220 88.2 0.0225 90 67.5 - 130 2.07 20 Bromomethane 1 0.025 0.0248 99.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0211 68.3 0.0169 67.7 64.6 - 140 0.86 20 Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0224 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0253 101 0.0258 103 61.7 - 121 0.26 20	4-Methyl-2-pentanone (MIBK)	1	0.125	0.1235	98.8	0.1291	103	70.5 - 133		4.47	20	
Bromodichloromethane 1 0.025 0.0212 84.7 0.0213 85.3 75.1 - 116 0.71 20 Bromoform 1 0.025 0.0220 88.2 0.0225 90 67.5 - 130 2.07 20 Bromomethane 1 0.025 0.0248 99.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0211 68.3 0.0169 67.7 64.6 - 140 0.86 20 Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0225 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20	Acetone	1	0.125	0.1187	94.9	0.1219	97.6	35.6 - 163		2.73	23.9	
Bromoform 1 0.025 0.0220 88.2 0.0225 90 67.5 - 130 2.07 20 Bromomethane 1 0.025 0.0248 99.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0171 68.3 0.0169 67.7 64.6 - 140 0.86 20 Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroform 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloromethane 1 0.025 0.0213 85. 0.0213 85.2 76 - 121 0.26 20	Benzene	1	0.025	0.0204	81.5	0.0205	82.1	74.8 - 121		0.64	20	
Bromomethane 1 0.025 0.0248 99.3 0.0251 100 49.9 - 162 1.16 20 Carbon disulfide 1 0.025 0.0171 68.3 0.0169 67.7 64.6 - 140 0.86 20 Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0223 101 0.0227 90.8 74 - 121 0.95 20 Chlorodibromomethane 1 0.025 0.0233 101 0.0258 103 61.7 - 135 1.94 20 Chloroferm 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0207 82.7 0.0214 81.7 76 - 121 0.26 20	Bromodichloromethane	1	0.025	0.0212	84.7	0.0213	85.3	75.1 - 116		0.71	20	
Carbon disulfide 1 0.025 0.0171 68.3 0.0169 67.7 64.6 - 140 0.86 20 Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroethane 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 Cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20	Bromoform	1	0.025	0.0220	88.2	0.0225	90	67.5 - 130		2.07	20	
Carbon tetrachloride 1 0.025 0.0221 88.5 0.0221 88.3 70.2 - 123 0.22 20 Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroethane 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 <	Bromomethane	1	0.025	0.0248	99.3	0.0251	100	49.9 - 162		1.16	20	
Chlorobenzene 1 0.025 0.0226 90.2 0.0217 86.6 78.1 - 119 4.08 20 Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroethane 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20	Carbon disulfide	1	0.025	0.0171	68.3	0.0169	67.7	64.6 - 140		0.86	20	
Chlorodibromomethane 1 0.025 0.0229 91.7 0.0227 90.8 74 - 121 0.95 20 Chloroethane 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20	Carbon tetrachloride	1	0.025	0.0221	88.5	0.0221	88.3	70.2 - 123		0.22	20	
Chloroethane 1 0.025 0.0253 101 0.0258 103 61.7 - 135 1.94 20 Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 85.2 0.0215 86.1 71.2 - 126 1.03 20	Chlorobenzene	1	0.025	0.0226	90.2	0.0217	86.6	78.1 - 119		4.08	20	
Chloroform 1 0.025 0.0213 85 0.0213 85.2 76 - 121 0.26 20 Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 <th< th=""><th>Chlorodibromomethane</th><th>1</th><th>0.025</th><th>0.0229</th><th>91.7</th><th>0.0227</th><th>90.8</th><th>74 - 121</th><th></th><th>0.95</th><th>20</th><th></th></th<>	Chlorodibromomethane	1	0.025	0.0229	91.7	0.0227	90.8	74 - 121		0.95	20	
Chloromethane 1 0.025 0.0185 74.1 0.0184 73.6 61.5 - 129 0.73 20 cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05	Chloroethane	1	0.025	0.0253	101	0.0258	103	61.7 - 135		1.94	20	
cis-1,2-Dichloroethene 1 0.025 0.0207 82.7 0.0204 81.7 76 - 119 1.27 20 cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05	Chloroform	1	0.025	0.0213	85	0.0213	85.2	76 - 121		0.26	20	
cis-1,3-Dichloropropene 1 0.025 0.0216 86.3 0.0211 84.4 78.2 - 120 2.31 20 Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 <th< th=""><th>Chloromethane</th><th>1</th><th>0.025</th><th>0.0185</th><th>74.1</th><th>0.0184</th><th>73.6</th><th>61.5 - 129</th><th></th><th>0.73</th><th>20</th><th></th></th<>	Chloromethane	1	0.025	0.0185	74.1	0.0184	73.6	61.5 - 129		0.73	20	
Ethylbenzene 1 0.025 0.0216 86.3 0.0213 85 78.8 - 122 1.49 20 Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	cis-1,2-Dichloroethene	1	0.025	0.0207	82.7	0.0204	81.7	76 - 119		1.27	20	
Hexachloro-1,3-butadiene 1 0.025 0.0225 90.1 0.0233 93.1 64.7 - 129 3.36 20 Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	cis-1,3-Dichloropropene	1	0.025	0.0216	86.3	0.0211	84.4	78.2 - 120		2.31	20	
Isopropylbenzene 1 0.025 0.0231 92.4 0.0225 89.9 78.6 - 132 2.75 20 Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	Ethylbenzene	1	0.025	0.0216	86.3	0.0213	85	78.8 - 122		1.49	20	
Methyl tert-butyl ether 1 0.025 0.0213 85.2 0.0215 86.1 71.2 - 126 1.03 20 Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	Hexachloro-1,3-butadiene	1	0.025	0.0225	90.1	0.0233	93.1	64.7 - 129		3.36	20	
Methylene Chloride 1 0.025 0.0193 77 0.0194 77.7 70.3 - 120 0.91 20 Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	Isopropylbenzene	1	0.025	0.0231	92.4	0.0225	89.9	78.6 - 132		2.75	20	
Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	Methyl tert-butyl ether	1	0.025	0.0213	85.2	0.0215	86.1	71.2 - 126		1.03	20	
Naphthalene 1 0.025 0.0215 86 0.0226 90.5 68.4 - 128 5.05 20 n-Butylbenzene 1 0.025 0.0232 92.6 0.0236 94.3 76.2 - 126 1.81 20 n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20	Methylene Chloride	1	0.025	0.0193	77	0.0194	77.7	70.3 - 120		0.91	20	
n-Propylbenzene 1 0.025 0.0228 91.2 0.0225 89.9 78.2 - 122 1.43 20		1	0.025	0.0215	86	0.0226	90.5	68.4 - 128		5.05	20	
	n-Butylbenzene	1	0.025	0.0232	92.6	0.0236	94.3	76.2 - 126		1.81	20	
p-Isopropyltoluene 1 0.025 0.0228 91.3 0.0223 89.4 74 - 131 2.1 20	n-Propylbenzene	1	0.025	0.0228	91.2	0.0225	89.9	78.2 - 122		1.43	20	
	p-Isopropyltoluene	1	0.025	0.0228	91.3	0.0223	89.4	74 - 131		2.1	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

Labora	atory Cont	rol San	nple / L	aborate	Laboratory Control Sample / Laboratory Control Sample Duplicate												
							Control	% Rec		Control	RPD						
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual						
sec-Butylbenzene	1	0.025	0.0227	90.6	0.0223	89.2	74.4 - 127		1.54	20							
Styrene	1	0.025	0.0218	87.3	0.0218	87.3	80.4 - 126		0.05	20							
tert-Butylbenzene	1	0.025	0.0230	91.9	0.0226	90.5	75.3 - 126		1.46	20							
Tetrachloroethene	1	0.025	0.0229	91.4	0.0218	87.4	72.6 - 126		4.48	20							
Toluene	1	0.025	0.0215	86.1	0.0215	86	79.7 - 116		0.17	20							
trans-1,2-Dichloroethene	1	0.025	0.0191	76.6	0.0193	77.3	72.6 - 121		0.95	20							
trans-1,3-Dichloropropene	1	0.025	0.0204	81.6	0.0209	83.7	74.3 - 123		2.59	20							
Trichloroethene	1	0.025	0.0222	88.8	0.0225	90	77.7 - 118		1.38	20							
Vinyl chloride	1	0.025	0.0208	83.3	0.0210	83.9	65.9 - 128		0.75	20							
Xylenes, Total	1	0.075	0.0658	87.7	0.0643	85.7	78.7 - 121		2.32	20							



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

Matrix Spike / Matrix Spike Duplicate												
				L75	1256-01							
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	_	Sample	MS	% Rec	MSD	% Rec		Qual	RPD	Limits	Qual
1,1,1-Trichloroethane	1	0.025	< 0.0003	0.0237	94.7	0.0243	97.3	58.7 - 134		2.73	20	
1,1,2,2-Tetrachloroethane	1	0.025	< 0.0001	0.0274	110	0.0283	113	56 - 132		3.43	22.2	
1,1,2-Trichloroethane	1	0.025	< 0.0004	0.0235	94.1	0.0243	97.3	66.3 - 125		3.36	20	
1,1-Dichloroethane	1	0.025	< 0.0003		98.3	0.0251	100	58.5 - 132		1.98	20	
1,1-Dichloroethene	1	0.025	< 0.0004	0.0231	92.4	0.0235	94.1	51.1 - 140		1.78	20.2	
1,2,4-Trimethylbenzene	1	0.025	< 0.0004	0.0214	85.8	0.0222	88.8	57.4 - 137		3.49	20	
1,2-Dibromoethane	1		< 0.0004		94.5	0.0249	99.6	67.1 - 125		5.27	20	
1,2-Dichloroethane	1		< 0.0004		85.4	0.0220	87.9	60 - 126		2.86	20	
1,2-Dichloropropane	1		< 0.0003		107	0.0268	107	64.2 - 123		0.05	20	
1,3,5-Trimethylbenzene	1		< 0.0004		87.8	0.0230	92	63.6 - 132		4.72	20.5	
2-Butanone (MEK)	1		< 0.0039		111	0.1409	113	22.4 - 138		1.64	27	
2-Hexanone	1	0.125	< 0.0038		108	0.1426	114	43.3 - 137		5.74	25.5	
4-Methyl-2-pentanone (MIBK)	1	0.125	< 0.0021	0.1460	117	0.1526	122	60.8 - 140		4.43	25.1	
Acetone	1	0.125		0.1187	91.4	0.1221	94.1	10 - 130		2.83	27.9	
Benzene	1	0.025	< 0.0003	0.0214	85.5	0.0219	87.6	54.3 - 133		2.4	20	
Bromodichloromethane	1	0.025	< 0.0004	0.0255	102	0.0254	102	63.9 - 121		0.41	20	
Bromoform	1	0.025	< 0.0005		102	0.0268	107	59.5 - 134		5.52	20.5	
Bromomethane	1	0.025	< 0.0009		129	0.0328	130	41.7 - 155		0.24	21.9	
Carbon disulfide	1		< 0.0003	0.0175	69.9	0.0179	71.6	43.3 - 149		2.44	20.3	
Carbon tetrachloride	1		< 0.0004		95.4	0.0246	98.6	55.7 - 134		3.27	20	
Chlorobenzene	1		< 0.0003		90.5	0.0233	93	67 - 125		2.74	20	
Chlorodibromomethane	1		< 0.0003		96.2	0.0252	101	64.3 - 125		4.74	20.8	
Chloroethane	1	0.025	< 0.0005		151	0.0383	153	51.5 - 136	J5	1.64	40	
Chloroform	1		< 0.0003		91.2	0.0235	93.9	63 - 129		2.91	20	
Chloromethane	1		< 0.0003		94.2	0.0239	95.7	42.4 - 135		1.59	20	
cis-1,2-Dichloroethene	1	0.025	< 0.0003		94.5	0.0239	95.4	59.2 - 129		1	20	
cis-1,3-Dichloropropene	1	0.025	< 0.0004		98.3	0.0249	99.4	66.4 - 125		1.08	20	
Ethylbenzene	1	0.025	< 0.0004		89.4	0.0229	91.4	61.4 - 133		2.26	20	
Hexachloro-1,3-butadiene	1		< 0.0003		108	0.0285	114	55.1 - 136		5.27	23.6	
Isopropylbenzene	1		< 0.0003		90	0.0234	93.6	66.8 - 141		3.91	20	
Methyl tert-butyl ether	1		< 0.0004		93.3	0.0238	95.1	57.7 - 134		1.87	20	
Methylene Chloride	1	0.025	< 0.001		85	0.0217	87	58.1 - 122		2.35	20	
Naphthalene	1	0.025	< 0.001		89.3	0.0246	96.6	58 - 135		7.73	25.5	
n-Butylbenzene	1	0.025	< 0.0004		100	0.0267	107	62.7 - 140		6.14	20.3	
n-Propylbenzene	1	0.025	< 0.0003		91.4	0.0238	95.2	65.9 - 131		4.01	20	
p-Isopropyltoluene	1	0.025	< 0.0004	0.0229	91.6	0.0242	96.8	63.2 - 139		5.48	20.4	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773564

Analysis Date: 3/9/2015 12:10:00 AM Analyst: 621

Instrument ID: VOCMS7

Matrix Spike / Matrix Spike Duplicate												
	L751256-01											
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
sec-Butylbenzene	1	0.025	< 0.0004	0.0227	90.7	0.0235	94.1	62.2 - 136		3.69	20.3	
Styrene	1	0.025	< 0.0003	0.0224	89.8	0.0233	93.1	66.8 - 133		3.59	20	
tert-Butylbenzene	1	0.025	< 0.0004	0.0227	90.7	0.0241	96.2	63.3 - 134		5.93	21	
Tetrachloroethene	1	0.025	< 0.0004	0.0232	92.8	0.0244	97.4	53 - 139		4.91	20	
Toluene	1	0.025	< 0.0008	0.0229	91.6	0.0233	93.1	61.4 - 130		1.61	20	
trans-1,2-Dichloroethene	1	0.025	< 0.0004	0.0226	90.4	0.0229	91.4	56.5 - 129		1.18	20	
trans-1,3-Dichloropropene	1	0.025	< 0.0004	0.0253	101	0.0257	103	64.1 - 128		1.43	20	
Trichloroethene	1	0.025	< 0.0004	0.0222	88.6	0.0228	91.1	44.1 - 149		2.71	20	
Vinyl chloride	1	0.025	< 0.0003	0.0251	100	0.0249	99.7	47.8 - 137		0.56	20	
Xylenes, Total	1	0.075	< 0.0011	0.0663	88.4	0.0686	91.5	63.3 - 131		3.41	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

Matrix Spike / Matrix Spike Duplicate												
L751256-21												
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	-	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
1,1,1-Trichloroethane	1	0.025	< 0.0003	0.0218	87.3	0.0240	95.9	58.7 - 134		9.39	20	
1,1,2,2-Tetrachloroethane	1	0.025	< 0.0001	0.0271	108	0.0298	119	56 - 132		9.42	22.2	
1,1,2-Trichloroethane	1	0.025	< 0.0004	0.0260	104	0.0269	108	66.3 - 125		3.38	20	
1,1-Dichloroethane	1	0.025	< 0.0003	0.0202	80.8	0.0228	91.3	58.5 - 132		12.3	20	
1,1-Dichloroethene	1	0.025	< 0.0004	0.0190	76	0.0211	84.2	51.1 - 140		10.3	20.2	
1,2,4-Trimethylbenzene	1	0.025	< 0.0004	0.0228	91.3	0.0257	103	57.4 - 137		11.7	20	
1,2-Dibromoethane	1		< 0.0004		103	0.0272	109	67.1 - 125		5.35	20	
1,2-Dichloroethane	1		< 0.0004		89.7	0.0248	99.2	60 - 126		10	20	
1,2-Dichloropropane	1	0.025	< 0.0003	0.0238	95.1	0.0254	101	64.2 - 123		6.39	20	
1,3,5-Trimethylbenzene	1		< 0.0004		93.3	0.0263	105	63.6 - 132		12	20.5	
2-Butanone (MEK)	1		< 0.0039		98.3	0.1389	111	22.4 - 138		12.2	27	
2-Hexanone	1	0.125	< 0.0038	0.1357	109	0.1401	112	43.3 - 137		3.16	25.5	
4-Methyl-2-pentanone (MIBK)	1	0.125	< 0.0021	0.1322	106	0.1427	114	60.8 - 140		7.58	25.1	
Acetone	1	0.125		0.1029	82.4	0.1288	103	10 - 130		22.3	27.9	
Benzene	1	0.025	< 0.0003	0.0211	84.5	0.0227	90.8	54.3 - 133		7.17	20	
Bromodichloromethane	1		< 0.0004		97	0.0261	105	63.9 - 121		7.49	20	
Bromoform	1	0.025	< 0.0005		108	0.0290	116	59.5 - 134		7.48	20.5	
Bromomethane	1	0.025	< 0.0009		113	0.0320	128	41.7 - 155		12.1	21.9	
Carbon disulfide	1		< 0.0003		62.4	0.0177	70.6	43.3 - 149		12.4	20.3	
Carbon tetrachloride	1		< 0.0004		88.7	0.0244	97.7	55.7 - 134		9.61	20	
Chlorobenzene	1		< 0.0003		102	0.0267	107	67 - 125		4.82	20	
Chlorodibromomethane	1		< 0.0003		105	0.0276	110	64.3 - 125		4.94	20.8	
Chloroethane	1	0.025	< 0.0005		105	0.0289	116	51.5 - 136		9.82	40	
Chloroform	1		< 0.0003		81.3	0.0227	91	63 - 129		11.3	20	
Chloromethane	1		< 0.0003		67	0.0189	75.7	42.4 - 135		12.2	20	
cis-1,2-Dichloroethene	1	0.025	< 0.0003		83	0.0232	92.7	59.2 - 129		11	20	
cis-1,3-Dichloropropene	1	0.025	< 0.0004		96.9	0.0245	97.9	66.4 - 125		1.06	20	
Ethylbenzene	1	0.025	< 0.0004		100	0.0260	104	61.4 - 133		3.62	20	
Hexachloro-1,3-butadiene	1		< 0.0003		90.6	0.0230	92.1	55.1 - 136		1.64	23.6	
Isopropylbenzene	1		< 0.0003		95.6	0.0263	105	66.8 - 141		9.68	20	
Methyl tert-butyl ether	1		< 0.0004		83.3	0.0240	96.1	57.7 - 134		14.2	20	
Methylene Chloride	1	0.025	< 0.001		76.5	0.0218	85.8	58.1 - 122		11.3	20	
Naphthalene	1	0.025	< 0.001		88.2	0.0237	94.8	58 - 135		7.13	25.5	
n-Butylbenzene	1	0.025	< 0.0004		96.7	0.0258	103	62.7 - 140		6.55	20.3	
n-Propylbenzene	1	0.025	< 0.0003		96.1	0.0260	104	65.9 - 131		8.01	20	
p-Isopropyltoluene	1	0.025	< 0.0004	0.0233	93.1	0.0263	105	63.2 - 139		12.1	20.4	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773566

Analysis Date: 3/8/2015 1:34:00 PM Analyst: 621

Instrument ID: VOCMS24

Sample Numbers: L751256-21, -22, -23, -24, -25, -26, -27, -28, -29, -30, -31, -32, -33, -34, -35, -36, -37, -38, -39, -40

	Matrix Spike / Matrix Spike Duplicate											
	L751256-21											
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
sec-Butylbenzene	1	0.025	< 0.0004	0.0233	93.2	0.0261	104	62.2 - 136		11.4	20.3	
Styrene	1	0.025	< 0.0003	0.0241	96.5	0.0253	101	66.8 - 133		4.89	20	
tert-Butylbenzene	1	0.025	< 0.0004	0.0233	93.2	0.0258	103	63.3 - 134		10.2	21	
Tetrachloroethene	1	0.025	< 0.0004	0.0259	104	0.0275	110	53 - 139		5.94	20	
Toluene	1	0.025	< 0.0008	0.0235	93.9	0.0241	96.5	61.4 - 130		2.73	20	
trans-1,2-Dichloroethene	1	0.025	< 0.0004	0.0192	76.8	0.0216	86.2	56.5 - 129		11.5	20	
trans-1,3-Dichloropropene	1	0.025	< 0.0004	0.0272	109	0.0279	112	64.1 - 128		2.38	20	
Trichloroethene	1	0.025	< 0.0004	0.0231	92.3	0.0254	102	44.1 - 149		9.46	20	
Vinyl chloride	1	0.025	< 0.0003	0.0220	88	0.0243	97.2	47.8 - 137		9.96	20	
Xylenes, Total	1	0.075	< 0.0011	0.0745	99.4	0.0788	105	63.3 - 131		5.56	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analysi: 621

Instrument ID: VOCMS18 Sample Numbers: L751256-41

Matrix Spike / Matrix Spike Duplicate L751275-01 **Spike** Control % Rec Control **RPD** Analyte Dil Value Sample MS % Rec **MSD** % Rec Limits Qual **RPD** Limits Qual 1,1,1-Trichloroethane 0.025 < 0.0003 0.0317 127 0.0295 118 58.7 - 134 7.46 20 1 22.2 1,1,2,2-Tetrachloroethane 0.025 < 0.0001 0.0322 129 0.0319 127 56 - 132 0.88 1 20 1,1,2-Trichloroethane 0.025 < 0.0004 0.0265 107 66.3 - 125 0.98 1 106 0.0267 1,1-Dichloroethane 0.025 < 0.0003 0.0324 130 0.0290 58.5 - 132 20 1 116 11 1,1-Dichloroethene 1 0.025 < 0.0004 0.0313 125 0.0278 111 51.1 - 140 12 20.2 1,2,4-Trimethylbenzene 1 0.025 < 0.0004 0.0261 104 0.0266 107 57.4 - 137 1.96 20 1,2-Dibromoethane 0.025 < 0.0004 0.0276 111 0.0284 114 67.1 - 125 2.65 20 1 1,2-Dichloroethane 0.025 < 0.0004 0.0347 139 0.0292 117 60 - 126 17.2 20 1 J5 1,2-Dichloropropane 0.025 < 0.0003 0.0312 125 0.0282 113 64.2 - 123J5 10.2 20 1 1,3,5-Trimethylbenzene 1 0.025 < 0.0004 0.0254 102 0.0262 105 63.6 - 132 3.23 20.5 2-Butanone (MEK) 1 0.125 < 0.0039 0.1797 144 0.1396 112 22.4 - 138 J5 25.1 27 $0.125 < 0.0021 \ 0.1688$ 4-Methyl-2-pentanone (MIBK) 135 0.1495 120 60.8 - 140 12.1 25.1 1 Acetone 1 0.125 < 0.01 0.1740 135 0.1419 109 10 - 130 J5 20.4 27.9 0.025 < 0.0003 0.0292 108 54.3 - 133 8.14 20 Benzene 1 117 0.0269 **Bromodichloromethane** 1 0.025 < 0.0004 0.0316 126 0.0294 118 63.9 - 121 J5 7.12 20 0.025 < 0.0005 0.0291 **Bromoform** 1 116 0.0297 119 59.5 - 134 2.22 20.5 0.025 < 0.0009 0.0269107 0.0256 102 41.7 - 155 4.78 21.9 **Bromomethane** 1 Carbon tetrachloride 1 0.025 < 0.0004 0.0298 119 0.0278 111 55.7 - 134 7.03 20 0.025 < 0.0003 0.0255 102 0.0270 108 67 - 125 5.86 20 Chlorobenzene 1 Chlorodibromomethane 1 0.025 < 0.0003 0.0268 107 0.0277 111 64.3 - 125 3.04 20.8 Chloroethane 0.025 < 0.0005 0.0295 51.5 - 136 40 1 118 0.0276 110 6.69 63 - 129 Chloroform 1 0.025 < 0.0003 0.0322 129 0.0295 118 8.62 20 $0.025 < 0.0003 \ 0.0273$ 109 0.0240 96.1 42.4 - 135 20 Chloromethane 1 12.6 $0.025 < 0.0003 \ 0.0292$ cis-1,2-Dichloroethene 1 117 0.0273 109 59.2 - 129 6.67 20 cis-1,3-Dichloropropene 1 0.025 < 0.0004 0.0293 117 0.0280 112 66.4 - 125 4.52 20 Ethylbenzene 0.025 < 0.0004 0.0253 101 0.0265 106 61.4 - 133 4.74 20 1 Hexachloro-1,3-butadiene 1 0.025 < 0.0003 0.0237 94.6 0.0251 100 55.1 - 136 5.9 23.6 Isopropylbenzene 0.025 < 0.0003 0.0264 3.72 20 1 106 0.0274 110 66.8 - 141 Methyl tert-butyl ether 1 0.025 < 0.0004 0.0326 130 0.0293 117 57.7 - 134 10.5 20 **Methylene Chloride** 1 0.025 < 0.001 0.0284 112 0.0268 105 58.1 - 122 5.81 20 **Naphthalene** 0.025 < 0.001 0.0304 0.0318 127 58 - 135 4.45 25.5 1 121 0.025 < 0.0004 0.0269 107 0.0282 62.7 - 140 4.98 20.3 n-Butylbenzene 1 113 n-Propylbenzene 1 0.025 < 0.0003 0.0273 109 0.0274 110 65.9 - 131 0.19 20 0.025 < 0.0004 0.0254 p-Isopropyltoluene 1 102 0.0264 106 63.2 - 139 3.98 20.4 sec-Butylbenzene 1 0.025 < 0.0004 0.0262 105 0.0271 108 62.2 - 136 3.37 20.3 0.025 < 0.0003 0.0280 **Styrene** 1 112 0.0290 116 66.8 - 133 3.39 20



