

# **Phase II Environmental Site Assessment ODOT Central Eastside Properties Parcels 1C, 2C, and 3B Portland, Oregon**

Prepared for  
**Portland Development Commission**



August 2014

Prepared by  
**Parametrix**

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*Prepared for*



## **Portland Development Commission**

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## CERTIFICATION

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



Rick Wadsworth, P.E.



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## EXECUTIVE SUMMARY

Parametrix, Inc. (Parametrix) was retained by the Portland Development Commission (PDC) to perform a Phase II Environmental Site Assessment (ESA) on the Oregon Department of Transportation (ODOT) Central Eastside properties located in Portland, Oregon. The subject property consists of Parcels 1C, 2C, and 3B and are located between SE Taylor Street, SE Madison Street, SE Water Avenue, and an Interstate 5 off-ramp. The Phase II investigation was completed in the eastern portion of the parcels (see Figure 2), which is the portion of the properties that PDC intends to acquire. Based on the findings of this investigation, Parametrix reached the following conclusions:

1. A number of previous investigations have been conducted on the properties since the late-1990s and several recognized environmental conditions were identified. In addition, several underground storage tanks (USTs) have been decommissioned on each of the parcels and at least two leaking USTs (LUST) sites have been reported to the Oregon Department of Environmental Quality (DEQ). The LUST sites (LUST #26-92-0020 and #26-99-0182) appear to apply to 4 separate tank pits on Parcels 2C and 3B, and include at least 11 USTs, as well as a former asphalt vat. It appears that the DEQ is requiring additional activities to be conducted by ODOT prior to issuing an NFA for each of the LUSTs.
2. Known or perceived environmental issues associated with Parcel 1C include: 1) approximately 2,000 cubic yards of contaminated soil in the center and southwest portion of the parcel, which appears to be associated with a former asphalt plant or forklift facility, 2) former building in the eastern portion of the parcel and associated buried debris material within the former basement, 3) on-site drywell, 4) three former waste oil UST decommissionings, all of which received no further action (NFA) determinations, and 5) former activities in the northeast corner of the parcel including a laundry, sheet metal and stove works.
3. Known or perceived environmental issues associated with Parcel 2C include: 1) former UST Pits #1 and #2 and associated open LUST file #26-99-0182, 2) asphalt-impacted soil buried in the north-central portion of the parcel, 3) former auto repair facility and machine shop in northeast corner of the parcel, 4) former Quadrant building and petroleum-impacted soil detected in one location, and 5) former Standard Oil fuel terminal to the east, which appears to have impacted groundwater on the subject property with petroleum hydrocarbons.
4. Known or perceived environmental issues associated with Parcel 3B include: 1) former UST Pits #3 and #4 and associated open LUST file #26-92-0020, 2) auto garage and machine shop in southeastern corner of the parcel and known petroleum contamination soil (PCS), and 3) former Standard Oil fuel terminal to the east, which appears to have impacted groundwater on the subject property with petroleum hydrocarbons.
5. Parametrix supervised the drilling of 23 investigative borings and the excavation of six test pits on the subject property. Six of the borings (labeled N-1 through N-6) and all six test pits (labeled TP-1 through TP-6) were located on Parcel 1C, nine borings (labeled M-1 through M-9) were located on Parcel 2C, and eight borings (labeled S-1 through S-8) were located on Parcel 3B. The investigation was focused on evaluating current conditions associated with the environmental issues and/or providing information where perceived data gaps exist.

6. Substantial building debris was encountered in test pits completed on Parcel 1C in the former building footprint. Based on the sample results, it appears that low concentrations of petroleum hydrocarbons and associated compounds are present in the material. The debris encountered included large concrete pieces, rebar, bricks, wood waste, metal, and other building materials. It appears that the former building was demolished and debris buried on-site within the former basement area. It is estimated that up to 2,500 cubic yards of former building debris is located in the area to a depth of approximately 9 feet below ground surface (bgs). The presence of the debris material is an environmental liability and may preclude future development of the site if not removed.
7. Investigation of the on-site stormwater catchbasin on Parcel 1C suggests that it may be a drywell. An electromagnetic utility locate could not identify a pipe or outfall from the catchbasin. Visual inspection inside the catchbasin also did not identify a pipe entering or exiting (although the catchbasin was full of debris, which precluded significant inspection). Based on sampling conducted in an adjacent boring, it appears that the apparent drywell may have impacted subsurface groundwater conditions at low concentrations. However, based on groundwater investigations across the three parcels, the low concentrations of petroleum hydrocarbons detected may also be an indicator of the downgradient edge of the plume delineated across the subject property and potentially sourced off-site (see Figure 6). Soil does not appear to be significantly impacted. The presence of the on-site drywell and impacted subsurface conditions represents an environmental liability.
8. In general, soil has been impacted by petroleum hydrocarbons and associated constituents in specific areas on each of the three parcels. Significant areas delineated during this current investigation and/or previous investigations include approximately 2,000 cubic yards in the central and southwest portion of Parcel 1C, areas near UST Pits #1 and #2 on Parcel 2C, and in the southern portion of Parcel 3B and near UST Pits #3 and #4. However, with a few exceptions, the concentrations detected do not appear to exceed applicable DEQ risk-based concentrations (RBCs) and site-wide remedial actions are not expected to be required. The impacted areas can be classified as “lightly contaminated”, but would not meet DEQ clean fill criteria in the event they are excavated for development. Specific areas near former UST Pit #1, UST Pit #3, and UST Pit #4, all of which are located on the portion of the parcels intended for acquisition, may exceed one or more DEQ RBCs and thus, may require limited remedial actions. These areas represent an environmental liability for the site.
9. The subject property, specifically Parcels 2C and 3B, have been impacted by petroleum hydrocarbons in groundwater. Parcel 1C does not appear to be significantly impacted. Based on groundwater samples collected, it does appear that an off-site source has impacted groundwater on Parcels 2C and 3B. As noted in previous documents, the former Standard Oil bulk fuel facility was located to the east of the subject property and is directly upgradient. Current groundwater samples appear to confirm past results indicating a plume migrating onto the site from the east. The contribution between the upgradient source and known on-site sources (i.e. former USTs) cannot be clearly distinguished. However, assuming that groundwater on the subject property cannot be used as a drinking water source (to be confirmed and documented through a beneficial use and risk assessment process as part of LUST file closure), it does not appear that concentrations in groundwater on Parcels 2C or 3B are such that they would require active remedial actions, with the exception

of the northeast corner of Parcel 3B (see Conclusion #10 below). Further groundwater monitoring may be required by the DEQ to achieve site closure and/or confirm the nature and extent of the potential off-site source.

10. Exceedances of the vapor intrusion pathway (gasoline-range petroleum hydrocarbons and benzene) were noted in the groundwater sample collected from boring S-2, which is located in the northeastern corner of Parcel 3B. Although the groundwater contamination source appears to be from off-site, the exceedance of the DEQ RBC for these compounds will likely require some remedial actions to be implemented in the event of future development of buildings or overlying structures. Vapor intrusion mitigation can be accomplished through a vapor barrier, passive vapor system, or similar technology and should be employed for any building developed on the eastern portion of Parcel 3B, but specifically in the northeast portion of the property. This represents an environmental liability for the site.
11. A preliminary cost estimate for environmental liability was developed for the portions of the three parcels that PDC intends to acquire. The estimated environmental liability associated with the eastern portion of Parcel 1C is approximately \$545,000. The estimated environmental liability associated with the eastern portion of Parcel 2C is approximately \$115,000. The estimated environmental liability associated with the eastern portion of Parcel 3B is approximately \$210,000. However, these costs do not include potential environmental incremental costs incurred during redevelopment due to disposal requirements for soil containing contamination in excess of DEQ's Clean Fill Criteria.
12. Based on current and previous sampling, it is expected that the existing fill material (soil less than 10 feet bgs) would not meet the strict DEQ "clean fill" criteria over much of the subject property. Due to the unknown nature of development alternatives and associated mass excavation plans, a total environmental liability cost could not be estimated for the existing low level contamination. However, the incremental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) is approximately \$50/ton. Total cost of disposal for mass excavation is approximately \$80/ton.
13. The presence of the open LUST files is a significant liability in acquiring the eastern portion of Parcels 2C and 3B. As the current owner, it is assumed that ODOT will retain responsibility for closure of the LUST files. DEQ is requiring additional information/activities from ODOT to achieve site closure for each LUST file, including a waste management plan, risk assessment, beneficial water use survey, recent soil and groundwater data, assessment of possible up-gradient source of groundwater contamination, and a closure report. DEQ has also indicated that remedial actions are required for the asphalt pit area on Parcel 2C and there is potential that DEQ could require additional investigation associated with the former UST pits. The closure report(s) will need to include a comprehensive soil and groundwater data evaluation, including the original decommissioning records, sampling data, and any follow-up investigations or groundwater monitoring conducted by ODOT. This current report and data contained herein can be utilized by ODOT, where applicable, to supplement the existing data set in pursuit of a NFA determination(s) from the DEQ.

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# 1. INTRODUCTION

Parametrix was retained by the Portland Development Commission (PDC) to conduct a Phase II Environmental Site Assessment (ESA) on the Oregon Department of Transportation (ODOT) Central Eastside properties. The subject property consists of Parcels 1C, 2C, and 3B and are located between SE Taylor Street, SE Madison Street, SE Water Avenue, and an Interstate 5 off-ramp (Figure 1). The subject properties are currently used for parking (Parcel 1C), construction material storage and distribution (Parcel 2C), and as an overflow parking area for the Oregon Museum of Science and Industry (OMSI) (Parcel 3B).

It is our understanding that PDC has expressed interest in acquiring a portion of each of the properties from ODOT. The potential acquired portion includes the approximate east half of each parcel as shown on Figure 2. A number of previous investigations have been conducted on the properties since the late-1990s and several recognized environmental conditions (RECs) were identified. In addition, several underground storage tanks (USTs) have been decommissioned on each of the parcels and at least two leaking UST (LUST) sites have been reported to the Oregon Department of Environmental Quality (DEQ). The LUST sites (LUST #26-92-0020 and #26-99-0182) appear to apply to 4 separate tank pits on Parcels 2C and 3B, and include at least 11 USTs, as well as a former asphalt vat (see Figure 2). It appears that the DEQ is requiring additional activities to be conducted by ODOT prior to issuing a no further action (NFA) for the LUSTs (DEQ 2010a, 2010b).

The purpose of the Phase II ESA was to: 1) evaluate current environmental conditions at the subject property, 2) provide information for existing data gaps, and 3) to assess the environmental liability and associated costs prior to acquisition by PDC. Specific tasks included the collection of soil and/or groundwater samples from 23 investigative borings and 6 test pits for laboratory analysis, data evaluation, and preparation of this Phase II ESA report. Conclusions and recommendations within this report are based on observed evidence and data collected during the performance of this assessment, as well as information obtained through previous investigations or documentation, where available.

This Phase II ESA was conducted in accordance with the Scope of Work, dated March 11, 2014 (Parametrix 2014a). All field activities were performed in accordance with the site Health and Safety Plan (HASP) dated May 2014 (Parametrix 2014b).

## 1.1 SITE LOCATION

The subject property (consisting of 3 parcels) is located between SE Taylor Street, SE Madison Street, SE Water Avenue, and an Interstate 5 off-ramp in Portland, Oregon (Figure 1). All of the parcels are currently owned by ODOT and consist of the following tax lots:

- Parcel 1C; no address (ID #R605931, R605932, R606532; Block 8, Tax Lots 1701, 1702, and 1703)
- Parcel 2C; 1221 SE Water Ave. (ID #R149850; Block 9, Tax Lot 3600)
- Parcel 3B; no address (ID #R499171; Block 10, Tax Lot 4302)

The site location is shown on Figure 1, the Site Vicinity Map. The boundaries of the subject properties are shown on Figure 2. Note that the subject property is considered to be the approximate east half of the parcels as shown in Figure 2. All current investigative activities were conducted on the east half of the parcels, as this is the portion that PDC may potentially

acquire, and evaluation of environmental liability generally only considered these portions of the three parcels, unless otherwise stated.

## 1.2 SITE AND VICINITY CHARACTERISTICS

The subject property includes three parcels (1C, 2C, and 3B) and is located in a primarily commercial and light industrial area of Portland, Oregon, known as the Central Eastside. General site and vicinity characteristics are presented below.

### 1.2.1 Parcel 1C

This parcel is currently occupied by Big Space and is generally used as a parking lot. No buildings are present on the property; however, a small storage container is located in the northeast corner of the property. The surface of Parcel 1C generally consists of gravel, dirt areas, and asphalt. The property is bordered by commercial buildings to the north, northeast, and east, the I-5 off-ramp to the west, and Parcel 2C to the south (Figure 2).

### 1.2.2 Parcel 2C

This parcel is currently occupied by Iron Horse and is used as a construction material storage and distribution facility. The property includes a large pile of concrete debris and rubble that is crushed on-site to generate gravel. The gravel is sold as construction material. In addition, top soil is also stored on-site and distributed to customers. The approximate extent of the concrete and gravel piles at the time of this assessment is shown on Figure 3. No permanent buildings or structures are present at this time. However, several storage containers are located in the southeast corner of the property. In addition, a number of heavy equipment is operated on the site and a truck wheel-wash facility is located at the exit of the property on the south end. The surface of the property is generally covered by gravel. Reportedly, Iron Horse imported approximately 1 to 3 feet of gravel to the site and placed it over the previous grade in order to level the site and facilitate site operations.

The property is bordered by the I-5 off-ramp to the west, Parcel 1C to the north, commercial buildings to the west, and Parcel 3C to the south (Figure 2).

### 1.2.3 Parcel 3B

The subject property is currently used as an overflow parking area for OMSI. No buildings are present on the property. With the exception of the far west portion, the majority of the property is covered by an asphalt lot. The property is bordered by the I-5 off-ramp to the west, Parcel 2C to the north, commercial buildings to the east, and vacant property and a building to the south (as well as an elevated portion of SE Madison Street) (Figure 2).

## 1.3 PHYSICAL SETTING

The subject property is located in the Portland Terraces physiographic province of the Portland Basin, at an elevation of approximately 30 feet above sea level. The basin is bounded on the west by the Willamette River followed by the Tualatin Mountains, and to the east, by the foothills of the Cascade Mountain Range. Faulting occurs on the eastern and western margins of the basin. A northwest-trending fault may also exist within the basin along the west and east banks of the Willamette River. The surface material filling the basin is composed of deposits of the catastrophic Missoula Floods. Upland areas along the margin of the basin are commonly capped by flows of Boring lava and the Western Cascade

Mountains, and occasionally by sediments of the Troutdale Formation. Columbia River Basalt underlies the entire basin (Swanson et al. 1993).

The subject property is relatively flat, but slopes slightly towards the west. The Willamette River lies approximately 300 feet to the west of the subject property. Native soil in the area of the subject property consists of sand and silt alluvium. Based on borings completed during this current investigation and a review of boring logs for past investigations, significant areas of fill material, including some relatively large areas of debris (concrete, bricks, wood waste), are located on the subject property. Approximately 3 to 13 feet of fill material, which primarily consists of sand and gravel, was observed in portions of the subject property during this current assessment.

Shallow groundwater at the subject property occurs at depths of approximately 10 to 20 feet below ground surface (bgs). During this current investigation, groundwater was encountered at an average depth of approximately 14 feet bgs on the eastern portions of the subject property. Groundwater flow is dominated by the presence of the Willamette River immediately to the west of the subject property and groundwater direction appears to be primarily west, with a northerly component (west-northwest) noted during previous investigations (NGI 2013).

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## 2. PREVIOUS INVESTIGATIONS

The following sections summarize previous environmental investigations on the subject property. Much of the information reviewed was obtained from a 2013 Phase I ESA completed by Northwest Geotech, Inc. on behalf of PDC, which included portions of previous reports or documents. Parametrix did not have access to all previous reports, but obtained sufficient information from other sources to summarize the work performed. Section 3 provides a summary of the known or suspected environmental conditions on the subject property that was used to scope the current Phase II ESA.

### 2.1 1998 PHASE I ESA UPDATE– AGRA

In 1998, AGRA conducted a Phase I ESA Update (AGRA 1998) for PDC on the subject properties, as well as thirteen additional parcels to the west and south. At the time the document was produced, Parcels 1C and 3B were vacant and the eastern portion of Parcel 2C was occupied by a structure (Quadrant building; see Figure 2).

Observations and conclusions in the Phase I ESA Update included historical usage of Parcels 1C and 2C for automotive repair, truck wash areas, and an asphalt manufacturing plant. The site reconnaissance identified potential UST piping and a fill pipe at the southeast corner of Parcel 1C. The report references the original Phase I ESA (not available for review), which summarized subsurface exploration by ODOT in July 1998 in the vicinity of UST Pit #2 on Parcel 2C. Reportedly, high concentrations (64,700 milligrams per kilogram [mg/kg]) of heavy oil-range petroleum hydrocarbons were detected at the groundwater interface. The AGRA report also indicated that residual petroleum hydrocarbon contamination in groundwater in the vicinity of UST Pit #4 was encountered, likely associated with a former early 20th century bulk fuel terminal located immediately east of Parcel 3B (NGI 2013).

### 2.2 1999 PHASE II ESA – HART CROWSER

Hart Crowser's Phase II ESA (Hart Crowser 1999) included the subject property along with fourteen parcels to the south and west. The site investigation included geophysical surveys, test pits, and geoprobe borings. Soil and groundwater samples were analyzed for petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and metals. Significant findings were as follows:

**Parcel 1C** – The heating oil tank associated with the piping and fill port noted during the 1998 AGRA Phase I ESA was located during the geophysical investigation and subsequently decommissioned (no impacts noted). The subsurface investigation indicated that the central and southwest portion of Parcel 1C was contaminated with oil-range petroleum hydrocarbons up to approximately 10 feet bgs and was likely a result of the former asphalt plant or vehicle repair operations. PAHs and VOCs detected were generally low in concentration, with the exception of benzo(a)pyrene, which was detected above the 1999 preliminary remedial goal (PRG) for that compound in limited samples. The impacted soil was estimated to be up to 2,000 cubic yards of low level impacts and is primarily located in fill materials. The extent of the impacts as estimated by Hart Crowser is included on Figure 2.

**Parcel 2C** – The geophysical survey identified USTs associated with the former asphalt plant on this parcel. The subsurface investigation at UST Pit #1 in the southeast corner of the parcel indicated petroleum hydrocarbons detected both upgradient and downgradient of the pit. Diesel-range petroleum hydrocarbon concentrations were detected up to 7,500 mg/kg in soil

and 14 milligrams per liter (mg/L) in groundwater. The investigation in the vicinity of UST Pit #2 detected concentrations of diesel and oil-range petroleum hydrocarbons in soil of 4,200 mg/kg and 64,700 mg/kg, respectively. Benzene was detected above its 1999 PRG in groundwater near UST Pit #2. In addition, petroleum hydrocarbons were detected near the former asphalt vat and extending to the west. The asphalt vat area is reportedly the location of asphalt-impacted soil which was placed in the former pit. The extent of subsurface impacts on Parcel 2C as estimated by Hart Crowser is included on Figure 2.

**Parcel 3B** – The subsurface investigation in the vicinity of UST Pit #4 detected gasoline and diesel-range petroleum hydrocarbons in soil at 1,300 mg/kg and 13,700 mg/kg, respectively, with benzene detected above its 1999 PRG. Several PAHs and benzene were also detected above their PRGs in groundwater near UST Pit #4. As a result of the investigation, Hart Crowser estimated the total petroleum hydrocarbon (TPH) contamination to be over 6,000 square feet (ft<sup>2</sup>) on Parcel 3B. It was also concluded that the dissolved contaminant plume originating on the parcel crossed SE Madison Street to the south. The extent of subsurface impacts on Parcel 3B as estimated by Hart Crowser is included on Figure 2.

### 2.3 2003 ENVIRONMENTAL SITE INVESTIGATION – ODOT

In 2003, ODOT conducted an investigation at the subject property, which included the installation of 22 soil borings and the completion of 11 monitoring wells. A memo summarizing the investigation was completed in 2005 (ODOT 2005). The memo identified six distinct areas of contamination or issues:

1. Off-site groundwater contamination impacting Parcels 2C and 3B, which was identified as originating upgradient in the direction of Water Ave, where a former Standard bulk oil terminal was located. Contaminants in groundwater included gasoline and diesel-range petroleum hydrocarbons and arsenic concentrations exceeding DEQ risk-based concentrations (RBCs).
2. Soil contamination on Parcel 3B in the vicinity of UST Pits #3 and #4. Contaminants include oil-range petroleum hydrocarbons and PAHs. PAH concentrations in the northwest of the pits exceeded applicable RBCs.
3. Diesel and oil-range petroleum hydrocarbons and related PAHs in the vicinity of the suspected asphalt vat and tank pits on Parcel 2C exceeding RBCs.
4. Gasoline range petroleum hydrocarbons near UST Pit #1 on Parcel 2C was below applicable RBCs.
5. Oil-range petroleum hydrocarbons were below RBCs on Parcel 1C.
6. Oil-range hydrocarbons in fill material under I-5 were below RBCs. The fill does not appear to be associated with sources on subject property.

Monitoring wells installed between the subject property and the river showed no migration of on-site contamination toward the Willamette River. During an October 2003 monitoring event, gasoline-range petroleum hydrocarbons were detected up to 4.9 mg/L in monitoring well MW-3 (located on Parcel 3B) and 0.85 mg/L in MW-1 and 1.6 mg/L in MW-9, both located across Water Avenue to the east. Based on this information, it appears that at least some groundwater contamination may have originated off-site to the east. However, contribution from the LUSTs located on Parcel 3B and/or 2C may have contributed to the contaminant issues.

## **2.4 2007 PRELIMINARY SITE INVESTIGATION, QUADRANT WAREHOUSE – ODOT**

ODOT conducted a subsurface investigation of the former Quadrant warehouse in 2006 and 2007 (ODOT 2007). The location of the former warehouse on Parcel 2C is shown on Figure 2. Fourteen geoprobe borings were installed within and outside of the former warehouse. Petroleum hydrocarbons in soil were detected in 10 of the 14 borings; however, all but one boring indicated concentrations below the DEQ residential RBCs for those compounds. Low levels of PCBs, VOCs, and PAHs were also detected in several of the samples which contained petroleum hydrocarbons, but were not significant.

A sample collected from seven feet bgs in one boring (GP-10) within the eastern footprint of the warehouse indicated gasoline, diesel, and oil-range hydrocarbons at concentrations of 3,650 mg/kg, 9,990 mg/kg, and 22,200 mg/kg, respectively. The concentrations of gasoline and diesel were above the RBCs for urban residential exposure.

## **2.5 2010 LIMITED HAZMAT EVALUATION – ODOT**

In 2010, ODOT evaluated the history and potential costs for cleaning up the subject property (ODOT 2010). The evaluation included cost estimates and recommendations for addressing hazardous materials issues at Parcels 1C, 2C, and 3B. In general, the evaluation identified past land uses at the subject property and a summary of impacts.

Historical land uses and features of Parcel 1C included an asphalt plant, a machine shop, truck and vehicle repair, a heating oil tank, and burial of impacted soils. The evaluation estimated that Parcel 1C contained approximately 2,000 cubic yards of contaminated soil. The ODOT letter indicates that DEQ is not requiring additional work or a closure report; thus, ODOT suggests that closure costs are not expected for the parcel. However, if excavation work were to occur, stockpiling and soil characterization would be required prior to disposal.

Parcel 2C shares a land use history with Parcel 1C including the asphalt plant, machine shop, and truck repair facility. The parcel contained 11 USTs and also had a contaminated soil burial area in the former asphalt vat area. Approximately 580 cubic yards of contaminated asphalt backfill were located in the vat area. ODOT indicated that DEQ is requiring excavation of the contaminated material and submittal of a closure report. ODOT estimated that site closure would incur approximately \$200,000 to \$300,000 for Parcel 2B.

Parcel 3B had been impacted by leaking USTs and an upgradient source of contamination. ODOT indicated that DEQ is requiring a closure report and suggests that site closure could be accomplished via a risk assessment and institutional controls. ODOT indicated that approximately \$25,000 could be incurred for site closure on Parcel 3B.

The ODOT evaluation also considered the construction of stormwater treatment facilities on the parcels. Because the soils likely do not meet the DEQ's clean fill criteria, ODOT suggested that approximately \$100 per ton could be incurred for any excavation work and off-site disposal. Thus, conservative estimates suggested that construction of a 0.6-acre filter system on Parcel 1C could incur up to \$300,000 and construction of 4.34-acres of bioswale could incur up to \$6,300,000.

## **2.6 2012 STATUS REPORT – ODOT**

ODOT's 2012 status report (ODOT 2012) for the subject property summarized past land uses and impacts presented in the 2010 Limited Hazmat Evaluation and included DEQ's site closure requirements for each parcel. At the time the memo was prepared, DEQ was not requiring any additional work or a closure report for Parcel 1C. Requirements for the remaining parcels included excavation of fill material used to backfill the former asphalt vat pit and a closure report at Parcel 2C and the submittal of a closure report for Parcel 3B.

## **2.7 2013 PHASE I ESA – NORTHWEST GEOTECH, INC.**

In 2013, Northwest Geotech Inc. (NGI) completed a Phase I ESA of the subject property for PDC (NGI 2013). At the time the Phase I ESA was completed, all three parcels that comprise the subject property were vacant with the exception of stockpiled construction debris, portable shipping containers, and a number of vehicles. No structures were present on the parcels.

Through site reconnaissance, interviews, and review of historical sources, NGI had identified historical recognized environmental conditions (HRECs), potential environmental concerns (PECs), and recognized environmental conditions (RECs) for the subject property.

RECs identified for Parcel 1C included environmental impacts associated with a drywell, building materials and impacted backfill used to fill the basement on the east side of the parcel, impacts associated with the forklift repair area on the west side of the parcel, and impacts associated with the historical asphalt plant in the southwest corner of the parcel.

RECs for Parcel 2C included two open LUST sites (26-99-0182 and 26-92-0020 [UST Pits #1 and #2]), a documented hydrocarbon plume which moved onto the site from across SE Water Avenue, and soil impacts associated with a former vehicle service operation near the southwest corner of the parcel.

Parcel 3B RECs included LUST 26-92-0020 (UST Pits #3 and #4), the hydrocarbon plume crossing SE Water Avenue, impacts associated with two former catch basins, and documented petroleum hydrocarbon soil impacts on the south side of the parcel.

HRECs for the subject property included the re-use of treated petroleum impacted soil for the SE Water Avenue off-ramp embankment and a former LUST site (26-99-0181) on Parcel 1C, and a former LUST site (26-01-0026) on Parcel 2C. Both former LUST sites received No Further Action (NFA) letters from the DEQ.

PECs for the subject property included potential subsurface impacts on Parcel 1C from an oil and gas pipeline; adjacent historical operations including paint spraying, vehicle repair, and fueling; an ECSI site (#1135, Broad Spectrum Electronics) to the east; former on-site laundry, sheet-metal, stove works operations; historical fill; and potential surficial soil impacts from a former rail spur along the south side of the parcel. PECs for Parcel 2C included potential subsurface impacts from historical vehicle repair and machine work at the northeast corner of the parcel and impacts from historical fill. PECs for Parcel 3B included impacts from historical fill and surficial soil impacts from a former plumbing shop at the south end of the parcel.

### 3. KNOWN ENVIRONMENTAL CONDITIONS

The following summarizes the known or suspected significant environmental conditions on the subject property from all previous investigations. The current investigation (Section 4) was focused on evaluating current conditions associated with the environmental issues below and/or providing information where perceived data gaps exist. Figure 2 includes areas of previously delineated soil and/or groundwater contamination and former site features.

#### 3.1 PARCEL 1C

The following is a summary of the significant environmental concerns on the property.

- Former asphalt plant in the southwest corner of the site; known petroleum contaminated soil (PCS). The majority of this previously delineated area is to the west of the portion of Parcel 1C that PDC intends to acquire; thus, the current investigation did not specifically target this area. However, it was previously estimated that up to 2,000 cubic yards of contaminated soil was present. The current investigation did collect a number of samples to confirm the low level contaminant conditions across the site.
- Former forklift repair facility in the western portion of the site; known PCS. Same as above; this issue is located to the west of the potential PDC acquired property.
- Former building (demolished in the mid-1980s) in the eastern portion of the site. Debris materials reportedly used as backfill and placed into basement (reportedly covering approx. 6,200 square feet and 9 foot depth). Potential PCS, debris, and other contaminants. Test pits and borings were completed to evaluate current conditions and characterize debris material.
- Former stormwater catchbasin and/or drywell located in the center of the parcel. A utility locate, visual inspection, and boring was placed adjacent to the apparent drywell during this current investigation.
- Three former waste oil UST decommissionings; NFA received from DEQ for all three tanks. Not specifically targeted; however, several borings placed near the former USTs to evaluate current subsurface conditions across the site.
- Former activities in the northeast corner of the parcel, including laundry, sheet metal and stove works. Several borings and test pits were placed along the northern portion of the property to collect subsurface information.

#### 3.2 PARCEL 2C

The following is a summary of the significant environmental concerns on the property.

- Total of 11 USTs reportedly decommissioned on this parcel and/or Parcel 3B. A number of borings were placed across the site and near the former tank pits to evaluate current subsurface conditions.
- Former asphalt batch plant and associated USTs; open LUST file #26-99-0182. Reportedly, the asphalt vault tank pit was backfilled with asphalt-impacted soil and DEQ issued a notice of non-compliance. DEQ is requiring removal of the impacted soil. ODOT estimated approximately 580 cubic yards for removal. The tank pit appears to be located just to the west of the portion of Parcel 2C that PDC intends to

acquire (see Figure 2). Several borings were placed as close as accessible to the proposed property line to evaluate whether the asphalt-impacted soil has impacted subsurface conditions on the east side of the property. Note that a large concrete and rubble pile is located on-site which precluded borings to be placed at the proposed property line (see Figure 3).

- UST Pit #1 in southwestern corner of parcel; open LUST file #26-99-0182. Borings placed immediately to the north and west of the former tank pit to assess current subsurface conditions.
- UST Pit #2 in central portion of parcel, open LUST file #26-99-0182. The former tank pit is located on the western side of the proposed property line (see Figure 2); thus, borings were placed on the east side of the proposed line to evaluate if the subsurface has been impacted from UST Pit #2.
- Former auto repair facility and machine shop in the northeast corner of the parcel. Several borings placed in the northeast corner of the parcel to evaluate current subsurface conditions.
- Gasoline and diesel-range petroleum hydrocarbons detected at 3,650 mg/kg and 9,900 mg/kg at 7 feet bgs below former Quadrant warehouse in one boring. This area was covered by a gravel pile and could not be accessed during the current assessment. Based on the previous investigation, this area of contamination appears to be shallow and isolated.
- Former Standard Oil Bulk Plant to the east; potential upgradient source of groundwater contaminants. Groundwater samples were collected along the property boundary on the northeast and southeast portion of the parcel to help in determining if an off-site source exists.

### 3.3 PARCEL 3B

The following is a summary of significant environmental concerns on the property.

- UST Pit #3 in the eastern portion of parcel; open LUST file #26-92-0020. PAHs exceeded RBCs in a previous investigation. A boring was placed immediately downgradient of the former UST Pit #3 to evaluate current subsurface conditions.
- UST Pit #4 in eastern portion of parcel; open LUST file #26-92-0020. PAHs exceeded RBCs in a previous investigation. Three borings were placed within and immediately downgradient of the former UST Pit #4 to evaluate current subsurface conditions.
- Potential former stormwater catchbasins and/or drywells. Several borings were placed across the site to evaluate subsurface conditions.
- Auto garage and machine shop in southeastern corner of parcel; known PCS and other contamination. Several borings were placed across the site to evaluate subsurface conditions.
- Former Standard Oil Bulk Plant to the east; potential upgradient source of groundwater contaminants. Groundwater samples were collected along the property boundary on the northeast and southeast portion of the parcel to help in determining if an off-site source exists.

## 4. SUBSURFACE INVESTIGATION

On May 30th through June 1st, 2014, Parametrix supervised the drilling of 23 investigative borings and the excavation of six test pits on the subject property. Six of the borings (labeled N-1 through N-6) and all six test pits (labeled TP-1 through TP-6) were located on Parcel 1C, nine borings (labeled M-1 through M-9) were located on Parcel 2C, and eight borings (labeled S-1 through S-8) were located on Parcel 3B. The location of the borings and test pits are shown on Figure 3. The following sections describe the soil and groundwater sampling methods and analytical results.

### 4.1 METHODS

The following sections describe the soil and groundwater sampling methods at the site.

#### 4.1.1 Soil Borings

Using a powered direct-push drill rig, Cascade Drilling, Inc. (Cascade Drilling) of Portland, Oregon, provided the drilling services and obtained all required permits from the Oregon Water Resources Department (OWRD). A total of 23 borings were completed on the three parcels. The location of the borings are shown on Figure 3.

The direct-push probe consists of a section of hollow steel rod attached to a 5-foot long macro core sample barrel. After a section of the steel rod was advanced in each boring to specific sampling depths, the sampler, lined with a clear acetate liner, was attached to the rod and advanced 5 feet. The acetate liner containing the soil sample was then removed from the sample barrel, a clean liner inserted into the sample barrel, and the steel rod replaced into the boring. All borings were advanced to approximately 20 or 25 feet below ground surface (bgs). Boring logs are included in Appendix A.

The collection of soil samples from each boring was based on field observations and the evaluation of data gaps. In general, if there were no olfactory or visual indications of contamination, samples were collected from approximately three to six feet bgs, and deeper samples were collected between 10 and 14 feet bgs near the soil/groundwater interface. In some cases, deeper samples were collected at approximately 18 to 19 feet bgs. Sample nomenclature includes the boring identification and the depth from which the sample was collected. For example, the sample collected from boring N-1 at a depth of 3 feet bgs is labeled N-1-3.

Soil samples were transferred from the clear PVC liners into appropriately labeled, laboratory-supplied 4- and 8-ounce glass jars with Teflon®-lined lids and placed into a cooler with ice. The samples were transported under chain-of-custody procedures to Specialty Analytical in Clackamas, Oregon. Fifty-one (51) soil samples were collected from the 23 borings on the three parcels and submitted for laboratory analysis. Laboratory analysis generally focused on petroleum hydrocarbons using the hydrocarbon identification method (HCID) and/or Northwest methods for gasoline and diesel-range petroleum hydrocarbons (NWTPH-Gx and NWTPH-Dx). Selected samples were also analyzed for PAHs by EPA Method 8270-SIM, VOCs by EPA Method 8260B, and/or metals using the EPA Method 6000/7000 series.

### 4.1.2 Groundwater

Twelve groundwater samples were collected and submitted for laboratory analysis. The groundwater sample locations were selected to provide spatial coverage of the site focusing on the eastern property boundary where PDC plans to acquire property (Figure 3).

The groundwater samples were collected for laboratory analysis using the subsurface probe system's 4-foot-long by 0.75-inch-diameter sealed screen sampler. The groundwater sample probe was advanced to the desired sampling depth and the screen was exposed by retracting the probe rods. Clean polyethylene tubing was then inserted through the steel rod to the bottom of the screen and attached at the surface to a pump. Prior to collecting groundwater samples, the borings were purged using a peristaltic pump until they were emptied and allowed to recharge or until approximately three bore volumes of groundwater were removed and/or the groundwater cleared. After purging activities were complete, groundwater samples were collected through the peristaltic pump. The samples were transferred into appropriately labeled 40-milliliter glass vials with Teflon® septum lids and preserved with dilute hydrochloric acid. Additional samples were collected using the surface pump and transferred into appropriately labeled 32-ounce glass amber bottles and 500-milliliter plastic bottles with Teflon®-lined lids.

Groundwater samples were collected from the bottom of their respective borings with a screened interval of approximately 16 to 20 feet bgs. Sample nomenclature includes the boring identification and a 'W' to indicate a water sample. For example, a groundwater sample collected from boring N-1 is labeled N-1-W.

The groundwater samples were placed into a cooler with ice and transported under chain-of-custody procedures to Specialty Analytical for analysis. The samples were analyzed for gasoline and diesel-range petroleum hydrocarbons using the NWTPH-Gx and NWTPH-Dx methods. In addition, groundwater samples were analyzed for VOCs, PAHs, and/or metals using EPA Methods 8260B, 8270-SIM, and 6000/7000 series, respectively.

### 4.1.3 Test Pits

Test pits were completed by use of a trackhoe. All utilities were cleared prior to excavation. The location of the test pits are shown in Figure 3. Material excavated from the test pits was placed to the side of the excavation for inspection and then placed back in the excavation after sampling and visual observations were complete. Each excavation was compacted with the trackhoe and a small vibrating compacter. Test pits completed in the asphalt area (TP-1 and TP-2) were compacted to approximately 3-inches below the surface and an asphalt patch placed in the hole to grade.

All test pits were excavated to approximately eight or nine feet bgs, with the exception of test pit TP-2 and TP-4, which were excavated to 1-foot bgs and 4-feet bgs, respectively, due to concrete foundation or debris. Test pit logs are included in Appendix A.

Soil samples collected from test pits were transferred directly from the excavator bucket into the 4- or 8-ounce jar and placed into a cooler with ice. The samples were transported under chain-of-custody procedures to Specialty Analytical in Clackamas, Oregon. Sample nomenclature includes the test pit identification and the depth from which the sample was collected. For example, the sample collected from test pit TP-1 at a depth of 6 feet bgs is labeled TP-1-6. A total of seven soil samples were collected from the 6 test pits on Parcel 1C and submitted for laboratory analysis. Laboratory analysis generally focused on petroleum hydrocarbons using the hydrocarbon identification method (HCID) and/or Northwest

methods for gasoline and diesel-range petroleum hydrocarbons (NWTPH-Gx and NWTPH-Dx). Selected samples were also analyzed for PAHs by EPA Method 8270-SIM, VOCs by EPA Method 8260B, and/or metals using the EPA Method 6000/7000 series.

## 4.2 SUBSURFACE SOIL CHARACTERISTICS

Soil samples were inspected in the field and classified by soil type. In general, various fill material was encountered, which primarily included sand and gravel with some debris (concrete, brick, metal, wood, etc.) in several areas, from the surface to a maximum depth of 13.0 feet bgs. The depth of the fill material varied significantly across the site and does not appear to be homogeneous in depth or type.

Substantial building debris was encountered in borings and test pits completed on Parcel 1C to a depth of at least 9 feet bgs (see Section 4.3.1.3). Significantly less debris material was encountered on Parcels 2C and 3B. However, a minimum of 3 to 4 feet of fill material appears to have been encountered in all borings up to a maximum of 13 feet. Below the fill material lies native material which generally consisted of silty-sand or sandy-silt to a depth of at least 20 to 25 feet bgs. Groundwater was generally encountered in all borings at depths ranging from 12 feet bgs to 15 feet bgs. Boring logs and test pit logs are included in Appendix A.

## 4.3 LABORATORY ANALYTICAL RESULTS

Soil analytical results are summarized in Table 1 (TPH and metals) and Table 2 (PAHs and VOCs). Groundwater analytical results are summarized in Table 3 (TPH and metals) and Table 4 (PAHs and VOCs). Copies of the laboratory reports and chain-of-custody documentation are included in Appendix B.

Analytical results for soil and groundwater samples were primarily compared to DEQ RBCs (DEQ 2012). In addition, calculated background concentrations for metals in Oregon (DEQ 2013) were used to assist in data evaluation for these naturally occurring compounds, where necessary. It should be noted that it is not expected that the properties would be developed into single-family residential use. However, there is potential that future development could include some urban residential use. Therefore, although the residential RBCs are included in the tables for comparison (primarily to assist in “clean fill” evaluation), in general, the most stringent RBC used for evaluation purposes is the DEQ RBCs for urban residential exposure. Analytical results are discussed in the following sections.

### 4.3.1 Parcel 1C

Parcel 1C, the northernmost parcel of the subject property, is bounded by SE Salmon St to the south, SE Taylor St to the north, I-5 to the west, and SE Water Ave to the east. The primary site features of concern on this parcel were the former building on the eastern portion of the parcel, the drywell in the southwest portion of the parcel, and laundry, sheet metal and stove works operations in the north and northeast portion of the parcel. A total of six borings and six test pits were completed on the parcel as shown on Figure 3. Analytical results are summarized below.

#### 4.3.1.1 Soil

Fourteen samples from the six borings and seven samples from the six test pits were analyzed for petroleum hydrocarbons, metals, PAHs, and/or VOCs. In general, borings N-1 and N-2

and test pits TP-1 and TP-2 were completed in the northern portion of the parcel to evaluate the former laundry and sheet metal shop operations. Boring N-3 and test pits TP-3 through TP-6 were located to provide soil data in the vicinity of the former building on the site and evaluate subsurface debris material. Boring N-6 was located in the vicinity of the apparent drywell. The remaining borings were located at the southern end of the parcel to aid in evaluating remaining soil contamination throughout the parcel, if any. Soil analytical results are included on Tables 1 and 2. In addition, Figure 4 includes petroleum hydrocarbon sample results for soil.

Low concentrations of petroleum hydrocarbons (81.4 mg/kg diesel and 310 mg/kg oil) were detected in a sample collected from boring N-2 at 14 feet bgs. PAHs were not detected in the same sample above the method detection limit. Petroleum hydrocarbons were not detected in samples collected from boring N-2 at 3 feet bgs and 19 feet bgs, which indicates that the low level contamination observed at 14 feet bgs appears to be confined to a small vertical area and does not exceed applicable DEQ RBCs.

Petroleum hydrocarbons were not detected in the samples collected from boring N-1 or test pit TP-1. A sample could not be collected from test pit TP-2 due to refusal at 1 foot bgs from a concrete slab. Low concentrations of metals were detected in samples collected from boring N-1 at 14 feet bgs and N-2 at 3 feet bgs and 19 feet bgs; however, none of the concentrations exceeded the DEQ RBCs and/or DEQ background levels. Based on the samples collected from borings and test pits in the northern portion of the parcel, it does not appear that the former laundry and sheet metal operations have significantly impacted subsurface soil. However, fill material, including building debris was encountered in all borings and test pits and is discussed in Section 4.3.1.3

Soil samples were collected from test pits TP-3 through TP-6 and borings N-3 and N-4, all of which are located within or adjacent to the former building (Figure 3). As shown in the Table 1 and Figure 4, low concentrations of petroleum hydrocarbons were detected in several samples; however, none of the concentrations exceed the applicable DEQ RBCs and are not considered significant. The highest concentration of petroleum hydrocarbons (2,070 mg/kg oil) was detected in test pit TP-5 from 9 feet bgs. The sample collected from 5 feet bgs in test pit TP-5 was significantly less (88.7 mg/kg).

Samples from test pit TP-3 and TP-5 were also analyzed for PAHs (Table 2). PAHs were detected in each sample, including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and ideno(1,2,3-cd)pyrene, which were detected above the urban residential RBCs in the sample collected from test pit TP-3 at 7 feet bgs. However, only benzo(a)pyrene was detected above the occupational RBC. No PAHs were detected above the construction or excavation workers RBCs.

VOCs were not detected in the sample collected from test pit TP-5 at 9 feet bgs. Low concentrations of metals were detected in samples collected from test pits TP-3 at 7 feet bgs and TP-5 at 9 feet bgs; however, none of the concentrations exceeded the DEQ RBCs and/or DEQ background concentrations for the Portland Basin.

Based on the sample results, it appears that low levels of petroleum hydrocarbons and associated compounds (PAHs) are present in the material within the former building footprint. As noted above, there were some slight exceedances of specific PAH compounds above the urban residential RBCs. As noted in Section 4.3.1.3, the material includes building debris such as rebar, brick, concrete, wood, and metal. The risk from the buried material appears to be relatively low, but is extensive across the former building area and likely would have to be removed to provide for future development options. The majority of the material

will not meet the DEQ's clean fill criteria in the event of future development and excavation; thus, it does present a potential future environmental liability (see Section 5).

#### **4.3.1.2 Groundwater**

Four groundwater samples were collected on Parcel 1C. The sample locations were selected to provide a general evaluation of groundwater conditions across the subject property. However, samples from boring N-1 and N-6 were also used to evaluate whether groundwater had been impacted by the former laundry and sheet metal operations and the apparent drywell, respectively. Tables 3 and 4 provides the analytical results. Figure 5 also includes analytical results for petroleum hydrocarbons.

Petroleum hydrocarbons were not detected in groundwater samples collected from borings N-1, N-2, and N-4. VOCs were not detected in the groundwater sample collected from boring N-1, located in the former laundry and sheet metal shop area.

The groundwater sample results near the apparent drywell is included in Section 4.3.1.4.

#### **4.3.1.3 Debris**

The primary purpose of the test pits was to determine the magnitude, extent, and type of debris on the site. The borings were used to supplement the test pit findings. Debris was encountered in a number of the borings and test pits.

Debris encountered on Parcel 1C included large concrete pieces, rebar, bricks, wood waste, metal, and other materials. It appears that the former building was demolished and debris buried on-site within the former basement area. It appears that the debris is generally enclosed within the former building footprint (see Figure 2). Based on the dimensions of the former building footprint, it is estimated that up to 2,500 cubic yards of former building debris is located in the area to a depth of approximately 9 feet bgs. Visual inspection of the debris material did not indicate suspect asbestos-containing materials (ACM), lead-paint paint (LBP), or other hazardous compounds commonly found in building debris. However, there remains potential that ACM, LBP, or other compounds are present.

Some debris or other structures were also encountered in borings located outside of the former building footprint, specifically to the west and north. In boring N-2, located in the northwest corner of the parcel, brick and wood debris was encountered to approximately 5 feet bgs. Multiple boring attempts in this area yielded refusal at 2 to 3 feet bgs. Immediately to the east, test pit TP-2 was abandoned after approximately 1 feet bgs, when a large concrete slab was encountered. The extent of the concrete slab is not known.

Concrete and brick was also encountered in boring N-6, which was located immediately adjacent to the apparent on-site drywell. Several borings were attempted around the drywell, but hit refusal at shallow depths.

As described above, soil sampling associated with the fill material or debris appears to indicate that it is impacted by low levels of petroleum hydrocarbons and associated contaminants. Based on this investigation, as well as previous results, it is expected that the majority of material at the site in the upper 10 feet would not meet the DEQ's clean fill criteria.

#### **4.3.1.4 Drywell**

Boring N-6 was placed immediately adjacent to the stormwater catchbasin (see Figure 3). Several attempts were made to complete the boring; however, refusal occurred in borings

placed on the east and southeast sides. Boring N-6 was ultimately placed on the southwest side of the catchbasin.

It should be noted that the utility locate provided by APS Locates could not identify a pipe or outfall from the catchbasin. Visual inspection inside the catchbasin also could not identify a pipe entering or exiting (although the catchbasin was full of debris, which precluded significant inspection). Based on this information, it suggests that the on-site catchbasin may be a drywell.

The presumed groundwater depth is approximately 13 feet bgs. Due to debris material in the boring, recovery of soil samples was difficult and no soil sample could be collected at the presumed soil/water interface. However, soil samples were collected from 8 feet bgs and 19 feet bgs in boring N-6. Petroleum hydrocarbons were not detected in either sample. Very low concentrations of metals and PAHs (all significantly below applicable DEQ RBCs) were detected in the soil sample collected from 8 feet bgs. VOCs were not detected.

A groundwater sample was collected from boring N-6. Gasoline-range petroleum hydrocarbons were not detected in the groundwater sample collected. Diesel and oil-range petroleum hydrocarbons were detected in the groundwater sample collected from boring N-6 at concentrations of 142 µg/L and 286 µg/L, respectively. The concentrations detected are relatively low, but do exceed the DEQ RBC for groundwater use by an urban resident. Very low concentrations of PAHs (fluoranthene and phenanthrene) and barium and chromium were also detected, none of which exceed the applicable DEQ RBCs. VOCs were not detected in the groundwater sample from boring N-6.

Based on the sampling conducted, it appears that the apparent drywell has impacted the subsurface groundwater conditions at low concentrations. Soil does not appear to be significantly impacted.

### 4.3.2 Parcel 2C

Parcel 2C, the center parcel of the subject property, is bounded by SE Salmon St to the north, SE Main St to the south, I-5 to the west, and SE Water Ave to the east (Figure 2). The site features of concern for this parcel are UST Pits #1 and #2 and the reported asphalt pit in the northern portion of the parcel. A total of nine borings were completed on the parcel and are shown on Figure 3. Analytical results are summarized below.

#### 4.3.2.1 Soil

Eighteen samples collected from the nine borings on Parcel 2C were analyzed for petroleum hydrocarbons, metals, PAHs and/or VOCs. Borings M-6, M-7, and M-8 were installed near the presumed location of the asphalt pit in order to quantify any soil impacts from that feature. Borings M-1 and M-2 were located near UST Pit #1 and boring M-9 was installed just upgradient of UST Pit #2. The remaining borings (M-3, M-4, and M-5) were intended to aid in identifying remaining soil contamination throughout the parcel.

A soil sample collected from M-1 from 18 feet bgs indicated gasoline and diesel-range petroleum hydrocarbons of 1,230 mg/kg and 1,340 mg/kg, respectively. Neither of the concentrations exceed the DEQ urban residential RBC. Very low levels of petroleum hydrocarbons were detected in the sample collected from 12 feet bgs. Petroleum hydrocarbons were not detected in samples collected from boring M-2. Based on the samples collected near UST Pit #1, residual petroleum hydrocarbons are likely present in soil.

However, it does not appear that they exceed applicable RBCs and are not expected to be significant in extent.

Low concentrations of petroleum hydrocarbons were detected in samples collected from borings M-7 and M-8, significantly below applicable RBCs. It should be noted that HCID analysis for surface samples (3 feet) in boring M-7 and M-8 were positive for diesel and oil; however, due to laboratory error, they could not be further quantified through followup analysis (see Table 1 for estimates). No petroleum hydrocarbons were detected in samples collected from boring M-6 (Table 1). No significant PAHs or VOCs were detected in samples collected from borings M-6, M-7 or M-8. Based on the sample results, it does not appear that the asphalt-impacted soil to the west has impacted soil conditions on the east side of the proposed property line. However, it should be noted that a large concrete pile (as shown in Figure 3) is located on the site and precluded borings to be placed closer to the property line.

Samples from borings M-2, M-4, M-5, M-8, and M-9 were analyzed for RCRA 8 metals (Table 1). Two samples, M-5-8 (3.67 mg/kg) and M-8-13 (2.12 mg/kg) exceeded the residential and occupational RBCs for ingestion, inhalation, and skin contact for arsenic. Though the detections exceeded the RBC, they are below the default background concentration for arsenic (8.8 mg/kg) in the Portland Basin (DEQ 2013) and thus are not considered significant.

A sample collected from boring M-8 at 13 feet bgs exceeded the applicable RBC for lead with a concentration of 867 mg/kg. The DEQ urban residential RBC is 400 mg/kg and the occupational, construction worker, and excavation worker RBC is 800 mg/kg. Five other samples were collected on Parcel 2C for metals; none of which had a lead concentration greater than 56.4 mg/kg (Table 1). The elevated level of lead in the area near boring M-8 appears to be an anomaly. In addition, it is at depth such that it does not appear to be a significant concern. The average concentration of lead detected across the site is well below the DEQ RBCs.

Two samples from Parcel 2C, M-8-13 and M-9-13, were analyzed for PAHs (Table 2). M-8-13 had detections of PAHs, all of which were below the urban residential RBCs. No PAHs were detected in sample M-9-13.

Petroleum hydrocarbons were not detected in soil in the remaining borings on Parcel 2C.

#### **4.3.2.2 Groundwater**

Four groundwater samples were collected from Parcel 2C. In addition to providing general data on the quality of groundwater beneath the parcel, M-2-W, M-9-W, and M-8-W were located to evaluate water quality in the vicinity of UST Pit #1, UST Pit #2, and the asphalt pit, respectively (Figure 3).

All four samples show petroleum impacts (Table 3), primarily diesel-range petroleum hydrocarbons. Diesel was detected at concentrations ranging from 0.608 µg/l (M-9) to 2,320 µg/L (M-2). Oil was detected at concentrations ranging from 539 µg/l (M-9) to 3,200 µg/l (M-2). All exceed the urban residential and occupational RBCs for tap water. Gasoline was not detected in samples collected from borings M-2 or M-8.

M-8-W and M-9-W were analyzed for RCRA 8 metals. Both had detections of barium and chromium, but were below any applicable RBCs. No other metals were detected.

M-3-W, M-8-W, and M-9-W were also analyzed for PAHs and VOCs. M-8-W had a number of low detections of PAHs, well below any applicable RBCs. PAHs were not detected in

samples collected from borings M-3 and M-9. VOCs were not detected in any of the three samples analyzed.

Figure 6 shows the gasoline and diesel-range petroleum hydrocarbons detected during this current investigation. Based on all groundwater samples collected (from all 3 sites), it does appear that some contribution from an off-site source has impacted groundwater on the subject property. As noted in previous investigations, the former Standard Oil bulk fuel facility was located to the east-southeast of the subject property and is directly upgradient. The contribution between the upgradient source and an on-site source is not clear. However, assuming that groundwater on the subject property cannot be used as a drinking water source, it does not appear that concentrations in groundwater on Parcel 2C are such that they would require active remediation (i.e. below all applicable DEQ RBCs, assuming tap water is not a current or future exposure route).

### 4.3.3 Parcel 3B

Parcel 3B, the southernmost parcel which comprises the subject property, is bounded by SE Madison St to the south, SE Main St to the north, I-5 to the west, and SE Water Ave to the east (Figure 2). The primary site features of concern on this parcel targeted during this investigation were the two decommissioned USTs (UST Pit #3 and UST Pit #4) and the hydrocarbon plume which is reported to cross SE Water Ave impacting the property. A total of eight borings were completed and are shown on Figure 3. Analytical results are summarized below.

#### 4.3.3.1 Soil

Eighteen samples collected from the eight borings on Parcel 3B were analyzed for petroleum hydrocarbons, metals, PAHs and/or VOCs. Borings S-1, S-4, S-5, and S-8 were advanced in the vicinity of UST Pits #3 and #4 in order to quantify remaining soil impacts from decommissioned USTs (Figure 3). The remaining borings were intended to aid in identifying residual soil contamination throughout the parcel.

Boring S-1 was placed just downgradient from UST Pit #3. Petroleum hydrocarbons were not detected in the soil sample collected from 14 feet bgs, which is just above the soil/water interface. Diesel was detected in a sample from 4 feet bgs using the HCID method. However, due to laboratory error, the sample could not be quantified through followup analysis. Information from the laboratory indicated that the concentrations do not appear to be significant (see Table 1 for estimates).

Borings S-4 and S-5 were placed within the former UST Pit #4 and boring S-8 was placed just downgradient of the former pit. Petroleum hydrocarbons were not detected in samples collected from boring S-4. Samples collected from boring S-5 and S-8 showed evidence (through HCID or TPH analysis) (Table 1) of petroleum hydrocarbon contamination. Gasoline was detected in S-5 and S-8 with concentrations ranging from 13 mg/kg (S-8-9) to 3,640 mg/kg (S-5-14). The detection of gasoline at 3,640 mg/kg in boring S-5 at 14 feet bgs exceeded the urban residential RBC. A sample collected from boring S-5 at 10 feet bgs was non-detect for gasoline. A sample collected from 19 feet bgs indicated gasoline at a concentration of 1,470 mg/kg, below the urban residential RBC. It appears that soil exceeding the applicable DEQ RBCs is present near boring S-5, but may be limited in extent and depth.

Based on the TPH analysis, three samples (S-5-14, S-8-9, and S-8-14) were also analyzed for PAHs (Table 2). S-5-19 and S-8-14 had detected concentrations of PAHs, all below applicable RBCs. S-8-9 was non-detect for all PAHs. S-5-19 and S-8-14 were also analyzed

for VOCs. Both samples had detections for a number of VOCs, all below applicable RBCs (Table 2).

Diesel was detected in the borings with concentrations ranging from 25 mg/kg (S-2-15) to 1,100 mg/kg (S-5-19). Oil range hydrocarbons were only detected in sample S-5-14 (104 mg/kg). None of the remaining petroleum hydrocarbon concentrations exceed the applicable DEQ RBCs.

Samples from borings S-1, S-5, S-6, S-7, and S-8 were analyzed for RCRA 8 metals (Table 1). Only one sample (S-1-4) exceeded an RBC for any of the analyzed metals (arsenic). Though the detection (3.4 mg/kg) exceeded the RBC for arsenic, it falls below the default background concentration for arsenic (8.8 mg/kg) in the Portland Basin (DEQ 2013). Barium, chromium, lead, and mercury were all detected in samples from Parcel 3B below applicable RBCs.

Based on the samples collected, there appears to be residual petroleum hydrocarbon impacted soil at the site. However, with the exception of an area near UST Pit #4, none of the soil appears to exceed applicable RBCs and remedial actions are likely not required.

#### 4.3.3.2 Groundwater

Four groundwater samples were collected on Parcel 3B. Samples from borings S-2 and S-7, on the eastern boundary of the parcel, were intended to provide data on any contaminants moving onto the site from the east (former Standard Oil bulk terminal). Borings S-1 and S-8 provide coverage for the remainder of the parcel including potential groundwater impacts from the decommissioned USTs.

All four samples show petroleum impacts (Table 3 and Figure 5) including exceedances of the urban residential RBC for diesel for tap water, with S-8-W showing the highest concentration (11,700 µg/L). S-1-W, S-2-W, and S-8-W all exceeded the urban residential RBC for gasoline for tap water. S-2-W had the highest concentration of gasoline (26,500 µg/L), which also exceeds the urban residential RBC for vapor intrusion into buildings. Oil range petroleum hydrocarbons were detected in S-2-W, S-7-W, and S-8-W.

PAHs were detected in all four groundwater samples from Parcel 3B. As shown on Table 4, detections exceeded tap water RBCs for six analytes: benzo(a)anthracene (S-1-W, S-2-W and S-7-W), benzo(a)pyrene (S-1-W, S-2-W and S-7-W), benzo(b)fluoranthene (S-1-W, S-2-W and S-7-W), chrysene (S-2-W and S-7-W), dibenzo(a,h)anthracene (S-2-W and S-7-W) and naphthalene (all four samples). S-2-W had the highest concentration for each detected PAH.

All four samples were analyzed for VOCs (Table 4). S-1-W, S-2-W and S-8-W exceeded the tap water RBCs for both benzene and ethylbenzene. All four samples exceeded the tap water RBC for naphthalene. As with the PAHs analysis, S-2-W exhibited the highest concentration of each detected VOC.

Some exceedances of the vapor intrusion pathway were noted in the groundwater sample collected from boring S-2. Benzene was detected at a concentration of 5,210 µg/L, which significantly exceeds the vapor intrusion RBC for urban residential of 510 µg/L and occupational exposure of 2,800 µg/L. No other groundwater samples exceeded the vapor intrusion RBCs.

S-2-W, S-7-W, and S-8-W were also analyzed for RCRA 8 metals with S-2-W and S-7-W exceeding the RBCs for tap water ingestion for total lead (76.8 and 45 µg/L respectively). Barium and chromium were also detected in all three samples, while selenium was only detected in S-7-W (Table 3).