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773789

Analysis Date: 3/10/2015 4:40:00 AM Analyst: 621

Instrument ID: VOCMS18 Sample Numbers: L751256-41

	Matrix Spike / Matrix Spike Duplicate											
L751275-01												
Analyte	Dil	Spike Value	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Qual
tert-Butylbenzene	1	0.025	< 0.0004	0.0261	104	0.0267	107	63.3 - 134		2.2	21	
Tetrachloroethene	1	0.025	< 0.0004	0.0234	92.2	0.0256	101	53 - 139		8.95	20	
Toluene	1	0.025	< 0.0008	0.0267	107	0.0261	104	61.4 - 130		2.48	20	
trans-1,2-Dichloroethene	1	0.025	< 0.0004	0.0274	110	0.0265	106	56.5 - 129		3.28	20	
trans-1,3-Dichloropropene	1	0.025	< 0.0004	0.0291	117	0.0315	126	64.1 - 128		7.68	20	
Trichloroethene	1	0.025	< 0.0004	0.0252	101	0.0259	104	44.1 - 149		2.98	20	
Vinyl chloride	1	0.025	< 0.0003	0.0302	121	0.0274	110	47.8 - 137		9.55	20	
Xylenes, Total	1	0.075	< 0.0011	0.0766	102	0.0789	105	63.3 - 131		3.02	20	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

Instrument ID: VOCMS28 Sample Numbers: L751256-42, -43

		Ma	trix Spil	ke / Ma	atrix S _I	oike Du	plicate	e				
			_	L.75°	- 1018-14	L	_					
		G •1		D 75.	1010 1			G 4 1	0/ D		G 4 1	DDD
Analyte	Dil	Spike	Sample	MS	% Rec	MSD	% Rec	Control Limits	% Rec Qual	RPD	Control Limits	RPD Oual
1,1,1-Trichloroethane	1	0.025	<0.0003		114	0.0293	117	58.7 - 134	Quai	2.76	20	Quai
1,1,2,2-Tetrachloroethane	1	0.025	< 0.0003		88	0.0226	90.2	56 - 132		2.70	22.2	
1,1,2-Trichloroethane	1	0.025	< 0.0001		75.3	0.0220	75	66.3 - 125		0.36	20	
1,1-Dichloroethane	1	0.025	< 0.0003		126	0.0323	129	58.5 - 132		2.38	20	
1,1-Dichloroethene	1	0.025	< 0.0004		130	0.0304	122	51.1 - 140		6.96	20.2	
1,2,4-Trimethylbenzene	1	0.025	< 0.0004		102	0.0237	94.8	57.4 - 137		7.23	20	
1,2-Dibromoethane	1	0.025	< 0.0004		79	0.0206	82.5	67.1 - 125		4.37	20	
1,2-Dichloroethane	1	0.025	< 0.0004		123	0.0318	127	60 - 126	J5	3.1	20	
1,2-Dichloropropane	1	0.025	< 0.0003		88.9	0.0237	94.6	64.2 - 123		6.24	20	
1,3,5-Trimethylbenzene	1	0.025	< 0.0004	0.0243	97	0.0229	91.4	63.6 - 132		5.92	20.5	
2-Butanone (MEK)	1	0.125	< 0.0039	0.1424	113	0.1468	117	22.4 - 138		3.04	27	
4-Methyl-2-pentanone (MIBK)	1	0.125	< 0.0021	0.1391	111	0.1358	109	60.8 - 140		2.39	25.1	
Acetone	1	0.125	< 0.01	0.1663	129	0.1747	136	10 - 130	J5	4.93	27.9	
Benzene	1	0.025	< 0.0003	0.0208	83.3	0.0230	92.1	54.3 - 133		10	20	
Bromodichloromethane	1	0.025	< 0.0004	0.0245	98.2	0.0257	103	63.9 - 121		4.61	20	
Bromoform	1	0.025	< 0.0005	0.0210	84.1	0.0227	90.8	59.5 - 134		7.6	20.5	
Bromomethane	1	0.025	0.0159	0.0351	76.8	0.0365	82.6	41.7 - 155		4.04	21.9	
Carbon disulfide	1	0.025	< 0.0003	0.0179	71.6	0.0181	72.5	43.3 - 149		1.18	20.3	
Carbon tetrachloride	1	0.025	< 0.0004	0.0246	98.6	0.0278	111	55.7 - 134		11.9	20	
Chlorobenzene	1	0.025	< 0.0003	0.0218	87.2	0.0202	80.9	67 - 125		7.57	20	
Chlorodibromomethane	1	0.025	< 0.0003		79	0.0200	80.1	64.3 - 125		1.49	20.8	
Chloroethane	1	0.025	< 0.0005		110	0.0270	108	51.5 - 136		2.06	40	
Chloroform	1	0.025	< 0.0003		123	0.0309	124	63 - 129		0.61	20	
Chloromethane	1	0.025	0.0052		99.2	0.0307	102	42.4 - 135		2.33	20	
cis-1,2-Dichloroethene	1	0.025	0.0341		104	0.0602	104	59.2 - 129		0	20	
cis-1,3-Dichloropropene	1	0.025	< 0.0004		82.5	0.0210	83.8	66.4 - 125		1.63	20	
Ethylbenzene	1	0.025	< 0.0004		89.3	0.0216	86.5	61.4 - 133		3.25	20	
Hexachloro-1,3-butadiene	1	0.025	< 0.0003		121	0.0305	122	55.1 - 136		0.75	23.6	
Isopropylbenzene	1	0.025	< 0.0003		104	0.0252	101	66.8 - 141		3.55	20	
Methyl tert-butyl ether	1	0.025	< 0.0004		78.5	0.0193	77.3	57.7 - 134		1.53	20	
Methylene Chloride	1	0.025	< 0.001		103	0.0270	105	58.1 - 122		2.56	20	
Naphthalene	1	0.025	< 0.001		112	0.0299	118	58 - 135		5.46	25.5	
n-Butylbenzene	1	0.025	< 0.0004		112	0.0271	108	62.7 - 140		2.83	20.3	
n-Propylbenzene	1	0.025	< 0.0003		104	0.0253	101	65.9 - 131		3.26	20	
p-Isopropyltoluene	1	0.025	< 0.0004		108	0.0250	100	63.2 - 139		7.61	20.4	
sec-Butylbenzene	1	0.025	< 0.0004	0.0281	112	0.0262	105	62.2 - 136		6.71	20.3	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Volatile Organic Compounds by Method 8260B

Project No: 227000 Matrix: Water - mg/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG774378

Analysis Date: 3/9/2015 1:00:00 AM Analyst: 621

Instrument ID: VOCMS28 Sample Numbers: L751256-42, -43

	Matrix Spike / Matrix Spike Duplicate											
				L75	1018-14	ļ						
		Spike						Control	% Rec		Control	RPD
Analyte	Dil	Value	Sample	MS	% Rec	MSD	% Rec	Limits	Qual	RPD	Limits	Qual
Styrene	1	0.025	< 0.0003	0.0027	10.8	0.0015	5.92	66.8 - 133	J6	58.2	20	J3
tert-Butylbenzene	1	0.025	< 0.0004	0.0276	111	0.0263	105	63.3 - 134		4.85	21	
Tetrachloroethene	1	0.025	< 0.0004	0.0223	89.4	0.0216	86.5	53 - 139		3.22	20	
Toluene	1	0.025	< 0.0008	0.0236	94.3	0.0229	91.7	61.4 - 130		2.8	20	
trans-1,2-Dichloroethene	1	0.025	< 0.0004	0.0275	110	0.0279	112	56.5 - 129		1.45	20	
trans-1,3-Dichloropropene	1	0.025	< 0.0004	0.0199	79.6	0.0211	84.3	64.1 - 128		5.74	20	
Trichloroethene	1	0.025	0.1601	0.1361	0	0.1433	0	44.1 - 149	V	5.21	20	
Vinyl chloride	1	0.025	0.0007	0.0320	125	0.0322	126	47.8 - 137		0.71	20	
Xylenes, Total	1	0.075	< 0.0011	0.0695	92.7	0.0672	89.5	63.3 - 131		3.5	20	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773341

 Analysis Date:
 3/4/2015 2:00:00 PM
 Analyst:
 377

 Instrument ID:
 BNAMS23, BNAMS21
 Prep Date:
 3/3/2015

Analyte CAS PQL MDL Qualifier 1,2,4-Trichlorobenzene 120.82-1 < 10.0 < 0.335 2,4,5-Trichlorophenol 95.95-4 < 10.0 < 0.236 2,4-Dirichlorophenol 180.6-2 < 10.0 < 0.284 2,4-Dinichylphenol 150.67-9 < 10.0 < 0.624 2,4-Dinitrotoluene 151-28-5 < 10.0 < 3.25 2,4-Dinitrotoluene 121-14-2 < 10.0 < 0.624 2,4-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chloronaphthalene 91.58-7 < 1.00 < 0.330 2-Chlorophenol 95.57-8 < 10.0 < 0.330 2-Methylaphthalene 91.57-6 < 1.00 < 0.311 2-Methylaphthalene 91.57-8 < 10.0 < 0.312 2-Mitronilline 88-74-4 < 10.0 < 0.312 2-Nitrophenol 38-75-5 < 10.0 < 0.330 3-3-Dichlorobenzidine 91.94-1 < 10.0 < 0.266 3,3-Dichlorobenzidine 91.94-1 < 10.0		Method Blank			
2,4,5-Trichlorophenol 95-95-4 < 10.0 < 0.236 2,4,6-Trichlorophenol 88-06-2 < 10.0 < 0.297 2,4-Dichlorophenol 120-83-2 < 10.0 < 0.284 2,4-Dinitrophenol 105-67-9 < 10.0 < 0.624 2,4-Dinitrotolune 51-28-5 < 10.0 < 3.25 2,4-Dinitrotolune 606-20-2 < 10.0 < 0.279 2-Chloronaphthalene 91-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 1.00 < 0.331 2-Methylaphthalene 91-57-6 < 1.00 < 0.311 2-Methylaphthalene 91-57-6 < 1.00 < 0.312 2-Nitronalline 88-74-4 < 10.0 < 0.312 2-Nitronalline 88-75-5 < 10.0 < 0.320 3&-Methyl Phenol 3&-Methyl Phenol < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.262 3,-Dichlorophenyl-phenylether 101-55-3 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 53-45-21 <	Analyte	CAS	PQL	MDL	Qualifier
2,4,6-Trichlorophenol 88-06-2 < 10.0 < 0.297 2,4-Ditchlorophenol 120-83-2 < 10.0 < 0.284 2,4-Dimitrophenol 105-67-9 < 10.0 < 0.624 2,4-Dinitrophenol 51-28-5 < 10.0 < 3.25 2,4-Dinitrotoluene 121-14-2 < 10.0 < 1.65 2,6-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chlorophenol 95-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 10.0 < 0.311 2-Methylaphthalene 91-57-6 < 1.00 < 0.311 2-Methylaphthalene 95-48-7 < 10.0 < 0.312 2-Nitrophenol 88-75-5 < 10.0 < 0.312 2-Nitrophenol 88-75-5 < 10.0 < 0.320 3&-Methyl Phenol 3&-4-Methyl Phenol < 0.0266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.262 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.382	1,2,4-Trichlorobenzene	120-82-1	< 10.0	< 0.355	
2,4-Dichlorophenol 120-83-2 < 10.0 < 0.284 2,4-Dimethylphenol 105-67-9 < 10.0 < 0.624 2,4-Dinitrophenol 51-28-5 < 10.0 < 0.624 2,4-Dinitrotoluene 121-14-2 < 10.0 < 0.25 2,6-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chlorophenol 91-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 10.0 < 0.283 2-Methylnaphthalene 91-57-6 < 1.00 < 0.311 2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitronaliline 88-74-4 < 10.0 < 0.320 3&4-Methyl Phenol 38-48-4 < 10.0 < 0.202 3-Nitrophenol 38-75-5 < 10.0 < 0.206 3-Dichlorobenzidine 91-94-1 < 10.0 < 0.206 3-Nitroaniline 99-09-2 < 10.0 < 0.308 4-6-Dinitro-2-methylphenol 53-4-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.263	2,4,5-Trichlorophenol	95-95-4	< 10.0	< 0.236	
2,4-Dimethylphenol 105-67-9 < 10.0 < 0.624 2,4-Dinitrophenol 51-28-5 < 10.0 < 3.25 2,4-Dinitrotoluene 121-14-2 < 10.0 < 0.279 2,6-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chlorophenol 91-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 10.0 < 0.283 2-Methylnaphthalene 91-57-6 < 1.00 < 0.311 2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitrophenol 88-74-4 < 10.0 < 0.19 2-Nitrophenol 38-75-5 < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.262 3-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.303 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.332 4-Chloroaniline 106-47-8 < 10.0 <	2,4,6-Trichlorophenol	88-06-2	< 10.0	< 0.297	
2,4-Dinitrophenol 51-28-5 < 10.0 < 3.25 2,4-Dinitrotoluene 121-14-2 < 10.0 < 0.279 2,6-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chlorophenol 91-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 10.0 < 0.283 2-Methylnaphthalene 91-57-6 < 1.00 < 0.311 2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitrophenol 88-74-4 < 10.0 < 1.9 2-Nitrophenol 3&4-Methyl Phenol < 10.0 < 0.320 3&4-Methyl Phenol 34-4-Methyl Phenol < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.335 4-Chloro-3-methylphenol 106-47-8 < 10.0 < 0.382 4-Chloro-3-line 10.0		120-83-2	< 10.0	< 0.284	
2,4-Dinitrotoluene 121-14-2 < 10.0 < 1.65 2,6-Dinitrotoluene 606-20-2 < 10.0 < 0.279 2-Chloronaphthalene 91-58-7 < 1.00 < 0.330 2-Chlorophenol 95-57-8 < 10.0 < 0.283 2-Methylnaphthalene 91-57-6 < 1.00 < 0.311 2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitrophenol 88-74-4 < 10.0 < 0.320 3&-4-Methyl Phenol 3&-4-Methyl Phenol < 10.0 < 0.320 3&-Mitrophenol 38-7-5 < 10.0 < 0.266 3,-Ditchlorobenzidine 91-94-1 < 10.0 < 0.266 3,-Ditchlorobenzidine 91-94-1 < 10.0 < 0.266 3,-Ditchlorobenzidine 91-94-1 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 53-52-1 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 59-50-7 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.382 4-Chloro-3-methylphenol 106-47-8	2,4-Dimethylphenol	105-67-9	< 10.0	< 0.624	
2,6-Dinitrotoluene 2-Chloronaphthalene 91-58-7 <1.00 <0.330 2-Chlorophenol 95-57-8 <1.00 <0.283 2-Methylnaphthalene 91-57-6 <1.00 <0.311 2-Methylphenol 95-48-7 <1.00 <0.311 2-Methylphenol 95-48-7 <1.00 <0.312 2-Nitroaniline 88-74-4 <1.00 <1.09 2-Nitroaniline 88-75-5 <1.00 <0.320 3&4-Methyl Phenol 3&4-Methyl Phenol 3,4-Methyl Phenol 3,4-Methyl Phenol 3,3-Dichlorobenzidine 91-94-1 <1.00 <0.266 3,3-Dichlorobenzidine 91-94-1 <1.00 <0.308 4,6-Dinitro-2-methylphenol 95-48-7 <1.00 <0.308 4,6-Dinitro-2-methylphenol 95-99-2 <1.00 <0.335 4-Chloro-3-methylphenol 95-90-7 <1.00 <0.038 4-Chloro-3-methylphenol 95-90-7 <1.00 <0.038 4-Chloro-3-methylphenol 106-47-8 101-64-78 <1.00 <0.332 4-Nitroaniline 106-47-8 <1.00 <0.338 4-Nitroaniline 100-01-6 <1.00 <0.338 4-Nitroaniline 100-01-6 <1.00 <0.339 4-Nitroaniline 100-01-7 <1.00 <0.330 4-Nitrophenol 100-02-7 <1.00 <0.331 4-Nitrophenol 100-02-7 <1.00 <0.303 4-Nitroaniline 100-01-6 <1.00 <0.349 4-Nitrophenol 100-02-7 <1.00 <0.316 Acenaphthene 83-32-9 <1.00 <0.316 Acenaphthene 83-32-9 <1.00 <0.316 Acenaphthene 83-32-9 <1.00 <0.316 Acenaphthene 101-22-7 <1.00 <0.291 Atrazine 1912-24-9 <1.00 <0.291 Atrazine 1912-24-9 <1.00 <0.318 Benza(a)mthracene 56-55-3 8-nzo(a)pyrene 50-32-8 8-0.200 <0.0381 Benzo(a)pyrene 50-32-8 8-0.200 <0.0381 Benzo(a)plperylene 191-24-2 <1.00 <0.325 Benzo(b)fluoranthene 207-08-9 <1.00 <0.355 Benzylbutyl phthalate 85-68-7 <3.00 <0.0275	2,4-Dinitrophenol	51-28-5	< 10.0	< 3.25	
2-Chlorophenol 91-58-7 < 1.00	2,4-Dinitrotoluene	121-14-2	< 10.0	< 1.65	
2-Chlorophenol 95-57-8 < 10.0	2,6-Dinitrotoluene	606-20-2	< 10.0	< 0.279	
2-Methylnaphthalene 91-57-6 < 1.00 < 0.311 2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitroaniline 88-74-4 < 10.0 < 1.9 2-Nitrophenol 88-75-5 < 10.0 < 0.320 3&4-Methyl Phenol 3&4-Methyl Phenol < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 2.02 3-Nitroaniline 99-09-2 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.334 4-Nitrophenol 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 0.316 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0	2-Chloronaphthalene	91-58-7	< 1.00	< 0.330	
2-Methylphenol 95-48-7 < 10.0 < 0.312 2-Nitroaniline 88-74-4 < 10.0 < 1.9 2-Nitrophenol 88-75-5 < 10.0 < 0.320 3&4-Methyl Phenol 3&4-Methyl Phenol < 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 2.02 3-Nitroaniline 99-09-2 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.382 4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.338 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylphene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 0.318 Benzo(a)nthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.329 Benzo(b)fluoranthene 207-08-9 < 1.00 < 0.329 Benzo(b)fluoranthene 207-08-9 < 1.00 < 0.335 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.355 Benzylbutyl phthalate	2-Chlorophenol	95-57-8	< 10.0	< 0.283	
2-Nitroaniline 88-74-4 < 10.0 < 1.9 2-Nitrophenol 88-75-5 < 10.0 < 0.320 3&4-Methyl Phenol 10.0 < 0.266 3,3-Dichlorobenzidine 91-94-1 < 10.0 < 2.02 3-Nitroaniline 99-09-2 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.382 4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.333 4-Nitrophenol 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 0.349 4-Nitrophenol 83-32-9 < 1.00 < 0.316 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 0.318 Benzo(a)phyrene 50-32-8 < 0.200 < 0.318 Benzo(a)phrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.329 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(b)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	2-Methylnaphthalene	91-57-6	< 1.00	< 0.311	
2-Nitrophenol 88-75-5 < 10.0	2-Methylphenol	95-48-7	< 10.0	< 0.312	
3&4-Methyl Phenol 3&4-Methyl Phenol < 10.0	2-Nitroaniline	88-74-4	< 10.0	< 1.9	
3,3-Dichlorobenzidine 91-94-1 < 10.0 < 2.02 3-Nitroaniline 99-09-2 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chlorophinyl-phenylether 7005-72-3 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 0.318 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(b)fluoranthene 205-99-2 < 1.00 <	2-Nitrophenol	88-75-5	< 10.0	< 0.320	
3-Nitroaniline 99-09-2 < 10.0 < 0.308 4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 0.316 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 0.309 Acetophenone 120-12-7 < 1.00 < 0.271 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 0.318 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.325 Benzylbutyl phthalate	3&4-Methyl Phenol	3&4-Methyl Phenol	< 10.0	< 0.266	
4,6-Dinitro-2-methylphenol 534-52-1 < 10.0 < 2.62 4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chlorophenyl-phenylether 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(k)fluoranthene 207-08-9 < 1.00 <	3,3-Dichlorobenzidine	91-94-1	< 10.0	< 2.02	
4-Bromophenyl-phenylether 101-55-3 < 10.0 < 0.335 4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chlorophenyl-phenylether 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitrophenol 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Antrazine 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275 </th <th>3-Nitroaniline</th> <th>99-09-2</th> <th>< 10.0</th> <th>< 0.308</th> <th></th>	3-Nitroaniline	99-09-2	< 10.0	< 0.308	
4-Chloro-3-methylphenol 59-50-7 < 10.0 < 0.263 4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4,6-Dinitro-2-methylphenol	534-52-1	< 10.0	< 2.62	
4-Chloroaniline 106-47-8 < 10.0 < 0.382 4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Bromophenyl-phenylether	101-55-3	< 10.0	< 0.335	
4-Chlorophenyl-phenylether 7005-72-3 < 10.0 < 0.303 4-Nitroaniline 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Chloro-3-methylphenol	59-50-7	< 10.0	< 0.263	
4-Nitrophenol 100-01-6 < 10.0 < 0.349 4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Chloroaniline	106-47-8	< 10.0	< 0.382	
4-Nitrophenol 100-02-7 < 10.0 < 2.01 Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(k)fluoranthene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Chlorophenyl-phenylether	7005-72-3	< 10.0	< 0.303	
Acenaphthene 83-32-9 < 1.00 < 0.316 Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Nitroaniline	100-01-6	< 10.0	< 0.349	
Acenaphthylene 208-96-8 < 1.00 < 0.309 Acetophenone 98-86-2 < 10.0 < 2.71 Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(b)fluoranthene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	4-Nitrophenol	100-02-7	< 10.0	< 2.01	
Acetophenone 98-86-2 < 10.0	Acenaphthene	83-32-9	< 1.00	< 0.316	
Anthracene 120-12-7 < 1.00 < 0.291 Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Acenaphthylene	208-96-8	< 1.00	< 0.309	
Atrazine 1912-24-9 < 10.0 < 1.53 Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Acetophenone	98-86-2	< 10.0	< 2.71	
Benzaldehyde 100-52-7 < 10.0 < 1.4 Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Anthracene	120-12-7	< 1.00	< 0.291	
Benzo(a)anthracene 56-55-3 < 1.00 < 0.318 Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Atrazine	1912-24-9	< 10.0	< 1.53	
Benzo(a)pyrene 50-32-8 < 0.200 < 0.0381 Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Benzaldehyde	100-52-7	< 10.0	< 1.4	
Benzo(b)fluoranthene 205-99-2 < 1.00 < 0.270 Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Benzo(a)anthracene	56-55-3	< 1.00	< 0.318	
Benzo(g,h,i)perylene 191-24-2 < 1.00 < 0.329 Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Benzo(a)pyrene	50-32-8	< 0.200	< 0.0381	
Benzo(k)fluoranthene 207-08-9 < 1.00 < 0.355 Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Benzo(b)fluoranthene	205-99-2	< 1.00	< 0.270	
Benzylbutyl phthalate 85-68-7 < 3.00 < 0.275	Benzo(g,h,i)perylene	191-24-2	< 1.00	< 0.329	
	Benzo(k)fluoranthene	207-08-9	< 1.00	< 0.355	
	Benzylbutyl phthalate	85-68-7	< 3.00	< 0.275	
	Biphenyl	92-52-4	< 10.0	< 0.206	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773341

 Analysis Date:
 3/4/2015 2:00:00 PM
 Analyst:
 377

 Instrument ID:
 BNAMS23, BNAMS21
 Prep Date:
 3/3/2015

	Method Blan	nk		
Analyte	CAS	PQL	MDL	Qualifier
Bis(2-chlorethoxy)methane	111-91-1	< 10.0	< 0.329	-
Bis(2-chloroethyl)ether	111-44-4	< 10.0	< 1.62	
Bis(2-chloroisopropyl)ether	108-60-1	< 10.0	< 0.445	
Bis(2-ethylhexyl)phthalate	117-81-7	< 3.00	< 0.709	
Caprolactam	105-60-2	< 10.0	< 0.583	
Carbazole	86-74-8	< 10.0	< 0.162	
Chrysene	218-01-9	< 1.00	< 0.332	
Dibenz(a,h)anthracene	53-70-3	< 0.200	< 0.0644	
Dibenzofuran	132-64-9	< 10.0	< 0.338	
Diethyl phthalate	84-66-2	< 3.00	< 0.282	
Dimethyl phthalate	131-11-3	< 3.00	< 0.283	
Di-n-butyl phthalate	84-74-2	< 3.00	0.340	
Di-n-octyl phthalate	117-84-0	< 3.00	< 0.278	
Fluoranthene	206-44-0	< 1.00	< 0.310	
Fluorene	86-73-7	< 1.00	< 0.323	
Hexachloro-1,3-butadiene	87-68-3	< 10.0	< 0.329	
Hexachlorobenzene	118-74-1	< 1.00	< 0.341	
Hexachlorocyclopentadiene	77-47-4	< 10.0	< 2.33	
Hexachloroethane	67-72-1	< 10.0	< 0.365	
Indeno(1,2,3-cd)pyrene	193-39-5	< 1.00	< 0.279	
Isophorone	78-59-1	< 10.0	< 0.272	
Naphthalene	91-20-3	< 1.00	< 0.372	
Nitrobenzene	98-95-3	< 10.0	< 0.367	
n-Nitrosodi-n-propylamine	621-64-7	< 10.0	< 0.403	
n-Nitrosodiphenylamine	86-30-6	< 10.0	< 0.304	
Pentachlorophenol	87-86-5	< 10.0	< 0.313	
Phenanthrene	85-01-8	< 1.00	< 0.366	
Phenol	108-95-2	< 10.0	< 0.334	
Pyrene	129-00-0	< 1.00	< 0.330	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773528

	Method Blank			
Analyte	CAS	PQL	MDL	Qualifier
1,2,4-Trichlorobenzene	120-82-1	< 10.0	< 0.355	
1-Methylnaphthalene	90-12-0	< 1.00	< 0.311	
2,4,5-Trichlorophenol	95-95-4	< 10.0	< 0.236	
2,4,6-Trichlorophenol	88-06-2	< 10.0	< 0.297	
2,4-Dichlorophenol	120-83-2	< 10.0	< 0.284	
2,4-Dimethylphenol	105-67-9	< 10.0	< 0.624	
2,4-Dinitrophenol	51-28-5	< 10.0	< 3.25	
2,4-Dinitrotoluene	121-14-2	< 10.0	< 1.65	
2,6-Dinitrotoluene	606-20-2	< 10.0	< 0.279	
2-Chloronaphthalene	91-58-7	< 1.00	< 0.330	
2-Chlorophenol	95-57-8	< 10.0	< 0.283	
2-Methylnaphthalene	91-57-6	< 1.00	< 0.311	
2-Methylphenol	95-48-7	< 10.0	< 0.312	
2-Nitroaniline	88-74-4	< 10.0	< 1.9	
2-Nitrophenol	88-75-5	< 10.0	< 0.320	
3&4-Methyl Phenol	3&4-Methyl Phenol	< 10.0	< 0.266	
3,3-Dichlorobenzidine	91-94-1	< 10.0	< 2.02	
3-Nitroaniline	99-09-2	< 10.0	< 0.308	
4,6-Dinitro-2-methylphenol	534-52-1	< 10.0	< 2.62	
4-Bromophenyl-phenylether	101-55-3	< 10.0	< 0.335	
4-Chloro-3-methylphenol	59-50-7	< 10.0	< 0.263	
4-Chloroaniline	106-47-8	< 10.0	< 0.382	
4-Chlorophenyl-phenylether	7005-72-3	< 10.0	< 0.303	
4-Nitroaniline	100-01-6	< 10.0	< 0.349	
4-Nitrophenol	100-02-7	< 10.0	< 2.01	
Acenaphthene	83-32-9	< 1.00	< 0.316	
Acenaphthylene	208-96-8	< 1.00	< 0.309	
Acetophenone	98-86-2	< 10.0	< 2.71	
Anthracene	120-12-7	< 1.00	< 0.291	
Atrazine	1912-24-9	< 10.0	< 1.53	
Benzaldehyde	100-52-7	< 10.0	< 1.4	
Benzo(a)anthracene	56-55-3	< 1.00	< 0.318	
Benzo(a)pyrene	50-32-8	< 0.200	< 0.0381	
Benzo(b)fluoranthene	205-99-2	< 1.00	< 0.270	
Benzo(g,h,i)perylene	191-24-2	< 1.00	< 0.329	
Benzo(k)fluoranthene	207-08-9	< 1.00	< 0.355	
Benzylbutyl phthalate	85-68-7	< 3.00	< 0.275	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

	Method Blar	ık		
Analyte	CAS	PQL	MDL	Qualifier
Biphenyl	92-52-4	< 10.0	< 0.206	Quaimer
Bis(2-chlorethoxy)methane	111-91-1	< 10.0	< 0.329	
Bis(2-chloroethyl)ether	111-44-4	< 10.0	< 1.62	
Bis(2-chloroisopropyl)ether	108-60-1	< 10.0	< 0.445	
Bis(2-ethylhexyl)phthalate	117-81-7	< 3.00	< 0.709	
Caprolactam	105-60-2	< 10.0	< 0.583	
Carbazole	86-74-8	< 10.0	< 0.162	
Chrysene	218-01-9	< 1.00	< 0.332	
Dibenz(a,h)anthracene	53-70-3	< 0.200	< 0.0644	
Dibenzofuran	132-64-9	< 10.0	< 0.338	
Diethyl phthalate	84-66-2	< 3.00	< 0.282	
Dimethyl phthalate	131-11-3	< 3.00	< 0.283	
Di-n-butyl phthalate	84-74-2	< 3.00	< 0.266	
Di-n-octyl phthalate	117-84-0	< 3.00	< 0.278	
Fluoranthene	206-44-0	< 1.00	< 0.310	
Fluorene	86-73-7	< 1.00	< 0.323	
Hexachloro-1,3-butadiene	87-68-3	< 10.0	< 0.329	
Hexachlorobenzene	118-74-1	< 1.00	< 0.341	
Hexachlorocyclopentadiene	77-47-4	< 10.0	< 2.33	
Hexachloroethane	67-72-1	< 10.0	< 0.365	
Indeno(1,2,3-cd)pyrene	193-39-5	< 1.00	< 0.279	
Isophorone	78-59-1	< 10.0	< 0.272	
Naphthalene	91-20-3	< 1.00	< 0.372	
Nitrobenzene	98-95-3	< 10.0	< 0.367	
n-Nitrosodi-n-propylamine	621-64-7	< 10.0	< 0.403	
n-Nitrosodiphenylamine	86-30-6	< 10.0	< 0.304	
Pentachlorophenol	87-86-5	< 10.0	< 0.313	
Phenanthrene	85-01-8	< 1.00	< 0.366	
Phenol	108-95-2	< 10.0	< 0.334	
Pyrene	129-00-0	< 1.00	< 0.330	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773341

Analysis Date: 3/4/2015 2:00:00 PM Analyst: 377
Instrument ID: BNAMS23, BNAMS21 Prep Date: 3/3/2015

Laboratory Control Sample (LCS)									
					Control				
Analyte	Dil	True Value	Found	% Rec	Limits	Qual			
1,2,4-Trichlorobenzene	1	25	14.646	58.6	22.9 - 96.1				
2,4,5-Trichlorophenol	1	25	19.258	77	34.9 - 112				
2,4,6-Trichlorophenol	1	25	18.806	75.2	29.8 - 107				
2,4-Dichlorophenol	1	25	17.894	71.6	31.4 - 103				
2,4-Dimethylphenol	1	25	16.493	66	31.9 - 107				
2,4-Dinitrophenol	1	25	12.855	51.4	24.2 - 128				
2,4-Dinitrotoluene	1	25	19.341	77.4	31.2 - 105				
2,6-Dinitrotoluene	1	25	18.846	75.4	30.6 - 106				
2-Chloronaphthalene	1	25	18.564	74.3	33.6 - 105				
2-Chlorophenol	1	25	14.757	59	26.2 - 91.5				
2-Methylnaphthalene	1	25	16.536	66.1	33.8 - 98.6				
2-Methylphenol	1	25	13.225	52.9	26.4 - 86.9				
2-Nitroaniline	1	25	18.129	72.5	35.6 - 113				
2-Nitrophenol	1	25	17.368	69.5	25.9 - 106				
3&4-Methyl Phenol	1	25	13.876	55.5	27.9 - 92				
3,3-Dichlorobenzidine	1	25	19.647	78.6	27.2 - 142				
3-Nitroaniline	1	25	19.048	76.2	33.6 - 103				
4,6-Dinitro-2-methylphenol	1	25	18.643	74.6	18.4 - 148				
4-Bromophenyl-phenylether	1	25	19.842	79.4	40.7 - 116				
4-Chloro-3-methylphenol	1	25	18.150	72.6	35.7 - 100				
4-Chloroaniline	1	25	15.878	63.5	32 - 104				
4-Chlorophenyl-phenylether	1	25	20.074	80.3	39 - 113				
4-Nitroaniline	1	25	21.655	86.6	35.4 - 124				
4-Nitrophenol	1	25	9.1110	36.4	10 - 52.7				
Acenaphthene	1	25	18.962	75.8	38.7 - 109				
Acenaphthylene	1	25	18.054	72.2	36 - 106				
Acetophenone	1	25	12.377	49.5	41.6 - 104				
Anthracene	1	25	19.725	78.9	43.6 - 113				
Atrazine	1	25	18.816	75.3	50 - 123				
Benzaldehyde	1	25	10.900	43.6	11.7 - 132.2				
Benzo(a)anthracene	1	25	19.634	78.5	51.2 - 112				
Benzo(a)pyrene	1	25	21.330	85.3	45.6 - 106				
Benzo(b)fluoranthene	1	25	21.189	84.8	47.6 - 111				
Benzo(g,h,i)perylene	1	25	21.572	86.3	45.2 - 117				
Benzo(k)fluoranthene	1	25	21.147	84.6	49.4 - 114				
Benzylbutyl phthalate	1	25	17.178	68.7	31.8 - 123				



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773341

Analysis Date: 3/4/2015 2:00:00 PM Analyst: 377

Instrument ID: BNAMS23, BNAMS21 Prep Date: 3/3/2015

	Laborato	ry Control Sai	nple (LCS))		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Biphenyl	1	25	19.281	77.1	38 - 103	
Bis(2-chlorethoxy)methane	1	25	16.803	67.2	37.2 - 111	
Bis(2-chloroethyl)ether	1	25	13.115	52.5	22.6 - 108	
Bis(2-chloroisopropyl)ether	1	25	15.654	62.6	32.9 - 100	
Bis(2-ethylhexyl)phthalate	1	25	16.869	67.5	36.9 - 134	
Caprolactam	1	25	4.7390	19	10 - 40.4	
Carbazole	1	25	21.909	87.6	49 - 110	
Chrysene	1	25	19.342	77.4	54.6 - 120	
Dibenz(a,h)anthracene	1	25	21.583	86.3	42.8 - 118	
Dibenzofuran	1	25	19.978	79.9	42.4 - 105	
Diethyl phthalate	1	25	19.219	76.9	36.5 - 129	
Dimethyl phthalate	1	25	19.654	78.6	35.3 - 128	
Di-n-butyl phthalate	1	25	19.086	76.3	41.8 - 120	
Di-n-octyl phthalate	1	25	17.163	68.7	39.7 - 112	
Fluoranthene	1	25	20.695	82.8	45.9 - 115	
Fluorene	1	25	19.838	79.4	41 - 112	
Hexachloro-1,3-butadiene	1	25	14.575	58.3	16.1 - 104	
Hexachlorobenzene	1	25	20.536	82.1	38.5 - 116	
Hexachlorocyclopentadiene	1	25	9.8960	39.6	10 - 121	
Hexachloroethane	1	25	12.219	48.9	16.5 - 89.8	
Indeno(1,2,3-cd)pyrene	1	25	21.473	85.9	45 - 116	
Isophorone	1	25	16.870	67.5	35.4 - 112	
Naphthalene	1	25	15.312	61.2	32.2 - 101	
Nitrobenzene	1	25	15.384	61.5	31.4 - 106	
n-Nitrosodi-n-propylamine	1	25	14.867	59.5	33.2 - 106	
n-Nitrosodiphenylamine	1	25	19.684	78.7	44.4 - 113	
Pentachlorophenol	1	25	16.619	66.5	10 - 97.4	
Phenanthrene	1	25	19.997	80	46.4 - 113	
Phenol	1	25	8.0170	32.1	10 - 57.9	
Pyrene	1	25	17.925	71.7	46.3 - 117	



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773341

 Analysis Date:
 3/4/2015 2:00:00 PM
 Analyst:
 377

 Instrument ID:
 BNAMS23, BNAMS21
 Prep Date:
 3/3/2015

	Laboratory Co	ontrol Sample l	Laboratory Control Sample Duplicate (LCSD)									
					Control							
Analyte	Dil	True Value	Found	% Rec	Limits	Qual						
1,2,4-Trichlorobenzene	1	25	16.181	64.7	22.9 - 96.1							
2,4,5-Trichlorophenol	1	25	21.490	86	34.9 - 112							
2,4,6-Trichlorophenol	1	25	20.253	81	29.8 - 107							
2,4-Dichlorophenol	1	25	19.117	76.5	31.4 - 103							
2,4-Dimethylphenol	1	25	18.690	74.8	31.9 - 107							
2,4-Dinitrophenol	1	25	13.581	54.3	24.2 - 128							
2,4-Dinitrotoluene	1	25	20.423	81.7	31.2 - 105							
2,6-Dinitrotoluene	1	25	19.869	79.5	30.6 - 106							
2-Chloronaphthalene	1	25	20.547	82.2	33.6 - 105							
2-Chlorophenol	1	25	15.673	62.7	26.2 - 91.5							
2-Methylnaphthalene	1	25	18.286	73.1	33.8 - 98.6							
2-Methylphenol	1	25	14.423	57.7	26.4 - 86.9							
2-Nitroaniline	1	25	19.502	78	35.6 - 113							
2-Nitrophenol	1	25	18.477	73.9	25.9 - 106							
3&4-Methyl Phenol	1	25	15.431	61.7	27.9 - 92							
3,3-Dichlorobenzidine	1	25	20.634	82.5	27.2 - 142							
3-Nitroaniline	1	25	20.479	81.9	33.6 - 103							
4,6-Dinitro-2-methylphenol	1	25	19.975	79.9	18.4 - 148							
4-Bromophenyl-phenylether	1	25	21.427	85.7	40.7 - 116							
4-Chloro-3-methylphenol	1	25	19.912	79.6	35.7 - 100							
4-Chloroaniline	1	25	16.868	67.5	32 - 104							
4-Chlorophenyl-phenylether	1	25	21.773	87.1	39 - 113							
4-Nitroaniline	1	25	23.006	92	35.4 - 124							
4-Nitrophenol	1	25	9.7815	39.1	10 - 52.7							
Acenaphthene	1	25	20.551	82.2	38.7 - 109							
Acenaphthylene	1	25	19.991	80	36 - 106							
Acetophenone	1	25	13.294	53.2	41.6 - 104							
Anthracene	1	25	20.949	83.8	43.6 - 113							
Atrazine	1	25	19.559	78.2	50 - 123							
Benzaldehyde	1	25	12.676	50.7	11.7 - 132.2							
Benzo(a)anthracene	1	25	20.482	81.9	51.2 - 112							
Benzo(a)pyrene	1	25	22.525	90.1	45.6 - 106							
Benzo(b)fluoranthene	1	25	22.429	89.7	47.6 - 111							
Benzo(g,h,i)perylene	1	25	22.679	90.7	45.2 - 117							
Benzo(k)fluoranthene	1	25	22.447	89.8	49.4 - 114							
Benzylbutyl phthalate	1	25	17.600	70.4	31.8 - 123							



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773341

 Analysis Date:
 3/4/2015 2:00:00 PM
 Analyst:
 377

 Instrument ID:
 BNAMS23, BNAMS21
 Prep Date:
 3/3/2015

	Laboratory Con	ntrol Sample I	Ouplicate (1	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Biphenyl	1	25	21.153	84.6	38 - 103	
Bis(2-chlorethoxy)methane	1	25	18.039	72.2	37.2 - 111	
Bis(2-chloroethyl)ether	1	25	13.798	55.2	22.6 - 108	
Bis(2-chloroisopropyl)ether	1	25	16.479	65.9	32.9 - 100	
Bis(2-ethylhexyl)phthalate	1	25	17.348	69.4	36.9 - 134	
Caprolactam	1	25	4.6418	18.6	10 - 40.4	
Carbazole	1	25	23.444	93.8	49 - 110	
Chrysene	1	25	20.367	81.5	54.6 - 120	
Dibenz(a,h)anthracene	1	25	22.433	89.7	42.8 - 118	
Dibenzofuran	1	25	21.646	86.6	42.4 - 105	
Diethyl phthalate	1	25	20.819	83.3	36.5 - 129	
Dimethyl phthalate	1	25	21.075	84.3	35.3 - 128	
Di-n-butyl phthalate	1	25	20.628	82.5	41.8 - 120	
Di-n-octyl phthalate	1	25	17.805	71.2	39.7 - 112	
Fluoranthene	1	25	22.019	88.1	45.9 - 115	
Fluorene	1	25	21.462	85.8	41 - 112	
Hexachloro-1,3-butadiene	1	25	16.412	65.6	16.1 - 104	
Hexachlorobenzene	1	25	22.193	88.8	38.5 - 116	
Hexachlorocyclopentadiene	1	25	10.971	43.9	10 - 121	
Hexachloroethane	1	25	12.996	52	16.5 - 89.8	
Indeno(1,2,3-cd)pyrene	1	25	22.648	90.6	45 - 116	
Isophorone	1	25	18.470	73.9	35.4 - 112	
Naphthalene	1	25	16.639	66.6	32.2 - 101	
Nitrobenzene	1	25	16.861	67.4	31.4 - 106	
n-Nitrosodi-n-propylamine	1	25	15.483	61.9	33.2 - 106	
n-Nitrosodiphenylamine	1	25	21.282	85.1	44.4 - 113	
Pentachlorophenol	1	25	17.459	69.8	10 - 97.4	
Phenanthrene	1	25	21.295	85.2	46.4 - 113	
Phenol	1	25	9.0233	36.1	10 - 57.9	
Pyrene	1	25	18.893	75.6	46.3 - 117	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773341

 Analysis Date:
 3/4/2015 2:00:00 PM
 Analyst:
 377

 Instrument ID:
 BNAMS23, BNAMS21
 Prep Date:
 3/3/2015

Laborato	ry Cont	trol San	nple / L	aborat	ory Co	ntrol S	ample Du	plicat	e	
							Control	% Rec		Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec				Limits Qual
1,2,4-Trichlorobenzene	1	25	14.646	58.6	16.181	64.7	22.9 - 96.1		9.95	27.5
2,4,5-Trichlorophenol	1	25	19.258	77	21.490	86	34.9 - 112		11	23.9
2,4,6-Trichlorophenol	1	25	18.806	75.2	20.253	81	29.8 - 107		7.41	24.1
2,4-Dichlorophenol	1	25	17.894	71.6	19.117	76.5	31.4 - 103		6.61	24.9
2,4-Dimethylphenol	1	25	16.493	66	18.690	74.8	31.9 - 107		12.5	25.7
2,4-Dinitrophenol	1	25	12.855	51.4	13.581	54.3	24.2 - 128		5.49	20.5
2,4-Dinitrotoluene	1	25	19.341	77.4	20.423	81.7	31.2 - 105		5.44	22
2,6-Dinitrotoluene	1	25	18.846	75.4	19.869	79.5	30.6 - 106		5.28	23.1
2-Chloronaphthalene	1	25	18.564	74.3	20.547	82.2	33.6 - 105		10.1	23
2-Chlorophenol	1	25	14.757	59	15.673	62.7	26.2 - 91.5		6.02	26.5
2-Methylnaphthalene	1	25	16.536	66.1	18.286	73.1	33.8 - 98.6		10	24.2
2-Methylphenol	1	25	13.225	52.9	14.423	57.7	26.4 - 86.9		8.66	26.5
2-Nitroaniline	1	25	18.129	72.5	19.502	78	35.6 - 113		7.29	20.9
2-Nitrophenol	1	25	17.368	69.5	18.477	73.9	25.9 - 106		6.19	26.9
3&4-Methyl Phenol	1	25	13.876	55.5	15.431	61.7	27.9 - 92		10.6	27
3,3-Dichlorobenzidine	1	25	19.647	78.6	20.634	82.5	27.2 - 142		4.9	22.3
3-Nitroaniline	1	25	19.048	76.2	20.479	81.9	33.6 - 103		7.24	21.8
4,6-Dinitro-2-methylphenol	1	25	18.643	74.6	19.975	79.9	18.4 - 148		6.9	24.4
4-Bromophenyl-phenylether	1	25	19.842	79.4	21.427	85.7	40.7 - 116		7.68	21
4-Chloro-3-methylphenol	1	25	18.150	72.6	19.912	79.6	35.7 - 100		9.26	22.9
4-Chloroaniline	1	25	15.878	63.5	16.868	67.5	32 - 104		6.05	26.4
4-Chlorophenyl-phenylether	1	25	20.074	80.3	21.773	87.1	39 - 113		8.12	20.9
4-Nitroaniline	1	25	21.655	86.6	23.006	92	35.4 - 124		6.05	23.1
4-Nitrophenol	1	25	9.1110	36.4	9.7815	39.1	10 - 52.7		7.1	40
Acenaphthene	1	25	18.962	75.8	20.551	82.2	38.7 - 109		8.05	21.5
Acenaphthylene	1	25	18.054	72.2	19.991	80	36 - 106		10.2	21
Acetophenone	1	25	12.377	49.5	13.294	53.2	41.6 - 104		7.15	24.8
Anthracene	1	25	19.725	78.9	20.949	83.8	43.6 - 113		6.02	18.8
Atrazine	1	25	18.816	75.3	19.559	78.2	50 - 123		3.87	21.5
Benzaldehyde	1	25	10.900	43.6	12.676	50.7	11.7 -		15.1	25.2
D () (1	1	25	10.624	70.5	20.402	01.0	132.2		4.00	20
Benzo(a)anthracene	1	25	19.634	78.5	20.482	81.9	51.2 - 112		4.23	20
Benzo(a)pyrene	1	25	21.330	85.3	22.525	90.1	45.6 - 106		5.45	20
Benzo(b)fluoranthene	1	25	21.189	84.8	22.429	89.7	47.6 - 111		5.69	20
Benzo(g,h,i)perylene	1	25	21.572	86.3	22.679	90.7	45.2 - 117		5	20
Benzo(k)fluoranthene	1	25	21.147	84.6	22.447	89.8	49.4 - 114		5.97	20



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No: 227000 Matrix: Water - ug/L
Project: Lovington Lea Refinery EPA ID: TN00003
Collection Date: 2/26/2015 Analytic Batch: WG773341

Analysis Date: 3/4/2015 2:00:00 PM Analyst: 377
Instrument ID: BNAMS23, BNAMS21 Prep Date: 3/3/2015