Figure 6 shows the gasoline and diesel-range petroleum hydrocarbons detected during this current investigation. Based on all groundwater samples collected (from all 3 sites), it does appear that some contribution from an off-site source has impacted groundwater on the subject property. As noted in previous investigations, the former Standard Oil bulk fuel facility was located to the east of the subject property and is directly upgradient. The contribution between the upgradient source and on-site source is not clear. However, assuming that groundwater on the subject property cannot be used as a drinking water source, it does not appear that concentrations in groundwater on Parcel 3B are such that they would require active remediation, with the exception of the area near boring S-2. Exceedances of the vapor intrusion pathway (gasoline-range petroleum hydrocarbons and benzene) were noted in the groundwater sample collected from boring S-2, which is located in the northeastern corner of the property. Therefore, any development on the site with future buildings will likely require some vapor mitigation. This can be accomplished through a vapor barrier, passive vapor system, or similar technology and should be employed for any building developed on-site, but specifically in the northeast portion of the property. This represents an environmental liability for the site.

## **5. EXISTING ENVIRONMENTAL LIABILITY AND PRELIMINARY COST EVALUATION**

The potential liability associated with identified environmental conditions at the subject property was evaluated. Based on the results of the Phase II investigation, as well as previous investigations, it is not expected that site-wide active remedial actions are necessary. However, a number of specific areas or issues were identified during the completion of the Phase II ESA, including two open LUST files that have the potential to present liability issues during acquisition. The estimated cost to address the identified issues is presented in the following sections. Note that the estimated cost is presented for only those portions of the subject property that PDC intends to acquire.

### **5.1 PARCEL 1C**

The following provides a summary of existing environmental liability and associated costs for Parcel 1C.

#### **5.1.1 Soil Contamination**

Based on previous investigations, it was estimated that approximately 2,000 cubic yards of petroleum contaminated soil were present on Parcel 1C (see Figure 2). In general, the soil contamination identified can be classified as “lightly contaminated”, which indicates that contamination is present, but at concentrations that may not require active remediation. Previous indications from ODOT suggests that the DEQ is not requiring remedial actions or closure on Parcel 1C at this time.

The previously estimated extent of contamination is located between the eastern and western portions of the parcel; the eastern portion of the impacted area potentially being acquired by PDC. The results of the current Phase II investigation did not encounter significantly different conditions on Parcel 1C than the previous investigations. Petroleum hydrocarbon and associated constituents were detected in a number of samples, but not at significant concentrations (i.e. lightly contaminated). Considering the current and past results, the identified area of impacted soil does not appear to require active remedial actions (removal) for site closure. If the site were to be entered into the DEQ’s voluntary cleanup program (VCP) (as would be PDC’s intent to include all three parcels acquired), it appears that a risk assessment could be completed for site closure, likely resulting in leaving much or all of the contamination in-place (assuming that strategy complements future land use). However, the lightly contaminated soil area does not include the area within the former building footprint, which includes significant building debris and associated contaminants.

It is apparent that the building demolition debris encountered throughout the former building area is a primary concern to development and future land use. The building debris area is not suitable for development of buildings or other structures. In addition, based on the sampling conducted, some material may exceed DEQ RBCs. As previously discussed, samples collected within the building debris indicated selected PAHs exceeding the urban residential RBC. In addition, likely all of the material would not meet the DEQ’s clean fill criteria. Therefore, all material excavated within the former building footprint would be required to be disposed off-site.

The building debris in the former building footprint comprises an area of approximately 100 feet x 75 feet and extends to a depth of approximately 9 feet. Based on these dimensions, the

total volume of debris equals approximately 2,500 cubic yards (or a total of 3,750 tons using a 1.5X weight to volume multiplier). The 3,750 tons is considered a significant environmental liability due to the contamination present (exceeds applicable RBCs) and which precludes development of the site (material is not suitable for structural fill). The estimated environmental cost associated with the debris is included in the summary table in Section 5.1.4.

In addition, some debris (bricks, concrete, etc.) was also encountered in test pits TP-1 and TP-2, as well as borings N-1, N-2, N-3, and N-6. However, the debris appears to be associated with fill material and is not as extensive as observed in the former building footprint area. Based on samples collected, the fill material does not exceed DEQ RBCs. However, it likely does not meet the DEQ's clean fill criteria. As with the lightly contaminated soil described above, remedial actions are not necessary to achieve site closure.

The volume of soil that would be removed from the site is not known and would be based on future development plans. Soil that does not meet the DEQ's clean fill criteria would be disposed off-site under an approved permit. Therefore, the total estimated disposal cost associated with all soil at the site (less than 10 feet bgs) is not known, but can be quantified on a per ton basis. Disposal of soil at a permitted landfill is approximately \$80 per ton, which includes excavation, hauling, and disposal fees. Approximately \$30 per ton, which is associated with excavation and hauling, could be incurred for use of the soil as clean fill (assuming a suitable site is found). Therefore, the incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) is approximately \$50/ton.

### 5.1.2 Groundwater Contamination

Based on the data collected during this assessment and previous investigations, it does not appear that there is a significant groundwater contamination issue on Parcel 1C. Therefore, no environmental costs associated with groundwater cleanup is allocated to Parcel 1C. However, it should be noted that low levels of contamination were detected in a sample collected near the on-site drywell. Costs associated with the drywell are included in the following section.

### 5.1.3 Dry Well

As previously discussed, it is presumed that the catchbasin located in the southwest corner of the site is a drywell. As such, the drywell represents an environmental liability. If the drywell is not to be used, it should be decommissioned in accordance with DEQ requirements.

Groundwater near the drywell has been moderately impacted by petroleum hydrocarbons. However, it does not appear that specific groundwater remedial actions will be required. Appropriate decommissioning of the drywell and over-excavation of any impacted soil appears to be sufficient to remedy and restore groundwater quality.

The estimated cost for decommissioning the drywell is approximately \$25,000. This includes DEQ coordination and correspondence, drywell excavation and removal of impacted soil, sampling, site restoration, and reporting.

### 5.1.4 Summary of Environmental Costs for Parcel 1C

The summary of environmental costs for Parcel 1C is included in the following table.

Environmental Task	Weight/Volume	Rate	Estimated Cost
<b>HARD COSTS</b>			
Removal of Building Debris Material	3,750 tons	\$80/ton	\$300,000
Import Clean Fill	2,500 c.y.	\$20/c.y.	\$50,000
Decommissioning Dry Well	--	Lump Sum	\$25,000
Total	--	--	\$375,000
Contingency	--	20%	\$75,000
<b>Total Hard Costs</b>	--	--	<b>\$450,000</b>
<b>SOFT COSTS</b>			
Environmental Oversight, Regulatory Coordination, Reporting, etc.	--	20% of Hard Costs	\$90,000
Contingency	--	5%	\$4,500
<b>Total Soft Costs</b>	--	--	<b>\$94,500</b>
<b>TOTAL COSTS</b>			<b>\$544,500</b>

*In addition to the above estimated environmental liability, any material excavated from the site less than approximately 10 feet bgs would likely not meet the DEQ's clean fill criteria and could incur an incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) of approximately \$50/ton.*

## 5.2 PARCEL 2C

The following provides a summary of existing environmental liability and associated costs for Parcel 2C.

### 5.2.1 Soil Contamination

Based on field observations and sample results, it appears that soil at the site has been contaminated by low level gasoline and diesel releases, specifically near UST Pit #1 and on the western portion of the property. However, based on the potential use of the property as urban residential, occupational or industrial, it does not appear that site-wide soil remedial actions would be required. Other than specific areas near UST Pits #1 and #2 and the asphalt vat area (located on the western portion of the parcel), environmental liability and costs associated with soil contamination may not be incurred.

Based on samples collected during the current and previous investigations, soil at the site does not exceed applicable DEQ RBCs. However, it likely does not meet the DEQ's clean fill criteria. The volume of soil that would be removed would be based on future development plans and would be disposed off-site under an approved permit. Therefore, the estimated environmental cost associated with all soil at the site (less than 10 feet bgs) is based on a per

ton basis. The incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) is approximately \$50/ton.

### **5.2.2 UST Pit #1 and #2**

The property is part of the DEQ file for LUST #26-99-0182. As described in an April 15, 2010 letter, DEQ is requiring actions prior to closure of the site, including a risk assessment, additional information, and a closure report. The presence of an open LUST file is an environmental liability for the site. The estimated financial liability to PDC from the open LUST file is included in the groundwater section below (Section 5.2.4). Additional liability is provided below.

Based on the DEQ's letter and information in a ODOT memo dated December 15, 2010, there is potential that DEQ will require excavation of material from the former asphalt pit and UST Pit #2, both of which are located on the western portion of the site and would not be acquired by PDC. However, there appears to be some potential that DEQ could also require excavation of material near UST Pit#1. Based on the current investigation, any residual soil contamination appears to be limited in extent. To evaluate environmental liability costs, a relatively small area of approximately 25 feet x 25 feet and 15 feet in depth (approximate water table) has been allocated for potential soil removal associated with UST Pit #1, if directed by DEQ. This yields approximately 350 cubic yards or 520 tons of contaminated material that would be removed and disposed off-site. This is included in the summary table in Section 5.2.5.

### **5.2.3 Asphalt Pit**

Reportedly, the former asphalt pit is located immediately to the west of the proposed property boundary. Therefore, the liability associated with the former asphalt pit for PDC is relatively low. ODOT is responsible for all remedial actions (i.e. excavation and disposal) of the pit material. However, due to the presence of the former asphalt pit close to the proposed property line, there does remain some liability for the PDC portion of the property to have been impacted and/or which may involve PDC coordination/cooperation in site closure. An allocation of \$20,000 is estimated to cover coordination with ODOT and support ODOT remedial actions and regulatory closure with DEQ.

### **5.2.4 Groundwater Contamination**

Based on samples collected during this investigation and previous investigations, groundwater at the site is contaminated with diesel-range petroleum hydrocarbons and associated constituents. Based on the concentrations detected and the current and potential future use of the property, it is not expected that active remedial actions will be required.

There is potential that the former USTs on Parcel 2C site are a contributing factor of groundwater impacts. However, it should be noted that based on the samples collected, it does appear that the former Standard Oil bulk fuel terminal to the east-southeast has contributed or is a primary source to the contamination observed. It is expected that ODOT would pursue the "Contaminated Aquifer Policy" as an off-site source with the DEQ closure documents.

The presence of an open LUST file is an environmental liability for the site. Assuming no additional investigation or remedial actions are necessary on the PDC portion of Parcel 2C, a cost of \$30,000 has been allocated as part of coordination efforts to pursue and achieve regulatory closure. This cost assumes that ODOT will maintain responsibility and be the

primary lead in pursuing site closure for the LUST. There is potential that a focused investigation around UST Pit#1 may be necessary to assess residual contamination and the volume of contaminated soil left in-place. However, the allocated cost could also be employed as part of PDC’s strategy to enter the site into the DEQ’s VCP and preparation of a RI/FS report to achieve site closure.

### 5.2.5 Summary of Environmental Costs for Parcel 2C

The summary of environmental costs for Parcel 2C is included in the following table.

Environmental Task	Weight/Volume	Rate	Estimated Cost
<b>HARD COSTS</b>			
Removal of Soil Near UST Pit #1	520 tons	\$80/ton	\$41,600
Import Clean Fill	350 c.y.	\$20/c.y.	\$7,000
Total	--	--	\$48,600
Contingency	--	20%	\$9,720
<b>Total Hard Costs</b>	--	--	<b>\$58,320</b>
<b>SOFT COSTS</b>			
Closure Report	--	Lump Sum	\$30,000
Asphalt Pit Issues	--	Lump Sum	\$20,000
Contingency	--	10%	\$5,000
<b>Total Soft Costs</b>	--	--	<b>\$55,000</b>
<b>TOTAL COSTS</b>			<b>\$113,320</b>

*In addition to the above estimated environmental liability, any material excavated from the site less than approximately 10 feet bgs would likely not meet the DEQ’s clean fill criteria and could incur an incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) of approximately \$50/ton.*

### 5.3 PARCEL 3B

The following provides a summary of existing environmental liability and associated costs for Parcel 3B.

#### 5.3.1 Soil Contamination

Based on previous investigations, it was estimated that approximately 6,000 square feet of petroleum contaminated soil were present on Parcel 3B (see Figure 2). In general, the soil contamination identified can be classified as “lightly contaminated”, which indicates that contamination is present, but at concentrations that may not require active remediation.

All of the previously estimated extent of contamination is located on the eastern portion of the parcel, specifically on the south side near Madison Street and central and north end between UST Pits #3 and 4. The results of the current Phase II investigation did not encounter significantly different conditions on Parcel 3B than the previous investigations. Considering the current and past results, the identified area of impacted soil does not appear to require active remedial actions (removal) for site closure. If the site were to be entered into the

DEQ's voluntary cleanup program (VCP) (as would be PDC's intent to include all three parcels acquired), it appears that a risk assessment could be completed for site closure, likely resulting in leaving much or all of the contamination in-place (assuming that strategy complements future land use).

Based on samples collected during the current and previous investigations, soil at the site does not exceed applicable DEQ RBCs (other than a small area near UST Pit #4). However, it likely does not meet the DEQ's clean fill criteria. The volume of soil that would be removed would be based on future development plans and would be disposed off-site under an approved permit. Therefore, the estimated cost associated with all soil at the site (less than 10 feet bgs) is based on a per ton basis. The incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) is approximately \$50/ton.

### 5.3.2 UST Pit #3 and #4

The property is part of the DEQ file for LUST #26-92-0020. As described in an April 15, 2010 letter, DEQ is requiring actions prior to closure of the site, including a risk assessment, additional information, and a closure report. The presence of an open LUST file is an environmental liability for the site. The estimated cost to achieve site closure is included in the groundwater section below (Section 5.3.3). Additional liability is summarized below.

There is potential that DEQ could require some excavation of material near UST Pits #3 and #4. PAHs exceeded RBCs in a previous investigation in both UST pits. In addition, gasoline-range petroleum hydrocarbons exceeded the urban residential RBC in UST Pit #4 during this current investigation. However, based on the samples collected, the extent of any soil exceeding the DEQ RBCs appears to be limited. To evaluate environmental liability costs, a relatively small area of approximately 25 feet x 25 feet and 15 feet in depth (approximate water table) has been allocated for potential soil removal associated with UST Pit #3, if directed by DEQ. This yields approximately 350 cubic yards or 520 tons of contaminated material that would be removed and disposed off-site. An area of 30 feet x 25 feet and 15 feet in depth (approximate water table) has been allocated for environmental liability costs near UST Pit #4, which would effectively remove the soil exceeding the urban residential RBC, if directed by DEQ. This yields approximately 420 cubic yards or 630 tons of contaminated material that could be removed and disposed off-site. This is included in the summary table in Section 5.3.5.

### 5.3.3 Groundwater Contamination

Based on samples collected during this investigation and previous investigations, groundwater at the site is contaminated with gasoline and diesel-range petroleum hydrocarbons and associated constituents. Based on the concentrations detected and the current and potential future use of the property, it is not expected that active remedial actions will be required.

There is potential that the former USTs on Parcel 3B site are a contributing factor of groundwater impacts. However, it should be noted that based on the samples collected, it does appear that the former Standard Oil bulk fuel terminal to the east has contributed or is a primary source to the contamination observed. It is expected that ODOT would pursue the "Contaminated Aquifer Policy" as an off-site source with the DEQ closure documents.

The presence of an open LUST file is an environmental liability for the site. Assuming no additional investigation or remedial actions are necessary on the PDC portion of Parcel 3B, a cost of \$30,000 has been allocated as part of coordination efforts to pursue and achieve

regulatory closure. This cost assumes that ODOT will maintain responsibility and be the primary lead in pursuing site closure for the LUST file. There is potential that a focused investigation around UST Pits#3 and #4 may be necessary to assess residual contamination and the volume of contaminated soil left in-place. However, the allocated cost could also be employed as part of PDC's strategy to enter the site into the DEQ's VCP and preparation of a RI/FS report to achieve site closure.

### 5.3.4 Vapor Intrusion

Some exceedances of the vapor intrusion pathway were noted in the northeast corner of the property. A sample collected from boring S-2 had a benzene concentration of 5,210 µg/L, which significantly exceeds the vapor intrusion RBC for urban residential of 510 µg/L and occupational of 2,800 µg/L. In addition, the gasoline-range petroleum hydrocarbons were detected at a concentration of 26,500 µg/L, which exceeds the urban residential RBC for vapor intrusion of 22,000 µg/L. Therefore, any development on the site with future buildings will likely require vapor mitigation. This can be accomplished through a vapor barrier, passive vapor system, or similar technology. This represents an environmental liability for the site. An allocation of \$40,000 has been estimated to address vapor intrusion issues via a vapor barrier as part of building construction. This includes construction, design, and consultation with DEQ.

### 5.3.5 Summary of Environmental Costs for Parcel 3B

The summary of environmental costs for Parcel 3B is included in the following table.

Environmental Task	Weight/Volume	Rate	Estimated Cost
<b>HARD COSTS</b>			
Removal of Soil Near UST Pit #3	520 tons	\$80/ton	\$41,600
Removal of Soil Near UST Pit #4	630 tons	\$80/ton	\$50,400
Import Clean Fill	770 c.y.	\$20/c.y.	\$15,400
Vapor Mitigation	--	Lump Sum	\$40,000
Total	--	--	\$147,400
Contingency	--	20%	\$29,480
<b>Total Hard Costs</b>	--	--	<b>\$176,880</b>
<b>SOFT COSTS</b>			
Closure Report	--	Lump Sum	\$30,000
Contingency	--	10%	\$3,000
<b>Total Soft Costs</b>	--	--	<b>\$33,000</b>
<b>TOTAL COSTS</b>			<b>\$209,880</b>

*In addition to the above estimated environmental liability, any material excavated from the site less than approximately 10 feet bgs would likely not meet the DEQ's clean fill criteria and could incur an incremental environmental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) of approximately \$50/ton.*

## 5.4 PRELIMINARY COST SUMMARY

A summary of the estimated environmental liability costs (rounded costs) to complete remedial activities and/or address environmental concerns for the three parcels is shown below.

Property	Estimated Cost
Parcel 1C	\$545,000
Parcel 2C	\$115,000
Parcel 3B	\$210,000
<b>TOTAL COSTS</b>	<b>\$870,000</b>

As described above, the estimated costs are based on known site conditions and are conservative estimates using standard assumptions and professional judgment. In addition to the above estimated environmental liability, any material excavated from the site less than approximately 10 feet bgs may not meet the DEQ's clean fill criteria and would incur an incremental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) of approximately \$50/ton. Total cost of disposal for mass excavation is approximately \$80/ton.

## 6. CONCLUSIONS

Parametrix conducted a Phase II ESA at the ODOT Central Eastside properties. The subject property consists of Parcels 1C, 2C, and 3B and are located between SE Taylor Street, SE Madison Street, SE Water Avenue, and an Interstate 5 off-ramp. PDC has expressed interest in acquiring a portion (approximate east half) of each of the properties from ODOT, which is the portion of the properties that the current Phase II investigation was completed. Based on the findings of this investigation, Parametrix reached the following conclusions:

1. A number of previous investigations have been conducted on the properties since the late-1990s and several recognized environmental conditions were identified. In addition, several underground storage tanks (USTs) have been decommissioned on each of the parcels and at least two leaking USTs (LUST) sites have been reported to the Oregon Department of Environmental Quality (DEQ). The LUST sites (LUST #26-92-0020 and #26-99-0182) appear to apply to 4 separate tank pits on Parcels 2C and 3B, and include at least 11 USTs, as well as a former asphalt vat. It appears that the DEQ is requiring additional activities to be conducted by ODOT prior to issuing an NFA for each of the LUSTs.
2. Known or perceived environmental issues associated with Parcel 1C include: 1) approximately 2,000 cubic yards of contaminated soil in the center and southwest portion of the parcel, which appears to be associated with a former asphalt plant or forklift facility, 2) former building in the eastern portion of the parcel and associated buried debris material within the former basement, 3) on-site drywell, 4) three former waste oil UST decommissionings, all of which received no further action (NFA) determinations, and 5) former activities in the northeast corner of the parcel including a laundry, sheet metal and stove works.
3. Known or perceived environmental issues associated with Parcel 2C include: 1) former UST Pits #1 and #2 and associated open LUST file #26-99-0182, 2) asphalt-impacted soil buried in the north-central portion of the parcel, 3) former auto repair facility and machine shop in northeast corner of the parcel, 4) former Quadrant building and petroleum-impacted soil detected in one location, and 5) former Standard Oil fuel terminal to the east, which appears to have impacted groundwater on the subject property with petroleum hydrocarbons.
4. Known or perceived environmental issues associated with Parcel 3B include: 1) former UST Pits #3 and #4 and associated open LUST file #26-92-0020, 2) auto garage and machine shop in southeastern corner of the parcel and known petroleum contamination soil (PCS), and 3) former Standard Oil fuel terminal to the east, which appears to have impacted groundwater on the subject property with petroleum hydrocarbons.
5. Parametrix supervised the drilling of 23 investigative borings and the excavation of six test pits on the subject property. Six of the borings (labeled N-1 through N-6) and all six test pits (labeled TP-1 through TP-6) were located on Parcel 1C, nine borings (labeled M-1 through M-9) were located on Parcel 2C, and eight borings (labeled S-1 through S-8) were located on Parcel 3B. The investigation was focused on evaluating current conditions associated with the environmental issues and/or providing information where perceived data gaps exist.

6. Substantial building debris was encountered in test pits completed on Parcel 1C in the former building footprint. Based on the sample results, it appears that low concentrations of petroleum hydrocarbons and associated compounds are present in the material. The debris encountered included large concrete pieces, rebar, bricks, wood waste, metal, and other building materials. It appears that the former building was demolished and debris buried on-site within the former basement area. It is estimated that up to 2,500 cubic yards of former building debris is located in the area to a depth of approximately 9 feet below ground surface (bgs). The presence of the debris material is an environmental liability and may preclude future development of the site if not removed.
7. Investigation of the on-site stormwater catchbasin on Parcel 1C suggests that it may be a drywell. An electromagnetic utility locate could not identify a pipe or outfall from the catchbasin. Visual inspection inside the catchbasin also did not identify a pipe entering or exiting (although the catchbasin was full of debris, which precluded significant inspection). Based on sampling conducted in an adjacent boring, it appears that the apparent drywell may have impacted subsurface groundwater conditions at low concentrations. However, based on groundwater investigations across the three parcels, the low concentrations of petroleum hydrocarbons detected may also be an indicator of the downgradient edge of the plume delineated across the subject property and potentially sourced off-site (see Figure 6). Soil does not appear to be significantly impacted. The presence of the on-site drywell and impacted subsurface conditions represents an environmental liability.
8. In general, soil has been impacted by petroleum hydrocarbons and associated constituents in specific areas on each of the three parcels. Significant areas delineated during this current investigation and/or previous investigations include approximately 2,000 cubic yards in the central and southwest portion of Parcel 1C, areas near UST Pits #1 and #2 on Parcel 2C, and in the southern portion of Parcel 3B and near UST Pits #3 and #4. However, with a few exceptions, the concentrations detected do not appear to exceed applicable DEQ risk-based concentrations (RBCs) and site-wide remedial actions are not expected to be required. The impacted areas can be classified as “lightly contaminated”, but would not meet DEQ clean fill criteria in the event they are excavated for development. Specific areas near former UST Pit #1, UST Pit #3, and UST Pit #4, all of which are located on the portion of the parcels intended for acquisition, may exceed one or more DEQ RBCs and thus, may require limited remedial actions. These areas represent an environmental liability for the site.
9. The subject property, specifically Parcels 2C and 3B, have been impacted by petroleum hydrocarbons in groundwater. Parcel 1C does not appear to be significantly impacted. Based on groundwater samples collected, it does appear that an off-site source has impacted groundwater on Parcels 2C and 3B. As noted in previous documents, the former Standard Oil bulk fuel facility was located to the east of the subject property and is directly upgradient. Current groundwater samples appear to confirm past results indicating a plume migrating onto the site from the east. The contribution between the upgradient source and known on-site sources (i.e. former USTs) cannot be clearly distinguished. However, assuming that groundwater on the subject property cannot be used as a drinking water source (to be confirmed and documented through a beneficial use and risk assessment process as part of LUST file closure), it does not appear that concentrations in groundwater on Parcels 2C or 3B are such that they would require active remedial actions, with the exception

of the northeast corner of Parcel 3B (see Conclusion #10 below). Further groundwater monitoring may be required by the DEQ to achieve site closure and/or confirm the nature and extent of the potential off-site source.

10. Exceedances of the vapor intrusion pathway (gasoline-range petroleum hydrocarbons and benzene) were noted in the groundwater sample collected from boring S-2, which is located in the northeastern corner of Parcel 3B. Although the groundwater contamination source appears to be from off-site, the exceedance of the DEQ RBC for these compounds will likely require some remedial actions to be implemented in the event of future development of buildings or overlying structures. Vapor intrusion mitigation can be accomplished through a vapor barrier, passive vapor system, or similar technology and should be employed for any building developed on the eastern portion of Parcel 3B, but specifically in the northeast portion of the property. This represents an environmental liability for the site.
11. A preliminary cost estimate for environmental liability was developed for the portions of the three parcels that PDC intends to acquire. The estimated environmental liability associated with the eastern portion of Parcel 1C is approximately \$545,000. The estimated environmental liability associated with the eastern portion of Parcel 2C is approximately \$115,000. The estimated environmental liability associated with the eastern portion of Parcel 3B is approximately \$210,000. However, these costs do not include potential environmental incremental costs incurred during redevelopment due to disposal requirements for soil containing contamination in excess of DEQ's Clean Fill Criteria.
12. Based on current and previous sampling, it is expected that the existing fill material (soil less than 10 feet bgs) would not meet the strict DEQ "clean fill" criteria over much of the subject property. Due to the unknown nature of development alternatives and associated mass excavation plans, a total environmental liability cost could not be estimated for the existing low level contamination. However, the incremental cost (i.e. cost for off-site disposal of soil versus the cost for use as clean fill) is approximately \$50/ton. Total cost of disposal for mass excavation is approximately \$80/ton.
13. The presence of the open LUST files is a significant liability in acquiring the eastern portion of Parcels 2C and 3B. As the current owner, it is assumed that ODOT will retain responsibility for closure of the LUST files. DEQ is requiring additional information/activities from ODOT to achieve site closure for each LUST file, including a waste management plan, risk assessment, beneficial water use survey, recent soil and groundwater data, assessment of possible up-gradient source of groundwater contamination, and a closure report. DEQ has also indicated that remedial actions are required for the asphalt pit area on Parcel 2C and there is potential that DEQ could require additional investigation associated with the former UST pits. The closure report(s) will need to include a comprehensive soil and groundwater data evaluation, including the original decommissioning records, sampling data, and any follow-up investigations or groundwater monitoring conducted by ODOT. This current report and data contained therein can be utilized by ODOT, where applicable, to supplement the existing data set in pursuit of a NFA determination(s) from the DEQ.