Laborator	ry Cont	trol San	ple / L	aborat	ory Co	ntrol S	ample Du	ıplicato	e	
							Control	% Rec		Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits		% RPD	Limits Qual
Benzylbutyl phthalate	1	25	17.178	68.7	17.600	70.4	31.8 - 123		2.43	20.7
Biphenyl	1	25	19.281	77.1	21.153	84.6	38 - 103		9.26	20.1
Bis(2-chlorethoxy)methane	1	25	16.803	67.2	18.039	72.2	37.2 - 111		7.1	24.1
Bis(2-chloroethyl)ether	1	25	13.115	52.5	13.798	55.2	22.6 - 108		5.08	27.9
Bis(2-chloroisopropyl)ether	1	25	15.654	62.6	16.479	65.9	32.9 - 100		5.14	25.1
Bis(2-ethylhexyl)phthalate	1	25	16.869	67.5	17.348	69.4	36.9 - 134		2.8	23.6
Caprolactam	1	25	4.7390	19	4.6418	18.6	10 - 40.4		2.07	40
Carbazole	1	25	21.909	87.6	23.444	93.8	49 - 110		6.77	20
Chrysene	1	25	19.342	77.4	20.367	81.5	54.6 - 120		5.16	20
Dibenz(a,h)anthracene	1	25	21.583	86.3	22.433	89.7	42.8 - 118		3.86	20
Dibenzofuran	1	25	19.978	79.9	21.646	86.6	42.4 - 105		8.01	20
Diethyl phthalate	1	25	19.219	76.9	20.819	83.3	36.5 - 129		7.99	20
Dimethyl phthalate	1	25	19.654	78.6	21.075	84.3	35.3 - 128		6.98	20.8
Di-n-butyl phthalate	1	25	19.086	76.3	20.628	82.5	41.8 - 120		7.77	20.2
Di-n-octyl phthalate	1	25	17.163	68.7	17.805	71.2	39.7 - 112		3.67	21.1
Fluoranthene	1	25	20.695	82.8	22.019	88.1	45.9 - 115		6.2	20
Fluorene	1	25	19.838	79.4	21.462	85.8	41 - 112		7.87	20.2
Hexachloro-1,3-butadiene	1	25	14.575	58.3	16.412	65.6	16.1 - 104		11.9	31.2
Hexachlorobenzene	1	25	20.536	82.1	22.193	88.8	38.5 - 116		7.76	20.1
Hexachlorocyclopentadiene	1	25	9.8960	39.6	10.971	43.9	10 - 121		10.3	27.9
Hexachloroethane	1	25	12.219	48.9	12.996	52	16.5 - 89.8		6.17	30.7
Indeno(1,2,3-cd)pyrene	1	25	21.473	85.9	22.648	90.6	45 - 116		5.33	20
Isophorone	1	25	16.870	67.5	18.470	73.9	35.4 - 112		9.05	21.5
Naphthalene	1	25	15.312	61.2	16.639	66.6	32.2 - 101		8.31	23.8
Nitrobenzene	1	25	15.384	61.5	16.861	67.4	31.4 - 106		9.16	25.7
n-Nitrosodi-n-propylamine	1	25	14.867	59.5	15.483	61.9	33.2 - 106		4.06	23.7
n-Nitrosodiphenylamine	1	25	19.684	78.7	21.282	85.1	44.4 - 113		7.8	20
Pentachlorophenol	1	25	16.619	66.5	17.459	69.8	10 - 97.4		4.93	35.1
Phenanthrene	1	25	19.997	80	21.295	85.2	46.4 - 113		6.29	20
Phenol	1	25	8.0170	32.1	9.0233	36.1	10 - 57.9		11.8	35
Pyrene	1	25	17.925	71.7	18.893	75.6	46.3 - 117		5.26	20



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

Laboratory Control Sample (LCS)													
					Control								
Analyte	Dil	True Value	Found	% Rec	Limits	Qual							
1,2,4-Trichlorobenzene	1	25	17.354	69.4	22.9 - 96.1								
1-Methylnaphthalene	1	25	21.037	84.1	34.7 - 102								
2,4,5-Trichlorophenol	1	25	19.373	77.5	34.9 - 112								
2,4,6-Trichlorophenol	1	25	19.714	78.9	29.8 - 107								
2,4-Dichlorophenol	1	25	18.817	75.3	31.4 - 103								
2,4-Dimethylphenol	1	25	17.895	71.6	31.9 - 107								
2,4-Dinitrophenol	1	25	7.7898	31.2	24.2 - 128								
2,4-Dinitrotoluene	1	25	19.422	77.7	31.2 - 105								
2,6-Dinitrotoluene	1	25	19.182	76.7	30.6 - 106								
2-Chloronaphthalene	1	25	20.204	80.8	33.6 - 105								
2-Chlorophenol	1	25	14.445	57.8	26.2 - 91.5								
2-Methylnaphthalene	1	25	19.207	76.8	33.8 - 98.6								
2-Methylphenol	1	25	13.220	52.9	26.4 - 86.9								
2-Nitroaniline	1	25	18.815	75.3	35.6 - 113								
2-Nitrophenol	1	25	19.063	76.3	25.9 - 106								
3&4-Methyl Phenol	1	25	14.552	58.2	27.9 - 92								
3,3-Dichlorobenzidine	1	25	20.664	82.7	27.2 - 142								
3-Nitroaniline	1	25	18.886	75.5	33.6 - 103								
4,6-Dinitro-2-methylphenol	1	25	16.351	65.4	18.4 - 148								
4-Bromophenyl-phenylether	1	25	20.854	83.4	40.7 - 116								
4-Chloro-3-methylphenol	1	25	18.846	75.4	35.7 - 100								
4-Chloroaniline	1	25	16.595	66.4	32 - 104								
4-Chlorophenyl-phenylether	1	25	20.827	83.3	39 - 113								
4-Nitroaniline	1	25	21.235	84.9	35.4 - 124								
4-Nitrophenol	1	25	6.1248	24.5	10 - 52.7								
Acenaphthene	1	25	20.108	80.4	38.7 - 109								
Acenaphthylene	1	25	19.156	76.6	36 - 106								
Acetophenone	1	25	12.995	52	41.6 - 104								
Anthracene	1	25	20.141	80.6	43.6 - 113								
Atrazine	1	25	18.867	75.5	50 - 123								
Benzaldehyde	1	25	12.859	51.4	11.7 - 132.2								
Benzo(a)anthracene	1	25	20.115	80.5	51.2 - 112								
Benzo(a)pyrene	1	25	21.661	86.6	45.6 - 106								
Benzo(b)fluoranthene	1	25	21.753	87	47.6 - 111								
Benzo(g,h,i)perylene	1	25	21.547	86.2	45.2 - 117								
Benzo(k)fluoranthene	1	25	21.614	86.5	49.4 - 114								



12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

	Laborato	ory Control Sai	mple (LCS)			
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Benzylbutyl phthalate	1	25	18.586	74.3	31.8 - 123	
Biphenyl	1	25	20.610	82.4	38 - 103	
Bis(2-chlorethoxy)methane	1	25	17.820	71.3	37.2 - 111	
Bis(2-chloroethyl)ether	1	25	13.765	55.1	22.6 - 108	
Bis(2-chloroisopropyl)ether	1	25	16.379	65.5	32.9 - 100	
Bis(2-ethylhexyl)phthalate	1	25	18.621	74.5	36.9 - 134	
Caprolactam	1	25	5.0984	20.4	10 - 40.4	
Carbazole	1	25	22.279	89.1	49 - 110	
Chrysene	1	25	19.810	79.2	54.6 - 120	
Dibenz(a,h)anthracene	1	25	21.554	86.2	42.8 - 118	
Dibenzofuran	1	25	20.861	83.4	42.4 - 105	
Diethyl phthalate	1	25	20.007	80	36.5 - 129	
Dimethyl phthalate	1	25	20.002	80	35.3 - 128	
Di-n-butyl phthalate	1	25	19.544	78.2	41.8 - 120	
Di-n-octyl phthalate	1	25	19.020	76.1	39.7 - 112	
Fluoranthene	1	25	21.118	84.5	45.9 - 115	
Fluorene	1	25	20.787	83.1	41 - 112	
Hexachloro-1,3-butadiene	1	25	17.368	69.5	16.1 - 104	
Hexachlorobenzene	1	25	21.765	87.1	38.5 - 116	
Hexachlorocyclopentadiene	1	25	10.598	42.4	10 - 121	
Hexachloroethane	1	25	14.055	56.2	16.5 - 89.8	
Indeno(1,2,3-cd)pyrene	1	25	21.857	87.4	45 - 116	
Isophorone	1	25	18.039	72.2	35.4 - 112	
Naphthalene	1	25	17.639	70.6	32.2 - 101	
Nitrobenzene	1	25	17.081	68.3	31.4 - 106	
n-Nitrosodi-n-propylamine	1	25	14.304	57.2	33.2 - 106	
n-Nitrosodiphenylamine	1	25	20.150	80.6	44.4 - 113	
Pentachlorophenol	1	25	13.750	55	10 - 97.4	
Phenanthrene	1	25	20.444	81.8	46.4 - 113	
Phenol	1	25	7.7894	31.2	10 - 57.9	
Pyrene	1	25	18.977	75.9	46.3 - 117	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

	Laboratory Co	ntrol Sample I	Ouplicate (1	LCSD)		
					Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
1,2,4-Trichlorobenzene	1	25	16.935	67.7	22.9 - 96.1	
1-Methylnaphthalene	1	25	20.511	82	34.7 - 102	
2,4,5-Trichlorophenol	1	25	19.281	77.1	34.9 - 112	
2,4,6-Trichlorophenol	1	25	19.362	77.4	29.8 - 107	
2,4-Dichlorophenol	1	25	18.447	73.8	31.4 - 103	
2,4-Dimethylphenol	1	25	17.837	71.3	31.9 - 107	
2,4-Dinitrophenol	1	25	9.0979	36.4	24.2 - 128	
2,4-Dinitrotoluene	1	25	20.152	80.6	31.2 - 105	
2,6-Dinitrotoluene	1	25	19.594	78.4	30.6 - 106	
2-Chloronaphthalene	1	25	20.129	80.5	33.6 - 105	
2-Chlorophenol	1	25	14.656	58.6	26.2 - 91.5	
2-Methylnaphthalene	1	25	18.745	75	33.8 - 98.6	
2-Methylphenol	1	25	13.974	55.9	26.4 - 86.9	
2-Nitroaniline	1	25	18.641	74.6	35.6 - 113	
2-Nitrophenol	1	25	18.368	73.5	25.9 - 106	
3&4-Methyl Phenol	1	25	14.662	58.6	27.9 - 92	
3,3-Dichlorobenzidine	1	25	20.434	81.7	27.2 - 142	
3-Nitroaniline	1	25	19.419	77.7	33.6 - 103	
4,6-Dinitro-2-methylphenol	1	25	16.883	67.5	18.4 - 148	
4-Bromophenyl-phenylether	1	25	20.148	80.6	40.7 - 116	
4-Chloro-3-methylphenol	1	25	18.285	73.1	35.7 - 100	
4-Chloroaniline	1	25	16.030	64.1	32 - 104	
4-Chlorophenyl-phenylether	1	25	20.384	81.5	39 - 113	
4-Nitroaniline	1	25	21.518	86.1	35.4 - 124	
4-Nitrophenol	1	25	6.5091	26	10 - 52.7	
Acenaphthene	1	25	19.855	79.4	38.7 - 109	
Acenaphthylene	1	25	19.307	77.2	36 - 106	
Acetophenone	1	25	13.151	52.6	41.6 - 104	
Anthracene	1	25	19.428	77.7	43.6 - 113	
Atrazine	1	25	19.372	77.5	50 - 123	
Benzaldehyde	1	25	12.794	51.2	11.7 - 132.2	
Benzo(a)anthracene	1	25	19.858	79.4	51.2 - 112	
Benzo(a)pyrene	1	25	21.828	87.3	45.6 - 106	
Benzo(b)fluoranthene	1	25	21.714	86.9	47.6 - 111	
Benzo(g,h,i)perylene	1	25	21.561	86.2	45.2 - 117	
Benzo(k)fluoranthene	1	25	21.619	86.5	49.4 - 114	
	1	20	21.017	00.0	1211	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

	Laboratory Co	ontrol Sample l	Duplicate (LCSD)		
		_	_		Control	
Analyte	Dil	True Value	Found	% Rec	Limits	Qual
Benzylbutyl phthalate	1	25	18.218	72.9	31.8 - 123	
Biphenyl	1	25	20.423	81.7	38 - 103	
Bis(2-chlorethoxy)methane	1	25	17.268	69.1	37.2 - 111	
Bis(2-chloroethyl)ether	1	25	13.749	55	22.6 - 108	
Bis(2-chloroisopropyl)ether	1	25	16.517	66.1	32.9 - 100	
Bis(2-ethylhexyl)phthalate	1	25	18.459	73.8	36.9 - 134	
Caprolactam	1	25	5.2661	21.1	10 - 40.4	
Carbazole	1	25	21.879	87.5	49 - 110	
Chrysene	1	25	19.691	78.8	54.6 - 120	
Dibenz(a,h)anthracene	1	25	21.291	85.2	42.8 - 118	
Dibenzofuran	1	25	20.604	82.4	42.4 - 105	
Diethyl phthalate	1	25	20.240	81	36.5 - 129	
Dimethyl phthalate	1	25	20.080	80.3	35.3 - 128	
Di-n-butyl phthalate	1	25	19.465	77.9	41.8 - 120	
Di-n-octyl phthalate	1	25	18.686	74.7	39.7 - 112	
Fluoranthene	1	25	20.596	82.4	45.9 - 115	
Fluorene	1	25	20.607	82.4	41 - 112	
Hexachloro-1,3-butadiene	1	25	17.217	68.9	16.1 - 104	
Hexachlorobenzene	1	25	21.510	86	38.5 - 116	
Hexachlorocyclopentadiene	1	25	11.019	44.1	10 - 121	
Hexachloroethane	1	25	14.194	56.8	16.5 - 89.8	
Indeno(1,2,3-cd)pyrene	1	25	21.675	86.7	45 - 116	
Isophorone	1	25	17.541	70.2	35.4 - 112	
Naphthalene	1	25	17.018	68.1	32.2 - 101	
Nitrobenzene	1	25	16.747	67	31.4 - 106	
n-Nitrosodi-n-propylamine	1	25	14.627	58.5	33.2 - 106	
n-Nitrosodiphenylamine	1	25	19.661	78.6	44.4 - 113	
Pentachlorophenol	1	25	13.454	53.8	10 - 97.4	
Phenanthrene	1	25	20.007	80	46.4 - 113	
Phenol	1	25	7.8909	31.6	10 - 57.9	
Pyrene	1	25	18.606	74.4	46.3 - 117	



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Quality Control Summary SDG: L751256 TRC Solutions - Austin, TX

Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

Laborator	y Con	trol San	nple / L	aborat	ory Co	ntrol S	ample Du	ıplicat	e	
							Control	% Rec	<u>.</u>	Control RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec		Qual		Limits Qual
1,2,4-Trichlorobenzene	1	25	17.354	69.4	16.935	67.7	22.9 - 96.1		2.44	27.5
1-Methylnaphthalene	1	25	21.037	84.1	20.511	82	34.7 - 102		2.53	24.9
2,4,5-Trichlorophenol	1	25	19.373	77.5	19.281	77.1	34.9 - 112		0.48	23.9
2,4,6-Trichlorophenol	1	25	19.714	78.9	19.362	77.4	29.8 - 107		1.8	24.1
2,4-Dichlorophenol	1	25	18.817	75.3	18.447	73.8	31.4 - 103		1.99	24.9
2,4-Dimethylphenol	1	25	17.895	71.6	17.837	71.3	31.9 - 107		0.32	25.7
2,4-Dinitrophenol	1	25	7.7898	31.2	9.0979	36.4	24.2 - 128		15.5	20.5
2,4-Dinitrotoluene	1	25	19.422	77.7	20.152	80.6	31.2 - 105		3.69	22
2,6-Dinitrotoluene	1	25	19.182	76.7	19.594	78.4	30.6 - 106		2.13	23.1
2-Chloronaphthalene	1	25	20.204	80.8	20.129	80.5	33.6 - 105		0.38	23
2-Chlorophenol	1	25	14.445	57.8	14.656	58.6	26.2 - 91.5		1.45	26.5
2-Methylnaphthalene	1	25	19.207	76.8	18.745	75	33.8 - 98.6		2.43	24.2
2-Methylphenol	1	25	13.220	52.9	13.974	55.9	26.4 - 86.9		5.55	26.5
2-Nitroaniline	1	25	18.815	75.3	18.641	74.6	35.6 - 113		0.93	20.9
2-Nitrophenol	1	25	19.063	76.3	18.368	73.5	25.9 - 106		3.71	26.9
3&4-Methyl Phenol	1	25	14.552	58.2	14.662	58.6	27.9 - 92		0.75	27
3,3-Dichlorobenzidine	1	25	20.664	82.7	20.434	81.7	27.2 - 142		1.12	22.3
3-Nitroaniline	1	25	18.886	75.5	19.419	77.7	33.6 - 103		2.78	21.8
4,6-Dinitro-2-methylphenol	1	25	16.351	65.4	16.883	67.5	18.4 - 148		3.2	24.4
4-Bromophenyl-phenylether	1	25	20.854	83.4	20.148	80.6	40.7 - 116		3.44	21
4-Chloro-3-methylphenol	1	25	18.846	75.4	18.285	73.1	35.7 - 100		3.02	22.9
4-Chloroaniline	1	25	16.595	66.4	16.030	64.1	32 - 104		3.47	26.4
4-Chlorophenyl-phenylether	1	25	20.827	83.3	20.384	81.5	39 - 113		2.15	20.9
4-Nitroaniline	1	25	21.235	84.9	21.518	86.1	35.4 - 124		1.32	23.1
4-Nitrophenol	1	25	6.1248	24.5	6.5091	26	10 - 52.7		6.08	40
Acenaphthene	1	25	20.108	80.4	19.855	79.4	38.7 - 109		1.27	21.5
Acenaphthylene	1	25	19.156	76.6	19.307	77.2	36 - 106		0.78	21
Acetophenone	1	25	12.995	52	13.151	52.6	41.6 - 104		1.2	24.8
Anthracene	1	25	20.141	80.6	19.428	77.7	43.6 - 113		3.61	18.8
Atrazine	1	25	18.867	75.5	19.372	77.5	50 - 123		2.64	21.5
Benzaldehyde	1	25	12.859	51.4	12.794	51.2	11.7 -		0.51	25.2
							132.2			
Benzo(a)anthracene	1	25	20.115	80.5	19.858	79.4	51.2 - 112		1.28	20
Benzo(a)pyrene	1	25	21.661	86.6	21.828	87.3	45.6 - 106		0.77	20
Benzo(b)fluoranthene	1	25	21.753	87	21.714	86.9	47.6 - 111		0.18	20
Benzo(g,h,i)perylene	1	25	21.547	86.2	21.561	86.2	45.2 - 117		0.06	20



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Test: Semi-Volatile Organic Compounds by Method 8270 C

Project No:227000Matrix:Water - ug/LProject:Lovington Lea RefineryEPA ID:TN00003Collection Date:2/26/2015Analytic Batch:WG773528

Laborato	ry Con	trol San	nple / L	aborat	ory Co	ntrol S	ample Dı	plicate	e		
							Control	% Rec		Control	RPD
Analyte	Dil	Spike	LCS	% Rec	LCSD	% Rec	Limits	Qual	% RPD	Limits	Qual
Benzo(k)fluoranthene	1	25	21.614	86.5	21.619	86.5	49.4 - 114		0.02	20	
Benzylbutyl phthalate	1	25	18.586	74.3	18.218	72.9	31.8 - 123		2	20.7	
Biphenyl	1	25	20.610	82.4	20.423	81.7	38 - 103		0.91	20.1	
Bis(2-chlorethoxy)methane	1	25	17.820	71.3	17.268	69.1	37.2 - 111		3.15	24.1	
Bis(2-chloroethyl)ether	1	25	13.765	55.1	13.749	55	22.6 - 108		0.12	27.9	
Bis(2-chloroisopropyl)ether	1	25	16.379	65.5	16.517	66.1	32.9 - 100		0.84	25.1	
Bis(2-ethylhexyl)phthalate	1	25	18.621	74.5	18.459	73.8	36.9 - 134		0.87	23.6	
Caprolactam	1	25	5.0984	20.4	5.2661	21.1	10 - 40.4		3.24	40	
Carbazole	1	25	22.279	89.1	21.879	87.5	49 - 110		1.82	20	
Chrysene	1	25	19.810	79.2	19.691	78.8	54.6 - 120		0.6	20	
Dibenz(a,h)anthracene	1	25	21.554	86.2	21.291	85.2	42.8 - 118		1.22	20	
Dibenzofuran	1	25	20.861	83.4	20.604	82.4	42.4 - 105		1.24	20	
Diethyl phthalate	1	25	20.007	80	20.240	81	36.5 - 129		1.16	20	
Dimethyl phthalate	1	25	20.002	80	20.080	80.3	35.3 - 128		0.39	20.8	
Di-n-butyl phthalate	1	25	19.544	78.2	19.465	77.9	41.8 - 120		0.41	20.2	
Di-n-octyl phthalate	1	25	19.020	76.1	18.686	74.7	39.7 - 112		1.77	21.1	
Fluoranthene	1	25	21.118	84.5	20.596	82.4	45.9 - 115		2.5	20	
Fluorene	1	25	20.787	83.1	20.607	82.4	41 - 112		0.87	20.2	
Hexachloro-1,3-butadiene	1	25	17.368	69.5	17.217	68.9	16.1 - 104		0.87	31.2	
Hexachlorobenzene	1	25	21.765	87.1	21.510	86	38.5 - 116		1.18	20.1	
Hexachlorocyclopentadiene	1	25	10.598	42.4	11.019	44.1	10 - 121		3.89	27.9	
Hexachloroethane	1	25	14.055	56.2	14.194	56.8	16.5 - 89.8		0.98	30.7	
Indeno(1,2,3-cd)pyrene	1	25	21.857	87.4	21.675	86.7	45 - 116		0.84	20	
Isophorone	1	25	18.039	72.2	17.541	70.2	35.4 - 112		2.8	21.5	
Naphthalene	1	25	17.639	70.6	17.018	68.1	32.2 - 101		3.58	23.8	
Nitrobenzene	1	25	17.081	68.3	16.747	67	31.4 - 106		1.97	25.7	
n-Nitrosodi-n-propylamine	1	25	14.304	57.2	14.627	58.5	33.2 - 106		2.23	23.7	
n-Nitrosodiphenylamine	1	25	20.150	80.6	19.661	78.6	44.4 - 113		2.46	20	
Pentachlorophenol	1	25	13.750	55	13.454	53.8	10 - 97.4		2.18	35.1	
Phenanthrene	1	25	20.444	81.8	20.007	80	46.4 - 113		2.16	20	
Phenol	1	25	7.7894	31.2	7.8909	31.6	10 - 57.9		1.29	35	
Pyrene	1	25	18.977	75.9	18.606	74.4	46.3 - 117		1.97	20	

10.4	300.0	Billing In	formation:	1 1 1 1 1		1000			Conhecie	/ Contai	nor / De				16.0	0	
) Aus	ustin, TX TRC Environment 505 E. Huntland I Austin, TX 78752 Email To: jspeer@trcsolutio		0		1-methylnaphthalene	77	Lab Filtered	Contai	ner / Pr	eservati	ve			Chain of Custody L.A.B. S.C.	Page of _		
		4 0 1.5.000		ns.com			Inaph	Filtered	List - L							12065 Lebanon Rd Mount Juliet, TN 371 Phone: 615-758-585	
,			City/State Collected:				methy		Select L							Phone: 800-767-585 Fax: 615-758-5859	
Project			TRC	ATX0218	155	Select List	TCL +	- Hg - Lab	(6020) - Se	F, S04			ity		122		1256
	ab MUST Be	Notified) 200%	Da	te Results Needed Default No ✓ Yes			SVOCs (8270) -	tals (7470)	Dissolved Metals (Ö.	^		Conductivity		itrite (353.2)	Acctnum: Template: Prelogin: TSR:	
Two Di Three		50% 25% Depth	FAX?	NoYes	No. of Cntrs	VOCs (8260)	LL SVO	Total Metals	Dissolve	Anions (300)	Alkalinity	I	Specific	TDS	Nitrate/Nitrite	PB: Shipped Via:	
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		Email To:	trcsolutions.	com			Inap	red	List -							12065 Lebanon Rd Mount Juliet, TN 371: Phone: 615-758-5858	
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Dustin Cornelison

C:

Subject:

Pam Langford; Andy Vann; Login Mark Beasley RE: TRCATX NCF-DC

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ESC Lab Sciences Non-Conformance Form

Login #: L751256 Client: TRCATX Date: 03/03/15 **Evaluated by: Dustin Cornelison**

Non-Conformance (check applicable items)

		Sufficient sample remains	Broken container:	Broken container	Vials received with headspace.	Sample is biphasic.	Insufficient sample volume.	Improper preservation	Improper container type	Improper temperature	Parameter(s) past holding time	Sample Integrity	The second secon
			Chain of Custody is missing	Client did not "X" analysis.	Trip Blank not received.	Sample ids on containers do not match ids on coc	Received additional samples not listed on coc.	Please specify TCLP requested.	X Please specify Metals requested.	Chain of custody is incomplete	X Login Clarification Needed	Chain of Custody Clarification	
Tracking#	Carrier:	Temp./Cont. Rec./pH:	Date/Time:	Received by:	If no Chain of Custody:	Container lid not intact	Sample was frozen	Improper handling by carrier (FedEx / UPS / Cour	Insufficient packing material inside cooler	Insufficient packing material around container	If Broken Container:		

What Total and Dissolved Metals? Login Comments: 1.) Received AC-2-26-14 instead of AC-2-26-15, please advise on correct sample ID. 2.)