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## **TABLES**

**Table 1. Summary of Soil TPH and Metals Analytical Results**

Sample ID	Sample Depth (feet)	Sample Date	Petroleum Hydrocarbons				RCRA Metals							
			HClID	Gasoline (mg/kg)	Diesel (mg/kg)	Lube Oil (mg/kg)	Total Arsenic (mg/kg)	Total Barium (mg/kg)	Total Cadmium (mg/kg)	Total Chromium (mg/kg)	Total Lead (mg/kg)	Total Selenium (mg/kg)	Total Silver (mg/kg)	Total Mercury (mg/kg)
S-1-4	4.0	05/30/14	Diesel	--	110*	--	3.4	134	ND (<0.0758)	16.1	263	ND (<1.52)	ND (<1.52)	1.94
S-1-14	14.0	05/30/14	--	ND (<3.33)	ND (<20)	ND (66.6)	--	--	--	--	--	--	--	--
S-2-7	7.0	05/30/14	Gasoline, Diesel, Oil	24*	113*	187*	--	--	--	--	--	--	--	--
S-2-15	15.0	05/30/14	--	253	25	ND (<68.3)	--	--	--	--	--	--	--	--
S-2-20	20.0	05/30/14	--	221	--	--	--	--	--	--	--	--	--	--
S-3-5	5.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-3-15	15.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-4-12	12.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-4-18	18.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-5-10	10.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-5-14	14.0	05/30/14	--	3640	717	104	ND (<1.92)	114	ND (<0.0962)	20.9	ND (<1.92)	ND (<1.92)	ND (<1.92)	ND (<0.0161)
S-5-19	19.0	05/30/14	Gasoline, Diesel	1470	1100	ND (<69.2)	--	--	--	--	--	--	--	--
S-6-10	10.0	05/30/14	--	--	--	--	ND (<1.85)	139	ND (<0.0926)	19.9	48	ND (<1.85)	ND (<1.85)	0.0731
S-6-14	14.0	05/30/14	ND	--	--	--	--	--	--	--	--	--	--	--
S-7-5	5.0	05/30/14	ND	--	--	--	ND (<1.72)	116	ND (<0.0862)	20	ND (<1.72)	ND (<1.72)	ND (<1.72)	0.0264
S-7-15	15.0	05/30/14	--	ND (<3.33)	ND (<20)	ND (<66.7)	--	--	--	--	--	--	--	--
S-8-3	3.0	05/30/14	Gasoline, Diesel, Oil	194*	350*	970*	--	--	--	--	--	--	--	--
S-8-9	9.0	05/30/14	--	13	ND (<18.1)	ND (<60.4)	--	--	--	--	--	--	--	--
S-8-14	14.0	05/30/14	--	364	958	ND (<67.3)	NE (<1.61)	89.5	ND 9.0,0806	15.8	4.29	ND (<1.61)	ND (<1.61)	ND (<0.0139)
M-1-12	12.0	05/30/14	--	15.3	ND (<20.8)	ND (<69.4)	--	--	--	--	--	--	--	--
M-1-18	18.0	05/30/14	--	1230	1340	ND (<68.9)	--	--	--	--	--	--	--	--
M-2-13	13.0	05/30/14	--	ND (<3.01)	ND (<18.1)	ND (<60.2)	ND (<1.35)	41.1	ND (<0.0676)	7.07	ND (<1.35)	ND (<1.35)	ND (<1.35)	ND (<0.0127)
M-3-4	4.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
M-3-13	13.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
M-4-3	3.0	05/31/14	--	--	--	--	ND (<1.67)	54.4	ND (0.0833)	7.41	15.5	ND (<1.67)	ND (1.67)	0.0154
M-4-13	13.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
M-5-8	8.0	05/31/14	ND	--	--	--	3.67	112	ND (0.0758)	15.6	56.4	ND (<1.52)	ND (<1.52)	0.121
M-5-14	14.0	05/31/14	ND	--	--	--	ND (<1.61)	83.5	ND (<0.0806)	15.3	ND (<1.61)	ND (<1.61)	ND (<1.61)	ND (<0.0144)
M-6-13	13.0	05/31/14	--	--	ND (<19.5)	ND (<64.9)	--	--	--	--	--	--	--	--
M-7-3	3.0	05/31/14	Diesel, Oil	--	189*	1447*	--	--	--	--	--	--	--	--
M-7-13	13.0	05/31/14	--	--	ND (<19.8)	ND (<65.9)	--	--	--	--	--	--	--	--
M-8-3	3.0	05/31/14	Diesel, Oil	--	140*	326*	--	--	--	--	--	--	--	--
M-8-13	13.0	05/31/14	--	5.43	84.9	268	2.12	150	ND (<0.0806)	17.2	867	ND (1.61)	ND (1.61)	0.0243
M-8-18	18.0	05/31/14	--	--	ND (<20.3)	ND (<67.5)	--	--	--	--	--	--	--	--
M-9-3	3.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
M-9-13	13.0	05/31/14	--	ND (<3.30)	ND (<19.8)	ND (<66.1)	ND (<1.47)	95.5	ND (0.0735)	16.6	ND (<1.47)	ND (<1.47)	ND (<1.47)	ND (<0.0144)
M-9-18	18.0	05/31/14	--	--	--	--	--	--	--	--	--	--	--	--
N-1-14	14.0	05/31/14	ND	--	--	--	ND (<1.39)	73.1	ND (<0.0694)	13.6	ND (<1.39)	ND (<1.39)	ND (<1.39)	ND (<0.0130)
N-1-19	19.0	05/31/14	--	--	--	--	--	--	--	--	--	--	--	--
N-2-3	3.0	05/31/14	ND	--	--	--	ND (<1.43)	62.6	ND (<0.0714)	11.5	21.7	ND (<1.43)	ND (<1.43)	ND (<0.0167)
N-2-14	14.0	05/31/14	Diesel, Oil	--	81.4	314	--	--	--	--	--	--	--	--
N-2-19	19.0	05/31/14	ND	--	--	--	ND (<1.35)	102	ND (<0.0676)	17.1	15.3	ND (<1.35)	ND (<1.35)	ND (<0.0133)
N-3-3	3.0	05/31/14	Oil	--	25.5	310	ND (<1.92)	65	ND (0.0962)	9.1	ND (<1.92)	ND (<1.92)	ND (<1.92)	0.0277
N-3-13	13.0	05/31/14	Oil	--	ND (<19.8)	ND (<66.1)	--	--	--	--	--	--	--	--
N-4-3	3.0	05/31/14	ND	--	--	--	ND (<1.35)	61.9	ND (<0.0676)	11	2.69	ND (<1.35)	ND (<1.35)	0.0376
N-4-13	13.0	05/31/14	ND	--	--	--	ND (<1.32)	92.4	ND (<0.0658)	16.4	ND (<1.32)	ND (<1.32)	ND (<1.32)	ND (<0.0135)
N-4-19	19.0	05/31/14	--	--	--	--	--	--	--	--	--	--	--	--
N-5-7	7.0	05/31/14	Oil	--	ND (<16.2)	ND (<54.1)	ND (1.67)	61.4	ND (<0.0833)	8.98	ND (<1.67)	ND (<1.67)	ND (<1.67)	ND (<0.0139)
N-5-15	15.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
N-6-8	8.0	05/31/14	--	ND (<2.74)	ND (<16.4)	ND (<54.8)	ND (<1.32)	49	ND (<0.0658)	8.14	ND (<1.32)	ND (<1.32)	ND (<1.32)	0.0311
N-6-19	19.0	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
TP-1-6	6.0	06/01/14	--	--	ND (<16.5)	ND (<55.0)	--	--	--	--	--	--	--	--
TP-3-7	7.0	06/01/14	--	--	52.3	337	ND (<1.72)	54.9	ND (<0.0862)	5.73	8.18	ND (<1.72)	ND (<1.72)	0.0226
TP-4-4	4.0	06/01/14	Oil	--	34.6	195	--	--	--	--	--	--	--	--
TP-5-5	5.0	06/01/14	--	--	18	88.7	--	--	--	--	--	--	--	--
TP-5-9	9.0	06/01/14	--	--	ND (<17.7)	2070	ND (<1.39)	99.9	ND (0.069)	8.24	23.4	ND (<1.39)	ND (<1.39)	0.055
TP-6-3	3.0	06/01/14	--	--	174	861	--	--	--	--	--	--	--	--
TP-6-8	8.0	06/01/14	Diesel, Oil	--	73.7	426	ND (<1.47)	172	0.176	9.29	72.4	ND (<1.47)	ND (<1.47)	0.0336

**DEQ RBCs- Soil Ingestion, Dermal Contact, and Inhalation**

Residential	NA	1200	1100	2800	0.39	15,000	39	NA	400	NA	390	23
Urban Residential	NA	2500	2200	5700	1.00	31,000	78	NA	400	NA	780	47
Occupational	NA	20000	14000	36000	1.7	190,000	510	NA	800	NA	5,100	310
Construction Worker	NA	9700	4600	11000	13	60,000	150	NA	800	NA	1,500	93
Excavation Worker	NA	>max	>max	>max	370	>max	4,300	NA	800	NA	43,000	2,600

**DEQ RBCs- Soil Leaching to Groundwater**

Occupational	NA	130	>max	>max	NA	NA	NA	NA	30	NA	NA	NA
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**DEQ RBCs - Vapor Intrusion Into Buildings**

Residential	NA	94	>max	>max	NV	NV	NV	NV	NV	NV	NV	NV
Urban Residential	NA	94	>max	>max	NV	NV	NV	NV	NV	NV	NV	NV
Occupational	NA	>max	>max	>max	NV	NV	NV	NV	NV	NV	NV	NV

**Notes:**  
 mg/kg = milligrams per kilogram  
 ND = not detected (method reporting limit)  
 -- = Sample was not analyzed for this constituent.  
 NA = not applicable or not available  
 Bold values = detected concentrations  
 Bold values - concentrations detected above DEQs Urban Residential RBCs

**Table 2. Summary of Soil PAH and VOC Analytical Results**

Sample ID	Sample Depth (feet)	Sample Date	PAHs															Volatile Organic Compounds														
			Acenaphthene (mg/kg)	Acenaphthylene (mg/kg)	Anthracene (mg/kg)	Benzo(a)anthracene (mg/kg)	Benzo(a)pyrene (mg/kg)	Benzo(b)fluoranthene (mg/kg)	Benzo(g,h,i)perylene (mg/kg)	Benzo(k)fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenz(a,h)anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno(1,2,3-cd)pyrene (mg/kg)	Naphthalene (mg/kg)	Phenanthrene (mg/kg)	Pyrene (mg/kg)	1,2,4-Trimethylbenzene (mg/kg)	1,3,5-Trimethylbenzene (mg/kg)	4-Isopropyltoluene (mg/kg)	Benzene (mg/kg)	Ethylbenzene (mg/kg)	Isopropylbenzene (mg/kg)	m,p-Xylene (mg/kg)	Napthalene (mg/kg)	n-Butylbenzene (mg/kg)	n-Propylbenzene (mg/kg)	o-Xylene (mg/kg)	sec-Butylbenzene (mg/kg)	tert-Butylbenzene (mg/kg)	Other VOCs by Method 8260B
S-5-14	14.0	05/30/14	0.0482	0.0359	0.0292	0.0077	ND (<0.007)	ND (<0.007)	0.0079	ND (<0.007)	0.0106	ND (<0.007)	0.0338	0.124	0.0068	0.0667	0.198	0.0194	0.0329	0.065	1.53	0.0356	0.602	1.57	1.99	ND (<0.01)	1.75	2.57	ND (<0.01)	0.88	0.0155	--
S-8-9	9.0	05/30/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
S-8-14	14.0	05/30/14	0.0669	0.0307	0.036	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.0215	0.198	ND (<0.007)	4.56	0.284	0.0137	1.05	3.58	6.24	ND (<0.01)	8.71	4.78	3.65	8.28	5.79	8.52	0.308	2.48	0.142	--
M-8-13	13.0	05/31/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.0382	0.0322	0.0406	0.0206	0.027	0.0496	0.00821	0.0662	ND (<0.007)	0.0187	ND (<0.007)	0.0229	0.0633	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-9-13	13.0	05/31/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-2-14	14.0	05/31/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-3-3	3.0	05/31/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.00687	0.0203	0.0124	0.047	0.0105	0.0106	0.00747	0.00976	ND (<0.007)	0.0219	ND (<0.007)	ND (<0.007)	0.0136	--	--	--	--	--	--	--	--	--	--	--	--	--	--
N-6-8	8.0	05/31/14	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.00681	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.0108	ND (<0.007)	ND (<0.007)	ND (<0.007)	ND (<0.007)	0.0112	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	--
TP-3-7	7.0	06/01/14	0.0103	0.324	0.146	0.347	0.679	0.662	0.826	0.367	0.579	0.142	1.09	0.0762	0.506	0.100	0.767	1.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TP-5-9	9.0	06/01/14	ND (<0.007)	0.232	0.053	0.142	0.410	0.314	0.490	0.181	0.259	0.0871	0.428	0.026	0.337	0.0447	0.289	0.628	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	ND (<0.01)	--
<b>DEQ RBCs- Soil Ingestion, Dermal Contact, and Inhalation</b>																																
Residential (comparison only)			4,700	NA	23,000	0.15	0.015	0.15	NA	1.5	14	0.015	2,300	3,100	0.15	4.6	NA	1,700	7	5,800	30	1,400	30	3,500	NA	4.6	NA	NA	NA	NA	NA	--
Urban Residential			9,400	NA	47,000	0.34	0.034	0.34	NA	3.4	32	0.034	4,600	6,300	0.34	25	NA	3,400	24	12,000	110	2,900	110	7,000	NA	25	NA	NA	NA	NA	NA	--
Occupational			61,000	NA	310,000	2.7	0.27	2.7	NA	27	250	0.27	29,000	41,000	2.7	23	NA	21,000	34	77,000	140	25,000	140	53,000	NA	23	NA	NA	NA	NA	NA	--
Construction Worker			19,000	NA	93,000	21	2.1	21	NA	210	2,100	2.1	8,900	12,000	21	580	NA	6,700	340	24,000	1,600	19,000	1,600	24,000	NA	580	NA	NA	NA	NA	NA	--
Excavation Worker			520,000	NA	>max	590	59	590	NA	5,900	57,000	59	250,000	340,000	590	16,000	NA	>max	9,500	680,000	44,000	540,000	44,000	670,000	NA	16,000	NA	NA	NA	NA	NA	--
<b>DEQ RBCs- Soil Leaching to Groundwater</b>																																
Occupational			>Csat	NA	>Csat	>Csat	>Csat	>Csat	NA	>Csat	>Csat	>Csat	>Csat	>Csat	>Csat	0.44	NA	>Csat	0.053	>Csat	0.90	100	0.90	>Csat	NA	0.44	NA	NA	NA	NA	NA	--
<b>DEQ RBCs- Vapor Intrusion Into Buildings</b>																																
Residential (comparison only)			>max	NA	>max	NV	NV	>Csat	NA	NV	>Csat	NV	>max	>max	NV	6.5	NA	>Csat	0.08	>Csat	0.82	100	0.82	>Csat	NA	6.5	NA	NA	NA	NA	NA	--
Urban Residential			>max	NA	>max	NV	NV	>Csat	NA	NV	>Csat	NV	>max	>max	NV	18	NA	>Csat	0.22	>Csat	2.2	100	2.2	>Csat	NA	18	NA	NA	NA	NA	NA	--
Occupational			>max	NA	>max	NV	NV	>Csat	NA	NV	>Csat	NV	>max	>max	NV	99	NA	>Csat	1.2	>Csat	12	>Csat	12	>Csat	NA	99	NA	NA	NA	NA	NA	--

**Notes:**  
 PAHs = polynuclear aromatic hydrocarbons  
 mg/kg = milligrams per kilogram  
 ND = not detected (method reporting limit)  
 -- = Sample was not analyzed for this constituent.  
 NA = not applicable or not available  
 \* = Reported result includes the combined area of the two isomers and should be considered the total of Benzo (b+k) Fluoranthenes.

**Bold values** = detected concentrations  
**Red values** = concentrations detected above DEQs Urban Residential RBCs

RBCs = DEQ's Risk-Based Concentrations for Individual Chemicals were obtained from the June 07, 2012 revision.

\* = Leaching-to-Groundwater RBCs are not provided for inorganic chemicals. If this pathway is of concern, then site-specific leaching tests must be performed.

NA = Not Available

>max = The constituent RBC for this pathway is greater than 100,000 mg/kg or 100,000 mg/L. The DEQ believes it is highly unlikely that such concentrations will ever be encountered.

>Csat = This soil RBC exceeds the limit of three-phase equilibrium partitioning. Soil concentrations in excess of Csat indicate that free product might be present.

**Table 3. Summary of Groundwater TPH and Metals Analytical Results**

Sample ID	Sample Date	Petroleum Hydrocarbons				RCRA Metals							
		HCID	Gasoline (µg/L)	Diesel (µg/L)	Lube Oil (µg/L)	Total Arsenic (µg/L)	Total Barium (µg/L)	Total Cadmium (µg/L)	Total Chromium (µg/L)	Total Lead (µg/L)	Total Selenium (µg/L)	Total Silver (µg/L)	Total Mercury (µg/L)
S-1-W	05/30/14	--	9990	5890	ND (<222)	--	--	--	--	--	--	--	--
S-2-W	05/30/14	--	26500	6300	4670	ND (<20)	289.2	ND (<1)	36.2	76.8	ND (<20)	ND (<10)	ND (<0.1)
S-7-W	05/30/14	--	ND (<100)	2160	2890	ND (<20)	742	ND (<1)	106	45	32.3	ND (<10)	ND (<0.1)
S-8-W	05/30/14	--	7330	11700	707	ND (<20)	50.1	ND (<1)	9.3	ND (<20)	ND (<20)	ND (<10)	ND (<0.1)
M-2-W	05/30/14	--	ND (<100)	2320	3200	--	--	--	--	--	--	--	--
M-3-W	05/31/14	Oil	--	1340	2480	--	--	--	--	--	--	--	--
M-8-W	05/31/14	--	--	1840	1870	ND (<20)	61.9	ND (<1)	14.3	ND (<20)	ND (<20)	ND (<10)	ND (<0.1)
M-9-W	05/31/14	--	ND (<100)	608	539	ND (<20)	52.9	ND (<1)	6.8	ND (<20)	ND (<20)	ND (<10)	ND (<0.1)
N-1-W	05/31/14	ND	--	--	--	ND (<20)	147.1	ND (<1)	29.5	ND (<20)	ND (<20)	ND (<10)	ND (<0.1)
N-2-W	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
N-4-W	05/31/14	ND	--	--	--	--	--	--	--	--	--	--	--
N-6-W	05/30/14	--	ND (<100)	142	286	ND (<20)	52.7	ND (<1)	11.1	ND (<20)	ND (<20)	ND (<10)	ND (<0.1)
<b>DEQ RBCs- Ingestion and Inhalation from Tapwater*</b>													
Urban Residential		NA	110	100	NA	0.13	15000	37	NA	15	NA	370	22
Occupational		NA	450	430	NA	0.27	29000	73	NA	15	NA	730	44
<b>DEQ RBCs- Groundwater Volatilization to Outdoor Air*</b>													
Urban Residential		NA	>S	>S	>S	NV	NV	NV	NA	NV	NA	NV	NV
Occupational		NA	>S	>S	>S	NV	NV	NV	NA	NV	NA	NV	NV
<b>DEQ RBCs- Groundwater Vapor Intrusion into Buildings*</b>													
Urban Residential		NA	22,000	>S	>S	NV	NV	NV	NA	NV	NA	NV	NV
Occupational		NA	>S	>S	>S	NV	NV	NV	NA	NV	NA	NV	NV
<b>DEQ RBCs- Groundwater in Excavation*</b>													
Construction & Excavation Worker		NA	14,000	>S	>S	5,800	25,000,000	57,000	NA	>S	NA	1,000,000	>S

**Notes:**

TPH = total petroleum hydrocarbons

VOCs = volatile organic compounds

mg/L: milligrams per liter

µg/L: micrograms per liter

ND = not detected (method reporting limit)

-- = Sample was not analyzed for this constituent.

NA = not applicable or not available

**Bold values** = detected concentrations

**Bold values** = concentrations detected above DEQs Urban Residential RBCs

RBCs = DEQ's Risk-Based Concentrations for Individual Chemicals were obtained from the June 07, 2012 revision.

- = Sample not analyzed for this compound.

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

NV = This chemical is considered "nonvolatile" for the purpose of exposure calculations.

Table 4. Summary of Groundwater PAH and VOC Analytical Results

Sample ID	Sample Date	PAHs															Volatile Organic Compounds																	
		Acenaphthene (µg/L)	Acenaphthylene (µg/L)	Anthracene (µg/L)	Benzo(a)anthracene (µg/L)	Benzo(a)pyrene (µg/L)	Benzo(b)fluoranthene (µg/L)	Benzo(g,h,i)perylene (µg/L)	Benzo(k)fluoranthene (µg/L)	Chrysene (µg/L)	Dibenzo(a,h)anthracene (µg/L)	Fluoranthene (µg/L)	Fluorene (µg/L)	Indeno(1,2,3-cd)pyrene (µg/L)	Naphthalene (µg/L)	Phenanthrene (µg/L)	Pyrene (µg/L)	1,2,4-Trimethylbenzene (µg/L)	1,3,5-Trimethylbenzene (µg/L)	4-Isopropyltoluene (µg/L)	Benzene (µg/L)	cis-1,2-Dichloroethane (µg/L)	Ethylbenzene (µg/L)	Isopropylbenzene (µg/L)	m,p-Xylene (µg/L)	Naphthalene (µg/L)	n-Butylbenzene (µg/L)	n-Propylbenzene (µg/L)	o-Xylene (µg/L)	sec-Butylbenzene (µg/L)	tert-Butylbenzene (µg/L)	Toluene (µg/L)	Other VOCs by Method 8260B	
S-1-W	05/30/14	0.27	0.231	0.291	0.217	0.292	0.177	0.256	0.177	0.301	ND (<0.0538)	1.22	0.746	0.173	14.8	2.64	1.08	ND (<1)	ND (<1)	7.48	68.8	ND (<1)	14.7	36.8	15.4	22.2	12.8	53.8	ND (<1)	7.85	1.22	5.38	--	
S-2-W	05/30/14	1.3	1.31	1.71	2.47	3.29	2.21	3.22	2.19	4.09	0.756	9.51	3.66	2	86.3	13.6	7.69	ND (<10)	73.1	34.4	5210	13.1	1100	196	619	99.9	25.2	316	23.5	20.7	ND (<10)	137	--	
S-7-W	05/30/14	0.0931	0.191	0.256	0.501	0.918	0.657	0.885	0.441	0.764	0.163	2.01	0.246	0.596	2.04	1.98	2.05	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	4.66	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--	
S-8-W	05/30/14	0.322	0.125	0.121	ND (<0.0741)	ND (<0.0741)	ND (<0.0741)	ND (<0.0741)	ND (<0.0741)	ND (<0.0741)	ND (<0.0741)	0.112	0.836	ND (<0.0741)	4.28	0.917	0.0851	1.97	8.17	5.34	300	ND (<1)	222	31.5	83.5	9.81	3.97	39.3	7.87	3.36	ND (<1)	34.1	--	
M-3-W	05/31/14	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<0.0727)	ND (<1)	ND (<1)	ND (<1)	ND (<0.3)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--	
M-8-W	05/31/14	ND (<0.0515)	ND (<0.0515)	ND (<0.0515)	0.0593	ND (<0.0515)	ND (<0.0515)	ND (<0.0515)	ND (<0.0515)	0.129	ND (<0.0515)	0.177	0.0612	ND (<0.0515)	0.116	0.254	0.172	ND (<1)	ND (<1)	ND (<1)	ND (<0.3)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--
M-9-W	05/31/14	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<0.0594)	ND (<1)	ND (<1)	ND (<1)	ND (<0.3)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--
N-1-W	05/31/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	ND (<1)	ND (<1)	ND (<1)	ND (<0.3)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--
N-6-W	05/30/14	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	0.07	ND (<0.0579)	ND (<0.0579)	ND (<0.0579)	0.06	ND (<0.0579)	ND (<1)	ND (<1)	ND (<1)	ND (<0.3)	ND (<1)	ND (<1)	ND (<1)	ND (<2)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	ND (<1)	--
<b>DEQ RBCs- Ingestion and Inhalation from Tapwater*</b>																																		
Urban Residential		>S	NA	>S	0.088	0.0088	0.039	NA	>S	0.66	0.0088	>S	>S	>S	0.78	NA	>S	>S	>S	--	1.7	150	6.7	--	410	0.78	--	--	--	--	NA	4600	NA	
Occupational		-	NA	-	0.56	0.056	0.16	NA	-	-	0.056	-	-	-	0.72	NA	-	>S	>S	--	2.2	290	7.8	--	850	0.72	--	--	--	NA	9200	NA		
<b>DEQ RBCs- Groundwater Volatilization to Outdoor Air*</b>																																		
Urban Residential		>S	NA	>S	NV	NV	>S	NA	NV	>S	NV	>S	>S	NV	8,400	NA	>S	>S	>S	--	7,600	>S	22,000	--	>S	8,400	--	--	--	NA	>S	NA		
Occupational		>S	NA	>S	NV	NV	>S	NA	NV	>S	NV	>S	>S	NV	16,000	NA	>S	>S	>S	--	14,000	>S	41,000	--	>S	16,000	--	--	--	NA	>S	NA		
<b>DEQ RBCs- Groundwater Vapor Intrusion into Buildings*</b>																																		
Urban Residential		>S	NA	>S	NV	NV	>S	NA	NV	>S	NV	>S	>S	NV	1,800	NA	>S	>S	>S	--	510	>S	1,300	--	58000	1,800	--	--	--	NA	>S	NA		
Occupational		>S	NA	>S	NV	NV	>S	NA	NV	>S	NV	>S	>S	NV	10,000	NA	>S	>S	>S	--	2,800	>S	7,400	--	>S	10,000	--	--	--	NA	>S	NA		
<b>DEQ RBCs- Groundwater in Excavation*</b>																																		
Construction & Excavation Worker		>S	NA	>S	9.1	0.53	>S	NA	>S	>S	0.21	>S	>S	>S	500	NA	>S	>S	>S	--	1,700	24,000	4,400	--	23,000	500	--	--	--	NA	210,000	NA		

**Notes:**

\* = Concentrations presented were obtained from the updated (June 2012) values to the 2003- Based Decision Making for the Remediation of Petroleum-Contaminated Sites.

PAHs = polynuclear aromatic hydrocarbons

µg/L: micrograms per liter

-- = Sample was not analyzed for this constituent

ND = Not Detected

**Bold values** = detected concentrations

**Red values** = concentrations detected above DEQs Urban Residential RBCs

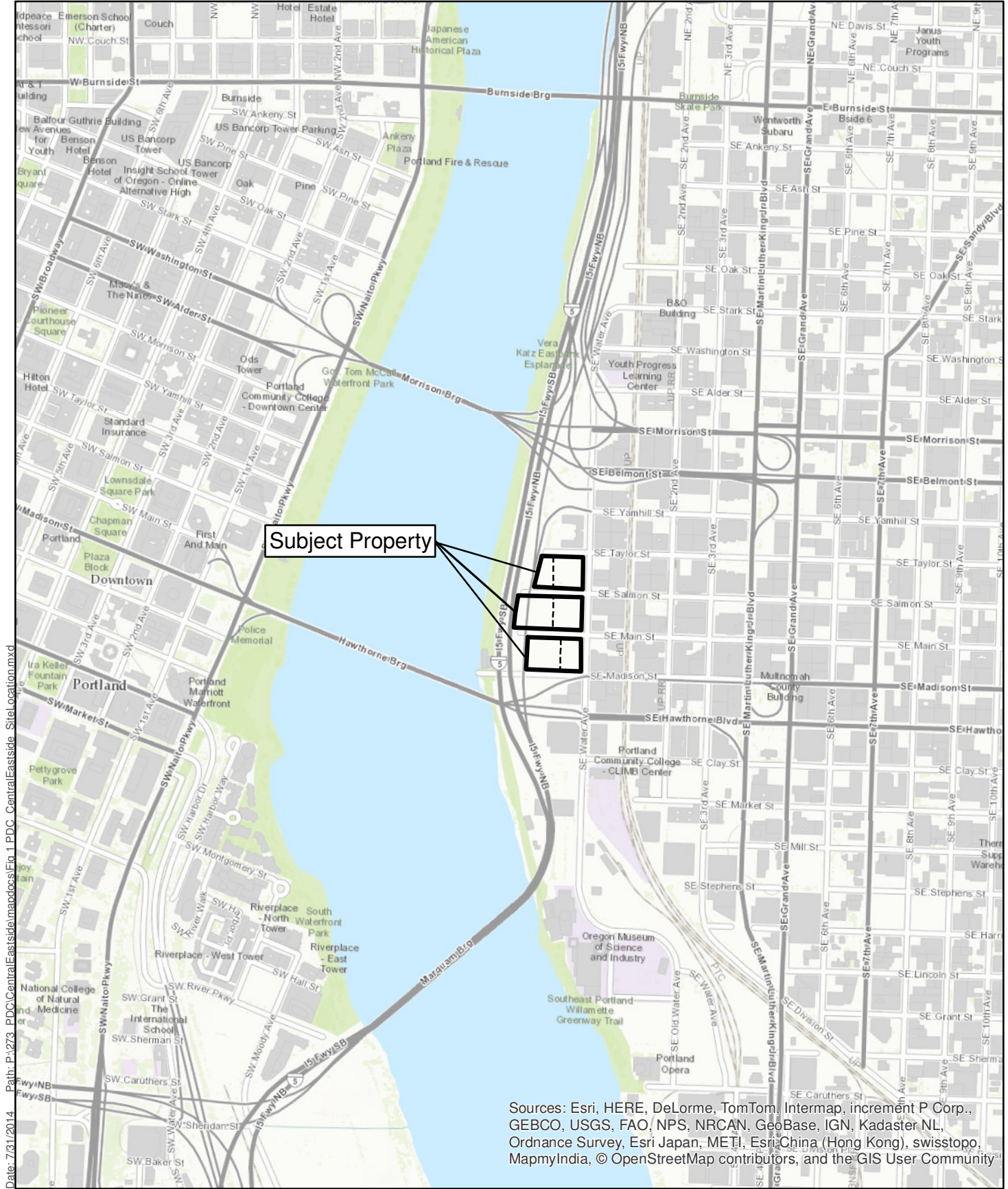
RBCs = DEQ's Risk-Based Concentrations for Individual Chemicals were obtained from the June 07, 2012 revision.

>S = This groundwater RBC exceeds the solubility limit. Groundwater concentrations in excess of S indicate that free product may be present.

NV = This chemical is considered "nonvolatile" for purpose of exposure calculations.

NA = Not Available

## FIGURES

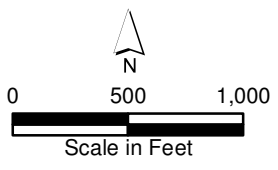


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Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

**Parametrix**

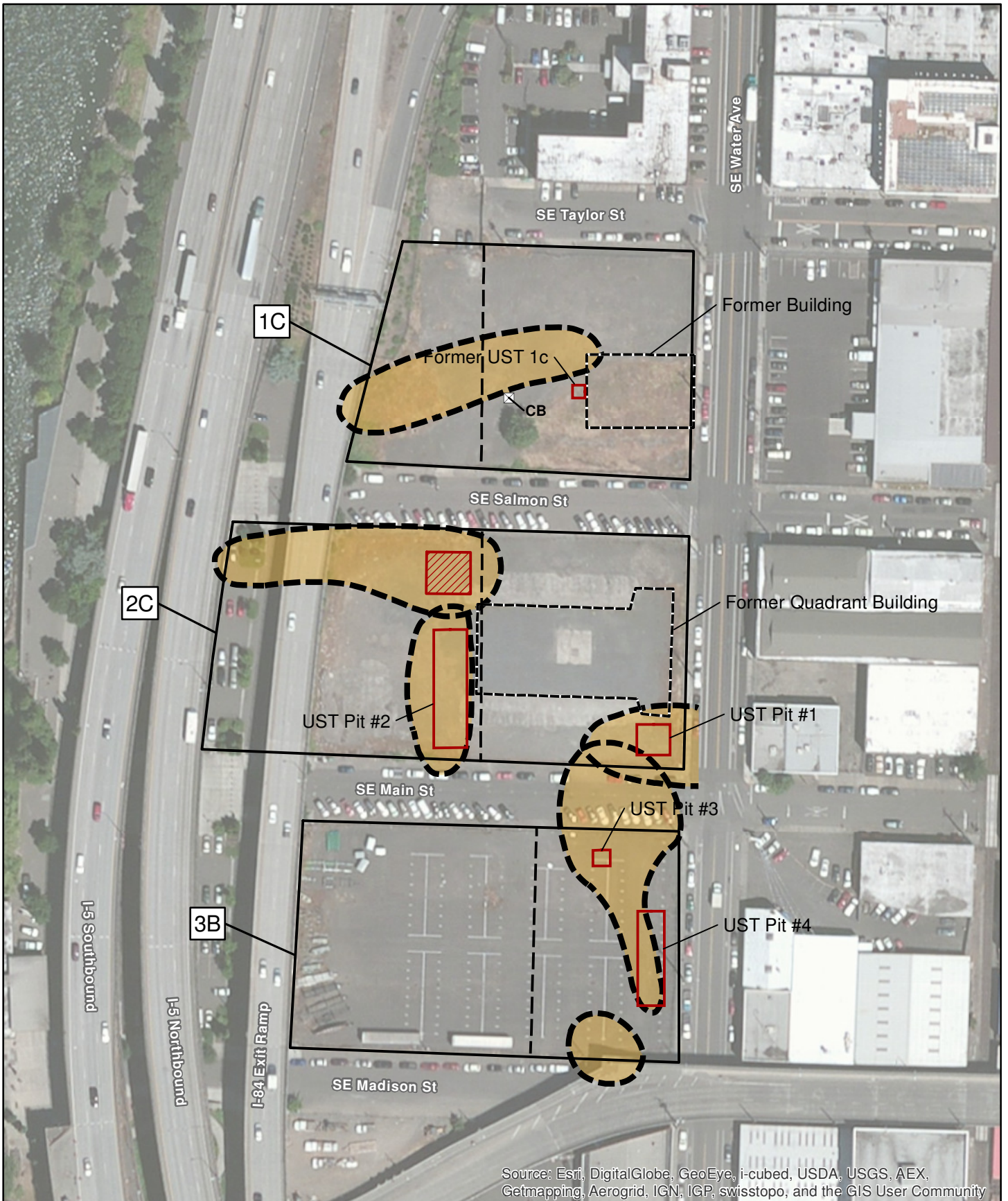
**Figure 1  
Site Vicinity Map**



Subject Property

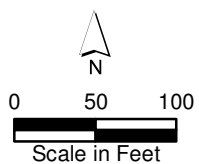
Central Eastside ODOT Blocks  
Portland, Oregon





Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Parametrix Date: 8/5/2014 Path: P:\273\_PDC\CentralEastside\mapdocs\Fig 2\_PDC\_CentralEastsideBoring\_FormerSiteFeatures.mxd



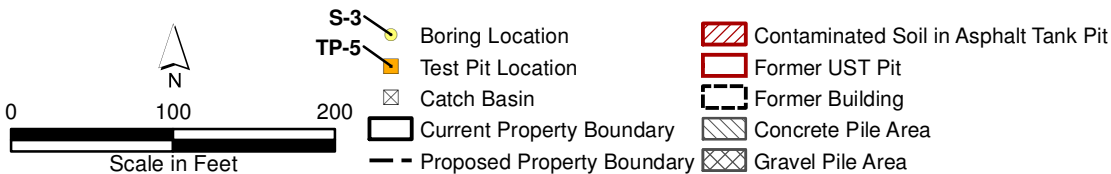
- Current Property Boundary
- Proposed Property Boundary
- Estimated Area of Impact During Previous Investigations
- Contaminated Soil in Asphalt Tank Pit
- Former UST Pit
- Former Building
- CB
 Catch Basin

**Figure 2**  
**Former Site Features**  
 Central Eastside ODOT Blocks  
 Portland, Oregon

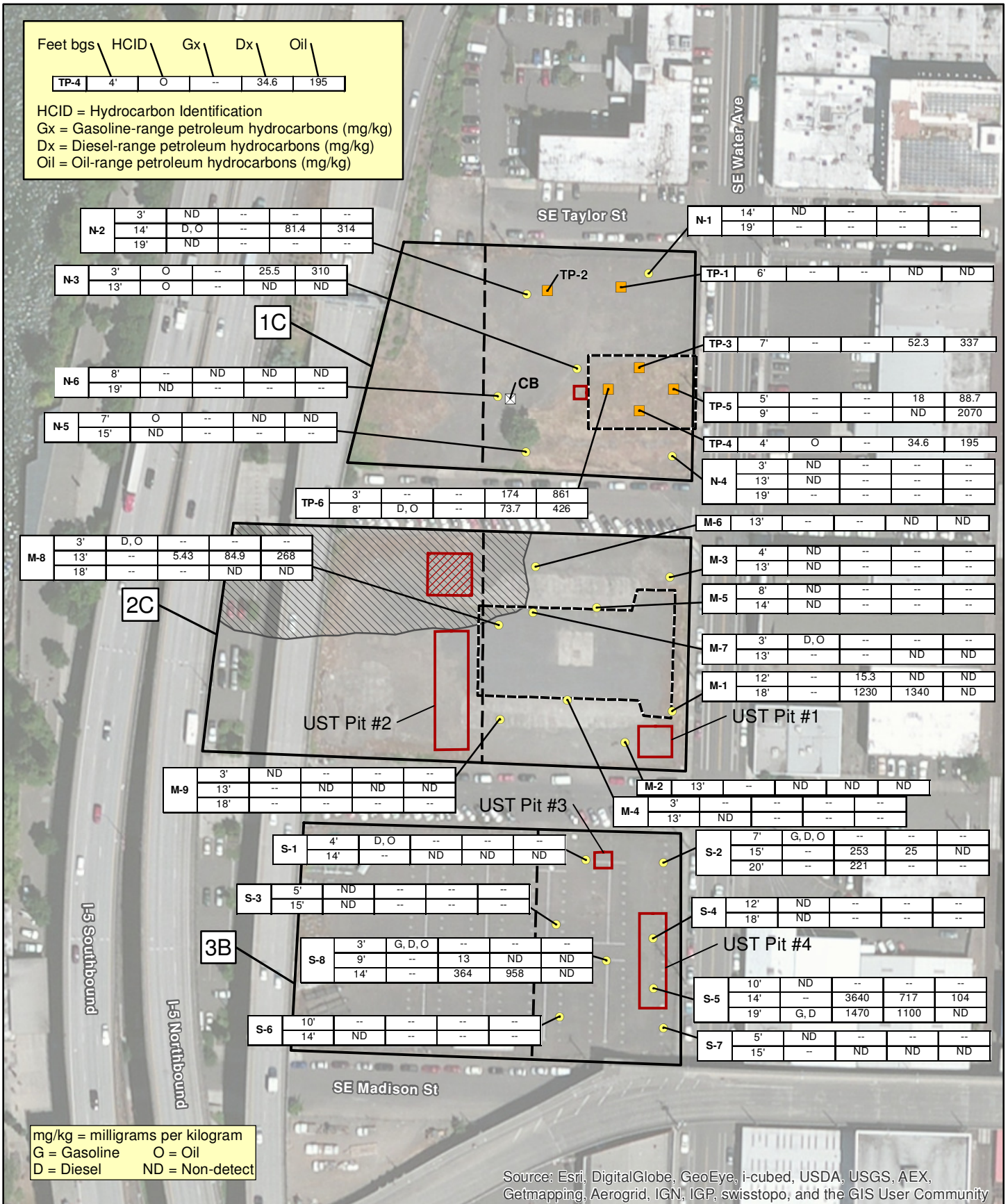


Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

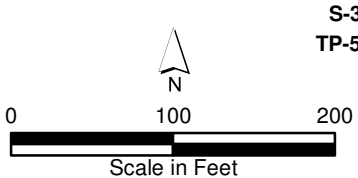
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**Figure 3**  
**Boring and Test Pit Locations**  
 Central Eastside ODOT Blocks  
 Portland, Oregon

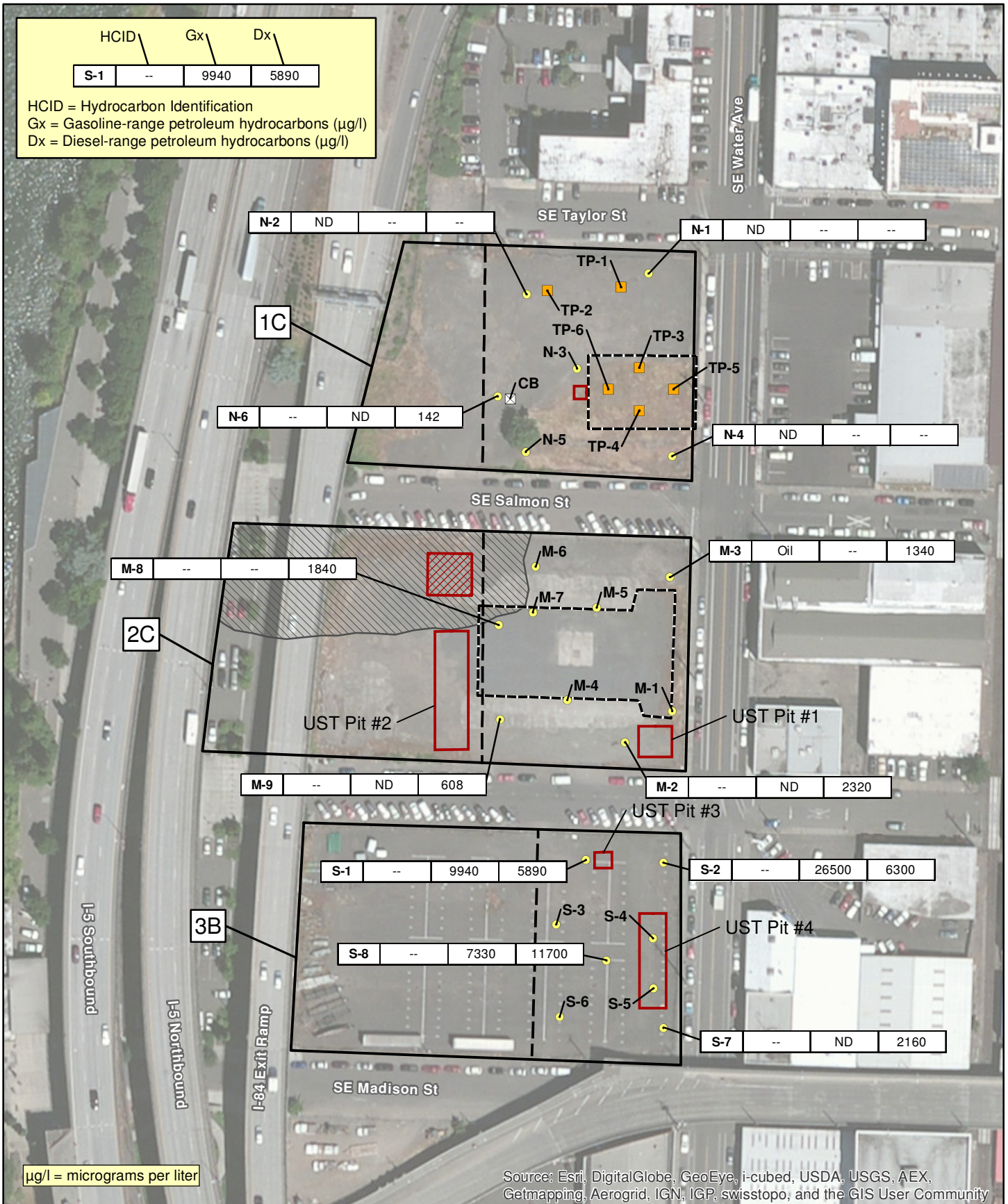


Parametrix Date: 8/5/2014 Path: P:\273\_PDC\CentralEastside\mapdocs\Fig 4\_PDC\_CentralEastsideBoring\_SoilSampleResults.mxd



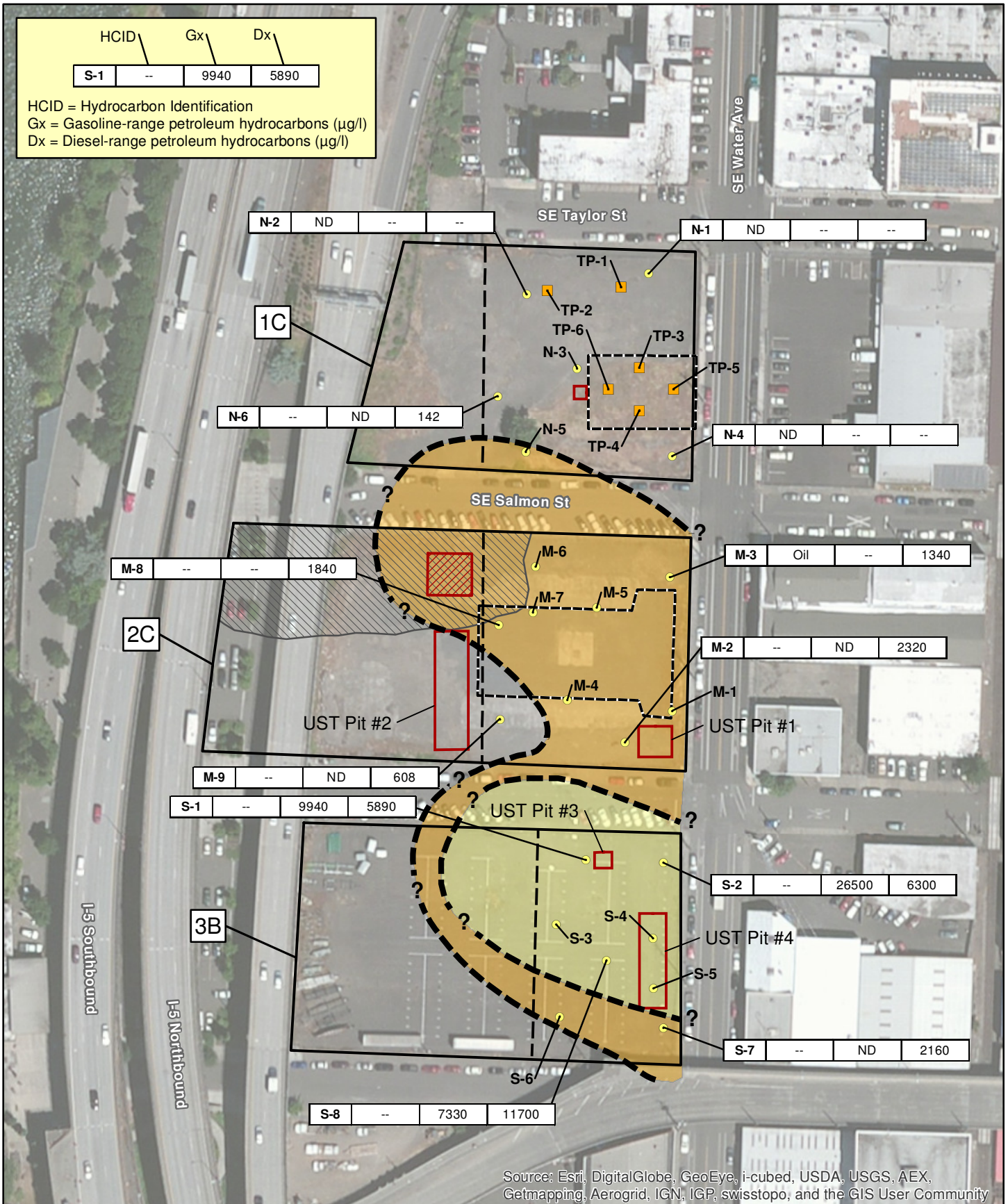
- Boring Location
- Test Pit Location
- Catch Basin
- Proposed Property Boundary
- Current Property Boundary
- Contaminated Soil in Asphalt Tank Pit
- Former UST Pit
- Former Building
- Concrete Pile

**Figure 4**  
**Soil Sample Results**  
**Petroleum Hydrocarbons**  
 Central Eastside ODOT Blocks  
 Portland, Oregon



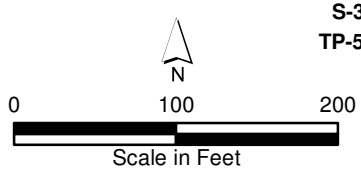
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**Figure 5**  
**Groundwater Sample Results**  
**Petroleum Hydrocarbons**  
 Central Eastside ODOT Blocks  
 Portland, Oregon



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Parametrix Date: 7/31/2014 Path: P:\273\_PDC\CentralEastside\mapdocs\Fig 6 PDC\_CentralEastsideBoring\_GroundwaterPlumeExtent.mxd



- S-3 Boring Location
- TP-5 Test Pit Location
- Proposed Property Boundary
- Current Property Boundary
- Concrete Pile Area
- Contaminated Soil in Asphalt Tank Pit
- Former UST Pit
- Former Building
- Gasoline Exceeding 1 mg/L
- Diesel Exceeding 1 mg/L

**Figure 6**  
**Estimated Extent of**  
**Groundwater Plume**  
 Central Eastside ODOT Blocks  
 Portland, Oregon

## **APPENDIX A**

### **Boring Logs**

**Boring ID:** S-1

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - South

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035


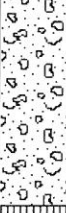

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 13.9 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>ASPHALT</b>			
		<b>FILL MATERIAL</b> - Gravelly sand, wood debris, no petroleum odor.	4'		
				S-1-4	1145
5.0		<b>SILTY SAND</b> - Brown, dry, no petroleum odor. Gray starting at approximately 5 ft bgs.	3'		
			3'		
				S-1-14	1150
15.0		Wet, slight petroleum odor starting at approximately 14 ft bgs.	4'		
				S-1-W	1200
20.0		Bottom of boring at 20 feet bgs.			

# Parametix

# Boring Log

**Boring ID:** S-2

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - South

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035


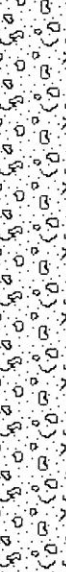

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 15.5 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>ASPHALT</b>				
		<b>FILL MATERIAL</b> - Fine to coarse gravely sand, with brick, wood debris, dry, no petroleum odor.	4'			
5.0						5.0
			3'	S-2-7	1145	
10.0		<b>SILTY SAND</b> - Gray, moist, strong petroleum odor.				10.0
			3'			
15.0		Wet, moderate petroleum odor, starting at approximately 15 ft bgs.				15.0
			4'	S-2-15	1105	
				S-2-W	1130	
20.0		Bottom of boring at 20 feet bgs.				20.0
				S-2-20	1110	

# Parametix

# Boring Log

<b>Boring ID:</b> S-3	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - South	<b>Drilling Method:</b> Push Probe	<b>Drilling Date:</b> 5/30/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~ 14 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>ASPHALT</b>				
		<b>FILL MATERIAL</b> - Gravely sand, with concrete debris, slight petroleum odor.	3.5'			
5.0		<b>SILTY SAND</b> - Gray.		S-3-5	1015	5.0
			3'			
10.0		Light petroleum odor, starting at approximately 9 ft bgs.				10.0
		Moist, moderate petroleum odor, starting at approximately 13 ft bgs.	4.5'			
15.0		Wet, starting at approximately 14 ft bgs.		S-3-15	1020	15.0
			4.5'			
20.0		Bottom of boring at 20 feet bgs.		S-3-20	1025	20.0

# Parametix

# Boring Log

**Boring ID:** S-4

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - South

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 14 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		ASPHALT				
		COBBLES				
		SAND - Brown.	3'			
		Concrete slab 6 inches thick starting at approximately 3 ft bgs.				
		No sample recovery.				
5.0			0			5.0
10.0		GRAVELY SAND - Strong petroleum odor.				10.0
		SILTY SAND - Gray, moist, strong petroleum odor.		S-4-12	1300	
		Wet starting at approximately 14 ft bgs.				
15.0		Moderate odor starting at approximately 15 ft bgs.				15.0
				S-4-18	1315	
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log

**Boring ID:** S-5

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - South

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035



**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 14 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>FILL MATERIAL</b> - Gravelly sand, pea gravel, trace of wood debris.	3'	S-5-3	1320	
5.0			0			5.0
10.0		<b>SILTY SAND</b> - Gray, moist, strong petroleum odor.		S-5-10	1325	10.0
		Wet starting at approximately 14 ft bgs.		S-5-14	1330	
15.0		Wet, moderate to strong petroleum odor starting at approximately 15 ft bgs.				15.0
				S-5-19	1335	
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log

**Boring ID:** S-6

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - South

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035


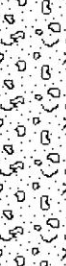

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG


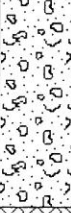


**Depth to Water:** ~ 15 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>ASPHALT</b>				
		<b>FILL MATERIAL</b> - Gravel, concrete, wood debris.	3'			
5.0		<b>SILTY SAND</b> - Gray, dry, no petroleum odor.	2'			5.0
10.0		Oily sand, slight petroleum odor, starting at approximately 9.5 ft bgs. Wet starting at approximately 10 ft bgs.		S-6-10	1000	10.0
15.0		No petroleum odor starting at approximately 15 ft bgs.		S-6-14	1005	15.0
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log

<b>Boring ID:</b> S-7	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - South	<b>Drilling Method:</b> Push Probe	<b>Drilling Date:</b> 5/30/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~ 14.5 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>ASPHALT</b>			
		<b>FILL MATERIAL</b> - Gravel, concrete, glass debris, slight petroleum odor.	3'		
		<b>WOOD DEBRIS</b>		S-7-5	
5.0		<b>SILTY SAND</b> - Gray, no petroleum odor.			
			4'		
		Moist starting at approximately 8 ft bgs.			
10.0					
		Wet, no petroleum odor starting at approximately 10 ft bgs.	4'		
				S-7-15	
15.0					
			4'	S-7-W	930
		Brown starting at approximately 18.5 ft bgs.			
20.0		Bottom of boring at 20 feet bgs.			

# Parametix

# Boring Log

<b>Boring ID:</b> S-8	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet</b> 1 of 1
<b>Project Name:</b> ODOT Blocks - South	<b>Drilling Method:</b> Push Probe	<b>Driling Date:</b> 5/30/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~ 14.5 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravel, bricks, wood debris, dry, no petroleum odor.	3'	S-8-3	1345
5.0		<b>SILTY SAND</b> - Brown, some wood debris, dry, slight petroleum odor.	3'	S-8-9	1350
10.0		Gray, moist, moderate to strong petroleum odor starting at approximately 10 ft bgs.			
				S-8-14	1355
15.0		Wet, moderate petroleum odor starting at approximately 15 ft bgs.		S-8-W	1415
20.0		Bottom of boring at 20 feet bgs.			

**Boring ID:** M-1

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Drilling Date:** 5/30/14

**Project #:** 273-1962-035

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 14 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		ASPHALT				
		SILTY SAND W/ GRAVEL - Gray, moist, no petroleum odor.	1.5'			
5.0						5.0
		WOOD DEBRIS	2.5'			
10.0						10.0
		SILTY SAND - Gray, wet, no petroleum odor.	4'	M-1-12	1550	
15.0						15.0
			4'	M-1-18	1600	
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log

**Boring ID:** M-2

**Drilling Company:** Cascade Drilling

**Sheet** 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Driling Date:** 5/30/14

**Project #:** 273-1962-035

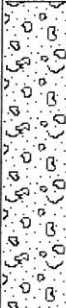

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 13.8 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravel, sand, wood debris, no petroleum odor.	2'	M-2-3	1615
5.0		<b>SILTY SAND</b> - Gray, no petroleum odor.  Moist starting at approximately 10 ft bgs.  Wet starting at approximately 14 ft bgs.	3'		
			4'	M-2-13	1620
15.0			4'	M-2-W	1630
				M-2-18	1625
20.0		Bottom of boring at 20 feet bgs.			

# Parametix

# Boring Log

**Boring ID: M-3**

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Driling Date:** 5/31/14

**Project #:** 273-1962-035

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 12.7 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravel brought in by current tenant. <b>FILL MATERIAL</b> - Gravel, coarse sand, wood bebris.	3'	M-3-4	825
5.0		<b>SILTY SAND</b> - Gray, wet, no petroleum odor.	3'		
			4'	M-3-13	840
10.0		<b>SILTY SAND</b> - Gray, wet, no petroleum odor.	3.5'	M-3-W	850
				M-3-18	848
15.0		<b>SILTY SAND</b> - Gray, wet, no petroleum odor.	3.5'		
20.0		Bottom of boring at 20 feet bgs.			

**Boring ID: M-4**

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Driling Date:** 5/31/14

**Project #:** 273-1962-035

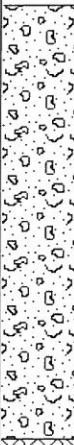

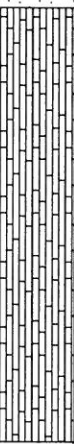
**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 13 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravel, coarse sand, wood bebris.	4'	M-4-3	910
5.0		Wood debris between 7 and 8.5 ft bgs.	4.5'		
		<b>SANDY SILT</b> - Blue gray.			
10.0		<b>SAND</b> - Fine grained.			
		Wet starting at approximately 13 ft bgs. <b>SANDY SILT</b> - Wet, no petroleum odor.	4.5'	M-4-13	915
15.0			5'		
				M-4-19	920
20.0		Bottom of boring at 20 feet bgs.			

**Boring ID:** M-5

**Drilling Company:** Cascae drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Driling Date:** 5/31/14

**Project #:** 273-1962-035

**Logged by:** Rick Wadsworth, PE

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~ 15 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			
			Recovery	Sample ID	Sample Time	Depth (ft)
0.0		Ground Surface				0.0
		<b>FILL MATERIAL</b> - Gravel, coarse sand.				
5.0		Six inch thick concrete slab at approximately 5 ft bgs.				5.0
		<b>SAND</b> - Fine grained.				
		<b>SANDY SILT</b> - Blue gray.		M-5-8	930	
		Wood debris between approximately 9 and 10 ft bgs.				
10.0		<b>GRAVEL with SAND</b> - Coarse grained sand.				10.0
		<b>SANDY SILT</b> - Gray.				
		<b>SILTY SAND</b> - Gray.		M-5-14	935	
15.0		Wet starting at approximately 15 ft bgs.				15.0
				M-5-19	940	
20.0		Bottom of boring at 20 feet bgs.				20.0

**Boring ID:** M-6

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - Middle

**Drilling Method:** Push Probe

**Driling Date:** 5/31/14

**Project #:** 273-1962-035

**Logged by:** Jessica Roberts

**Boring Depth:** 20 ft

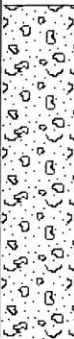


**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~13 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		6 inch concrete slab.			
		<b>FILL MATERIAL</b> - Gravel sand, slight petroleum odor.	3'	M-6-3	955
5.0		Wood debris between approximately 5 and 6 ft bgs.			
		Brick debris between approximately 6 and 10 ft bgs.	3.5'		
10.0		<b>SILTY SAND</b> - Moist, fine grained sand.			
		Wet starting at approximately 13 ft bgs.	4'	M-6-13	1000
15.0					
				M-6-19	1010
20.0		Bottom of boring at 20 feet bgs.			

<b>Boring ID:</b> M-7	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - Middle	<b>Drilling Method:</b> Push Probe	<b>Driling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~ 14 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Recovery	Sample ID	
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravel, coarse sand.			0.0
		4 inches of tarry material at approximately 3 ft bgs.		M-7-3	1025
5.0		Wood debris between approximately 5.5 and 6.5 ft bgs.			5.0
		<b>SILTY SAND</b> - Gray, no petroleum odor.			10.0
		Wet starting at approximately 14 ft bgs.		M-7-13	1030
15.0					15.0
				M-7-18	1035
20.0		Bottom of boring at 20 feet bgs.			20.0

<b>Boring ID:</b> M-8	<b>Drilling Company:</b> Cascase Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - Middle	<b>Drilling Method:</b> Push Probe	<b>Drilling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b>

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample				
			Recovery	Sample ID	Sample Time		
0.0		Ground Surface				0.0	
		<b>FILL MATERIAL</b> - Fine to medium gravel, silty sand, sand.	3.5'				
		Tarry material at approximately 3 ft bgs.		M-8-3	1045		
5.0		Wood debris between approximately 5 and 13 ft bgs.	3.5'			5.0	
10.0						10.0	
		<b>SILTY SAND</b> - Wet, stained, slight petroleum odor.	3.5'	M-8-12	1050		
15.0				M-8-W	1100		15.0
				M-8-18	1055		
20.0		Bottom of boring at 20 feet bgs.				20.0	

<b>Boring ID:</b> M-9	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - Middle	<b>Drilling Method:</b> Push Probe	<b>Drilling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~13 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		6 inch concrete slab.			
		<b>SANDY SILT</b>	3'	M-9-3	1115
5.0		<b>FILL MATERIAL</b> - Gravel, sand.			
		Wood debris between approximately 7.5 and 9 ft bgs.	4'		
10.0		<b>SILTY SAND</b> - Moist.			
		Wet starting at approximately 13 ft bgs.	4'	M-9-13	1120
15.0					
			5'	M-9-W	1130
				M-9-18	1125
20.0		Bottom of boring at 20 feet bgs.			



**Boring ID:** N-2

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - North

**Drilling Method:** Push Probe

**Drilling Date:** 5/31/14

**Project #:** 273-1962-035

**Logged by:** Jessica Roberts

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~14.5 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravelly sand with concrete, brick, wood debris.	5'	N-2-3	1400
5.0		<b>SILTY SAND</b> - Gray.	2'		
10.0			4'	N-2-14	1425
15.0		Wet starting at approximately 14 ft bgs.			
20.0		Brown, starting at approximately 19 ft bgs. Bottom of boring at 20 feet bgs.		N-2-19	1430

<b>Boring ID:</b> N-3	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - North	<b>Drilling Method:</b> Push Probe	<b>Driling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~10 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				
		<b>FILL MATERIAL</b> - Gravelly sand with concrete, brick, wood debris.	2.5'	N-3-3	1615	
5.0						
			<b>SILTY SAND</b> - Moist.  Wet, brown, starting at approximately 10 ft bgs.	3'		
10.0						
	2.5'			N-3-13	1620	
15.0						
				N-3-19	1625	
20.0		Bottom of boring at 20 feet bgs.				