Quality Control Summary SDG: L753137

12065 Lebanon Rd Mt. Juliet, TN 37122 (615) 758-5858 (800) 767-5859 Fax (615) 758-5859 Tax I.D 62-0814289 Est. 1970

For: TRC Solutions - Austin, TX Lovington Lea Refinery

L753137

Lab SampleID.

L753137-01 L753137-02 L753137-03 L753137-04 L753137-05

Client ID

NORTH WELL SOUTH WELL DUP-4 EAST WELL TRIP BLANK-3

Appendix A: Laboratory Data Package Cover Page

This signature page, the laboratory review checklist, and the following reportable data:

- R1 Field chain-of-custody documentation;
- R2 Sample identification cross-reference;
- R3 Test reports (analytical data sheets) for each environmental sample that includes:
 - o Items consistent with NELAC Chapter 5,
 - o dilution factors,
 - o preparation methods.
 - o cleanup methods, and
 - o if required for the project, tentatively identified compounds (TICs).
- R4 Surrogate recovery data including:
 - o Calculated recovery (%R), and
 - o The laboratory's surrogate QC limits.
- R5 Test reports/summary forms for blank samples;
- R6 Test reports/summary forms for laboratory control samples (LCSs) including:
 - LCS spiking amounts,
 - o Calculated %R for each analyte, and
 - o The laboratory's LCS QC limits.
- R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
 - o Samples associated with the MS/MSD clearly identified,
 - o MS/MSD spiking amounts,
 - o Concentration of each MS/MSD analyte measured in the parent and spiked samples,
 - o Calculated %Rs and relative percent differences (RPDs), and
 - The laboratory's MS/MSD QC limits
- R8 Laboratory analytical duplicate (if applicable) recovery and precision:
 - o The amount of analyte measured in the duplicate,
 - o The calculated RPD, and
 - o The laboratory's QC limits for analytical duplicates.
- R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix.
- R10 Other problems or anomalies.
- The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.
- Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports.
 I affirm to the best of my knowledge all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information affecting the quality of the data has been knowingly withheld.

		Appendix A (cont'd): La	boratory Review Checklist: Reportable Data				
Laborator	y Name	: ESC Lab Sciences	LRC Date: 4/15/2015				
Project Na	ame: Lo	vington Lea Refinery	Laboratory Job Number: L753137-01, -02, -03, and	d -04			
Reviewer	Name:		Prep Batch Number(s):				
ESC Rep	resenta	tive	WG775411 HG				
						3 115	1 "5
# ¹	A ²	Description		Yes	No NA	NR'	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acc	ceptability upon receipt?	✓			
		Were all departures from standard conditions described in an except	tion report?		,	/	
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID	O numbers?	✓			
		Are all laboratory ID numbers cross-referenced to the corresponding	QC data?	✓			
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		✓			
		Other than those results < MQL, were all other raw values bracketed	by calibration standards?	✓			
		Were calculations checked by a peer or supervisor?		✓			
		Were all analyte identifications checked by a peer or supervisor?		✓			
		Were sample detection limits reported for all analytes not detected?		✓			
		Were all results for soil and sediment samples reported on a dry weight	ght basis?	✓			
		Were % moisture (or solids) reported for all soil and sediment sample	es?	✓			1
		Were bulk soils/solids samples for volatile analysis extracted with me	ethanol per SW846 Method 5035?			/	+
		If required for the project, are TICs reported?			,		+
R4	0	Surrogate recovery data					
		Were surrogates added prior to extraction?			,	/	
		Were surrogate percent recoveries in all samples within the laborator	ry QC limits?		,		
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?		✓			
		Were blanks analyzed at the appropriate frequency?		✓			
		Were method blanks taken through the entire analytical process, incl	luding preparation and, if applicable, cleanup procedures?	✓			
		Were blank concentrations < MQL?		✓			
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?		✓			
		Was each LCS taken through the entire analytical procedure, includi	ng prep and cleanup steps?	✓			
		Were LCSs analyzed at the required frequency?		✓			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC li	mits?	✓			
		Does the detectability check sample data document the laboratory's	capability to detect the COCs at the MDL used to calculate the SDLs?	✓			
		Was the LCSD RPD within QC limits?			,	/	
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD)) data				
		Were the project/method specified analytes included in the MS and M	MSD?	✓			
		Were MS/MSD analyzed at the appropriate frequency?		✓			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limit	its?	✓			
		Were MS/MSD RPDs within laboratory QC limits?		✓			
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?			,	/	
		Were analytical duplicates analyzed at the appropriate frequency?			,	/	
		Were RPDs or relative standard deviations within the laboratory QC	limits?		,	/	
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory dat	ta package?	✓			
		Do the MQLs correspond to the concentration of the lowest non-zero	calibration standard?	✓			
		Are unadjusted MQLs and DCSs included in the laboratory data pact	kage?	√	$\sqcup \bot$	\perp	
R10	OI	Other problems/anomalies					
		Are all known problems/anomalies/special conditions noted in this LF	RC and ER?	✓			
		Was applicable and available technology used to lower the SDL to m	ninimize the matrix interference effects on the sample results?	√			

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015					
Proj	ject N	Jame: Lovington Lea Refinery Lea	aboratory Job Number: L753137-01, -02	2, -0	3, an	d -04		
Rev	iewe	r Name: ESC Representative Pr	rep Batch Number(s): WG775411 HG					
#1	¹ A ² Description						NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each analyte within QC limits?						
		Were percent RSDs or correlation coefficient criteria met?	•	✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				1
		Are ICAL data available for all instruments used?		✓				1
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?	-	✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						T
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning? ✓						
		Were ion abundance data within the method-required QC limits? ✓						
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits? ✓						
S5	OI							
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst? ✓						
	Were data associated with manual integrations flagged on the raw data?					✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required QC? ✓						
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				1
		Is documentation of the analyst's competency up-to-date and o		✓				1
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perform	rmed?	✓				
						<u> </u>		

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborato	ory Name	e: ESC Lab Sciences	RC Date: 4/15/2015					
Project N	Name: Lo	vington Lea Refinery L	aboratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	r Name		Prep Batch Number(s):					
ESC Re			WG775431 HGD					
	·	I		L	ι.	3	1	5
# ¹	A ²	Description		Yes	No	NA	NR*	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	✓				
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		√				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓	-			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?			✓		
D.4		If required for the project, are TICs reported?			H	*		
R4	О	Surrogate recovery data				/		
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				٧		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		√				
		Were blanks analyzed at the appropriate frequency?		√	-			
		Were method blanks taken through the entire analytical process, including prepara	tion and, if applicable, cleanup procedures?	∨				
		Were blank concentrations < MQL?		+ *				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cl	eanup steps?	▼				
		Were LCSs analyzed at the required frequency?		→				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to december 2.	atout the COCs at the MDL used to calculate the SDL of	V ✓				
		Was the LCSD RPD within QC limits?	etect the COCs at the MDL used to calculate the SDLS?	· ·		1		
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
IX /	Oi			1	-			
		Were the project/method specified analytes included in the MS and MSD?		1				
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		√				
		Were MS/MSD RPDs within laboratory QC limits?		1				
R8	OI	Analytical duplicate data						
IXO	Oi	, ,				./		
		Were appropriate analytical duplicates analyzed for each matrix?				√		
		Were analytical duplicates analyzed at the appropriate frequency? Were RPDs or relative standard deviations within the laboratory QC limits?				1		
R9	OI	Method quantitation limits (MQLs):						
110	Oi			1	\vdash			
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	✓	1			
		Are unadjusted MQLs and DCSs included in the laboratory data package?	andara.	<i>\</i>				
R10	OI	Other problems/anomalies			t			
1110	Oi			/	\vdash			
		Are all known problems/anomalies/special conditions noted in this LRC and ER? Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample results?	✓	\vdash			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Programming	·					
		data package?		✓				

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/15/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L753137-01, -0.	2, -0	3, an	id -04		
Rev	iewe	r Name: ESC Representative P	Prep Batch Number(s): WG775431 HG	D				
#1	A ² Description						NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each analyte within QC limits?						1
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method use	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?	•	✓				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?						
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning? ✓						
		Were ion abundance data within the method-required QC limits? ✓						
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits? ✓						
S5	OI	I Raw data (NELAC section 1 appendix A glossary, and section 5.12 or ISO/IEC 17025 section						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst? ✓						
	Were data associated with manual integrations flagged on the raw data?					✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required QC? ✓						
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		1
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within t	the QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or Is		✓				
		Is documentation of the analyst's competency up-to-date and of		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, ver	rified, and validated, where applicable?	✓	<u> </u>			
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborate	ory Name	ESC Lab Sciences	RC Date: 4/15/2015					
Project I	Name: Lo	vington Lea Refinery L	aboratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	er Name:		Prep Batch Number(s):					
	presenta		NG775448 8270TX					
	·	I		1	1			
# ¹	A ²	Description		Yes	No	NA³	NR⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	✓				
		Were all departures from standard conditions described in an exception report?		✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		√				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?			✓		
D.4		If required for the project, are TICs reported?				•		
R4	0	Surrogate recovery data		/				
		Were surrogates added prior to extraction?		· ·	✓			4
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			·			1
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		√				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparat	tion and, if applicable, cleanup procedures?	∨				
	0.1	Were blank concentrations < MQL?		Ľ				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	▼				
		Were LCSs analyzed at the required frequency?		+	/			2
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to de	atout the COCs at the MDL used to calculate the SDL of	/	· ·			
		Was the LCSD RPD within QC limits?	etect the COCs at the MDL used to calculate the SDLS?	√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
IXI	OI.					1		
		Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?				./		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				√		
		Were MS/MSD RPDs within laboratory QC limits?				1		
R8	OI	Analytical duplicate data						
IXO	OI.	Were appropriate analytical duplicates analyzed for each matrix?				./		
		Were analytical duplicates analyzed at the appropriate frequency?				∀		
		Were RPDs or relative standard deviations within the laboratory QC limits?				1		
R9	OI	Method quantitation limits (MQLs):						
. 10	01			1				
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	✓	\vdash			
		Are unadjusted MQLs and DCSs included in the laboratory data package?		V	T			
R10	OI	Other problems/anomalies			İ			
	01	Are all known problems/anomalies/special conditions noted in this LRC and ER?		/				
		Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample results?	V ✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Prog data package?	·	1				

I. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period; 2. O = organic analyses; I = inorganic analyses (and general chemistry, when applicable); 3. NA = Not applicable; 4. NR = Not reviewed; 5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Αp	pen	dix A (cont'd): Laboratory Review Checklist:	: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences LR	C Date: 4/15/2015					
Pro	ject N	Jame: Lovington Lea Refinery Lat	boratory Job Number: L753137-01, -0.	2, -0	3, an	nd -04		
Rev	iewe	r Name: ESC Representative Pre	ep Batch Number(s): WG775448 827	'0TX				
#1	¹ A ² Description						NR^4	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each a	analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				
		Was the number of standards recommended in the method used	for all analytes?	✓				
		Were all points generated between the lowest and highest standa	ard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropria	ate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and CC	(V) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-req	uired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
L	L	Was the absolute value of the analyte concentration in the inorganic CCB < MDL?				✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?		✓				
		Were ion abundance data within the method-required QC limits's	?	✓				
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sectio	n 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) r	reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the ra-	w data?	✓				
S6	O Dual column confirmation							
		Did dual column confirmation results meet the method-required QC? ✓						
S7	O	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data subj	ect to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standar						
		Were percent differences, recoveries, and the linearity within the	e QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCSs	s?	✓				
S11	OI	Proficiency test reports:						
~		Was the laboratory's performance acceptable on the applicable p	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						_
~		Are all standards used in the analyses NIST-traceable or obtaine	d from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	. 10					
04.4		Are the procedures for compound/analyte identification docume	nted'?	✓				
S14	OI	Demonstration of analyst competency (DOC)	O/IEC 40					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO		<u>√</u>			-	1
015	OT	Is documentation of the analyst's competency up-to-date and on		✓				
S15	OI	Verification/validation documentation for methods (NELAC)						
~ .	-	Are all the methods used to generate the data documented, verifi	led, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):	10					
		Are laboratory SOPs current and on file for each method perform	med'?	\checkmark				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports						
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/15/2015					
Project Name: Lovington Lea Refinery	Laboratory Job Number: L753137					
Reviewer Name: ESC Representative	Prep Batch Numbers: WG775448 8270TX					

Sample(s): NORTH WELL, SOUTH WELL, DUP-4, EAST WELL

Samples(s) were analyzed for Semi-Volatile Organic Compounds by Method 8270 C

ER#: Description

1 The surrogate recoveries were outside the laboratory control limits for L753137-01, L753137-02, L753137-03, and L753137-04. The surrogate recoveries for the remaining samples were within method limits.

² The laboratory control sample or laboratory control sample duplicate recoveries were outside the laboratory control limits for Acetophenone

		Appendix A (cont'd): Laborato	ry Review Checklist: Reportable Data					
Laborato	ry Name	e: ESC Lab Sciences	LRC Date: 4/15/2015					
Project N	lame: Lo	vington Lea Refinery	Laboratory Job Number: L753137-01, -02, -03, -04	, and -05				
Reviewe	r Namo:		Prep Batch Number(s):					
ESC Rep			WG775488 V8260					
		IIIVe	VG775400 V0200		1	ı	1	1
# ¹	A ²	Description		Yes	No	NA^3	NR⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability u	pon receipt?	✓				
		Were all departures from standard conditions described in an exception report?		✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration	on standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per \$	SW846 Method 5035?			✓		
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?		✓				
		Were surrogate percent recoveries in all samples within the laboratory QC limits'	?	✓				
R5	OI	Test reports/summary forms for blank samples						
	-	Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including prepa	uration and if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?	and, in approache, country procedures.	✓				
R6	OI	Laboratory control samples (LCS):						
110	Oi			./				
		Were all COCs included in the LCS? Was each LCS taken through the entire analytical procedure, including prep and	cleanup stope?	▼				
		Were LCSs analyzed at the required frequency?	cleanup steps:					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to	detect the COCs at the MDL used to calculate the SDLs?	· /				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
	01	Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?						
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		<u> </u>	√			1
		Were MS/MSD RPDs within laboratory QC limits?		√				
R8	OI	Analytical duplicate data						
110	01	Were appropriate analytical duplicates analyzed for each matrix?				1		
		Were analytical duplicates analyzed at the appropriate frequency?				<u> </u>		
		Were RPDs or relative standard deviations within the laboratory QC limits?				1		
R9	OI	Method quantitation limits (MQLs):			t			
. 10	Oi	,			 			
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration						
		Are unadjusted MQLs and DCSs included in the laboratory data package?	stantatu:	· ·	<u> </u>			
R10	OI	Other problems/anomalies			t			
R10	Oi	'			<u> </u>	-		
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓	-			
i		Was applicable and available technology used to lower the SDL to minimize the	mana intereree enects on the sample results?	1 *	1	1	1	1

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L753137-01, -0.	2, -0	3, -0	4, and	l - 05	
Rev	iewe	r Name: ESC Representative P	rep Batch Number(s): WG775488 V82	260				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	√				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropri	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-required QC limits?						
		Was the ICAL curve verified for each analyte?		✓				1
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?				✓		1
S3	О	Ass spectral tuning:						
		Was the appropriate compound for the method used for tuning?						
		Were ion abundance data within the method-required QC limit		✓				
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	quired QC limits?	1				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 1						
		Were the raw data (for example, chromatograms, spectral data)) reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the		✓				
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the				✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		√				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	√				1
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	-					
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	• • •					
		Are the procedures for compound/analyte identification docum	nented?	√				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	\				
	<u> </u>	Is documentation of the analyst's competency up-to-date and of		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, ver	ified, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						
		1		✓				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports							
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/15/2015						
Project Name: Lovington Lea Refinery	Laboratory Job Number: L753137						
Reviewer Name: ESC Representative	Prep Batch Numbers: WG775488 V8260						

Sample(s): NORTH WELL, SOUTH WELL, DUP-4, EAST WELL, TRIP BLANK-3 Samples(s) were analyzed for Volatile Organic Compounds by Method 8260B

ER#: Description

¹ The matrix spike or matrix spike duplicate recoveries were over the laboratory control limits for 2-Butanone (MEK), 4-Methyl-2-pentanone (MIBK), and Acetone.

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborate	ory Name	: ESC Lab Sciences	RC Date: 4/15/2015					
Project I	Name: Lo	vington Lea Refinery L	aboratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	er Name:		Prep Batch Number(s):					
ESC Re			WG775568 PH					
	·	 		L	L.	3	1	5
# ¹	A ²	Description		Yes	No	NA	NR*	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)			L			
		Did samples meet the laboratory's standard conditions of sample acceptability upor	n receipt?		✓			
		Were all departures from standard conditions described in an exception report?		√				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?			✓			1
		Other than those results < MQL, were all other raw values bracketed by calibration	standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	/846 Method 5035?			✓		
D.4		If required for the project, are TICs reported?				*		
R4	0	Surrogate recovery data				/		
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				•		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?				√		
		Were blanks analyzed at the appropriate frequency?				√		
		Were method blanks taken through the entire analytical process, including preparat	tion and, if applicable, cleanup procedures?			V /		
		Were blank concentrations < MQL?				٧		
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	▼				
		Were LCSs analyzed at the required frequency?		· /				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits? Does the detectability check sample data document the laboratory's capability to de	atout the COCs at the MDL used to calculate the SDL of	V ✓				
		Was the LCSD RPD within QC limits?	elect the coos at the MDL used to calculate the SDLS:	√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
IXI	Oi					1		
		Were the project/method specified analytes included in the MS and MSD? Were MS/MSD analyzed at the appropriate frequency?				./		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				√		
		Were MS/MSD RPDs within laboratory QC limits?				1		
R8	OI	Analytical duplicate data						
IXO	Oi	Were appropriate analytical duplicates analyzed for each matrix?		1				
		Were analytical duplicates analyzed at the appropriate frequency?		V				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
. 10	Oi			1				
		Are the MQLs for each method analyte included in the laboratory data package? Do the MQLs correspond to the concentration of the lowest non-zero calibration sta	andard?	✓	\vdash			
		Are unadjusted MQLs and DCSs included in the laboratory data package?		V	T			
R10	OI	Other problems/anomalies			İ			
	Oi	Are all known problems/anomalies/special conditions noted in this LRC and ER?		/				
		Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample results?	V ✓				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Prog data package?	·	√				

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015					
Proj	ject N	Iame: Lovington Lea Refinery Lea	aboratory Job Number: L753137-01, -02	2, -0	3, an	id -04		
Rev	iewei	Name: ESC Representative Pr	rep Batch Number(s): WG775568 PH					
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				1
		Were percent RSDs or correlation coefficient criteria met?	•	✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?	, and the second	✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				1
		Was the absolute value of the analyte concentration in the inorg	ganic CCB < MDL?	√				1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit				✓		1
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	uired QC limits?			√		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and secti						
		Were the raw data (for example, chromatograms, spectral data)		✓				
		Were data associated with manual integrations flagged on the r				√		1
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required	d OC?			✓		1
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sub	bject to appropriate checks?			1		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				1		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the				1		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		√				
		Is the MDL either adjusted or supported by the analysis of DCS	Ss?	√				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	√				
S12	OI	Standards documentation	, , , , , , , , , , , , , , , , , , , ,					
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS	SO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and o		✓				T
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, veri		✓				
S16	OI	Laboratory standard operating procedures (SOPs):	* *					
		Are laboratory SOPs current and on file for each method performed?						
		,		•				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Revi							
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/15/2015						
Project Name: Lovington Lea Refinery	Laboratory Job Number: L753137						
Reviewer Name: ESC Representative	Prep Batch Numbers: WG775568 PH						

Sample(s): NORTH WELL, SOUTH WELL, DUP-4, EAST WELL

Samples(s) were analyzed for pH by Method 9040C

ER#: Description

¹ The method specified holding times were exceeded for samples L753137-01, L753137-02, L753137-03, and L753137-04.

		Appendix A (cont'd): Labora	tory Review Checklist: Reportable Data				
Laborator	y Name	: ESC Lab Sciences	LRC Date: 4/15/2015				
Project Na	ame:Lo	vington Lea Refinery	Laboratory Job Number: L753137-01, -02, -03, and	-04			
Reviewer	Name:		Prep Batch Number(s):				
ESC Rep		tive	WG775627 TDS				
					l. l.	. 3	45
# ¹	A ²	Description		Yes	No N	A° NR	⁴ ER# ⁵
R1	OI	Chain-of-custody (C-O-C)					
		Did samples meet the laboratory's standard conditions of sample acceptabili	ity upon receipt?	✓			
		Were all departures from standard conditions described in an exception repo	ort?			✓	+
R2	OI	Sample and quality control (QC) identification					
		Are all field sample ID numbers cross-referenced to the laboratory ID number	ors?	✓			
		Are all laboratory ID numbers cross-referenced to the corresponding QC dat	a?	✓			
R3	OI	Test reports					
		Were all samples prepared and analyzed within holding times?		✓			
		Other than those results < MQL, were all other raw values bracketed by calib	pration standards?	✓			
		Were calculations checked by a peer or supervisor?		✓			
		Were all analyte identifications checked by a peer or supervisor?		✓			
		Were sample detection limits reported for all analytes not detected?		✓			
		Were all results for soil and sediment samples reported on a dry weight basis	s?	✓			
		Were % moisture (or solids) reported for all soil and sediment samples?		✓			
		Were bulk soils/solids samples for volatile analysis extracted with methanol p	per SW846 Method 5035?			√	
		If required for the project, are TICs reported?				/	
R4	0	Surrogate recovery data					
		Were surrogates added prior to extraction?				✓	
		Were surrogate percent recoveries in all samples within the laboratory QC lin	mits?			✓	
R5	OI	Test reports/summary forms for blank samples					
		Were appropriate type(s) of blanks analyzed?		✓			
		Were blanks analyzed at the appropriate frequency?		✓			
		Were method blanks taken through the entire analytical process, including pr	reparation and, if applicable, cleanup procedures?	✓			
		Were blank concentrations < MQL?		✓			
R6	OI	Laboratory control samples (LCS):					
		Were all COCs included in the LCS?		✓			
		Was each LCS taken through the entire analytical procedure, including prep	and cleanup steps?	✓			
		Were LCSs analyzed at the required frequency?		✓			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓			
		Does the detectability check sample data document the laboratory's capabili	ty to detect the COCs at the MDL used to calculate the SDLs?	✓			
		Was the LCSD RPD within QC limits?		✓			
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data					
		Were the project/method specified analytes included in the MS and MSD?				✓	
		Were MS/MSD analyzed at the appropriate frequency?				✓	
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?				✓	
		Were MS/MSD RPDs within laboratory QC limits?				✓	
R8	OI	Analytical duplicate data					
		Were appropriate analytical duplicates analyzed for each matrix?		✓			
		Were analytical duplicates analyzed at the appropriate frequency?		✓			
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓			
R9	OI	Method quantitation limits (MQLs):					
		Are the MQLs for each method analyte included in the laboratory data packa	nge?	✓			
		Do the MQLs correspond to the concentration of the lowest non-zero calibrate	tion standard?	✓			
		Are unadjusted MQLs and DCSs included in the laboratory data package?		√			
R10	OI	Other problems/anomalies					
	•	Are all known problems/anomalies/special conditions noted in this LRC and	ER?	✓			
		Was applicable and available technology used to lower the SDL to minimize	the matrix interference effects on the sample results?	✓			