**Boring ID:** N-4

**Drilling Company:** Cascade Drilling

Sheet 1 of 1

**Project Name:** ODOT Blocks - North

**Drilling Method:** Push Probe

**Drilling Date:** 5/31/14

**Project #:** 273-1962-035

**Logged by:** Jessica Roberts

**Boring Depth:** 20 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** ~13 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>ASPHALT</b>				
		<b>FILL MATERIAL</b> - Fine gravel, sand.	5'	N-4-3	1545	
5.0			2'			5.0
10.0		<b>SILTY SAND</b> - Brown, moist.	4'	N-4-13	1550	10.0
		Wet, starting at approximately 13 ft bgs.		N-4-W		15.0
15.0				N-4-19	1555	
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log


<b>Boring ID:</b> N-5	<b>Drilling Company:</b> Cascade Drilling	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks - North	<b>Drilling Method:</b> Push Probe	<b>Driling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~12 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		
			Recovery	Sample ID	Sample Time
0.0		Ground Surface			
		<b>FILL MATERIAL</b> - Gravely sand, asphalt, brick, and wood debris.	2'		
5.0			3.5'	N-5-7	1645
			4'		N-5-15
10.0		Moist, starting at approximately 10 ft bgs.			
		<b>SILTY SAND</b> - Gray, wet, no petroleum odor.	5'		
15.0				N-5-20	1655
20.0		Bottom of boring at 20 feet bgs.			

# Parametix

# Boring Log

<b>Boring ID:</b> N-6	<b>Drilling Company:</b> Cascade Drilling	Sheet 1 of 1
<b>Project Name:</b> ODOT Blocks - North	<b>Drilling Method:</b> Push Probe	<b>Drilling Date:</b> 5/31/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Jessica Roberts	<b>Boring Depth:</b> 20 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> ~15 ft

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample			Depth (ft)
			Recovery	Sample ID	Sample Time	
0.0		Ground Surface				0.0
		<b>FILL MATERIAL</b> - Gravely coarse grained sand, brick and wood debris.	2.5'			5.0
5.0			2'	N-6-8		
10.0		No recovery to log boring.	0			10.0
15.0			0	N-6-W		15.0
20.0		Bottom of boring at 20 feet bgs.				20.0

# Parametix

# Boring Log

**Test Pit ID:** TP-1

**Excavator Company:** Stratus

**Sheet** 1 of 1

**Project Name:** ODOT Blocks

**Method:** Trackhoe

**Date:** 6/1/14

**Project #:** 273-1962-035

**Logged by:** Rick Wadsworth, PE

**Depth:** 9 ft


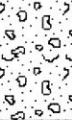

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
	ASPHALT				
	GRAVEL	Gray starting at approximately 9 inches bgs.			
	GRAVELY SAND	Brown, dry, no debris, no petroleum odor.			
5.0					5.0
			TP-1-6	845	
10.0		Bottom of boring at 9 feet bgs.			10.0

<b>Test Pit ID:</b> TP-2	<b>Excavator Company:</b> Stratus	<b>Sheet</b> 1 of 1
<b>Project Name:</b> ODOT Blocks	<b>Method:</b> Trackhoe	<b>Date:</b> 6/1/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Depth:</b> 1 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
		ASPHALT			
		GRAVEL			
		Concrete slab, refusal.			
		Bottom of boring at 1 feet bgs.			
5.0					5.0

**Test Pit ID: TP-3**

**Excavator Company:** Stratus

**Sheet** 1 of 1

**Project Name:** ODOT Blocks

**Method:** Trackhoe

**Date:** 6/1/14

**Project #:** 273-1962-035




**Logged by:** Rick Wadsworth, PE

**Depth:** 8 ft

**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG

**Depth to Water:** NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
		GRASS			
		GRAVELY SAND - Dry.  Concrete, brick, wire, and rebar debris between approximately 2 and 8 ft bgs.			
			TP-3-4	955	
5.0					5.0
			TP-3-7	1000	
		Bottom of boring at 8 feet bgs.			
10.0					10.0

**Test Pit ID: TP-4**

**Excavator Company:** Stratus

**Sheet 1 of 1**

**Project Name:** ODOT Blocks

**Method:** Trackhoe

**Date:** 6/1/14

**Project #:** 273-1962-035


**Logged by:** Rick Wadsworth, PE

**Depth:** 5 ft




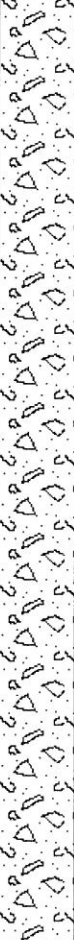
**Location:** Water Avenue

**Checked by:** Ingmar Saul, RG


**Depth to Water:** NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
		<b>GRASS</b> <b>GRAVELY SAND</b> - Brown, concrete and rebar debris.			
			TP-4-4	1025	
5.0		Bottom of boring at 5 feet bgs.			5.0
10.0					10.0

<b>Test Pit ID:</b> TP-5	<b>Excavator Company:</b> Stratus	<b>Sheet 1 of 1</b>
<b>Project Name:</b> ODOT Blocks	<b>Method:</b> Trackhoe	<b>Date:</b> 6/1/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Depth:</b> 10 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
		GRASS			
		GRAVELY SAND - Brown, concrete and rebar debris.			
		Large concrete rubble, rebar, and gravel, between approximately 2 and 10 ft bgs.			
5.0			TP-5-5	1045	5.0
			TP-5-9	1100	
10.0		Bottom of boring at 10 feet bgs.			10.0

<b>Test Pit ID:</b> TP-6	<b>Excavator Company:</b> Stratus	<b>Sheet</b> 1 of 1
<b>Project Name:</b> ODOT Blocks	<b>Method:</b> Trackhoe	<b>Date:</b> 6/1/14
<b>Project #:</b> 273-1962-035	<b>Logged by:</b> Rick Wadsworth, PE	<b>Depth:</b> 8 ft
<b>Location:</b> Water Avenue	<b>Checked by:</b> Ingmar Saul, RG	<b>Depth to Water:</b> NA

Depth (ft)	Lithologic Symbol	Description/Classification; Soil: Group Name, Color, Plasticity, Grain Size, Moisture, Density, Misc.	Sample		Depth (ft)
			Sample ID	Sample Time	
0.0		Ground Surface			0.0
		<b>GRASS</b>			
		<b>GRAVELY SAND</b> - Brown, concrete and rebar debris.			
		Large concrete rubble, rebar, and gravel, between approximately 2 and 10 ft bgs.	TP-6-3	1125	
5.0					5.0
			TP-6-8	1135	
		Bottom of boring at 8 feet bgs.			
10.0					10.0

**APPENDIX B**  
**Laboratory Analytical Reports**





# Specialty Analytical

11711 SE Capps Road, Ste B  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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June 18, 2014

Rick Wadsworth  
Parametrix  
700 NE Multnomah Blvd  
Suite 1000  
Portland, OR 97232  
TEL: (503) 233-2400  
FAX (503) 233-4825  
RE: PDC ODOT Blocks / 273-1962-035

Dear Rick Wadsworth:

Order No.: 1406009

Specialty Analytical received 41 sample(s) on 6/2/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "M. French". The signature is fluid and cursive, with a prominent loop at the end.

Marty French  
Lab Director

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-001  
**Client Sample ID:** M-1-12

**Collection Date:** 5/30/2014 3:50:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	20.8		mg/Kg-dry	1	6/5/2014 6:51:00 PM
Lube Oil	ND	69.4		mg/Kg-dry	1	6/5/2014 6:51:00 PM
Surr: o-Terphenyl	97.9	50-150		%REC	1	6/5/2014 6:51:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	15.3	3.47		mg/Kg-dry	1	6/3/2014 12:01:54 PM
Surr: 4-Bromofluorobenzene	58.5	50-150		%REC	1	6/3/2014 12:01:54 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-002  
**Client Sample ID:** M-1-18

**Collection Date:** 5/30/2014 4:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	1340	20.7		mg/Kg-dry	1	6/13/2014 10:08:50 PM
Lube Oil	ND	68.9		mg/Kg-dry	1	6/13/2014 10:08:50 PM
Surr: o-Terphenyl	130	50-150		%REC	1	6/13/2014 10:08:50 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>BS</b>
Gasoline	1230	34.4		mg/Kg-dry	10	6/12/2014 5:09:34 PM
Surr: 4-Bromofluorobenzene	258	50-150	SMI	%REC	10	6/12/2014 5:09:34 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/30/2014 4:15:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-003  
**Client Sample ID:** M-2-3 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-004  
**Client Sample ID:** M-2-13

**Collection Date:** 5/30/2014 4:20:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	18.1		mg/Kg-dry	1	6/5/2014 10:51:00 PM
Lube Oil	ND	60.2		mg/Kg-dry	1	6/5/2014 10:51:00 PM
Surr: o-Terphenyl	66.1	50-150		%REC	1	6/5/2014 10:51:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	3.01		mg/Kg-dry	1	6/3/2014 12:31:54 PM
Surr: 4-Bromofluorobenzene	63.0	50-150		%REC	1	6/3/2014 12:31:54 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.35		mg/Kg	1	6/3/2014 7:29:33 PM
Barium	41.1	0.676		mg/Kg	1	6/3/2014 7:29:33 PM
Cadmium	ND	0.0676		mg/Kg	1	6/3/2014 7:29:33 PM
Chromium	7.07	0.338		mg/Kg	1	6/3/2014 7:29:33 PM
Lead	ND	1.35		mg/Kg	1	6/3/2014 7:29:33 PM
Selenium	ND	1.35		mg/Kg	1	6/3/2014 7:29:33 PM
Silver	ND	1.35		mg/Kg	1	6/3/2014 7:29:33 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0127		mg/Kg	1	6/4/2014 1:30:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

---

**CLIENT:** Parametrix **Collection Date:** 5/30/2014 4:25:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-005  
**Client Sample ID:** M-2-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-006  
Client Sample ID: M-3-4

Collection Date: 5/31/2014 8:25:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	21.8		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Mineral Spirits	ND	21.8		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Kerosene	ND	54.6		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Diesel	ND	54.6		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Lube Oil	ND	109		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Hydraulic Oil	ND	109		mg/Kg-dry	1	6/12/2014 3:00:53 PM
Surr: BFB	67.0	50-150		%REC	1	6/12/2014 3:00:53 PM
Surr: o-Terphenyl	93.8	50-150		%REC	1	6/12/2014 3:00:53 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-007  
Client Sample ID: M-3-13

Collection Date: 5/31/2014 8:40:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	29.6		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Mineral Spirits	ND	29.6		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Kerosene	ND	73.9		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Diesel	ND	73.9		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Lube Oil	ND	148		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Hydraulic Oil	ND	148		mg/Kg-dry	1	6/4/2014 12:16:47 AM
Surr: BFB	86.7	50-150		%REC	1	6/4/2014 12:16:47 AM
Surr: o-Terphenyl	92.9	50-150		%REC	1	6/4/2014 12:16:47 AM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 8:48:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-008  
**Client Sample ID:** M-3-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-009  
Client Sample ID: M-4-3

Collection Date: 5/31/2014 9:10:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.67		mg/Kg	1	6/3/2014 7:34:37 PM
Barium	54.4	0.833		mg/Kg	1	6/3/2014 7:34:37 PM
Cadmium	ND	0.0833		mg/Kg	1	6/3/2014 7:34:37 PM
Chromium	7.41	0.417		mg/Kg	1	6/3/2014 7:34:37 PM
Lead	15.5	1.67		mg/Kg	1	6/3/2014 7:34:37 PM
Selenium	ND	1.67		mg/Kg	1	6/3/2014 7:34:37 PM
Silver	ND	1.67		mg/Kg	1	6/3/2014 7:34:37 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	0.0154	0.0149		mg/Kg	1	6/4/2014 1:33:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-010  
Client Sample ID: M-4-13

Collection Date: 5/31/2014 9:16:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	25.4		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Mineral Spirits	ND	25.4		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Kerosene	ND	63.4		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Diesel	ND	63.4		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Lube Oil	ND	127		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Hydraulic Oil	ND	127		mg/Kg-dry	1	6/4/2014 12:46:47 AM
Surr: BFB	45.2	50-150	S	%REC	1	6/4/2014 12:46:47 AM
Surr: o-Terphenyl	87.3	50-150		%REC	1	6/4/2014 12:46:47 AM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 9:20:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-011  
**Client Sample ID:** M-4-19 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-012  
**Client Sample ID:** M-5-8

**Collection Date:** 5/31/2014 9:30:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	27.2		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Mineral Spirits	ND	27.2		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Kerosene	ND	68.1		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Diesel	ND	68.1		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Lube Oil	ND	136		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Hydraulic Oil	ND	136		mg/Kg-dry	1	6/12/2014 12:00:53 PM
Surr: BFB	56.4	50-150		%REC	1	6/12/2014 12:00:53 PM
Surr: o-Terphenyl	89.7	50-150		%REC	1	6/12/2014 12:00:53 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	3.67	1.52		mg/Kg	1	6/13/2014 7:16:06 PM
Barium	112	0.758		mg/Kg	1	6/13/2014 7:16:06 PM
Cadmium	ND	0.0758		mg/Kg	1	6/13/2014 7:16:06 PM
Chromium	15.6	0.379		mg/Kg	1	6/13/2014 7:16:06 PM
Lead	56.4	1.52		mg/Kg	1	6/16/2014 5:16:52 PM
Selenium	ND	1.52		mg/Kg	1	6/13/2014 7:16:06 PM
Silver	ND	1.52		mg/Kg	1	6/13/2014 7:16:06 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	0.121	0.0167		mg/Kg	1	6/13/2014 10:03:36 AM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-013  
**Client Sample ID:** M-5-14

**Collection Date:** 5/31/2014 9:35:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	25.0		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Mineral Spirits	ND	25.0		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Kerosene	ND	62.5		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Diesel	ND	62.5		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Lube Oil	ND	125		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Hydraulic Oil	ND	125		mg/Kg-dry	1	6/4/2014 1:16:47 AM
Surr: BFB	54.4	50-150		%REC	1	6/4/2014 1:16:47 AM
Surr: o-Terphenyl	97.3	50-150		%REC	1	6/4/2014 1:16:47 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.61		mg/Kg	1	6/3/2014 7:39:41 PM
Barium	83.5	0.806		mg/Kg	1	6/3/2014 7:39:41 PM
Cadmium	ND	0.0806		mg/Kg	1	6/3/2014 7:39:41 PM
Chromium	15.3	0.403		mg/Kg	1	6/3/2014 7:39:41 PM
Lead	ND	1.61		mg/Kg	1	6/3/2014 7:39:41 PM
Selenium	ND	1.61		mg/Kg	1	6/3/2014 7:39:41 PM
Silver	ND	1.61		mg/Kg	1	6/3/2014 7:39:41 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0144		mg/Kg	1	6/4/2014 1:36:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 9:40:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-014  
**Client Sample ID:** M-5-19 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 9:55:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-015  
**Client Sample ID:** M-6-3 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:00:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-016  
**Client Sample ID:** M-6-13 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	19.5		mg/Kg-dry	1	6/5/2014 7:21:00 PM
Lube Oil	ND	64.9		mg/Kg-dry	1	6/5/2014 7:21:00 PM
Surr: o-Terphenyl	96.7	50-150		%REC	1	6/5/2014 7:21:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-017  
Client Sample ID: M-7-3

Collection Date: 5/31/2014 10:25:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	22.0		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Mineral Spirits	ND	22.0		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Kerosene	ND	55.0		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Diesel	DIESEL	55.0		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Lube Oil	OIL	110		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Hydraulic Oil	ND	110		mg/Kg-dry	1	6/12/2014 4:00:53 PM
Surr: BFB	18.1	50-150	SMI	%REC	1	6/12/2014 4:00:53 PM
Surr: o-Terphenyl	13.9	50-150	SMI	%REC	1	6/12/2014 4:00:53 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:30:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-018  
**Client Sample ID:** M-7-13 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	19.8		mg/Kg-dry	1	6/5/2014 7:51:00 PM
Lube Oil	ND	65.9		mg/Kg-dry	1	6/5/2014 7:51:00 PM
Surr: o-Terphenyl	65.3	50-150		%REC	1	6/5/2014 7:51:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:35:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-019  
**Client Sample ID:** M-7-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-020  
**Client Sample ID:** M-8-3

**Collection Date:** 5/31/2014 10:45:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	33.7		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Mineral Spirits	ND	33.7		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Kerosene	ND	84.2		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Diesel	DIESEL	84.2		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Lube Oil	OIL	168		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Hydraulic Oil	ND	168		mg/Kg-dry	1	6/12/2014 4:30:53 PM
Surr: BFB	46.1	50-150	SMI	%REC	1	6/12/2014 4:30:53 PM
Surr: o-Terphenyl	55.8	50-150		%REC	1	6/12/2014 4:30:53 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:50:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-021  
**Client Sample ID:** M-8-13 **Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	84.9	19.6		mg/Kg-dry	1	6/5/2014 9:21:00 PM
Lube Oil	268	65.5		mg/Kg-dry	1	6/5/2014 9:21:00 PM
Surr: o-Terphenyl	102	50-150		%REC	1	6/5/2014 9:21:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>		Analyst: <b>BS</b>		
Gasoline	5.43	3.27		mg/Kg-dry	1	6/12/2014 3:39:34 PM
Surr: 4-Bromofluorobenzene	71.7	50-150		%REC	1	6/12/2014 3:39:34 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	2.12	1.61		mg/Kg	1	6/13/2014 7:21:22 PM
Barium	150	0.806		mg/Kg	1	6/13/2014 7:21:22 PM
Cadmium	ND	0.0806		mg/Kg	1	6/13/2014 7:21:22 PM
Chromium	17.2	0.403		mg/Kg	1	6/13/2014 7:21:22 PM
Lead	867	1.61		mg/Kg	1	6/16/2014 5:22:10 PM
Selenium	ND	1.61		mg/Kg	1	6/13/2014 7:21:22 PM
Silver	ND	1.61		mg/Kg	1	6/13/2014 7:21:22 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>		Analyst: <b>BW</b>		
Mercury	0.0243	0.0142		mg/Kg	1	6/13/2014 10:06:36 AM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Acenaphthylene	6.91	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Anthracene	9.68	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Benz(a)anthracene	38.2	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Benzo(a)pyrene	32.2	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Benzo(b)fluoranthene	40.6	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Benzo(g,h,i)perylene	20.6	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Benzo(k)fluoranthene	27.0	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Chrysene	49.6	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Dibenz(a,h)anthracene	8.21	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Fluoranthene	66.2	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Indeno(1,2,3-cd)pyrene	18.7	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Phenanthrene	22.9	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Pyrene	63.3	6.67		µg/Kg	1	6/12/2014 5:42:00 PM
Surr: 2-Fluorobiphenyl	68.1	42.6-128		%REC	1	6/12/2014 5:42:00 PM
Surr: Nitrobenzene-d5	67.5	21.7-155		%REC	1	6/12/2014 5:42:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:50:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-021  
**Client Sample ID:** M-8-13 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Surr: p-Terphenyl-d14	133	44.9-155		%REC	1	6/12/2014 5:42:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 10:55:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-022  
**Client Sample ID:** M-8-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	20.3		mg/Kg-dry	1	6/13/2014 10:38:50 PM
Lube Oil	ND	67.5		mg/Kg-dry	1	6/13/2014 10:38:50 PM
Surr: o-Terphenyl	104	50-150		%REC	1	6/13/2014 10:38:50 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-023  
Client Sample ID: M-9-3

Collection Date: 5/31/2014 11:15:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.6		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Mineral Spirits	ND	26.6		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Kerosene	ND	66.4		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Diesel	ND	66.4		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Lube Oil	ND	133		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Hydraulic Oil	ND	133		mg/Kg-dry	1	6/12/2014 1:30:53 PM
Surr: BFB	54.5	50-150		%REC	1	6/12/2014 1:30:53 PM
Surr: o-Terphenyl	80.0	50-150		%REC	1	6/12/2014 1:30:53 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-024  
**Client Sample ID:** M-9-13

**Collection Date:** 5/31/2014 11:20:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	ND	19.8		mg/Kg-dry	1	6/5/2014 10:21:00 PM
Lube Oil	ND	66.1		mg/Kg-dry	1	6/5/2014 10:21:00 PM
Surr: o-Terphenyl	96.8	50-150		%REC	1	6/5/2014 10:21:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>		Analyst: <b>bda</b>		
Gasoline	ND	3.30		mg/Kg-dry	1	6/3/2014 1:01:54 PM
Surr: 4-Bromofluorobenzene	65.2	50-150		%REC	1	6/3/2014 1:01:54 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	ND	1.47		mg/Kg	1	6/3/2014 7:44:42 PM
Barium	95.5	0.735		mg/Kg	1	6/3/2014 7:44:42 PM
Cadmium	ND	0.0735		mg/Kg	1	6/3/2014 7:44:42 PM
Chromium	16.6	0.368		mg/Kg	1	6/3/2014 7:44:42 PM
Lead	ND	1.47		mg/Kg	1	6/3/2014 7:44:42 PM
Selenium	ND	1.47		mg/Kg	1	6/3/2014 7:44:42 PM
Silver	ND	1.47		mg/Kg	1	6/3/2014 7:44:42 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>		Analyst: <b>VAS</b>		
Mercury	ND	0.0144		mg/Kg	1	6/4/2014 1:39:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Acenaphthylene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Anthracene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Benz(a)anthracene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Benzo(b)fluoranthene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Benzo(g,h,i)perylene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Chrysene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Fluoranthene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Indeno(1,2,3-cd)pyrene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Phenanthrene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Pyrene	ND	6.67		µg/Kg	1	6/6/2014 3:42:00 PM
Surr: 2-Fluorobiphenyl	59.5	42.6-128		%REC	1	6/6/2014 3:42:00 PM
Surr: Nitrobenzene-d5	71.2	21.7-155		%REC	1	6/6/2014 3:42:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 11:20:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-024  
**Client Sample ID:** M-9-13 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Surr: p-Terphenyl-d14	115	44.9-155		%REC	1	6/6/2014 3:42:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 11:25:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-025  
**Client Sample ID:** M-9-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-026  
**Client Sample ID:** N-1-14

**Collection Date:** 5/31/2014 1:25:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.4		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Mineral Spirits	ND	26.4		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Kerosene	ND	66.0		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Diesel	ND	66.0		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Lube Oil	ND	132		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Hydraulic Oil	ND	132		mg/Kg-dry	1	6/4/2014 1:46:47 AM
Surr: BFB	50.2	50-150		%REC	1	6/4/2014 1:46:47 AM
Surr: o-Terphenyl	93.4	50-150		%REC	1	6/4/2014 1:46:47 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.39		mg/Kg	1	6/3/2014 7:49:43 PM
Barium	73.1	0.694		mg/Kg	1	6/3/2014 7:49:43 PM
Cadmium	ND	0.0694		mg/Kg	1	6/3/2014 7:49:43 PM
Chromium	13.6	0.347		mg/Kg	1	6/3/2014 7:49:43 PM
Lead	ND	1.39		mg/Kg	1	6/3/2014 7:49:43 PM
Selenium	ND	1.39		mg/Kg	1	6/3/2014 7:49:43 PM
Silver	ND	1.39		mg/Kg	1	6/3/2014 7:49:43 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0130		mg/Kg	1	6/4/2014 1:42:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 1:30:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-027  
**Client Sample ID:** N-1-19 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-028  
**Client Sample ID:** N-2-3

**Collection Date:** 5/31/2014 2:00:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	21.8		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Mineral Spirits	ND	21.8		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Kerosene	ND	54.4		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Diesel	ND	54.4		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Lube Oil	ND	109		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Hydraulic Oil	ND	109		mg/Kg-dry	1	6/4/2014 2:16:47 AM
Surr: BFB	59.2	50-150		%REC	1	6/4/2014 2:16:47 AM
Surr: o-Terphenyl	102	50-150		%REC	1	6/4/2014 2:16:47 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.43		mg/Kg	1	6/3/2014 8:15:14 PM
Barium	62.6	0.714		mg/Kg	1	6/3/2014 8:15:14 PM
Cadmium	ND	0.0714		mg/Kg	1	6/3/2014 8:15:14 PM
Chromium	11.5	0.357		mg/Kg	1	6/3/2014 8:15:14 PM
Lead	21.7	1.43		mg/Kg	1	6/3/2014 8:15:14 PM
Selenium	ND	1.43		mg/Kg	1	6/3/2014 8:15:14 PM
Silver	ND	1.43		mg/Kg	1	6/3/2014 8:15:14 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0167		mg/Kg	1	6/4/2014 1:45:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-029  
**Client Sample ID:** N-2-14

**Collection Date:** 5/31/2014 2:25:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>		Analyst: <b>BS</b>		
Gasoline	ND	26.7		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Mineral Spirits	ND	26.7		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Kerosene	ND	66.7		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Diesel	DIESEL	66.7		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Lube Oil	OIL	133		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Hydraulic Oil	ND	133		mg/Kg-dry	1	6/4/2014 2:46:47 AM
Surr: BFB	67.8	50-150		%REC	1	6/4/2014 2:46:47 AM
Surr: o-Terphenyl	145	50-150		%REC	1	6/4/2014 2:46:47 AM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	81.4	20.0		mg/Kg-dry	1	6/10/2014 1:19:02 PM
Lube Oil	314	66.7		mg/Kg-dry	1	6/10/2014 1:19:02 PM
Surr: o-Terphenyl	117	50-150		%REC	1	6/10/2014 1:19:02 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Acenaphthylene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Benz(a)anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Benzo(b)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Benzo(g,h,i)perylene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Chrysene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Indeno(1,2,3-cd)pyrene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Phenanthrene	ND	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Pyrene	11.6	6.67		µg/Kg	1	6/12/2014 6:07:00 PM
Surr: 2-Fluorobiphenyl	61.8	42.6-128		%REC	1	6/12/2014 6:07:00 PM
Surr: Nitrobenzene-d5	57.7	21.7-155		%REC	1	6/12/2014 6:07:00 PM
Surr: p-Terphenyl-d14	119	44.9-155		%REC	1	6/12/2014 6:07:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-030  
**Client Sample ID:** N-2-19

**Collection Date:** 5/31/2014 2:30:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.8		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Mineral Spirits	ND	26.8		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Kerosene	ND	67.0		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Diesel	ND	67.0		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Lube Oil	ND	134		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Hydraulic Oil	ND	134		mg/Kg-dry	1	6/12/2014 12:30:53 PM
Surr: BFB	70.7	50-150		%REC	1	6/12/2014 12:30:53 PM
Surr: o-Terphenyl	92.4	50-150		%REC	1	6/12/2014 12:30:53 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.35		mg/Kg	1	6/13/2014 7:26:24 PM
Barium	102	0.676		mg/Kg	1	6/13/2014 7:26:24 PM
Cadmium	ND	0.0676		mg/Kg	1	6/13/2014 7:26:24 PM
Chromium	17.1	0.338		mg/Kg	1	6/13/2014 7:26:24 PM
Lead	15.3	1.35		mg/Kg	1	6/16/2014 5:27:27 PM
Selenium	ND	1.35		mg/Kg	1	6/13/2014 7:26:24 PM
Silver	ND	1.35		mg/Kg	1	6/13/2014 7:26:24 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	ND	0.0133		mg/Kg	1	6/13/2014 10:09:36 AM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-031  
**Client Sample ID:** N-3-3

**Collection Date:** 5/31/2014 4:15:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>		Analyst: <b>BS</b>		
Gasoline	ND	21.7		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Mineral Spirits	ND	21.7		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Kerosene	ND	54.2		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Diesel	ND	54.2		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Lube Oil	OIL	108		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Hydraulic Oil	ND	108		mg/Kg-dry	1	6/4/2014 3:16:47 AM
Surr: BFB	72.3	50-150		%REC	1	6/4/2014 3:16:47 AM
Surr: o-Terphenyl	98.6	50-150		%REC	1	6/4/2014 3:16:47 AM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	25.5	16.3		mg/Kg-dry	1	6/10/2014 11:49:02 AM
Lube Oil	310	54.2		mg/Kg-dry	1	6/10/2014 11:49:02 AM
Surr: o-Terphenyl	113	50-150		%REC	1	6/10/2014 11:49:02 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	ND	1.92		mg/Kg	1	6/3/2014 8:20:16 PM
Barium	65.0	0.962		mg/Kg	1	6/3/2014 8:20:16 PM
Cadmium	ND	0.0962		mg/Kg	1	6/3/2014 8:20:16 PM
Chromium	9.10	0.481		mg/Kg	1	6/3/2014 8:20:16 PM
Lead	ND	1.92		mg/Kg	1	6/3/2014 8:20:16 PM
Selenium	ND	1.92		mg/Kg	1	6/3/2014 8:20:16 PM
Silver	ND	1.92		mg/Kg	1	6/3/2014 8:20:16 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>		Analyst: <b>VAS</b>		
Mercury	0.0277	0.0107		mg/Kg	1	6/4/2014 1:48:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Acenaphthylene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Anthracene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Benz(a)anthracene	6.87	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Benzo(a)pyrene	20.3	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Benzo(b)fluoranthene	12.4	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Benzo(g,h,i)perylene	47.0	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Benzo(k)fluoranthene	10.5	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Chrysene	10.6	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Dibenz(a,h)anthracene	7.47	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Fluoranthene	9.76	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-031  
Client Sample ID: N-3-3