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklist:	: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences LR	RC Date: 4/15/2015					
Proj	ject N	Jame: Lovington Lea Refinery Lat	boratory Job Number: L753137-01, -0.	2, -03	3, an	d -04		
Rev	iewe	r Name: ESC Representative Pre	ep Batch Number(s): WG775627 TD:	S				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each a	analyte within QC limits?			✓		
		Were percent RSDs or correlation coefficient criteria met?				✓		
		Was the number of standards recommended in the method used	for all analytes?			✓		
		Were all points generated between the lowest and highest standa	ard used to calculate the curve?			✓		
		Are ICAL data available for all instruments used?				✓		
		Has the initial calibration curve been verified using an appropria	ate second source standard?			✓		
S2	OI	Initial and continuing calibration verification (ICCV and CC	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?				✓		
		Were percent differences for each analyte within the method-req	quired QC limits?			✓		
		Was the ICAL curve verified for each analyte?				✓		
		Was the absolute value of the analyte concentration in the inorga	anic CCB < MDL?			✓		
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning?				✓		
		Were ion abundance data within the method-required QC limits's	?			✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-requi	ired QC limits?			✓		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section	on 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data) r	reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the ra-	w data?			✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-required	QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data subj	ject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		
S9	I	Serial dilutions, post digestion spikes, and method of standar	d additions					
		Were percent differences, recoveries, and the linearity within the	e QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DCSs	s?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable p	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtaine	ed from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docume	ented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or ISC		✓				
		Is documentation of the analyst's competency up-to-date and on		✓				1
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, verifi	ied, and validated, where applicable?	✓				
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed? ✓						

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory	Review Checklist: Reportable Data					
Laborato	ory Name	ESC Lab Sciences	RC Date: 4/15/2015					
Project N	Name: Lo	vington Lea Refinery La	aboratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	r Name		rep Batch Number(s):					
ESC Re			VG775693 SPCON					
	·	I		I.	L		4	
# ¹	A ²	Description		Yes	No	NA	NR*	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon	n receipt?	✓		,		
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		1				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		√				
		Other than those results < MQL, were all other raw values bracketed by calibration s	standards?	√				
		Were calculations checked by a peer or supervisor?		√	-			
		Were all analyte identifications checked by a peer or supervisor?		√				
		Were sample detection limits reported for all analytes not detected? ✓						
		Were all results for soil and sediment samples reported on a dry weight basis? Were % moisture (or solids) reported for all soil and sediment samples?		1				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW	846 Method 5035?	+ *		1		
		If required for the project, are TICs reported?				✓		
R4	О	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		1				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparati	ion and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
	•	Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cle	eanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to de	etect the COCs at the MDL used to calculate the SDLs?	√				
		Was the LCSD RPD within QC limits?		√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		-		✓		
		Were MS/MSD analyzed at the appropriate frequency?				√		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		+		· /		
		Were MS/MSD RPDs within laboratory QC limits?				V		
R8	OI	Analytical duplicate data		.				
		Were appropriate analytical duplicates analyzed for each matrix?		√				
		Were analytical duplicates analyzed at the appropriate frequency?		· /				
DO.		Were RPDs or relative standard deviations within the laboratory QC limits?		<u> </u>				
R9	OI	Method quantitation limits (MQLs):			-			-
		Are the MQLs for each method analyte included in the laboratory data package?	indard?	√	1			
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stated Are unadjusted MQLs and DCSs included in the laboratory data package?	iiiuaiu:	<u>, , , , , , , , , , , , , , , , , , , </u>	\vdash			
R10	OI	Other problems/anomalies			t			
1110	OI	·		1				
		Are all known problems/anomalies/special conditions noted in this LRC and ER? Was applicable and available technology used to lower the SDL to minimize the ma	atrix interference effects on the sample resulte?	✓	\vdash			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Progr	·	<u> </u>				
		data package?	, , ,	✓				

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015					
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L753137-01, -0	2, -0	3, an	id -04		
Rev	iewe	r Name: ESC Representative P.	rep Batch Number(s): WG775693 SP0	CON				
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?	,	✓				
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?	-	✓				
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
L		Was the absolute value of the analyte concentration in the inor	ganic CCB < MDL?	√				
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			✓		
		Were ion abundance data within the method-required QC limit	ts?			✓		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-req	uired QC limits?			✓		1
S5	OI	Raw data (NELAC section 1 appendix A glossary, and secti	ion 5.12 or ISO/IEC 17025 section					
		Were the raw data (for example, chromatograms, spectral data)	reviewed by an analyst?	✓				
		Were data associated with manual integrations flagged on the r	raw data?			✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				✓		1
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		\				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures						
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or IS		✓				1
		Is documentation of the analyst's competency up-to-date and o		✓				
S15	OI	Verification/validation documentation for methods (NELAC						
L		Are all the methods used to generate the data documented, veri	ified, and validated, where applicable?	✓	<u> </u>			
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method performed?						
<u> </u>					<u> </u>			

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory R	Review Checklist: Reportable Data					
Laborato	ry Name	: ESC Lab Sciences LRC	Date: 4/15/2015					
Project N	lame: Lo	vington Lea Refinery Labo	oratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	r Namo		b Batch Number(s):					
			6776045 CHLORIDE					
ESC Rep		T	7770043 CHEONIDE	1	ı			
# ¹	A ²	Description		Yes	No	NA ³	NR ⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon rec	ceipt?	✓				
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration star	ndards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		1				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846	6 Method 5035?			✓		
		f required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
	-	Were appropriate type(s) of blanks analyzed?		1				
		Were blanks analyzed at the appropriate frequency?		1				
		Were method blanks taken through the entire analytical process, including preparation	and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		1				
		Was each LCS taken through the entire analytical procedure, including prep and cleanu	up steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		1				
		Does the detectability check sample data document the laboratory's capability to detect	t the COCs at the MDL used to calculate the SDLs?	1				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		1				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standa	ard?	1				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1				
		Was applicable and available technology used to lower the SDL to minimize the matrix	interference effects on the sample results?	1				
		ls the laboratory NELAC-accredited under the Toyas Laboratory Accreditation Program	·					

data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015					
Proj	ject N	Tame: Lovington Lea Refinery L	aboratory Job Number: L753137-01, -0	2, -0	3, an	id -04		
Rev	iewei	Name: ESC Representative P	rep Batch Number(s): WG776045 CH	LOR	IDE			
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	analyte within QC limits?	√				1
		Were percent RSDs or correlation coefficient criteria met?	,	✓				1
		Was the number of standards recommended in the method used	d for all analytes?	✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropriate	riate second source standard?	✓				
S2	OI	Initial and continuing calibration verification (ICCV and C						
		Was the CCV analyzed at the method-required frequency?	,	✓				1
		Were percent differences for each analyte within the method-re	equired QC limits?	✓		İ		1
		Was the ICAL curve verified for each analyte?		√				
		/as the absolute value of the analyte concentration in the inorganic CCB < MDL?						1
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning	?			1		
		Were ion abundance data within the method-required QC limit				√		
S4	О	Internal standards (IS):						
		Were IS area counts and retention times within the method-red	uired OC limits?			1		
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sect						
		Were the raw data (for example, chromatograms, spectral data)		√				
		Were data associated with manual integrations flagged on the				√		1
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed OC?			✓		1
S7	0	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			1		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?				1		
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions					
		Were percent differences, recoveries, and the linearity within t				1		1
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	√				
S11	OI	Proficiency test reports:						
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	√				
S13	OI	Compound/analyte identification procedures	• • •					
		Are the procedures for compound/analyte identification docum	nented?	1				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or I	SO/IEC 4?	✓				
		Is documentation of the analyst's competency up-to-date and of		✓				T
S15	OI	Verification/validation documentation for methods (NELAC						
		Are all the methods used to generate the data documented, ver		✓				
S16	OI	Laboratory standard operating procedures (SOPs):	^^					
		Are laboratory SOPs current and on file for each method perfo	ormed?	1				
		,		•				

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laborator	ry Review Checklist: Reportable Data					
Laborator	y Name	: ESC Lab Sciences	LRC Date: 4/15/2015					
Project Na	ame:Lo	vington Lea Refinery	Laboratory Job Number: L753137-01, -02, -03, and -	·04				
Reviewer	Name:		Prep Batch Number(s):					
ESC Rep			WG776173 ALK					
	-		1					
# ¹	A ²	Description		Yes	No	NA³	NR⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability up	pon receipt?	✓				
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
	•	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibratic	on standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per S	SW846 Method 5035?			✓		
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	?			✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including prepar	ration and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and	cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to	detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		√				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?		✓				
		Were analytical duplicates analyzed at the appropriate frequency?		✓				
		Were RPDs or relative standard deviations within the laboratory QC limits?		✓				
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration s	standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓	<u> </u>			
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the r	matrix interference effects on the sample results?	✓				

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

Aŗ	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/15/2015					
Pro	ject N	Jame: Lovington Lea Refinery L	Laboratory Job Number: L753137-01, -0	2, -0	3, ar	nd -04		
Rev	iewe	r Name: ESC Representative P	Prep Batch Number(s): WG776173 AL	K				
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	n analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method use		✓				
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an appropr		✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓	ļ			
		Were percent differences for each analyte within the method-re	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				\vdash
		Was the absolute value of the analyte concentration in the inor	rganic CCB < MDL?	✓				_
S3	О	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning			-	√		
C.4		Were ion abundance data within the method-required QC limit	ts?			√		-
S4	О	Internal standards (IS):	. 1001: 10					
C.F	OI	Were IS area counts and retention times within the method-red				✓		-
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sect		1				
		Were the raw data (for example, chromatograms, spectral data)		· ·		,		\vdash
S6	0	Were data associated with manual integrations flagged on the	raw data?			✓		
50	U	Dual column confirmation Did dual column confirmation results meet the method-require	24.002			1		
S7	О	Tentatively identified compounds (TICs):	eu QC?			· ·		
57	U	If TICs were requested, were the mass spectra and TIC data su	higet to appropriate chacks?			1		
S8	ī	Interference Check Sample (ICS) results:	ioject to appropriate checks:			· ·		
50	1	Were percent recoveries within method QC limits?		-		1		-
S9	ī	Serial dilutions, post digestion spikes, and method of standa	ard additions			ľ		
57	1	Were percent differences, recoveries, and the linearity within t				1		
S10	OI	Method detection limit (MDL) studies	the QC mints specified in the method:			Ė		
	01	Was a MDL study performed for each reported analyte?		1				
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	1				\dagger
S11	OI	Proficiency test reports:		Ė				
		Was the laboratory's performance acceptable on the applicable	e proficiency tests or evaluation studies?	1				
S12	OI	Standards documentation	· F · · · · · · · · · · · · · · · · · ·					
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	1				
S13	OI	Compound/analyte identification procedures	11 1					
		Are the procedures for compound/analyte identification docum	nented?	✓				
S14	OI	Demonstration of analyst competency (DOC)						
		Was DOC conducted consistent with NELAC Chapter 5C or Is	SO/IEC 4?	✓				
L		Is documentation of the analyst's competency up-to-date and on file? ✓						
S15	OI	OI Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)						
		Are all the methods used to generate the data documented, verified, and validated, where applicable? ✓						
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo	ormed?	1				
	<u> </u>							

¹ Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Labor	ratory Review Checklist: Reportable Data					
Laborato	ry Name	: ESC Lab Sciences	LRC Date: 4/15/2015					
Project N	lame: Lo	vington Lea Refinery	Laboratory Job Number: L753137-01, -02, -03, and	-04				
Reviewer	r Name:		Prep Batch Number(s):					
ESC Rep	oresenta	tive	WG776313 AGDICP					
· .						3	4	45
# ¹	A ²	Description		Yes	No	NA°	NK.	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptable	pility upon receipt?	✓				
		Were all departures from standard conditions described in an exception rep	port?	✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers	bers?	✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC dates	lata?	✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by ca	alibration standards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight ba	sis?	✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
	Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				√			
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC	limits?			✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including	preparation and, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including pre	ep and cleanup steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capab	bility to detect the COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		✓				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data	a					
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		✓				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			✓			1
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?	?			✓		ļ
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data pacl	kage?	✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibr	ration standard?	✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		✓				
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and	d ER?	1				
		Was applicable and available technology used to lower the SDL to minimiz		1				

Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Lab	orato	ry Name: ESC Lab Sciences	LRC Date: 4/15/2015					
Proj	ject N	Tame: Lovington Lea Refinery	Laboratory Job Number: L753137-01, -0	2, -0	3, ar	nd -04		
Rev	iewe	Name: ESC Representative	Prep Batch Number(s): WG776313 AG	DICE)			
#1	A^2	Description		Yes	No	NA^3	NR ⁴	ER#5
S1	OI	Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	n analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method use	d for all analytes?	✓				
		Were all points generated between the lowest and highest stan	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an approp		✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				
		Were percent differences for each analyte within the method-r	equired QC limits?	✓				
		Was the ICAL curve verified for each analyte?		✓				
		Was the absolute value of the analyte concentration in the inor	rganic CCB < MDL?	✓				
S3	Ο	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning				✓		
		Were ion abundance data within the method-required QC limi	ts?			✓		
S4	Ο	Internal standards (IS):						
		Were IS area counts and retention times within the method-red		✓				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sect						
		Were the raw data (for example, chromatograms, spectral data		✓				
		Were data associated with manual integrations flagged on the	raw data?			✓		
S6	О	Dual column confirmation						
		Did dual column confirmation results meet the method-require	ed QC?			✓		
S7	О	Tentatively identified compounds (TICs):						
		If TICs were requested, were the mass spectra and TIC data su	bject to appropriate checks?			✓		
S8	I	Interference Check Sample (ICS) results:						
		Were percent recoveries within method QC limits?		✓				
S9	I	Serial dilutions, post digestion spikes, and method of standard						
		Were percent differences, recoveries, and the linearity within t	the QC limits specified in the method?		✓			2
S10	OI	Method detection limit (MDL) studies						
		Was a MDL study performed for each reported analyte?		✓				
		Is the MDL either adjusted or supported by the analysis of DC	CSs?	✓				
S11	OI	Proficiency test reports:						
~		Was the laboratory's performance acceptable on the applicable	e proficiency tests or evaluation studies?	✓				
S12	OI	Standards documentation						
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓				
S13	OI	Compound/analyte identification procedures	10					
04.4		Are the procedures for compound/analyte identification documents	nented'?	✓				
S14	OI	Demonstration of analyst competency (DOC)	00/IE0 40					
		Was DOC conducted consistent with NELAC Chapter 5C or I		√			 	
01.5	07	Is documentation of the analyst's competency up-to-date and on file?						-
S15	OI							
L		Are all the methods used to generate the data documented, verified, and validated, where applicable?						
S16	OI	Laboratory standard operating procedures (SOPs):						
		Are laboratory SOPs current and on file for each method perfo	ormed?	✓				

¹ Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports							
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/15/2015						
Project Name: Lovington Lea Refinery	Laboratory Job Number: L753137						
Reviewer Name: ESC Representative	Prep Batch Numbers: WG776313 AGDIC						

Sample(s): NORTH WELL, SOUTH WELL, DUP-4, EAST WELL Samples(s) were analyzed for Trace Metals by Method 6010B

ER#: Description

1 The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Iron, Dissolved and Sodium, Dissolved.

2 The serial dilution relative percent difference was not within laboratory control limits for Iron, Dissolved. The post digest spike percent recovery was not within laboratory control limits for Iron, Dissolved.

		Appendix A (cont'd): Laboratory Re	view Checklist: Reportable Data					
Laborato	ry Name	e: ESC Lab Sciences LRC D	Date: 4/15/2015					
Project N	lame: Lo	vington Lea Refinery Labora	atory Job Number: L753137-01, -02, -03, and -04					
Reviewe	r Name		Batch Number(s):					
			76640 UDG					
ESC Rep		T WG/7	70040 000	1	1	1		
# ¹	A ²	Description		Yes	No	NA ³	NR⁴	ER#⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon receip	pt?	✓				
		Were all departures from standard conditions described in an exception report?				✓		
R2	OI	Sample and quality control (QC) identification						
	•	Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration standa	ards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 M	ethod 5035?			✓		
		If required for the project, are TICs reported?				✓		
R4	0	Surrogate recovery data						
		Were surrogates added prior to extraction?				✓		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
	•	Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		✓				
		Were method blanks taken through the entire analytical process, including preparation and	d, if applicable, cleanup procedures?	✓				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
	·	Were all COCs included in the LCS?		✓				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup	steps?	✓				
		Were LCSs analyzed at the required frequency?		✓				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		✓				
		Does the detectability check sample data document the laboratory's capability to detect the	e COCs at the MDL used to calculate the SDLs?	✓				
		Was the LCSD RPD within QC limits?		/				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data						
		Were the project/method specified analytes included in the MS and MSD?		✓				
		Were MS/MSD analyzed at the appropriate frequency?		1				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		√				
		Were MS/MSD RPDs within laboratory QC limits?		✓				
R8	OI	Analytical duplicate data						
		Were appropriate analytical duplicates analyzed for each matrix?				✓		
		Were analytical duplicates analyzed at the appropriate frequency?				✓		
		Were RPDs or relative standard deviations within the laboratory QC limits?		1		✓		
R9	OI	Method quantitation limits (MQLs):						
		Are the MQLs for each method analyte included in the laboratory data package?		✓				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	?	1	<u> </u>			
		Are unadjusted MQLs and DCSs included in the laboratory data package?		_	ļ			<u> </u>
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		✓				
		Was applicable and available technology used to lower the SDL to minimize the matrix into	erference effects on the sample results?	✓				
I		le the laboratory NELAC accredited under the Toyas Laboratory Accreditation Program for	r the analytes, matrices and methods associated with this laboratory	1	1	l	Ì	1

data package?

Ap	pen	dix A (cont'd): Laboratory Review Checklis	st: Reportable Data					
Labo	orato	ry Name: ESC Lab Sciences	LRC Date: 4/15/2015					
Proj	ect N	Iame: Lovington Lea Refinery I	Laboratory Job Number: L753137-01, -C	2, -0	3, ar	nd -04		
Revi	iewe	Name: ESC Representative	Prep Batch Number(s): WG776640 UD	G				
#1	A^2	Description		Yes	No	NA ³	NR ⁴	ER#5
S1		Initial calibration (ICAL)						
		Were response factors and/or relative response factors for each	h analyte within QC limits?	✓				
		Were percent RSDs or correlation coefficient criteria met?		✓				
		Was the number of standards recommended in the method use	ed for all analytes?	✓				
		Were all points generated between the lowest and highest stan	dard used to calculate the curve?	✓				
		Are ICAL data available for all instruments used?		✓				
		Has the initial calibration curve been verified using an approp		✓				
S2	OI	Initial and continuing calibration verification (ICCV and C	CCV) and continuing calibration					
		Was the CCV analyzed at the method-required frequency?		✓				لــــــــــــــــــــــــــــــــــــــ
		Were percent differences for each analyte within the method-r	required QC limits?	✓				لــــــــــــــــــــــــــــــــــــــ
		Was the ICAL curve verified for each analyte?		✓				لــــــــــــــــــــــــــــــــــــــ
~ .		Was the absolute value of the analyte concentration in the inor	rganic CCB < MDL?	✓				
S3	O	Mass spectral tuning:						
		Was the appropriate compound for the method used for tuning		✓				\perp
		Were ion abundance data within the method-required QC limi	its?	✓				\perp
S4	О	Internal standards (IS):						
~=		Were IS area counts and retention times within the method-red		✓				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and sect						
		Were the raw data (for example, chromatograms, spectral data		✓	ļ			<u> </u>
0.6		Were data associated with manual integrations flagged on the	raw data?			√		
S6	0	Dual column confirmation	1000			,		
07	0	Did dual column confirmation results meet the method-require	ed QC?			✓		-
S7	0	Tentatively identified compounds (TICs):	1: 44 : 1 1 0			,		
60	т	If TICs were requested, were the mass spectra and TIC data su	ibject to appropriate checks?			✓		
S8	1	Interference Check Sample (ICS) results:						-
S9	T	Were percent recoveries within method QC limits?		✓				
39	1	Serial dilutions, post digestion spikes, and method of stands. Were percent differences, recoveries, and the linearity within		1				_
S10	ΟI		the QC limits specified in the method?	V				
510	OI	Method detection limit (MDL) studies Was a MDL study performed for each reported analyte?						
\vdash		Is the MDL either adjusted or supported by the analysis of DC	2022	√				+
S11	ΟI	Proficiency test reports:		V				
511	OI	Was the laboratory's performance acceptable on the applicable	a proficiency tests or evaluation studies?	1				+
S12	ΟI	Standards documentation	e proficiency tests of evaluation studies?	· ·				
512	OI	Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	1				
S13	ΟI	Compound/analyte identification procedures	ned from other appropriate sources:	v				
510	OI	Are the procedures for compound/analyte identification documents	mented?	1				
S14	ΟI	Demonstration of analyst competency (DOC)	nemed:	Ť				
	<u></u>	Was DOC conducted consistent with NELAC Chapter 5C or I	SO/IEC 4?	1				
		Is documentation of the analyst's competency up-to-date and of		1			<u> </u>	_
S15	OI							
	<u> </u>	Are all the methods used to generate the data documented, ver	1					
S16	OI							
	J 1	Are laboratory SOPs current and on file for each method performed?						
			·					

¹ Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

		Appendix A (cont'd): Laboratory F	Review Checklist: Reportable Data					
Laborato	ory Name	:: ESC Lab Sciences LR0	C Date: 4/15/2015					
Project I	Name: Lo	vington Lea Refinery Lab	poratory Job Number: L753137-01, -02, -03, and -04					
Reviewe	er Name:	Pre	ep Batch Number(s):					
	presenta		G776789 NO2NO3					
	· .		011010011021100	1	1			
# ¹	A ²	Description		Yes	No	NA³	NR⁴	ER# ⁵
R1	OI	Chain-of-custody (C-O-C)						
		Did samples meet the laboratory's standard conditions of sample acceptability upon re	eceipt?	✓				
		Were all departures from standard conditions described in an exception report?		✓				
R2	OI	Sample and quality control (QC) identification						
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		✓				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		✓				
R3	OI	Test reports						
		Were all samples prepared and analyzed within holding times?		✓				
		Other than those results < MQL, were all other raw values bracketed by calibration sta	andards?	✓				
		Were calculations checked by a peer or supervisor?		✓				
		Were all analyte identifications checked by a peer or supervisor?		✓				
		Were sample detection limits reported for all analytes not detected?		✓				
		Were all results for soil and sediment samples reported on a dry weight basis?		✓				
		Were % moisture (or solids) reported for all soil and sediment samples?		✓				
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW84	46 Method 5035?		-	√		
	I.	If required for the project, are TICs reported?				· •		
R4	0	Surrogate recovery data				,		
		Were surrogates added prior to extraction?				√		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				✓		
R5	OI	Test reports/summary forms for blank samples						
		Were appropriate type(s) of blanks analyzed?		✓				
		Were blanks analyzed at the appropriate frequency?		√				
		Were method blanks taken through the entire analytical process, including preparation	n and, if applicable, cleanup procedures?	√				
		Were blank concentrations < MQL?		✓				
R6	OI	Laboratory control samples (LCS):						
		Were all COCs included in the LCS?		√				
		Was each LCS taken through the entire analytical procedure, including prep and clear	nup steps?	√	-			
		Were LCSs analyzed at the required frequency?		√				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	at the COOs at the MDI weed to relevate the CDI of	√				
		Does the detectability check sample data document the laboratory's capability to detect	ct the COCs at the MIDL used to calculate the SDLs?	√				
D.Z		Was the LCSD RPD within QC limits?		Ė				
R7	OI	Matrix spike (MS) and matrix spike duplicate (MSD) data		1				
		Were the project/method specified analytes included in the MS and MSD?						
		Were MS/MSD analyzed at the appropriate frequency? Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		✓	1			1
		Were MS/MSD RPDs within laboratory QC limits?		1				-
R8	OI	Analytical duplicate data		ľ				
1.0	<u> </u>	Were appropriate analytical duplicates analyzed for each matrix?		1				
		Were analytical duplicates analyzed at the appropriate frequency?		· /				
		Were RPDs or relative standard deviations within the laboratory QC limits?		1				
R9	OI	Method quantitation limits (MQLs):						
	101	Are the MQLs for each method analyte included in the laboratory data package?		/				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration stand	dard?	· ✓				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	-	√				t
R10	OI	Other problems/anomalies						
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		1				t
		Was applicable and available technology used to lower the SDL to minimize the matrix	x interference effects on the sample results?	√	T			
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program data package?	·	1				

Ap	pen	dix A (cont'd): Laboratory Review Checklis	t: Reportable Data							
Lab	orato	ry Name: ESC Lab Sciences	RC Date: 4/15/2015							
Proj	ject N	Jame: Lovington Lea Refinery L	aboratory Job Number: L753137-01, -0.	2, -0	3, an	id -04				
Rev	iewe	Name: ESC Representative P	rep Batch Number(s): WG776789 NO	1O2NO3						
#1	A^2	Description		Yes	No	NA^3	NR^4	ER#5		
S1		Initial calibration (ICAL)								
		Were response factors and/or relative response factors for each	analyte within OC limits?	√						
		Were percent RSDs or correlation coefficient criteria met?		√						
		Was the number of standards recommended in the method used	d for all analytes?	√						
		Were all points generated between the lowest and highest stand	dard used to calculate the curve?	✓						
		Are ICAL data available for all instruments used?		✓						
		Has the initial calibration curve been verified using an appropr	riate second source standard?	✓						
S2	OI	Initial and continuing calibration verification (ICCV and C								
		Was the CCV analyzed at the method-required frequency?	, 3	✓				1		
		Were percent differences for each analyte within the method-re	equired QC limits?	✓						
		Was the ICAL curve verified for each analyte?		✓				1		
		Was the absolute value of the analyte concentration in the inor	ganic CCB < MDL?	✓				1		
S3	О	Mass spectral tuning:								
		Was the appropriate compound for the method used for tuning	?			✓		1		
		Were ion abundance data within the method-required QC limit				✓				
S4	О	Internal standards (IS):								
		Were IS area counts and retention times within the method-req	quired QC limits?			✓				
S5	OI	Raw data (NELAC section 1 appendix A glossary, and section 1								
		Were the raw data (for example, chromatograms, spectral data)) reviewed by an analyst?	✓				1		
		Were data associated with manual integrations flagged on the r				✓				
S6	О	Dual column confirmation								
		Did dual column confirmation results meet the method-require	ed QC?			✓				
S7	О	Tentatively identified compounds (TICs):								
		If TICs were requested, were the mass spectra and TIC data sul	bject to appropriate checks?			✓		1		
S8	I	Interference Check Sample (ICS) results:								
		Were percent recoveries within method QC limits?				✓				
S9	I	Serial dilutions, post digestion spikes, and method of standa	ard additions							
		Were percent differences, recoveries, and the linearity within the	he QC limits specified in the method?			✓		Ī		
S10	OI	Method detection limit (MDL) studies	•							
		Was a MDL study performed for each reported analyte?		✓						
		Is the MDL either adjusted or supported by the analysis of DC	Ss?	✓						
S11	OI	Proficiency test reports:								
		Was the laboratory's performance acceptable on the applicable	proficiency tests or evaluation studies?	✓						
S12	OI	Standards documentation								
		Are all standards used in the analyses NIST-traceable or obtain	ned from other appropriate sources?	✓						
S13	OI	Compound/analyte identification procedures								
		Are the procedures for compound/analyte identification docum	nented?	✓						
S14	OI	Demonstration of analyst competency (DOC)								
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4? ✓								
		Is documentation of the analyst's competency up-to-date and on file? ✓								
S15	OI	OI Verification/validation documentation for methods (NELAC Chap 5 or ISO/IEC 17025 Section 5)								
L		Are all the methods used to generate the data documented, verified, and validated, where applicable?								
S16	OI	DI Laboratory standard operating procedures (SOPs):								
		Are laboratory SOPs current and on file for each method perfo	ormed?	✓						

Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

³ NA = Not applicable.