Collection Date: 5/31/2014 4:15:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Indeno(1,2,3-cd)pyrene	21.9	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Phenanthrene	ND	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Pyrene	13.6	6.67		µg/Kg	1	6/16/2014 2:32:00 PM
Surr: 2-Fluorobiphenyl	67.2	42.6-128		%REC	1	6/16/2014 2:32:00 PM
Surr: Nitrobenzene-d5	63.1	21.7-155		%REC	1	6/16/2014 2:32:00 PM
Surr: p-Terphenyl-d14	131	44.9-155		%REC	1	6/16/2014 2:32:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-032  
**Client Sample ID:** N-3-13

**Collection Date:** 5/31/2014 4:20:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.4		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Mineral Spirits	ND	26.4		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Kerosene	ND	66.1		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Diesel	ND	66.1		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Lube Oil	OIL	132		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Hydraulic Oil	ND	132		mg/Kg-dry	1	6/4/2014 3:46:47 AM
Surr: BFB	40.6	50-150	S	%REC	1	6/4/2014 3:46:47 AM
Surr: o-Terphenyl	97.0	50-150		%REC	1	6/4/2014 3:46:47 AM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	19.8		mg/Kg-dry	1	6/10/2014 9:49:02 AM
Lube Oil	ND	66.1		mg/Kg-dry	1	6/10/2014 9:49:02 AM
Surr: o-Terphenyl	110	50-150		%REC	1	6/10/2014 9:49:02 AM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 4:25:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-033  
**Client Sample ID:** N-3-19 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-034  
**Client Sample ID:** N-4-3

**Collection Date:** 5/31/2014 3:45:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	22.3		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Mineral Spirits	ND	22.3		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Kerosene	ND	55.6		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Diesel	ND	55.6		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Lube Oil	ND	111		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Hydraulic Oil	ND	111		mg/Kg-dry	1	6/4/2014 4:46:47 AM
Surr: BFB	47.0	50-150	S	%REC	1	6/4/2014 4:46:47 AM
Surr: o-Terphenyl	102	50-150		%REC	1	6/4/2014 4:46:47 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.35		mg/Kg	1	6/13/2014 7:52:05 PM
Barium	61.9	0.676		mg/Kg	1	6/13/2014 7:52:05 PM
Cadmium	ND	0.0676		mg/Kg	1	6/13/2014 7:52:05 PM
Chromium	11.0	0.338		mg/Kg	1	6/13/2014 7:52:05 PM
Lead	2.69	1.35		mg/Kg	1	6/16/2014 5:32:44 PM
Selenium	ND	1.35		mg/Kg	1	6/13/2014 7:52:05 PM
Silver	ND	1.35		mg/Kg	1	6/13/2014 7:52:05 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	0.0376	0.0161		mg/Kg	1	6/13/2014 10:12:36 AM

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-035  
**Client Sample ID:** N-4-13

**Collection Date:** 5/31/2014 3:50:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.6		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Mineral Spirits	ND	26.6		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Kerosene	ND	66.4		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Diesel	ND	66.4		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Lube Oil	ND	133		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Hydraulic Oil	ND	133		mg/Kg-dry	1	6/4/2014 5:16:47 AM
Surr: BFB	48.1	50-150	S	%REC	1	6/4/2014 5:16:47 AM
Surr: o-Terphenyl	98.5	50-150		%REC	1	6/4/2014 5:16:47 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.32		mg/Kg	1	6/13/2014 7:57:05 PM
Barium	92.4	0.658		mg/Kg	1	6/13/2014 7:57:05 PM
Cadmium	ND	0.0658		mg/Kg	1	6/13/2014 7:57:05 PM
Chromium	16.4	0.329		mg/Kg	1	6/13/2014 7:57:05 PM
Lead	ND	1.32		mg/Kg	1	6/16/2014 5:37:47 PM
Selenium	ND	1.32		mg/Kg	1	6/13/2014 7:57:05 PM
Silver	ND	1.32		mg/Kg	1	6/13/2014 7:57:05 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	ND	0.0135		mg/Kg	1	6/13/2014 10:15:36 AM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 3:55:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-036  
**Client Sample ID:** N-4-19 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix

Collection Date: 5/31/2014 4:45:00 PM

Project: PDC ODOT Blocks / 273-1962-035

Lab ID: 1406009-037

Client Sample ID: N-5-7

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	21.6		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Mineral Spirits	ND	21.6		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Kerosene	ND	54.1		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Diesel	ND	54.1		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Lube Oil	OIL	108		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Hydraulic Oil	ND	108		mg/Kg-dry	1	6/4/2014 5:46:47 AM
Surr: BFB	69.8	50-150		%REC	1	6/4/2014 5:46:47 AM
Surr: o-Terphenyl	108	50-150		%REC	1	6/4/2014 5:46:47 AM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	16.2		mg/Kg-dry	1	6/10/2014 10:49:02 AM
Lube Oil	ND	54.1		mg/Kg-dry	1	6/10/2014 10:49:02 AM
Surr: o-Terphenyl	110	50-150		%REC	1	6/10/2014 10:49:02 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.67		mg/Kg	1	6/3/2014 8:25:20 PM
Barium	61.4	0.833		mg/Kg	1	6/3/2014 8:25:20 PM
Cadmium	ND	0.0833		mg/Kg	1	6/3/2014 8:25:20 PM
Chromium	8.98	0.417		mg/Kg	1	6/3/2014 8:25:20 PM
Lead	ND	1.67		mg/Kg	1	6/3/2014 8:25:20 PM
Selenium	ND	1.67		mg/Kg	1	6/3/2014 8:25:20 PM
Silver	ND	1.67		mg/Kg	1	6/3/2014 8:25:20 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0139		mg/Kg	1	6/4/2014 1:51:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-038  
Client Sample ID: N-5-15

Collection Date: 5/31/2014 4:50:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.0		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Mineral Spirits	ND	26.0		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Kerosene	ND	65.0		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Diesel	ND	65.0		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Lube Oil	ND	130		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Hydraulic Oil	ND	130		mg/Kg-dry	1	6/4/2014 6:16:47 AM
Surr: BFB	49.8	50-150	S	%REC	1	6/4/2014 6:16:47 AM
Surr: o-Terphenyl	99.8	50-150		%REC	1	6/4/2014 6:16:47 AM

# Specialty Analytical

Date Reported: 18-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 4:55:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-039  
**Client Sample ID:** N-5-20 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 18-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406009-040  
**Client Sample ID:** N-6-8

**Collection Date:** 5/31/2014 3:10:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	ND	16.4		mg/Kg-dry	1	6/6/2014 8:37:10 AM
Lube Oil	ND	54.8		mg/Kg-dry	1	6/6/2014 8:37:10 AM
Surr: o-Terphenyl	105	50-150		%REC	1	6/6/2014 8:37:10 AM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>		Analyst: <b>bda</b>		
Gasoline	ND	2.74		mg/Kg-dry	1	6/3/2014 1:31:54 PM
Surr: 4-Bromofluorobenzene	68.3	50-150		%REC	1	6/3/2014 1:31:54 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	ND	1.32		mg/Kg	1	6/3/2014 8:30:26 PM
Barium	49.0	0.658		mg/Kg	1	6/3/2014 8:30:26 PM
Cadmium	ND	0.0658		mg/Kg	1	6/3/2014 8:30:26 PM
Chromium	8.14	0.329		mg/Kg	1	6/3/2014 8:30:26 PM
Lead	ND	1.32		mg/Kg	1	6/3/2014 8:30:26 PM
Selenium	ND	1.32		mg/Kg	1	6/3/2014 8:30:26 PM
Silver	ND	1.32		mg/Kg	1	6/3/2014 8:30:26 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>		Analyst: <b>VAS</b>		
Mercury	0.0311	0.0123		mg/Kg	1	6/4/2014 1:54:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Acenaphthylene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Anthracene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Benz(a)anthracene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Benzo(b)fluoranthene	6.81	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Benzo(g,h,i)perylene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Chrysene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Fluoranthene	10.8	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Indeno(1,2,3-cd)pyrene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Phenanthrene	ND	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Pyrene	11.2	6.67		µg/Kg	1	6/5/2014 7:37:00 PM
Surr: 2-Fluorobiphenyl	63.3	42.6-128		%REC	1	6/5/2014 7:37:00 PM
Surr: Nitrobenzene-d5	58.0	21.7-155		%REC	1	6/5/2014 7:37:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406009-040  
 Client Sample ID: N-6-8

Collection Date: 5/31/2014 3:10:00 PM  
 Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Surr: p-Terphenyl-d14	103	44.9-155		%REC	1	6/5/2014 7:37:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1,1-Trichloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1,2,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1,2-Trichloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1-Dichloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1-Dichloroethene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,1-Dichloropropene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2,3-Trichlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2,3-Trichloropropane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2,4-Trichlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2,4-Trimethylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2-Dibromo-3-chloropropane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2-Dibromoethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2-Dichlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2-Dichloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,2-Dichloropropane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,3,5-Trimethylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,3-Dichlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,3-Dichloropropane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
1,4-Dichlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
2,2-Dichloropropane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
2-Butanone	ND	20.0		µg/Kg	1	6/2/2014 4:12:00 PM
2-Chlorotoluene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
2-Hexanone	ND	20.0		µg/Kg	1	6/2/2014 4:12:00 PM
4-Chlorotoluene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
4-Isopropyltoluene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/Kg	1	6/2/2014 4:12:00 PM
Acetone	ND	50.0		µg/Kg	1	6/2/2014 4:12:00 PM
Benzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Bromobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Bromochloromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Bromodichloromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Bromoform	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Bromomethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Carbon disulfide	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406009-040  
 Client Sample ID: N-6-8

Collection Date: 5/31/2014 3:10:00 PM  
 Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: CK		
Carbon tetrachloride	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Chlorobenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Chloroethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Chloroform	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Chloromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
cis-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
cis-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Dibromochloromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Dibromomethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Dichlorodifluoromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Ethylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Hexachlorobutadiene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Isopropylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
m,p-Xylene	ND	20.0		µg/Kg	1	6/2/2014 4:12:00 PM
Methyl tert-butyl ether	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Methylene chloride	ND	50.0		µg/Kg	1	6/2/2014 4:12:00 PM
Naphthalene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
n-Butylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
n-Propylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
o-Xylene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
sec-Butylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Styrene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
tert-Butylbenzene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Tetrachloroethene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Toluene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
trans-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
trans-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Trichloroethene	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Trichlorofluoromethane	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Vinyl chloride	ND	10.0		µg/Kg	1	6/2/2014 4:12:00 PM
Surr: 1,2-Dichloroethane-d4	104	71.5-112		%REC	1	6/2/2014 4:12:00 PM
Surr: 4-Bromofluorobenzene	104	75.7-122		%REC	1	6/2/2014 4:12:00 PM
Surr: Dibromofluoromethane	107	64.3-124		%REC	1	6/2/2014 4:12:00 PM
Surr: Toluene-d8	101	74.9-120		%REC	1	6/2/2014 4:12:00 PM

# Specialty Analytical

Date Reported: 18-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406009-041  
Client Sample ID: M-6-19

Collection Date: 5/31/2014 10:10:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	28.1		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Mineral Spirits	ND	28.1		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Kerosene	ND	70.2		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Diesel	ND	70.2		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Lube Oil	ND	140		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Hydraulic Oil	ND	140		mg/Kg-dry	1	6/12/2014 1:00:53 PM
Surr: BFB	69.9	50-150		%REC	1	6/12/2014 1:00:53 PM
Surr: o-Terphenyl	92.3	50-150		%REC	1	6/12/2014 1:00:53 PM

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201128</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.8	2.00	100.0	0	94.8	90	110				
Barium	49.8	1.00	50.00	0	99.5	90	110				
Cadmium	4.90	0.100	5.000	0	98.0	90	110				
Chromium	24.3	0.500	25.00	0	97.0	90	110				
Lead	99.2	2.00	100.0	0	99.2	90	110				
Selenium	99.3	2.00	100.0	0	99.3	90	110				
Silver	51.8	2.00	50.00	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201130</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.9	2.00	100.0	0	95.9	90	110				
Barium	50.0	1.00	50.00	0	99.9	90	110				
Chromium	24.4	0.500	25.00	0	97.4	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	102	2.00	100.0	0	102	90	110				
Silver	52.2	2.00	50.00	0	104	90	110				

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 1 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	2.00									
Barium	ND	1.00									
Lead	ND	2.00									
Selenium	ND	2.00									
Silver	ND	2.00									

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201132</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4.88	0.100	5.000	0	97.6	87.2	115				
Chromium	21.0	0.500	25.00	0	84.1	84	113				
Lead	86.3	2.00	100.0	0	86.3	84.9	109				

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.56						2.508	200	20	RF
Barium	76.8	0.781						78.98	2.76	20	
Chromium	10.1	0.391						10.55	4.81	20	
Lead	8.08	1.56						6.850	16.5	20	
Selenium	ND	1.56						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 2 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	1.56						0	0	20	

Sample ID: <b>1405249-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	113	0.862	43.10	78.98	78.2	75	125				
Chromium	25.8	0.431	21.55	10.55	70.6	75	121				S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201136</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.4	2.00	100.0	0	95.4	90	110				
Barium	49.1	1.00	50.00	0	98.1	90	110				
Cadmium	5.09	0.100	5.000	0	102	90	110				
Chromium	23.9	0.500	25.00	0	95.4	90	110				
Lead	98.1	2.00	100.0	0	98.1	90	110				
Selenium	98.0	2.00	100.0	0	98.0	90	110				
Silver	50.7	2.00	50.00	0	101	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 3 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201137</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	63.1	1.85	92.59	2.508	65.4	86.1	109	56.88	10.3	20	S
Barium	129	0.926	46.30	78.98	108	75	125	112.7	13.5	20	
Cadmium	3.03	0.0926	4.630	0.3750	57.3	86.4	115	2.776	8.68	20	S
Chromium	28.5	0.463	23.15	10.55	77.3	75	121	25.77	9.91	20	
Lead	68.7	1.85	92.59	6.850	66.8	84.9	109	62.32	9.80	20	S
Selenium	61.4	1.85	92.59	0	66.3	77.7	116	55.22	10.6	20	S
Silver	26.8	1.85	46.30	0	57.9	75	123	23.23	14.3	20	S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201146</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	92.2	2.00	100.0	0	92.2	90	110				
Barium	48.6	1.00	50.00	0	97.1	90	110				
Cadmium	4.98	0.100	5.000	0	99.6	90	110				
Chromium	23.5	0.500	25.00	0	94.2	90	110				
Lead	97.1	2.00	100.0	0	97.1	90	110				
Selenium	94.7	2.00	100.0	0	94.7	90	110				
Silver	50.8	2.00	50.00	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 4 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	96.8	2.00	100.0	0	96.8	90	110				
Cadmium	4.84	0.100	5.000	0	96.8	90	110				
Chromium	25.1	0.500	25.00	0	101	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	99.2	2.00	100.0	0	99.2	90	110				
Silver	49.4	2.00	50.00	0	98.9	90	110				

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201519</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.0781						0	0	20	

Sample ID: <b>1405249-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201520</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	89.5	1.72	86.21	1.942	102	86.1	109				
Cadmium	4.29	0.0862	4.310	0	99.6	86.4	115				
Lead	99.9	1.72	86.21	10.39	104	84.9	109				
Selenium	87.7	1.72	86.21	0	102	77.7	116				
Silver	37.5	1.72	43.10	0	86.9	75	123				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 5 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date:	RunNo: <b>15369</b>					
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201759</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	100	2.00	100.0	0	100	90	110				
Barium	51.7	1.00	50.00	0	103	90	110				
Cadmium	5.00	0.100	5.000	0	100	90	110				
Chromium	25.4	0.500	25.00	0	102	90	110				
Selenium	102	2.00	100.0	0	102	90	110				

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date:	RunNo: <b>15369</b>					
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201760</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.500									

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>					
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201761</b>					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.8	2.00	100.0	0	98.8	85.1	107				
Barium	51.3	1.00	50.00	0	103	85.7	110				
Selenium	101	2.00	100.0	0	101	88.7	111				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 6 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201762</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	97.2	2.00	100.0	0	97.2	90	110				
Barium	50.1	1.00	50.00	0	100	90	110				
Cadmium	4.87	0.100	5.000	0	97.4	90	110				
Chromium	24.6	0.500	25.00	0	98.5	90	110				
Selenium	99.0	2.00	100.0	0	99.0	90	110				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202214</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	49.7	2.00	50.00	0	99.4	90	110				

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202215</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	50.2	2.00	50.00	0	100	79.3	109				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202216</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank  
 O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202216</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	49.8	2.00	50.00	0	99.6	90	110				
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Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204024</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	101	2.00	100.0	0	101	90	110				
Barium	51.4	1.00	50.00	0	103	90	110				
Cadmium	5.05	0.100	5.000	0	101	90	110				
Chromium	25.2	0.500	25.00	0	101	90	110				
Selenium	101	2.00	100.0	0	101	90	110				
Silver	54.3	2.00	50.00	0	109	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204025</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	98.7	2.00	100.0	0	98.7	90	110				
Barium	49.5	1.00	50.00	0	99.1	90	110				
Cadmium	4.85	0.100	5.000	0	97.0	90	110				
Chromium	25.4	0.500	25.00	0	101	90	110				
Selenium	95.8	2.00	100.0	0	95.8	90	110				
Silver	52.6	2.00	50.00	0	105	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 8 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204025</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	2.00									
Barium	ND	1.00									
Cadmium	ND	0.100									
Chromium	ND	0.500									
Selenium	ND	2.00									
Silver	ND	2.00									

Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.0	2.00	100.0	0	98.0	85.1	107				
Barium	49.9	1.00	50.00	0	99.8	85.7	110				
Cadmium	4.91	0.100	5.000	0	98.2	87.2	115				
Chromium	24.8	0.500	25.00	0	99.4	84	113				
Selenium	95.3	2.00	100.0	0	95.3	88.7	111				
Silver	47.3	2.00	50.00	0	94.6	79.3	109				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 9 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204029</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.56						0	0	20	
Barium	122	0.781						111.2	9.66	20	
Cadmium	0.141	0.0781						0.2258	46.5	20	RF
Chromium	16.8	0.391						16.23	3.64	20	
Selenium	ND	1.56						0	0	20	
Silver	ND	1.56						0	0	20	

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204030</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	82.9	1.85	92.59	0	89.5	86.1	109				
Barium	192	0.926	46.30	111.2	175	75	125				S
Cadmium	4.39	0.0926	4.630	0.2258	89.9	86.4	115				
Chromium	44.2	0.463	23.15	16.23	121	75	121				
Selenium	80.7	1.85	92.59	0	87.1	77.7	116				
Silver	45.4	1.85	46.30	0	98.0	75	123				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204031</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	2.00	100.0	0	101	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 10 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204031</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.1	1.00	50.00	0	104	90	110				
Cadmium	5.08	0.100	5.000	0	102	90	110				
Chromium	26.9	0.500	25.00	0	108	90	110				
Lead	111	2.00	100.0	0	111	90	110				S
Selenium	99.5	2.00	100.0	0	99.5	90	110				
Silver	53.0	2.00	50.00	0	106	90	110				

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204032</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	69.8	1.43	71.43	0	97.8	86.1	109	82.86	17.1	20	
Barium	149	0.714	35.71	111.2	107	75	125	192.3	25.1	20	R
Cadmium	3.54	0.0714	3.571	0.2258	92.9	86.4	115	4.389	21.3	20	R
Chromium	35.5	0.357	17.86	16.23	108	75	121	44.19	21.8	20	R
Selenium	65.1	1.43	71.43	0	91.1	77.7	116	80.69	21.4	20	R
Silver	36.6	1.43	35.71	0	102	75	123	45.35	21.5	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	2.00	100.0	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 11 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	52.5	1.00	50.00	0	105	90	110				
Cadmium	5.00	0.100	5.000	0	100	90	110				
Chromium	26.6	0.500	25.00	0	107	90	110				
Selenium	98.8	2.00	100.0	0	98.8	90	110				
Silver	53.3	2.00	50.00	0	107	90	110				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204250</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	100	2.00	100.0	0	100	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204251</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	95.9	2.00	100.0	0	95.9	90	110				

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204252</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 12 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204252</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 2.00

Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204253</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 93.8 2.00 100.0 0 93.8 84.9 109

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204255</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead ND 1.56 3.008 200 20 RF

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204256</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead 89.1 1.85 92.59 3.008 93.0 84.9 109

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 13 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204257</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	71.9	1.43	71.43	3.008	96.4	84.9	109	89.08	21.4	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204260</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	98.2	2.00	100.0	0	98.2	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204274</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	95.9	2.00	100.0	0	95.9	90	110				

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1976</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200218</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	38.2	10.0	40.00	0	95.4	80	120				
1,2-Dichloropropane	36.7	10.0	40.00	0	91.8	80	120				
Chloroform	37.3	10.0	40.00	0	93.2	80	120				
Ethylbenzene	38.6	10.0	40.00	0	96.5	80	120				
Toluene	35.0	10.0	40.00	0	87.4	80	120				
Vinyl chloride	43.9	10.0	40.00	0	110	80	120				

Sample ID: <b>LCS MSVWS-1974</b>	SampType: <b>LCS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200333</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	61.6	10.0	60.00	0	103	46.6	147				
Benzene	54.2	10.0	60.00	0	90.4	65.2	121				
Chlorobenzene	51.5	10.0	60.00	0	85.8	40.9	122				
Toluene	49.9	10.0	60.00	0	83.2	52.1	127				
Trichloroethene	57.0	10.0	60.00	0	94.9	57.6	122				

Sample ID: <b>1405251-006BMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200334</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	598	100	600.0	0	99.6	46.6	147				
Benzene	522	100	600.0	0	87.0	65.2	121				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 15 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>1405251-006BMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200334</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	526	100	600.0	0	87.7	40.9	122				
Toluene	527	100	600.0	0	87.8	52.1	127				
Trichloroethene	529	100	600.0	0	88.1	57.6	122				

Sample ID: <b>1405251-006BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	584	100	600.0	0	97.4	46.6	147	597.5	2.22	30	
Benzene	517	100	600.0	0	86.2	65.2	121	522.2	0.981	30	
Chlorobenzene	530	100	600.0	0	88.4	40.9	122	526.3	0.776	30	
Toluene	537	100	600.0	0	89.5	52.1	127	526.7	1.97	30	
Trichloroethene	515	100	600.0	0	85.8	57.6	122	528.8	2.64	30	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 16 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 17 of 62  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	104		100.0		104	71.5	112				
Surr: 4-Bromofluorobenzene	101		100.0		101	75.7	122				
Surr: Dibromofluoromethane	102		100.0		102	64.3	124				
Surr: Toluene-d8	97.0		100.0		97.0	74.9	120				

Sample ID: <b>CCV MSVWS-1974</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200738</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	49.3	10.0	60.00	0	82.1	80	120				
1,2-Dichloropropane	54.5	10.0	60.00	0	90.9	80	120				
Chloroform	52.6	10.0	60.00	0	87.6	80	120				
Ethylbenzene	52.5	10.0	60.00	0	87.5	80	120				
Toluene	49.5	10.0	60.00	0	82.5	80	120				
Vinyl chloride	62.5	10.0	60.00	0	104	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 19 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1974</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200738</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200811</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	10.0
1,1,1-Trichloroethane	ND	10.0
1,1,2,2-Tetrachloroethane	ND	10.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0
1,1,2-Trichloroethane	ND	10.0
1,1-Dichloroethane	ND	10.0
1,1-Dichloroethene	ND	10.0
1,1-Dichloropropene	ND	10.0
1,2,3-Trichlorobenzene	ND	10.0
1,2,3-Trichloropropane	ND	10.0
1,2,4-Trichlorobenzene	ND	10.0
1,2,4-Trimethylbenzene	ND	10.0
1,2-Dibromo-3-chloropropane	ND	10.0
1,2-Dibromoethane	ND	10.0
1,2-Dichlorobenzene	ND	10.0
1,2-Dichloroethane	ND	10.0
1,2-Dichloropropane	ND	10.0
1,3,5-Trimethylbenzene	ND	10.0
1,3-Dichlorobenzene	ND	10.0

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 20 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200811</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: CCB	SampType: CCB	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 15308						
Client ID: CCB	Batch ID: 7506	TestNo: SW8260B	5030	Analysis Date: 6/3/2014	SeqNo: 200811						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	71.5	112				
Surr: 4-Bromofluorobenzene	103		100.0		103	75.7	122				
Surr: Dibromofluoromethane	108		100.0		108	64.3	124				
Surr: Toluene-d8	98.1		100.0		98.1	74.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 22 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>MB-7513</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	87.4		100.0		87.4	50	150				
Surr: o-Terphenyl	92.6		100.0		92.6	50	150				

Sample ID: <b>1406006-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201043</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	24.2						0	0	20	
Mineral Spirits	ND	24.2						0	0	20	
Kerosene	ND	60.4						0	0	20	
Diesel	ND	60.4						0	0	20	
Lube Oil	OIL	121						202.2	10.0	20	
Hydraulic Oil	ND	121						0	0	20	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>1406007-011ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201048</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.2						0	0	20	
Mineral Spirits	ND	26.2						0	0	20	
Kerosene	ND	65.5						0	0	20	
Diesel	ND	65.5						0	0	20	
Lube Oil	ND	131						0	0	20	
Hydraulic Oil	ND	131						0	0	20	

Sample ID: <b>1406009-032ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>N-3-13</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201060</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.4						0	0	20	
Mineral Spirits	ND	26.4						0	0	20	
Kerosene	ND	66.1						0	0	20	
Diesel	ND	66.1						0	0	20	
Lube Oil	ND	132						226.9	200	20	RF
Hydraulic Oil	ND	132						0	0	20	

Sample ID: <b>MB-R15499</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15499</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 24 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>MB-R15499</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15499</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	90.0		100.0		90.0	50	150				
Surr: o-Terphenyl	93.2		100.0		93.2	50	150				

Sample ID: <b>1406007-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15499</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	30.0						0	0	20	
Mineral Spirits	ND	30.0						0	0	20	
Kerosene	ND	75.0						0	0	20	
Diesel	ND	75.0						110.6	200	20	RF
Lube Oil	ND	150						0	0	20	
Hydraulic Oil	ND	150						0	0	20	

Sample ID: <b>1406009-020ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15499</b>						
Client ID: <b>M-8-3</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 25 of 62  
 O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>1406009-020ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15499</b>						
Client ID: <b>M-8-3</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	33.7						0	0	20	
Mineral Spirits	ND	33.7						0	0	20	
Kerosene	ND	84.2						0	0	20	
Diesel	DIESEL	84.2						1401	57.2	20	R
Lube Oil	OIL	168						3257	50.7	20	R
Hydraulic Oil	ND	168						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 26 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>MB-R15371</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0167

Sample ID: <b>LCS-R15371</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201154</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0167 0.4000 0 90.0 80 120

Sample ID: <b>1405223-002BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201156</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0161 0.0139 0.01710 5.79 20

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201157</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.242 0.0144 0.3448 0.01710 65.2 75 125 SMI

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 27 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201158</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.246	0.0149	0.3571	0.01710	64.0	75	125	0.2420	1.49	20	SMI

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201175</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.363	0.0167	0.4000	0	90.7	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201176</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.393	0.0167	0.4000	0	98.3	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201188</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.383	0.0167	0.4000	0	95.8	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 28 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>MB-R15506</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203556</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0167

Sample ID: <b>LCS-R15506</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203557</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.410 0.0167 0.4000 0 103 80 120

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0259 0.0152 0.01783 37.0 20 R

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0164 0.3922 0.01783 87.3 75 125

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 29 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.413	0.0164	0.3922	0.01783	101	75	125	0.3600	13.7	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.434	0.0167	0.4000	0	108	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203578</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.427	0.0167	0.4000	0	107	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 30 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1280	15.0	1332	0	96.3	85	115				
Lube Oil	753	50.0	666.0	0	113	85	115				

Sample ID: <b>MB-7510</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	28.8		33.30		86.5	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1290	15.0	1332	0	97.2	85	115				
Lube Oil	665	50.0	666.0	0	99.8	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 31 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	945	15.0	999.0	0	94.6	85	115				
Lube Oil	470	50.0	499.5	0	94.1	85	115				

Sample ID: <b>CCB-7510</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	30.1		33.30		90.4	50	150				

Sample ID: <b>1406009-021ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>M-8-13</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201570</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	48.1	19.6						84.88	55.4	20	R
Lube Oil	169	65.5						268.2	45.4	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 32 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1350	15.0	1332	0	101	85	115				
Lube Oil	763	50.0	666.0	0	115	85	115				

Sample ID: <b>1405249-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201632</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	ND	18.6						0	0	20	
Lube Oil	ND	62.2						0	200	20	RF

Sample ID: <b>LCS-7510</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201679</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	150	15.0	166.5	0	89.8	76.3	125				
Lube Oil	150	50.0	166.5	0	89.9	69.9	127				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1340	15.0	1332	0	101	85	115				
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**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 33 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lube Oil	723	50.0	666.0	0	109	85	115				
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15403</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201847</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1350	15.0	1332	0	101	85	115				
Lube Oil	763	50.0	666.0	0	115	85	115				

Sample ID: <b>LCS-7522</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15403</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201848</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	187	15.0	166.7	0	112	76.3	125				
Lube Oil	183	50.0	166.7	0	110	69.9	127				

Sample ID: <b>CCV-</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15403</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201855</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1340	15.0	1332	0	101	85	115				
Lube Oil	723	50.0	666.0	0	109	85	115				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 34 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV-</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15403</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201855</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>MB-7522</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15403</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201856</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	35.8		33.30		108	50	150				