⁴ NR = Not Reviewed.

⁵ ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Appendix A (cont'd): Laboratory Revie	ew Checklist: Exception Reports
Laboratory Name: ESC Lab Sciences.	LRC Date: 4/15/2015
Project Name: Lovington Lea Refinery	Laboratory Job Number: L753137
Reviewer Name: ESC Representative	Prep Batch Numbers: WG776789 NO2NO3

Sample(s): NORTH WELL, SOUTH WELL, DUP-4, EAST WELL Samples(s) were analyzed for Nitrate-Nitrite by Method 353.2

ER#: Description

¹ The matrix spike or matrix spike duplicate recoveries were below the laboratory control limits for Nitrate-Nitrite.



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

John Allen TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

Report Summary

Tuesday April 14, 2015

Report Number: L753137

Samples Received: 03/12/15

Client Project: 227000

Description: Lovington Lea Refinery

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

Pam Langford , ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197, FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375/DW21704/BIO041, ND - R-140. NJ - TN002, NJ NELAP - TN002, SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1, TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364, EPA - TN002

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

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Est. 1970

John Allen TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

Case Narrative

Tuesday April 14, 2015

Report Number: L753137
Samples Received: 03/12/15
Client Project: 227000

Description: Lovington Lea Refinery

Other Comments

Acid surrogate percent recoveries were below target range in the initial extraction and analysis of SW846 Method 8270 compounds. Reextraction of the samples was performed, however this was done outside the method specified holding time. Reanalysis of the samples for this method yielded values which confirmed those of the initial analysis, with surrogate percent recovieres which met acceptance limits. The original analysis, performed within the method specified holding time, is being reported as primary for these samples.



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REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L753137-01

April 14, 2015

Site ID :

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Sample ID : NORTH WELL

Collected By : JA/JO Collection Date : 03/09/15 16:30

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	11. 0.098 7.3	0.052 0.0099 0.077	1.0 0.10 5.0	mg/l mg/l mg/l	J	9056 9056 9056	03/16/15 03/16/15 03/16/15	1
Alkalinity	170	2.6	20.	mg/l		2320 B-	03/17/15	1
рН	7.4	-33.		su	JT8	9040C	03/13/15	1
Nitrate-Nitrite	2.7	0.020	0.10	mg/1		353.2	03/21/15	1
Specific Conductance	900	-33.		umhos/cm	J	9050A	03/16/15	1
Dissolved Solids	520	2.8	10.	mg/l		2540 C-	03/16/15	1
Arsenic,Dissolved Boron,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0055 0.15 0.00062 0.0032 0.0016	0.00025 0.0015 0.00024 0.00014 0.00033	0.0020 0.020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l mg/l	J კ კ	6020 6020 6020 6020 6020	03/19/15 03/19/15 03/19/15 03/19/15 03/19/15	1 1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/13/15	1
Aluminum, Dissolved Barium, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Sodium, Dissolved	U 0.11 U 110 U 0.012 U 12. U U 2.4 0.0097 U 67. 0.015	0.035 0.0017 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15	1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/20/15 03/20/15 03/20/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

. Reported: 04/13/15 12:03 Revised: 04/14/15 16:42 L753137-01 (PH) - 7.4 at 20.6c

Page 3 of 22



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REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L753137-01

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Sample ID : NORTH WELL

Project # : 227000

Site ID :

Collected By : JA/JO Collection Date : 03/09/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mq/l		8260B	03/20/15	1
Bromomethane	Ū	0.00087	0.0050	mg/1		8260B	03/20/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/20/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/20/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/20/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/20/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/20/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/20/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/20/15	
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/20/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/20/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/20/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/20/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/20/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/20/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/20/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/20/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/20/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/20/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/20/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/20/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/20/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/20/15	
Naphthalene	U	0.0010	0.0050	mg/l		8260B	03/20/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/20/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/20/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/20/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/20/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/20/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/20/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/l		8260B	03/20/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/20/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/20/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/20/15	1

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Reported: 04/13/15 12:03 Revised: 04/14/15 16:42

L753137-01 (PH) - 7.4 at 20.6c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L753137-01

Project # : 227000

April 14, 2015

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : NORTH WELL

Collected By : JA/JO Collection Date : 03/09/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/20/15	1
Dibromofluoromethane	107.			% Rec.		8260B	03/20/15	1
4-Bromofluorobenzene	99.0			% Rec.		8260B	03/20/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/1		8270 C	03/17/15	1
Acenaphthylene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
Acetophenone	U	0.0025	0.010	mg/1	J4	8270 C	03/17/15	
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/17/15	
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/17/15	1
Benzo(a)anthracene	U	0.0000029	0.0010	mg/1		8270 C	03/17/15	
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/17/15	
Benzo(b)fluoranthene	U	0.0000021	0.0010	mg/1		8270 C	03/17/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/17/15	1
Benzo(g,h,i)perylene	U	0.0000023	0.0010	mg/1		8270 C	03/17/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/20/15	
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/17/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/17/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/17/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/17/15	
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/17/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/17/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/17/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/17/15	1
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/17/15	
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/17/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/20/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/17/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/17/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/17/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/17/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/17/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/17/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/17/15	1
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/17/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/17/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/17/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/17/15	1
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	1
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/17/15	1

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L753137-01 (PH) - 7.4 at 20.6c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L753137-01

Site ID :

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Sample ID : NORTH WELL

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 16:30

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene n-Nitrosodiphenylamine n-Nitrosodi-n-propylamine Phenanthrene Benzylbutyl phthalate Bis(2-ethylhexyl)phthalate	U U U U U	0.00037 0.00030 0.00040 0.00037 0.00028 0.00071	0.010 0.010 0.010 0.010 0.0010 0.0030	mg/l mg/l mg/l mg/l mg/l		8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15	1 1 1 1
Di-n-butyl phthalate Diethyl phthalate Dimethyl phthalate Di-n-octyl phthalate Pyrene Acid Extractables	0.00071 U U U U	0.00027 0.00028 0.00028 0.00028 0.00033	0.0030 0.0030 0.0030 0.0030 0.0030	mg/l mg/l mg/l mg/l mg/l	J	8270 C 8270 C 8270 C 8270 C 8270 C	03/17/15 03/17/15 03/17/15 03/17/15 03/17/15	1 1 1 1
4-Chloro-3-methylphenol 2-Chlorophenol 2,4-Dichlorophenol 2,4-Dimethylphenol 4,6-Dinitro-2-methylphenol 2,4-Dinitrophenol 2-Nitrophenol 2-Nitroaniline 2-Methylphenol 3&4-Methyl Phenol 3-Nitroaniline 4-Chloroaniline 4-Nitrophenol Pentachlorophenol Pentachlorophenol 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	מ מ מ מ מ מ מ מ מ מ מ מ מ מ מ	0.00026 0.00028 0.00028 0.00062 0.0032 0.00032 0.0019 0.00031 0.00027 0.00031 0.00035 0.00035 0.00030	0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010 0.010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l		8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15 03/17/15	1 1 1 1 1 1 1 1 1 1 1 1
Surrogate Recovery 2-Fluorophenol Phenol-d5 Nitrobenzene-d5 2-Fluorobiphenyl 2,4,6-Tribromophenol p-Terphenyl-d14	4.72 8.10 11.8 32.9 51.5 65.6			% Rec. % Rec. % Rec. % Rec. % Rec.	J2 J2	8270 C 8270 C 8270 C 8270 C 8270 C 8270 C	03/17/15 03/17/15 03/17/15 03/17/15 03/17/15	1 1 1 1

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L753137-01 (PH) - 7.4 at 20.6c

Page 6 of 22



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-02

Description

Date Received : March 12, 2015

Site ID :

Sample ID

: Lovington Lea Refinery

Project # : 227000

: SOUTH WELL

Collected By : JA/JO Collection Date : 03/09/15 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	340 0.82 99.	0.52 0.0099 0.077	10. 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/16/15 03/17/15 03/17/15	1
Alkalinity	170	2.6	20.	mg/l		2320 B-	03/17/15	1
рН	7.2	-33.		su	JT8	9040C	03/13/15	1
Nitrate-Nitrite	2.7	0.020	0.10	mg/l		353.2	03/21/15	1
Specific Conductance	1700	-33.		umhos/cm	J	9050A	03/16/15	1
Dissolved Solids	1100	2.8	10.	mg/l		2540 C-	03/16/15	1
Arsenic,Dissolved Boron,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0040 0.20 0.0031 0.0020 0.0021	0.00025 0.0015 0.00024 0.00014 0.00033	0.0020 0.020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020 6020	03/19/15 03/19/15 03/19/15 03/19/15 03/19/15	1 1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/13/15	1
Aluminum, Dissolved Barium, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Zinc, Dissolved Zinc, Dissolved	U 0.14 U 190 0.0015 U 0.032 U 23. 0.0046 U 3.5 0.012 U 140 0.049	0.035 0.0017 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15	1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U 0.0014 U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/20/15 03/20/15 03/20/15	1

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. Reported: 04/13/15 12:03 Revised: 04/14/15 16:42 L753137-02 (PH) - 7.2 at 21.0c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-02

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : SOUTH WELL

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	Ū	0.00047	0.0010	mq/l		8260B	03/20/15	1
Bromomethane	Ū	0.00087	0.0050	mg/l		8260B	03/20/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/20/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/1		8260B	03/20/15	
tert-Butvlbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/20/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/20/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/20/15	1
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/20/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/20/15	1
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/20/15	1
Chloroform	0.00039	0.00032	0.0050	mg/l	J	8260B	03/20/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/20/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/20/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/20/15	
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/20/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/20/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/20/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/20/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/20/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/20/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/20/15	1
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/20/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/20/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B		1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/20/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/20/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/l		8260B	03/20/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/20/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	03/20/15	
1,1,1-Trichloroethane	Ū	0.00032	0.0010	mg/l		8260B	03/20/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/20/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/1		8260B	03/20/15	
1,3,5-Trimethylbenzene	U U	0.00039	0.0010	mg/l		8260B	03/20/15	
Vinyl chloride	IJ	0.00026	0.0010	mg/l		8260B	03/20/15	1 1
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/20/15	Τ

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. Reported: 04/13/15 12:03 Revised: 04/14/15 16:42 L753137-02 (PH) - 7.2 at 21.0c



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Tax I.D. 62-0814289

Est. 1970

227000

Site ID :

Project # :

REPORT OF ANALYSIS

April 14, 2015 John Allen

TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample #: T-753137-02 Date Received March 12, 2015

Description Lovington Lea Refinery

Sample ID SOUTH WELL

Collected By OT₁ \ AT₁

Collection Date : 03/09/15 17:25

MDL RDL Units Qualifier Method Date Result Dil. Parameter Surrogate Recovery Toluene-d8 104. % Rec. 8260B 03/20/15 1 Dibromofluoromethane 03/20/15 102. % Rec. 8260B 1 03/20/15 4-Bromofluorobenzene 99.6 % Rec. 8260B 1 Base/Neutral Extractables 0.0010 03/17/15 03/17/15 Acenaphthene 0.00032 8270 C 8270 C TT mq/11 0.00031 Acenaphthylene TT mg/11 0.0025 0.010 .т4 8270 C 03/17/15 Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/17/15 1 0.0015 Atrazine TT 0.010 mg/18270 C 03/17/15 1 Benzo(a)anthracene U 0.0000029 0.0010 mg/18270 C 03/17/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/17/15 1 Benzo(b)fluoranthene U 0.0000021 0.0010 8270 C 03/17/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/17/15 1 Benzo(g,h,i)perylene U 0.0000023 0.0010 mg/18270 C 03/17/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/20/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/17/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/17/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/17/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/17/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/17/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/17/15 U 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 03/17/15 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/17/15 1 0.00016 Carbazole ŢŢ 0.010 8270 C 03/17/15 mq/11 8270 C 0.0010 03/17/15 0.00033 1 Chrysene TT mg/10.00020 0.000064 mg/1Dibenz(a,h)anthracene U 8270 C 03/20/15 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/17/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 U 0.010 mg/103/17/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/17/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/17/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/17/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/17/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/17/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/17/15 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 0.010 mg/103/17/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/17/15 Indeno(1,2,3-cd)pyrene 0.00028 0.0010 8270 C U mg/103/17/15 1 8270 C Isophorone IJ 0.00027 0.010 mg/103/17/15 1 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/17/15 ma/11 2-Methylnaphthalene mg/18270 C 03/17/15 0.00031 0.0010 1 U 0.00037 0.0010 8270 C 03/17/15 Naphthalene U mg/1

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L753137-02 (PH) - 7.2 at 21.0c



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-02

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Site ID : Sample ID : SOUTH WELL

Collected By : JA/JO Collection Date : 03/09/15 17:25

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	Ū	0.00037	0.010	mg/l		8270 C	03/17/15	1
n-Nitrosodiphenylamine	Ū	0.00037	0.010	mg/l		8270 C	03/17/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/1		8270 C	03/17/15	
Phenanthrene	IJ	0.00037	0.0010	mg/l		8270 C	03/17/15	
Benzylbutyl phthalate	IJ	0.00028	0.0030	mg/1		8270 C	03/17/15	
Bis(2-ethylhexyl)phthalate	0.00078	0.00071	0.0030	mg/l	J	8270 C	03/17/15	
Di-n-butyl phthalate	0.00068	0.00027	0.0030	mg/l	J	8270 C	03/17/15	
Diethyl phthalate	U	0.00028	0.0030	mg/1	Ü	8270 C	03/17/15	
Dimethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/17/15	
Di-n-octyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/17/15	
Pyrene	Ū	0.00033	0.0010	mg/l		8270 C	03/17/15	
Acid Extractables				3.				
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/17/15	1
2-Chlorophenol	U	0.00028	0.010	mg/l		8270 C	03/17/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/17/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/l		8270 C	03/17/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/l		8270 C	03/17/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/17/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/17/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/17/15	1
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/17/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/17/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/17/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/17/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/17/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/17/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/17/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/17/15	1
Surrogate Recovery								
2-Fluorophenol	1.13			% Rec.	J2	8270 C	03/17/15	
Phenol-d5	6.96			% Rec.		8270 C	03/17/15	
Nitrobenzene-d5	6.52			% Rec.	J2	8270 C	03/17/15	
2-Fluorobiphenyl	43.5			% Rec.		8270 C	03/17/15	
2,4,6-Tribromophenol	52.7			% Rec.		8270 C	03/17/15	
p-Terphenyl-d14	51.1			% Rec.		8270 C	03/17/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

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Reported: 04/13/15 12:03 Revised: 04/14/15 16:42

L753137-02 (PH) - 7.2 at 21.0c



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-03

Date Received : March Description

12, 2015 : Lovington Lea Refinery

Sample ID

Site ID :

: DUP-4

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	340 0.82 98.	0.52 0.0099 0.077	10. 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/16/15 03/17/15 03/17/15	
Alkalinity	170	2.6	20.	mg/l		2320 B-	03/17/15	1
рН	7.2	-33.		su	JT8	9040C	03/13/15	1
Nitrate-Nitrite	650	2.0	10.	mg/l		353.2	03/21/15	100
Specific Conductance	1700	-33.		umhos/cm	J	9050A	03/16/15	1
Dissolved Solids	1100	2.8	10.	mg/l		2540 C-	03/16/15	1
Arsenic,Dissolved Boron,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0042 0.20 0.0026 0.0021 0.0021	0.00025 0.0015 0.00024 0.00014 0.00033	0.0020 0.020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l mg/l	J J	6020 6020 6020 6020 6020	03/19/15 03/19/15 03/19/15 03/19/15 03/19/15	1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/13/15	1
Aluminum, Dissolved Barium, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Manganese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Selenium, Dissolved Sodium, Dissolved Sodium, Dissolved Silver, Dissolved Silver, Dissolved Silver, Dissolved	0.037 0.14 U 180 U 0.019 U 22. 0.0030 U 3.3 0.015 U 130 0.025	0.035 0.0017 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010 1.0	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J J J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U 0.0016 U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/20/15 03/20/15 03/20/15	1 1 1

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. Reported: 04/13/15 12:03 Revised: 04/14/15 16:42 L753137-03 (PH) - 7.2 at 20.6

Page 11 of 22



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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-03

Date Received : March 12, 2015 Description : Lovington Lea Refinery

Site ID :

April 14, 2015

Sample ID : DUP-4

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/20/15	
Bromomethane	U	0.00087	0.0050	mg/1		8260B	03/20/15	
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/20/15	
sec-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/20/15	
tert-Butylbenzene	U	0.00040	0.0010	mg/l		8260B		
Carbon disulfide	U	0.00028	0.0010	mg/1		8260B	03/20/15	
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Chlorobenzene	U	0.00035	0.0010	mg/l		8260B	03/20/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/20/15	
Chloroethane	U	0.00045	0.0050	mg/1		8260B		
Chloroform	0.00037	0.00032	0.0050	mg/1	J	8260B	03/20/15	
Chloromethane	U	0.00028	0.0025	mg/1		8260B		
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B		
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B		
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/20/15	
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/20/15	
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/20/15	
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B		
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/20/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/20/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B		
2-Butanone (MEK)	U	0.0039	0.010	mg/l		8260B	03/20/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/20/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/l		8260B	03/20/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/l		8260B		
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/20/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/20/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/20/15	
Tetrachloroethene	U	0.00037	0.0010	mg/l		8260B	03/20/15	
Toluene	U	0.00078	0.0050	mg/l		8260B	/ - / -	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/l		8260B	03/20/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B		
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
1,2,4-Trimethylbenzene	U 	0.00037	0.0010	mg/1		8260B		
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/20/15	
Vinyl chloride	U	0.00026	0.0010	mg/1		8260B	03/20/15	
Xylenes, Total	U	0.0011	0.0030	mg/l		8260B	03/20/15	1

U = ND (Not Detected)

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Tax I.D. 62-0814289

Dil.

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen TRC Solutions

505 E. Huntland Drive, Suite 250

Austin, TX 78752

ESC Sample #: T-753137-03

227000

Project # :

Date Received March 12, 2015

Description Lovington Lea Refinery

Site ID : Sample ID DIIP-4

Collected By OT₁ \ AT₁

Collection Date : 03/09/15 17:25

MDL RDL Units Qualifier Method Date Result Parameter Surrogate Recovery Toluene-d8 104. % Rec. 8260B 03/20/15 1 Dibromofluoromethane 03/20/15 107. % Rec. 8260B 1 03/20/15 4-Bromofluorobenzene 101. % Rec. 8260B 1 Base/Neutral Extractables 0.0010 03/17/15 03/17/15 Acenaphthene 0.00032 8270 C 8270 C TT mq/11 0.00031 Acenaphthylene TT mg/11 0.0025 0.010 .т4 8270 C 03/17/15 Acetophenone TT mg/11 Anthracene IJ 0.00029 0.0010 mg/18270 C 03/17/15 1 0.0015 Atrazine TT 0.010 mg/18270 C 03/17/15 1 Benzo(a)anthracene U 0.0000029 0.0010 mg/18270 C 03/17/15 1 8270 C Benzaldehyde IJ 0.0014 0.010 mg/103/17/15 1 Benzo(b)fluoranthene U 0.0000021 0.0010 8270 C 03/17/15 mg/1mg/1Benzo(k)fluoranthene U 0.00036 0.0010 8270 C 03/17/15 1 Benzo(g,h,i)perylene U 0.0000023 0.0010 mg/18270 C 03/17/15 1 mg/1Benzo(a)pyrene U 0.000038 0.00020 8270 C 03/20/15 Biphenyl U 0.00021 0.010 mg/18270 C 03/17/15 Bis(2-chlorethoxy)methane 0.00033 0.010 8270 C 03/17/15 U mg/1Bis(2-chloroethyl)ether U 0.0016 0.010 mg/18270 C 03/17/15 1 Bis(2-chloroisopropyl)ether 0.00044 8270 C 03/17/15 U 0.010 mg/11 4-Bromophenyl-phenylether U 0.00034 0.010 8270 C 03/17/15 mg/11 2-Chloronaphthalene mg/18270 C 1 0.00033 0.0010 03/17/15 U 4-Chlorophenyl-phenylether TT 0.00030 0.010 mg/18270 C 03/17/15 1 Caprolactam ŢŢ 0.00058 0.010 mg/18270 C 03/17/15 1 0.00016 Carbazole ŢŢ 0.010 8270 C 03/17/15 mq/11 8270 C 0.0010 03/17/15 TT 0.00033 1 Chrysene mg/10.00020 0.000064 Dibenz(a,h)anthracene U mg/18270 C 03/20/15 1 0.00034 8270 C Dibenzofuran IJ 0.010 mg/103/17/15 1 8270 C 3,3-Dichlorobenzidine 0.0020 U 0.010 mg/103/17/15 1 2,4-Dinitrotoluene U 0.0016 0.010 mg/18270 C 03/17/15 1 8270 C 2,6-Dinitrotoluene IJ 0.00028 0.010 mg/103/17/15 1 Fluoranthene ŢŢ 0.00031 0.0010 mg/18270 C 03/17/15 1 mg/1Fluorene U 0.00032 0.0010 8270 C 03/17/15 1 Hexachlorobenzene U 0.00034 0.0010 mg/18270 C 03/17/15 1 Hexachloro-1,3-butadiene U 0.00033 0.010 mg/18270 C 03/17/15 0.010 8270 C Hexachlorocyclopentadiene ŢŢ 0.0023 mg/103/17/15 Hexachloroethane U 0.00036 0.010 mg/18270 C 03/17/15 Indeno(1,2,3-cd)pyrene 0.00028 0.0010 8270 C U mg/103/17/15 1 8270 C Isophorone IJ 0.00027 0.010 mg/103/17/15 1 1-Methylnaphthalene U 0.00031 0.0010 8270 C 03/17/15 ma/11 2-Methylnaphthalene mg/18270 C 03/17/15 0.00031 0.0010 1 U

U = ND (Not Detected)

Naphthalene

MDL = Minimum Detection Limit = LOD = TRRP SDL

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U

0.00037

0.0010

mg/1

Reported: 04/13/15 12:03 Revised: 04/14/15 16:42

L753137-03 (PH) - 7.2 at 20.6

03/17/15

8270 C



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-03

Date Received : March 12, 2015 Description : Lovington Lea Refinery

Site ID :

Sample ID : DUP-4

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 17:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	IJ	0.00037	0.010	mg/l		8270 C	03/17/15	1
n-Nitrosodiphenylamine	IJ	0.00037	0.010	mg/1		8270 C	03/17/15	ī
n-Nitrosodi-n-propylamine	IJ	0.00040	0.010	mq/1		8270 C	03/17/15	ī
Phenanthrene	IJ	0.00037	0.0010	mq/1		8270 C	03/17/15	1
Benzylbutyl phthalate	Ū	0.00028	0.0030	mq/1		8270 C	03/17/15	1
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/1		8270 C	03/17/15	1
Di-n-butyl phthalate	Ū	0.00027	0.0030	mg/l		8270 C	03/17/15	1
Diethyl phthalate	Ū	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Pyrene	U	0.00033	0.0010	mg/l		8270 C	03/17/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/17/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/17/15	1
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/17/15	1
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/17/15	1
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/17/15	1
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/17/15	1
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/17/15	1
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/17/15	1
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	1
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/17/15	1
3-Nitroaniline	U	0.00031	0.010	mg/l		8270 C	03/17/15	1
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/17/15	1
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/17/15	1
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/17/15	1
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	1
Phenol	U	0.00033	0.010	mg/1		8270 C	03/17/15	1
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/17/15	1
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/17/15	1
Surrogate Recovery	0.05			0 D	Τ0	0070 0	02/17/15	1
2-Fluorophenol	2.95			% Rec.	Ј2	8270 C	03/17/15	1
Phenol-d5	7.54			% Rec.	Τ.	8270 C	03/17/15	1
Nitrobenzene-d5	9.03 25.1			% Rec.	J2 J2	8270 C 8270 C	03/17/15	1 1
2-Fluorobiphenyl 2,4,6-Tribromophenol	42.5			% Rec. % Rec.	JZ	8270 C 8270 C	03/17/15 03/17/15	1
							, , -	1
p-Terphenyl-d14	56.3			% Rec.		8270 C	03/17/15	Τ

U = ND (Not Detected)

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

Site ID :

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-04

Date Received : March 12, 2015

Description

: Lovington Lea Refinery

Sample ID

: EAST WELL

Collected By : JA/JO Collection Date : 03/09/15 15:25

Project # : 227000

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Chloride Fluoride Sulfate	120 1.1 81.	0.52 0.0099 0.077	10. 0.10 5.0	mg/l mg/l mg/l		9056 9056 9056	03/16/15 03/17/15 03/17/15	1
Alkalinity	160	2.6	20.	mg/l		2320 B-	03/17/15	1
рН	7.3	-33.		su	JT8	9040C	03/13/15	1
Nitrate-Nitrite	2.6	0.020	0.10	mg/l		353.2	03/21/15	1
Specific Conductance	980	-33.		umhos/cm	J	9050A	03/16/15	1
Dissolved Solids	570	2.8	10.	mg/l		2540 C-	03/16/15	1
Arsenic,Dissolved Boron,Dissolved Lead,Dissolved Molybdenum,Dissolved Uranium,Dissolved	0.0046 0.15 0.0012 0.0023 0.0018	0.00025 0.0015 0.00024 0.00014 0.00033	0.0020 0.020 0.0020 0.0050 0.010	mg/l mg/l mg/l mg/l mg/l	J J J	6020 6020 6020 6020 6020	03/19/15 03/19/15 03/19/15 03/19/15 03/19/15	1 1 1
Mercury	U	0.000049	0.00020	mg/l		7470A	03/13/15	1
Aluminum, Dissolved Barium, Dissolved Cadmium, Dissolved Calcium, Dissolved Chromium, Dissolved Cobalt, Dissolved Copper, Dissolved Iron, Dissolved Magnesium, Dissolved Magnese, Dissolved Nickel, Dissolved Potassium, Dissolved Selenium, Dissolved Silver, Dissolved Sodium, Dissolved Zinc, Dissolved	U 0.10 U 120 0.012 U 0.068 U 15. 0.0021 U 2.1 0.010 U 51. 0.086	0.035 0.0017 0.00070 0.046 0.0014 0.0023 0.0053 0.014 0.011 0.0012 0.0049 0.10 0.0074 0.0028 0.098 0.0059	0.10 0.0050 0.0050 1.0 0.010 0.010 0.020 0.10 1.0 0.020 1.0 0.020 0.020 0.010	mg/l mg/l mg/l mg/l mg/l mg/l mg/l mg/l	J	6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B 6010B	03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15 03/18/15	1 1 1 1 1 1 1 1 1 1
Volatile Organics Acetone Benzene Bromodichloromethane	U U U	0.010 0.00033 0.00038	1.0 0.0010 0.0013	mg/l mg/l mg/l		8260B 8260B 8260B	03/20/15 03/20/15 03/20/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

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. Reported: 04/13/15 12:03 Revised: 04/14/15 16:42 L753137-04 (PH) - 7.3 at 20.9c

Page 15 of 22



12065 Lebanon Rd. Mt. Juliet, TN 37122 (615) 758-5858 1-800-767-5859 Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-04

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Project # : 227000

April 14, 2015

Site ID :

Sample ID : EAST WELL

Collected By : JA/JO Collection Date : 03/09/15 15:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Bromoform	U	0.00047	0.0010	mq/l		8260B	03/20/15	1
Bromomethane	Ū	0.00087	0.0050	mg/1		8260B	03/20/15	
n-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/20/15	
sec-Butylbenzene	Ū	0.00036	0.0010	mg/l		8260B	03/20/15	
tert-Butylbenzene	Ū	0.00040	0.0010	mg/l		8260B	03/20/15	
Carbon disulfide	Ū	0.00028	0.0010	mg/l		8260B	03/20/15	
Carbon tetrachloride	Ū	0.00038	0.0010	mg/l		8260B	03/20/15	
Chlorobenzene	Ū	0.00035	0.0010	mg/l		8260B	03/20/15	
Chlorodibromomethane	U	0.00033	0.0010	mg/l		8260B	03/20/15	
Chloroethane	U	0.00045	0.0050	mg/l		8260B	03/20/15	1
Chloroform	U	0.00032	0.0050	mg/l		8260B	03/20/15	1
Chloromethane	U	0.00028	0.0025	mg/l		8260B	03/20/15	1
1,2-Dibromoethane	U	0.00038	0.0010	mg/l		8260B	03/20/15	
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/l		8260B	03/20/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/l		8260B	03/20/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/20/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/20/15	
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/20/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/20/15	
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/20/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/20/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/20/15	
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/20/15	
Naphthalene	U	0.0010	0.0050	mg/l		8260B	03/20/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/20/15	
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/20/15	
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/20/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/20/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/20/15	
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/l		8260B	03/20/15	
Trichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
1,2,4-Trimethylbenzene	U	0.00037	0.0010	mg/l		8260B	03/20/15	
1,3,5-Trimethylbenzene	U	0.00039	0.0010	mg/1		8260B	03/20/15	
Vinyl chloride	U	0.00026	0.0010	mg/l		8260B	03/20/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/20/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-04

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Site ID :

Sample ID : EAST WELL

Project # : 227000

Collected By : JA/JO Collection Date : 03/09/15 15:25

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Surrogate Recovery								
Toluene-d8	103.			% Rec.		8260B	03/20/15	1
Dibromofluoromethane	105.			% Rec.		8260B	03/20/15	1
4-Bromofluorobenzene	96.0			% Rec.		8260B	03/20/15	1
Base/Neutral Extractables								
Acenaphthene	U	0.00032	0.0010	mg/l		8270 C	03/17/15	1
Acenaphthylene	U	0.00031	0.0010	mg/l		8270 C	03/17/15	1
Acetophenone	U	0.0025	0.010	mg/1	J4	8270 C	03/17/15	1
Anthracene	U	0.00029	0.0010	mg/1		8270 C	03/17/15	1
Atrazine	U	0.0015	0.010	mg/1		8270 C	03/17/15	1
Benzo(a)anthracene	U	0.0000029	0.0010	mg/1		8270 C	03/17/15	1
Benzaldehyde	U	0.0014	0.010	mg/1		8270 C	03/17/15	
Benzo(b)fluoranthene	U	0.0000021	0.0010	mg/1		8270 C	03/17/15	1
Benzo(k)fluoranthene	U	0.00036	0.0010	mg/1		8270 C	03/17/15	1
Benzo(g,h,i)perylene	U	0.0000023	0.0010	mg/1		8270 C	03/17/15	1
Benzo(a)pyrene	U	0.000038	0.00020	mg/1		8270 C	03/20/15	1
Biphenyl	U	0.00021	0.010	mg/1		8270 C	03/17/15	1
Bis(2-chlorethoxy)methane	U	0.00033	0.010	mg/1		8270 C	03/17/15	1
Bis(2-chloroethyl)ether	U	0.0016	0.010	mg/1		8270 C	03/17/15	
Bis(2-chloroisopropyl)ether	U	0.00044	0.010	mg/1		8270 C	03/17/15	1
4-Bromophenyl-phenylether	U	0.00034	0.010	mg/1		8270 C	03/17/15	1
2-Chloronaphthalene	U	0.00033	0.0010	mg/1		8270 C	03/17/15	1
4-Chlorophenyl-phenylether	U	0.00030	0.010	mg/1		8270 C	03/17/15	
Caprolactam	U	0.00058	0.010	mg/1		8270 C	03/17/15	
Carbazole	U	0.00016	0.010	mg/1		8270 C	03/17/15	1
Chrysene	U	0.00033	0.0010	mg/1		8270 C	03/17/15	
Dibenz(a,h)anthracene	U	0.000064	0.00020	mg/1		8270 C	03/20/15	
Dibenzofuran	U	0.00034	0.010	mg/1		8270 C	03/17/15	
3,3-Dichlorobenzidine	U	0.0020	0.010	mg/1		8270 C	03/17/15	
2,4-Dinitrotoluene	U	0.0016	0.010	mg/1		8270 C	03/17/15	
2,6-Dinitrotoluene	U	0.00028	0.010	mg/1		8270 C	03/17/15	
Fluoranthene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
Fluorene	U	0.00032	0.0010	mg/1		8270 C	03/17/15	
Hexachlorobenzene	U	0.00034	0.0010	mg/1		8270 C	03/17/15	
Hexachloro-1,3-butadiene	U	0.00033	0.010	mg/1		8270 C	03/17/15	
Hexachlorocyclopentadiene	U	0.0023	0.010	mg/1		8270 C	03/17/15	
Hexachloroethane	U	0.00036	0.010	mg/1		8270 C	03/17/15	
Indeno(1,2,3-cd)pyrene	U	0.00028	0.0010	mg/1		8270 C	03/17/15	
Isophorone	U	0.00027	0.010	mg/1		8270 C	03/17/15	
1-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
2-Methylnaphthalene	U	0.00031	0.0010	mg/1		8270 C	03/17/15	
Naphthalene	U	0.00037	0.0010	mg/1		8270 C	03/17/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

April 14, 2015

John Allen

TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-04

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Sample ID : EAST WELL

JA/JO

Collected By : Collection Date : 03/09/15 15:25 Project # : 227000

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Nitrobenzene	U	0.00037	0.010	mg/l		8270 C	03/17/15	1
n-Nitrosodiphenylamine	Ū	0.00030	0.010	mg/1		8270 C	03/17/15	
n-Nitrosodi-n-propylamine	Ū	0.00040	0.010	mg/1		8270 C	03/17/15	
Phenanthrene	Ū	0.00037	0.0010	mg/l		8270 C	03/17/15	
Benzylbutyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	
Bis(2-ethylhexyl)phthalate	Ū	0.00071	0.0030	mg/l		8270 C	03/17/15	
Di-n-butyl phthalate	0.0011	0.00027	0.0030	mg/l	J	8270 C	03/17/15	1
Diethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Dimethyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Di-n-octyl phthalate	U	0.00028	0.0030	mg/l		8270 C	03/17/15	1
Pyrene	U	0.00033	0.0010	mg/1		8270 C	03/17/15	1
Acid Extractables								
4-Chloro-3-methylphenol	U	0.00026	0.010	mg/1		8270 C	03/17/15	1
2-Chlorophenol	U	0.00028	0.010	mg/1		8270 C	03/17/15	
2,4-Dichlorophenol	U	0.00028	0.010	mg/1		8270 C	03/17/15	
2,4-Dimethylphenol	U	0.00062	0.010	mg/1		8270 C	03/17/15	
4,6-Dinitro-2-methylphenol	U	0.0026	0.010	mg/1		8270 C	03/17/15	
2,4-Dinitrophenol	U	0.0032	0.010	mg/1		8270 C	03/17/15	
2-Nitrophenol	U	0.00032	0.010	mg/1		8270 C	03/17/15	
2-Nitroaniline	U	0.0019	0.010	mg/1		8270 C	03/17/15	
2-Methylphenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	
3&4-Methyl Phenol	U	0.00027	0.010	mg/1		8270 C	03/17/15	
3-Nitroaniline	U	0.00031	0.010	mg/1		8270 C	03/17/15	
4-Chloroaniline	U	0.00038	0.010	mg/1		8270 C	03/17/15	
4-Nitroaniline	U	0.00035	0.010	mg/1		8270 C	03/17/15	
4-Nitrophenol	U	0.0020	0.010	mg/1		8270 C	03/17/15	
Pentachlorophenol	U	0.00031	0.010	mg/1		8270 C	03/17/15	
Phenol	U	0.00033	0.010	mg/1		8270 C	03/17/15	
2,4,5-Trichlorophenol	U	0.00024	0.010	mg/1		8270 C	03/17/15	
2,4,6-Trichlorophenol	U	0.00030	0.010	mg/1		8270 C	03/17/15	1
Surrogate Recovery	0 70			. –		0000 ~	00/45/45	
2-Fluorophenol	2.70			% Rec.	Ј2	8270 C	03/17/15	
Phenol-d5	6.70			% Rec.	TO	8270 C	03/17/15	
Nitrobenzene-d5	7.10			% Rec.	J2	8270 C	03/17/15	
2-Fluorobiphenyl	24.0			% Rec.	J2	8270 C	03/17/15	
2,4,6-Tribromophenol	45.1			% Rec.		8270 C	03/17/15	
p-Terphenyl-d14	62.2			% Rec.		8270 C	03/17/15	1

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen TRC Solutions
505 E. Huntland Drive, Suite 250
Austin, TX 78752

ESC Sample # : L753137-05

Date Received : March 12, 2015

Description : Lovington Lea Refinery

Sample ID TRIP BLANK-3

Collected By : Collection Date : JA/JO

03/09/15 00:00

Project # : 227000

April 14, 2015

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
Volatile Organics								
Acetone	U	0.010	1.0	mg/1		8260B	03/20/15	1
Benzene	U	0.00033	0.0010	mg/l		8260B	03/20/15	1
Bromodichloromethane	U	0.00038	0.0013	mg/1		8260B	03/20/15	1
Bromoform	U	0.00047	0.0010	mg/l		8260B	03/20/15	1
Bromomethane	U	0.00087	0.0050	mg/l		8260B	03/20/15	1
n-Butylbenzene	U	0.00036	0.0010	mg/l		8260B	03/20/15	1
sec-Butylbenzene	U	0.00036	0.0010	mg/1		8260B	03/20/15	1
tert-Butylbenzene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
Carbon disulfide	U	0.00028	0.0010	mg/l		8260B	03/20/15	1
Carbon tetrachloride	U	0.00038	0.0010	mg/1		8260B	03/20/15	1
Chlorobenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	1
Chlorodibromomethane	U	0.00033	0.0010	mg/1		8260B	03/20/15	1
Chloroethane	U	0.00045	0.0050	mg/1		8260B	03/20/15	1
Chloroform	U	0.00032	0.0050	mg/1		8260B	03/20/15	1
Chloromethane	U	0.00028	0.0025	mg/1		8260B	03/20/15	
1,2-Dibromoethane	U	0.00038	0.0010	mg/1		8260B	03/20/15	1
1,1-Dichloroethane	U	0.00026	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloroethane	U	0.00036	0.0010	mg/1		8260B	03/20/15	1
1,1-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	
cis-1,2-Dichloroethene	U	0.00026	0.0010	mg/1		8260B	03/20/15	1
trans-1,2-Dichloroethene	U	0.00040	0.0010	mg/1		8260B	03/20/15	1
1,2-Dichloropropane	U	0.00031	0.0010	mg/1		8260B	03/20/15	1
cis-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	
trans-1,3-Dichloropropene	U	0.00042	0.0010	mg/1		8260B	03/20/15	1
Ethylbenzene	U	0.00038	0.0010	mg/1		8260B	03/20/15	1
Hexachloro-1,3-butadiene	U	0.00026	0.0010	mg/1		8260B	03/20/15	1
2-Hexanone	U	0.0038	0.010	mg/1		8260B	03/20/15	
Isopropylbenzene	U	0.00033	0.0010	mg/1		8260B	03/20/15	1
p-Isopropyltoluene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
2-Butanone (MEK)	U	0.0039	0.010	mg/1		8260B	03/20/15	
Methylene Chloride	U	0.0010	0.0050	mg/1		8260B	03/20/15	
4-Methyl-2-pentanone (MIBK)	U	0.0021	0.010	mg/1		8260B	03/20/15	1
Methyl tert-butyl ether	U	0.00037	0.0010	mg/1		8260B	03/20/15	1
Naphthalene	U	0.0010	0.0050	mg/1		8260B	03/20/15	
n-Propylbenzene	U	0.00035	0.0010	mg/1		8260B	03/20/15	
Styrene	U	0.00031	0.0010	mg/1		8260B	03/20/15	1
1,1,2,2-Tetrachloroethane	U	0.00013	0.0010	mg/1		8260B	03/20/15	1
Tetrachloroethene	U	0.00037	0.0010	mg/1		8260B	03/20/15	
Toluene	U	0.00078	0.0050	mg/1		8260B	03/20/15	
1,1,1-Trichloroethane	U	0.00032	0.0010	mg/1		8260B	03/20/15	1
1,1,2-Trichloroethane	U	0.00038	0.0010	mg/1		8260B	03/20/15	
Trichloroethene	U	0.00040	0.0010	mg/l		8260B	03/20/15	1

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Reported: 04/13/15 12:03 Revised: 04/14/15 16:42

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

John Allen

TRC Solutions 505 E. Huntland Drive, Suite 250 Austin, TX 78752

ESC Sample # : L753137-05

Date Received : March 12, 2015 : Lovington Lea Refinery

Description

Sample ID : TRIP BLANK-3

Collected By : JA/JO Collection Date : 03/09/15 00:00

Project # : 227000

April 14, 2015

Site ID :

Parameter	Result	MDL	RDL	Units	Qualifier	Method	Date	Dil.
1,2,4-Trimethylbenzene	TT	0.00037	0.0010	mg/l		8260B	03/20/15	1
1,3,5-Trimethylbenzene	Ū	0.00037	0.0010	mg/1		8260B	03/20/15	
Vinyl chloride	Ū	0.00026	0.0010	mg/l		8260B	03/20/15	
Xylenes, Total	U	0.0011	0.0030	mg/1		8260B	03/20/15	1
Surrogate Recovery								
Toluene-d8	101.			% Rec.		8260B	03/20/15	1
Dibromofluoromethane	103.			% Rec.		8260B	03/20/15	1
4-Bromofluorobenzene	98.4			% Rec.		8260B	03/20/15	1

U = ND (Not Detected)

MDL = Minimum Detection Limit = LOD = TRRP SDL
RDL = Reported Detection Limit = LOQ = PQL = EQL = TRRP MQL

Note:

The reported analytical results relate only to the sample submitted. This report shall not be reproduced, except in full, without the written approval from ESC.

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Attachment A List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L753137-01	WG776313 WG776313	SAMP SAMP	Copper, Dissolved Selenium, Dissolved	R3025288 R3025288	J J
	WG776313	SAMP	Zinc, Dissolved	R3025288	J
	WG776313 WG776045	SAMP	Fluoride	R3025181	J
	WG775568	SAMP	pH	R3024657	JT8
	WG775693	SAMP	Specific Conductance	R3025094	J
	WG775448	SAMP	Acetophenone	R3025094 R3025922	J4
	WG775448 WG775448	SAMP		R3025922 R3025922	J 4 J
			Di-n-butyl phthalate	R3025922	J2
	WG775448	SAMP	2-Fluorophenol Nitrobenzene-d5	R3025922 R3025922	J2 J2
	WG775448	SAMP			
	WG776640	SAMP	Lead, Dissolved	R3025687	J
	WG776640	SAMP	Molybdenum, Dissolved	R3025687	J
I 7 C 2 1 2 7 0 0	WG776640	SAMP	Uranium, Dissolved	R3025687	J
L753137-02	WG776313	SAMP	Chromium, Dissolved	R3025288	J
	WG776313	SAMP	Manganese, Dissolved	R3025288	J
	WG776313	SAMP	Selenium, Dissolved	R3025288	J
	WG776313	SAMP	Zinc, Dissolved	R3025288	J
	WG775568	SAMP	pH Granifia Gardustansa	R3024657	JT8
	WG775693	SAMP	Specific Conductance	R3025094	J T4
	WG775448	SAMP	Acetophenone	R3025922	J4
	WG775448	SAMP	Bis(2-ethylhexyl)phthalate	R3025922	J
	WG775448	SAMP	Di-n-butyl phthalate	R3025922	J
	WG775448	SAMP	2-Fluorophenol	R3025922	J2
	WG775448	SAMP	Nitrobenzene-d5	R3025922	J2
	WG775488	SAMP	Chloroform	R3025975	J -
	WG776640	SAMP	Molybdenum, Dissolved	R3025687	J
- FF212F 02	WG776640	SAMP	Uranium, Dissolved	R3025687	J -
L753137-03	WG776313	SAMP	Aluminum, Dissolved	R3025288	J
	WG776313	SAMP	Copper, Dissolved	R3025288	J -
	WG776313	SAMP	Manganese, Dissolved	R3025288	J
	WG776313	SAMP	Selenium, Dissolved	R3025288	J
	WG776313	SAMP	Zinc, Dissolved	R3025288	J
	WG775568	SAMP	pH	R3024657	JT8
	WG775693	SAMP	Specific Conductance	R3025094	J T4
	WG775448	SAMP	Acetophenone	R3025922	J4 J2
	WG775448 WG775448	SAMP	2-Fluorophenol Nitrobenzene-d5	R3025922 R3025922	J2 J2
		SAMP			J2 J2
	WG775448	SAMP	2-Fluorobiphenyl	R3025922	
	WG775488	SAMP	Chloroform	R3025975	J
	WG776640	SAMP	Molybdenum, Dissolved	R3025687	J
I 7 C 2 1 2 7 0 4	WG776640	SAMP	Uranium, Dissolved	R3025687	J
L753137-04	WG776313	SAMP	Manganese, Dissolved	R3025288	J
	WG776313	SAMP	Selenium, Dissolved	R3025288	J
	WG775568	SAMP	pH	R3024657	JT8
	WG775693	SAMP	Specific Conductance	R3025094	J T4
	WG775448	SAMP	Acetophenone	R3025922	J4
	WG775448	SAMP	Di-n-butyl phthalate	R3025922	Ј J2
	WG775448	SAMP	2-Fluorophenol	R3025922	J2 J2
	WG775448	SAMP	Nitrobenzene-d5	R3025922	J2 J2
	WG775448	SAMP SAMP	2-Fluorobiphenyl	R3025922	J Z J
	WG776640		Lead, Dissolved	R3025687	J
	WG776640 WG776640	SAMP SAMP	Molybdenum, Dissolved	R3025687 R3025687	J
	WG//004U	SAMP	Uranium,Dissolved	K3UZ308/	U