Sample ID: <b>1406015-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15403</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201860</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	74.6	20.9						63.76	15.7	20	
Lube Oil	435	69.7						374.9	14.9	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15403</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201862</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	968	15.0	999.0	0	96.9	85	115				
Lube Oil	531	50.0	499.5	0	106	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 35 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15403</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7522</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201862</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202756</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1290	15.0	1332	0	96.7	85	115				
Lube Oil	600	50.0	666.0	0	90.1	85	115				

Sample ID: <b>MB-7552</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202757</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	34.2		33.33		103	50	150				

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	151	15.0	166.7	0	90.6	76.3	125				
Lube Oil	118	50.0	166.7	0	70.7	69.9	127				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 36 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>1406009-031ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>N-3-3</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202768</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	31.6	16.3						25.51	21.3	20	R
Lube Oil	375	54.2						310.2	18.9	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202768</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	975	15.0	999.0	0	97.6	85	115				
Lube Oil	447	50.0	499.5	0	89.4	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1020	15.0	999.0	0	102	85	115				
Lube Oil	491	50.0	499.5	0	98.3	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 37 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203679</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	40.3		33.30		121	50	150				

Sample ID: <b>LCS-7581</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	196	15.0	166.7	0	118	76.3	125				
Lube Oil	161	50.0	166.7	0	96.7	69.9	127				

Sample ID: <b>1406062-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	52500	157						53920	2.61	20	
Lube Oil	6910	522						6409	7.51	20	M

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 38 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1370	15.0	1332	0	103	85	115				
Lube Oil	628	50.0	666.0	0	94.3	85	115				

Sample ID: <b>MB-7581</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203694</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	41.1		33.30		123	50	150				

Sample ID: <b>1406064-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	25.9						0	200	20	RF
Lube Oil	ND	86.5						0	0	20	

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 39 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	42.0		33.30		126	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203760</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1410	15.0	1332	0	106	85	115				
Lube Oil	621	50.0	666.0	0	93.2	85	115				

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>LCS-7508</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	129	2.50	150.0	0	85.7	53.5	121				
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Sample ID: <b>MB-7508</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200901</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	2.50									
Surr: 4-Bromofluorobenzene	4.41		5.000		88.1	50	150				

Sample ID: <b>1405249-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200902</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	3.41						0	0	20	
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Sample ID: <b>1405249-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	3.32						0	200	20	RF
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 41 of 62
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>CCV-7508</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15352</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200914</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	122	2.50	125.0	0	97.7	80	120
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Sample ID: <b>CCV-7508</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15352</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200926</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	99.1	2.50	100.0	0	99.1	80	120
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15546</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204121</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	143	2.50	125.0	0	114	80	120
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Sample ID: <b>MB-7570</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204122</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	2.50					
Surr: 4-Bromofluorobenzene	4.04		5.000		80.7	50	150

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>LCS-7570</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204123</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline 114 2.50 100.0 0 114 53.5 121

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15546</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204129</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline 97.3 2.50 100.0 0 97.3 80 120

Sample ID: <b>1406007-021ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline 14.5 3.02 13.04 10.6 20

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7518</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201634</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	139	6.67	133.3	0	104	80	120				
Acenaphthylene	146	6.67	133.3	0	109	80	120				
Anthracene	141	6.67	133.3	0	106	80	120				
Benz(a)anthracene	121	6.67	133.3	0	90.7	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	97.9	80	120				
Benzo(b)fluoranthene	112	6.67	133.3	0	83.9	80	120				
Benzo(g,h,i)perylene	129	6.67	133.3	0	97.0	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	107	80	120				
Chrysene	133	6.67	133.3	0	99.6	80	120				
Dibenz(a,h)anthracene	120	6.67	133.3	0	90.3	80	120				
Fluoranthene	152	6.67	133.3	0	114	80	120				
Fluorene	150	6.67	133.3	0	112	80	120				
Indeno(1,2,3-cd)pyrene	116	6.67	133.3	0	87.2	80	120				
Naphthalene	142	6.67	133.3	0	107	80	120				
Phenanthrene	138	6.67	133.3	0	104	80	120				
Pyrene	121	6.67	133.3	0	90.6	80	120				

Sample ID: <b>LCS-7518</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	222	6.67	333.3	0	66.7	39.6	107				
Acenaphthylene	229	6.67	333.3	0	68.6	38.9	102				
Anthracene	236	6.67	333.3	0	70.7	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 44 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7518</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	210	6.67	333.3	0	62.9	48.4	121				
Benzo(a)pyrene	216	6.67	333.3	0	64.9	37.7	137				
Benzo(b)fluoranthene	212	6.67	333.3	0	63.5	58.6	117				
Benzo(g,h,i)perylene	226	6.67	333.3	0	67.7	49.7	135				
Benzo(k)fluoranthene	287	6.67	333.3	0	86.1	46.1	124				
Chrysene	230	6.67	333.3	0	69.0	57.1	130				
Dibenz(a,h)anthracene	225	6.67	333.3	0	67.6	44.2	124				
Fluoranthene	263	6.67	333.3	0	78.9	53.4	113				
Fluorene	227	6.67	333.3	0	68.0	37.1	114				
Indeno(1,2,3-cd)pyrene	223	6.67	333.3	0	66.8	47.9	121				
Naphthalene	199	6.67	333.3	0	59.8	29.1	109				
Phenanthrene	222	6.67	333.3	0	66.5	48.4	115				
Pyrene	208	6.67	333.3	0	62.4	47.2	134				

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benzo(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 45 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.33		6.667		34.9	42.6	128				S
Surr: Nitrobenzene-d5	2.27		6.667		34.0	21.7	155				
Surr: p-Terphenyl-d14	4.15		6.667		62.2	44.9	155				

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201637</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	218	6.67	333.3	0	65.5	33.7	111				
Acenaphthylene	220	6.67	333.3	0	65.9	32.3	125				
Anthracene	226	6.67	333.3	0	67.9	42.7	121				
Benz(a)anthracene	222	6.67	333.3	0.9755	66.3	63.4	121				
Benzo(a)pyrene	257	6.67	333.3	0	77.2	64.6	110				
Benzo(b)fluoranthene	211	6.67	333.3	1.607	62.7	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 46 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: 1405223-002BMS	SampType: MS	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201637						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	255	6.67	333.3	0	76.4	15	128				
Benzo(k)fluoranthene	238	6.67	333.3	0	71.4	47.9	140				
Chrysene	240	6.67	333.3	1.824	71.4	37.5	125				
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125				
Fluoranthene	262	6.67	333.3	0.3698	78.5	56.8	141				
Fluorene	221	6.67	333.3	0	66.2	48.6	117				
Indeno(1,2,3-cd)pyrene	246	6.67	333.3	0	73.7	26.8	133				
Naphthalene	208	6.67	333.3	5.696	60.7	27.7	108				
Phenanthrene	214	6.67	333.3	0.7692	64.0	20.2	139				
Pyrene	209	6.67	333.3	0.5367	62.5	26.8	142				

Sample ID: 1405223-002BMSD	SampType: MSD	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201638						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	196	6.67	333.3	0	58.8	33.7	111	218.4	10.8	20	
Acenaphthylene	198	6.67	333.3	0	59.3	32.3	125	219.6	10.6	20	
Anthracene	215	6.67	333.3	0	64.4	42.7	121	226.5	5.29	20	
Benz(a)anthracene	211	6.67	333.3	0.9755	63.0	63.4	121	222.1	5.09	20	S
Benzo(a)pyrene	228	6.67	333.3	0	68.3	64.6	110	257.3	12.2	20	
Benzo(b)fluoranthene	223	6.67	333.3	1.607	66.5	41.6	172	210.6	5.89	20	
Benzo(g,h,i)perylene	240	6.67	333.3	0	71.9	15	128	254.7	6.12	20	
Benzo(k)fluoranthene	261	6.67	333.3	0	78.2	47.9	140	238.0	9.10	20	
Chrysene	230	6.67	333.3	1.824	68.4	37.5	125	239.9	4.31	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 47 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	236	6.67	333.3	0	70.9	23.6	125	251.3	6.08	20	
Fluoranthene	247	6.67	333.3	0.3698	74.1	56.8	141	262.0	5.71	20	
Fluorene	199	6.67	333.3	0	59.8	48.6	117	220.6	10.1	20	
Indeno(1,2,3-cd)pyrene	228	6.67	333.3	0	68.3	26.8	133	245.8	7.63	20	
Naphthalene	194	6.67	333.3	5.696	56.6	27.7	108	208.2	6.90	20	
Phenanthrene	201	6.67	333.3	0.7692	60.0	20.2	139	214.0	6.42	20	
Pyrene	199	6.67	333.3	0.5367	59.7	26.8	142	209.0	4.67	20	

Sample ID: <b>1405249-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	229	6.67	333.3	0	68.7	33.7	111				
Acenaphthylene	222	6.67	333.3	0	66.7	32.3	125				
Anthracene	238	6.67	333.3	0	71.5	42.7	121				
Benz(a)anthracene	228	6.67	333.3	0.6586	68.2	63.4	121				
Benzo(a)pyrene	240	6.67	333.3	0	72.0	64.6	110				
Benzo(b)fluoranthene	208	6.67	333.3	0	62.3	41.6	172				
Benzo(g,h,i)perylene	254	6.67	333.3	0	76.3	15	128				
Benzo(k)fluoranthene	277	6.67	333.3	0	83.2	47.9	140				
Chrysene	240	6.67	333.3	0.6117	71.8	37.5	125				
Dibenz(a,h)anthracene	253	6.67	333.3	0	75.8	23.6	125				
Fluoranthene	275	6.67	333.3	0	82.5	56.8	141				
Fluorene	237	6.67	333.3	0	71.1	48.6	117				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 48 of 62
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# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: 1405249-001BMS	SampType: MS	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201639						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	247	6.67	333.3	0	74.1	26.8	133				
Naphthalene	202	6.67	333.3	0	60.6	27.7	108				
Phenanthrene	230	6.67	333.3	0	69.0	20.2	139				
Pyrene	223	6.67	333.3	0	67.0	26.8	142				

Sample ID: 1405249-001BMSD	SampType: MSD	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201640						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	230	6.67	333.3	0	68.9	33.7	111	229.1	0.297	20	
Acenaphthylene	220	6.67	333.3	0	66.0	32.3	125	222.2	0.957	20	
Anthracene	246	6.67	333.3	0	73.8	42.7	121	238.2	3.27	20	
Benz(a)anthracene	230	6.67	333.3	0.6586	68.7	63.4	121	228.0	0.662	20	
Benzo(a)pyrene	242	6.67	333.3	0	72.5	64.6	110	240.1	0.653	20	
Benzo(b)fluoranthene	215	6.67	333.3	0	64.4	41.6	172	207.6	3.30	20	
Benzo(g,h,i)perylene	258	6.67	333.3	0	77.4	15	128	254.4	1.36	20	
Benzo(k)fluoranthene	276	6.67	333.3	0	82.7	47.9	140	277.4	0.603	20	
Chrysene	243	6.67	333.3	0.6117	72.9	37.5	125	240.0	1.42	20	
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125	252.5	0.529	20	
Fluoranthene	276	6.67	333.3	0	82.7	56.8	141	275.0	0.231	20	
Fluorene	241	6.67	333.3	0	72.3	48.6	117	237.1	1.56	20	
Indeno(1,2,3-cd)pyrene	252	6.67	333.3	0	75.5	26.8	133	247.0	1.91	20	
Naphthalene	210	6.67	333.3	0	63.1	27.7	108	201.9	4.03	20	
Phenanthrene	235	6.67	333.3	0	70.6	20.2	139	229.9	2.38	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 49 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405249-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201640</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	226	6.67	333.3	0	67.8	26.8	142	223.3	1.23	20	

Sample ID: <b>CCV-7518</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	140	6.67	133.3	0	105	80	120				
Acenaphthylene	147	6.67	133.3	0	110	80	120				
Anthracene	141	6.67	133.3	0	105	80	120				
Benz(a)anthracene	130	6.67	133.3	0	97.5	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	98.0	80	120				
Benzo(b)fluoranthene	132	6.67	133.3	0	98.9	80	120				
Benzo(g,h,i)perylene	133	6.67	133.3	0	99.4	80	120				
Benzo(k)fluoranthene	131	6.67	133.3	0	98.0	80	120				
Chrysene	127	6.67	133.3	0	95.0	80	120				
Dibenz(a,h)anthracene	129	6.67	133.3	0	96.5	80	120				
Fluoranthene	155	6.67	133.3	0	117	80	120				
Fluorene	147	6.67	133.3	0	110	80	120				
Indeno(1,2,3-cd)pyrene	134	6.67	133.3	0	101	80	120				
Naphthalene	141	6.67	133.3	0	106	80	120				
Phenanthrene	141	6.67	133.3	0	106	80	120				
Pyrene	123	6.67	133.3	0	92.2	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 50 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.27		6.667		34.0	42.6	128				S
Surr: Nitrobenzene-d5	2.31		6.667		34.7	21.7	155				
Surr: p-Terphenyl-d14	4.01		6.667		60.1	44.9	155				

Sample ID: <b>CCV-7537</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15412</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201962</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 51 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7537</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15412</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201962</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	140	6.67	133.3	0	105	80	120				
Acenaphthylene	147	6.67	133.3	0	110	80	120				
Anthracene	141	6.67	133.3	0	105	80	120				
Benz(a)anthracene	130	6.67	133.3	0	97.5	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	98.0	80	120				
Benzo(b)fluoranthene	132	6.67	133.3	0	98.9	80	120				
Benzo(g,h,i)perylene	133	6.67	133.3	0	99.4	80	120				
Benzo(k)fluoranthene	131	6.67	133.3	0	98.0	80	120				
Chrysene	127	6.67	133.3	0	95.0	80	120				
Dibenz(a,h)anthracene	129	6.67	133.3	0	96.5	80	120				
Fluoranthene	155	6.67	133.3	0	117	80	120				
Fluorene	147	6.67	133.3	0	110	80	120				
Indeno(1,2,3-cd)pyrene	134	6.67	133.3	0	101	80	120				
Naphthalene	141	6.67	133.3	0	106	80	120				
Phenanthrene	141	6.67	133.3	0	106	80	120				
Pyrene	123	6.67	133.3	0	92.2	80	120				

Sample ID: <b>LCS-7537</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201963</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	227	6.67	333.3	0	68.1	39.6	107				
Acenaphthylene	235	6.67	333.3	0	70.5	38.9	102				
Anthracene	245	6.67	333.3	0	73.4	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 52 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7537</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201963</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	223	6.67	333.3	0	67.0	48.4	121				
Benzo(a)pyrene	212	6.67	333.3	0	63.6	37.7	137				
Benzo(b)fluoranthene	230	6.67	333.3	0	68.9	58.6	117				
Benzo(g,h,i)perylene	224	6.67	333.3	0	67.2	49.7	135				
Benzo(k)fluoranthene	223	6.67	333.3	0	66.8	46.1	124				
Chrysene	228	6.67	333.3	0	68.5	57.1	130				
Dibenz(a,h)anthracene	232	6.67	333.3	0	69.5	44.2	124				
Fluoranthene	265	6.67	333.3	0	79.4	53.4	113				
Fluorene	239	6.67	333.3	0	71.6	37.1	114				
Indeno(1,2,3-cd)pyrene	231	6.67	333.3	0	69.2	47.9	121				
Naphthalene	201	6.67	333.3	0	60.3	29.1	109				
Phenanthrene	234	6.67	333.3	0	70.1	48.4	115				
Pyrene	212	6.67	333.3	0	63.7	47.2	134				

Sample ID: <b>MB-7537</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201964</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benzo(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 53 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7537</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201964</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	5.29		6.667		79.3	42.6	128				
Surr: Nitrobenzene-d5	5.11		6.667		76.7	21.7	155				
Surr: p-Terphenyl-d14	8.91		6.667		134	44.9	155				

Sample ID: <b>1406009-024BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>M-9-13</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201966</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	228	6.67	333.3	0	68.5	33.7	111				
Acenaphthylene	238	6.67	333.3	0	71.3	32.3	125				
Anthracene	237	6.67	333.3	0	71.1	42.7	121				
Benz(a)anthracene	221	6.67	333.3	0.8549	66.0	63.4	121				
Benzo(a)pyrene	217	6.67	333.3	0	65.1	64.6	110				
Benzo(b)fluoranthene	204	6.67	333.3	0.5548	61.1	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID:	1406009-024BMS	SampType:	MS	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:	6/6/2014	RunNo:	15412
Client ID:	M-9-13	Batch ID:	7537	TestNo:	SW8270D		SW 3545A	Analysis Date:	6/6/2014	SeqNo:	201966
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	223	6.67	333.3	0	67.0	15	128				
Benzo(k)fluoranthene	252	6.67	333.3	0	75.6	47.9	140				
Chrysene	219	6.67	333.3	0.7725	65.5	37.5	125				
Dibenz(a,h)anthracene	230	6.67	333.3	0	69.1	23.6	125				
Fluoranthene	261	6.67	333.3	0	78.3	56.8	141				
Fluorene	240	6.67	333.3	0.4871	71.9	48.6	117				
Indeno(1,2,3-cd)pyrene	229	6.67	333.3	0	68.7	26.8	133				
Naphthalene	203	6.67	333.3	1.613	60.4	27.7	108				
Phenanthrene	232	6.67	333.3	1.148	69.3	20.2	139				
Pyrene	213	6.67	333.3	0	63.9	26.8	142				

Sample ID:	1406009-024BMSD	SampType:	MSD	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:	6/6/2014	RunNo:	15412
Client ID:	M-9-13	Batch ID:	7537	TestNo:	SW8270D		SW 3545A	Analysis Date:	6/6/2014	SeqNo:	201967
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	236	6.67	333.3	0	70.7	33.7	111	228.2	3.24	20	
Acenaphthylene	242	6.67	333.3	0	72.7	32.3	125	237.7	1.94	20	
Anthracene	259	6.67	333.3	0	77.8	42.7	121	237.1	8.91	20	
Benz(a)anthracene	232	6.67	333.3	0.8549	69.3	63.4	121	220.7	4.93	20	
Benzo(a)pyrene	227	6.67	333.3	0	68.2	64.6	110	217.1	4.60	20	
Benzo(b)fluoranthene	283	6.67	333.3	0.5548	84.8	41.6	172	204.1	32.5	20	R
Benzo(g,h,i)perylene	232	6.67	333.3	0	69.7	15	128	223.2	4.06	20	
Benzo(k)fluoranthene	234	6.67	333.3	0	70.2	47.9	140	251.9	7.36	20	
Chrysene	234	6.67	333.3	0.7725	69.9	37.5	125	219.1	6.46	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1406009-024BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15412</b>						
Client ID: <b>M-9-13</b>	Batch ID: <b>7537</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201967</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	242	6.67	333.3	0	72.5	23.6	125	230.2	4.92	20	
Fluoranthene	285	6.67	333.3	0	85.5	56.8	141	260.9	8.85	20	
Fluorene	246	6.67	333.3	0.4871	73.5	48.6	117	240.2	2.17	20	
Indeno(1,2,3-cd)pyrene	240	6.67	333.3	0	71.9	26.8	133	229.0	4.53	20	
Naphthalene	196	6.67	333.3	1.613	58.4	27.7	108	202.8	3.26	20	
Phenanthrene	253	6.67	333.3	1.148	75.5	20.2	139	232.3	8.45	20	
Pyrene	223	6.67	333.3	0	67.0	26.8	142	213.0	4.68	20	

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	130	6.67	133.3	0	97.6	80	120				
Acenaphthylene	135	6.67	133.3	0	101	80	120				
Anthracene	138	6.67	133.3	0	104	80	120				
Benz(a)anthracene	118	6.67	133.3	0	88.8	80	120				
Benzo(a)pyrene	122	6.67	133.3	0	91.1	80	120				
Benzo(b)fluoranthene	116	6.67	133.3	0	86.9	80	120				
Benzo(g,h,i)perylene	127	6.67	133.3	0	95.4	80	120				
Benzo(k)fluoranthene	124	6.67	133.3	0	93.0	80	120				
Chrysene	126	6.67	133.3	0	94.6	80	120				
Dibenz(a,h)anthracene	119	6.67	133.3	0	89.3	80	120				
Fluoranthene	142	6.67	133.3	0	107	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 56 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	126	6.67	133.3	0	94.4	80	120				
Naphthalene	132	6.67	133.3	0	98.8	80	120				
Phenanthrene	128	6.67	133.3	0	96.1	80	120				
Pyrene	116	6.67	133.3	0	86.6	80	120				

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	213	6.67	333.4	0	63.8	39.6	107				
Acenaphthylene	224	6.67	333.4	0	67.3	38.9	102				
Anthracene	225	6.67	333.4	0	67.6	43.4	119				
Benz(a)anthracene	207	6.67	333.4	0	62.2	48.4	121				
Benzo(a)pyrene	203	6.67	333.4	0	60.8	37.7	137				
Benzo(b)fluoranthene	202	6.67	333.4	0	60.6	58.6	117				
Benzo(g,h,i)perylene	202	6.67	333.4	0	60.7	49.7	135				
Benzo(k)fluoranthene	235	6.67	333.4	0	70.4	46.1	124				
Chrysene	210	6.67	333.4	0	62.9	57.1	130				
Dibenz(a,h)anthracene	210	6.67	333.4	0	63.0	44.2	124				
Fluoranthene	245	6.67	333.4	0	73.4	53.4	113				
Fluorene	221	6.67	333.4	0	66.2	37.1	114				
Indeno(1,2,3-cd)pyrene	212	6.67	333.4	0	63.6	47.9	121				
Naphthalene	185	6.67	333.4	0	55.6	29.1	109				
Phenanthrene	215	6.67	333.4	0	64.6	48.4	115				

**Qualifiers:** B Analyte detected in the associated Method Blank  
 O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded  
 R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit  
 S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	202	6.67	333.4	0	60.7	47.2	134				

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.64		6.667		69.7	42.6	128				
Surr: Nitrobenzene-d5	4.80		6.667		72.0	21.7	155				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 58 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: p-Terphenyl-d14                      8.09                      6.667                      121                      44.9                      155

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203750</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Acenaphthene	193	6.67	333.4	0	58.0	33.7	111				
Acenaphthylene	203	6.67	333.4	0	60.8	32.3	125				
Anthracene	209	6.67	333.4	0.4703	62.7	42.7	121				
Benz(a)anthracene	190	6.67	333.4	1.059	56.7	63.4	121				SMI
Benzo(a)pyrene	192	6.67	333.4	0.5058	57.5	64.6	110				SMI
Benzo(b)fluoranthene	181	6.67	333.4	0.4576	54.3	41.6	172				
Benzo(g,h,i)perylene	185	6.67	333.4	0	55.5	15	128				
Benzo(k)fluoranthene	198	6.67	333.4	0.4717	59.4	47.9	140				
Chrysene	194	6.67	333.4	0.5715	58.1	37.5	125				
Dibenz(a,h)anthracene	193	6.67	333.4	0.4878	57.8	23.6	125				
Fluoranthene	224	6.67	333.4	0	67.3	56.8	141				
Fluorene	202	6.67	333.4	0	60.7	48.6	117				
Indeno(1,2,3-cd)pyrene	191	6.67	333.4	0	57.2	26.8	133				
Naphthalene	171	6.67	333.4	0	51.4	27.7	108				
Phenanthrene	197	6.67	333.4	0.7136	58.9	20.2	139				
Pyrene	185	6.67	333.4	0	55.5	26.8	142				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 59 of 62  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID:	1406064-001BMSD	SampType:	MSD	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:	6/12/2014	RunNo:	15516
Client ID:	ZZZZZZ	Batch ID:	7574	TestNo:	SW8270D	SW	3545A	Analysis Date:	6/12/2014	SeqNo:	203751
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	164	6.67	333.4	0	49.1	33.7	111	193.5	16.8	20	
Acenaphthylene	171	6.67	333.4	0	51.2	32.3	125	202.8	17.1	20	
Anthracene	187	6.67	333.4	0.4703	56.0	42.7	121	209.3	11.2	20	
Benz(a)anthracene	179	6.67	333.4	1.059	53.3	63.4	121	189.9	6.12	20	SMI
Benzo(a)pyrene	180	6.67	333.4	0.5058	53.7	64.6	110	192.3	6.86	20	SMI
Benzo(b)fluoranthene	165	6.67	333.4	0.4576	49.3	41.6	172	181.4	9.63	20	
Benzo(g,h,i)perylene	175	6.67	333.4	0	52.6	15	128	185.1	5.40	20	
Benzo(k)fluoranthene	187	6.67	333.4	0.4717	56.0	47.9	140	198.4	5.84	20	
Chrysene	184	6.67	333.4	0.5715	55.0	37.5	125	194.2	5.52	20	
Dibenz(a,h)anthracene	185	6.67	333.4	0.4878	55.3	23.6	125	193.1	4.44	20	
Fluoranthene	209	6.67	333.4	0	62.8	56.8	141	224.4	6.95	20	
Fluorene	178	6.67	333.4	0	53.3	48.6	117	202.3	13.0	20	
Indeno(1,2,3-cd)pyrene	182	6.67	333.4	0	54.5	26.8	133	190.7	4.89	20	
Naphthalene	134	6.67	333.4	0	40.1	27.7	108	171.4	24.8	20	R
Phenanthrene	180	6.67	333.4	0.7136	53.9	20.2	139	197.2	8.90	20	
Pyrene	172	6.67	333.4	0	51.7	26.8	142	185.0	7.04	20	

Sample ID:	CCV-7574	SampType:	CCV	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:		RunNo:	15516
Client ID:	CCV	Batch ID:	7574	TestNo:	SW8270D	SW	3545A	Analysis Date:	6/16/2014	SeqNo:	203883
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	129	6.67	133.3	0	96.7	80	120				
Acenaphthylene	136	6.67	133.3	0	102	80	120				
Anthracene	129	6.67	133.3	0	96.9	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 60 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	124	6.67	133.3	0	93.1	80	120				
Benzo(a)pyrene	124	6.67	133.3	0	93.0	80	120				
Benzo(b)fluoranthene	117	6.67	133.3	0	87.5	80	120				
Benzo(g,h,i)perylene	117	6.67	133.3	0	87.9	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	106	80	120				
Chrysene	121	6.67	133.3	0	90.5	80	120				
Dibenz(a,h)anthracene	115	6.67	133.3	0	86.6	80	120				
Fluoranthene	144	6.67	133.3	0	108	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				
Indeno(1,2,3-cd)pyrene	120	6.67	133.3	0	90.1	80	120				
Naphthalene	131	6.67	133.3	0	98.6	80	120				
Phenanthrene	135	6.67	133.3	0	101	80	120				
Pyrene	118	6.67	133.3	0	88.8	80	120				

Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 61 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406009

18-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.61		6.667		69.2	42.6	128				
Surr: Nitrobenzene-d5	4.03		6.667		60.5	21.7	155				
Surr: p-Terphenyl-d14	8.32		6.667		125	44.9	155				

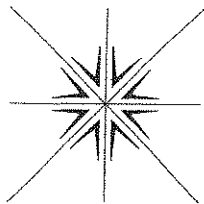
**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 62 of 62  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

## KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- \* The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
Company Parametrix  
Address 700 NE Multnomah, Suite 1000  
Portland, OR 97232  
Phone 503-233-2400 Fax \_\_\_\_\_  
Project No. 273-1962-035 Project Name \_\_\_\_\_  
Project Site Location OR  WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By: \_\_\_\_\_  
Signature: Jessica Roberts  
Printed: Jessica Roberts

Signature: \_\_\_\_\_  
Printed: \_\_\_\_\_

**Turn Around Time**

Normal 5-7 Business Days

Rush \_\_\_\_\_

Specify \_\_\_\_\_

**Rush Analyses Must Be Scheduled With The Lab In Advance**

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses								For Laboratory Use		
					HCFID	TPH-Dx	TPH-Gx	PAHs	VOCs	RCRA(8) metals	Lab Job No.	Shipped Via	Air Bill No.		
5/30/14	1550	M-1-12	S	2		X	X						1406009	Client	
5/30/14	1600	M-1-18	S	1		X	X								
5/30/14	415	M-2-3	S	1											
5/30/14	420	M-2-13	S	2		X	X			X					
5/30/14	425	M-2-18	S	2											
5/31/14	825	M-3-4	S	1	X										
5/31/14	840	M-3-13	S	2	X										
5/31/14	848	M-3-18	S	1											
5/21/14	910	M-4-3	S	1						X					
5/21/14	916	M-4-13	S	2	X										
5/31/14	920	M-4-19	S	1											
5/31/14	930	M-5-8	S	1	X					X					

Temperature On Receipt 4 °C  
Specialty Analytical Containers?  Y /  N  
Specialty Analytical Trip Blanks?  Y /  N

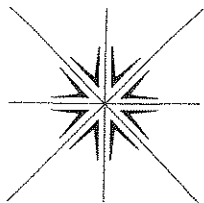
Date	Time	Sample I.D.	Matrix	No. of Containers	HCFID	TPH-Dx	TPH-Gx	PAHs	VOCs	RCRA(8) metals	Comments	Lab I.D.
5/30/14	1550	M-1-12	S	2		X	X					
5/30/14	1600	M-1-18	S	1		X	X					
5/30/14	415	M-2-3	S	1								
5/30/14	420	M-2-13	S	2		X	X			X		
5/30/14	425	M-2-18	S	2								
5/31/14	825	M-3-4	S	1	X							
5/31/14	840	M-3-13	S	2	X							
5/31/14	848	M-3-18	S	1								
5/21/14	910	M-4-3	S	1						X		
5/21/14	916	M-4-13	S	2	X							
5/31/14	920	M-4-19	S	1								
5/31/14	930	M-5-8	S	1	X					X		

Relinquished By: <u>Jessica Roberts</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>	Received By: _____	Relinquished By: _____	Date: _____	Time: _____
Company: <u>Parametrix</u>			Company: _____	Company: _____		

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.  
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: <u>[Signature]</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>
-----------------------------------------	---------------------	-------------------

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
Company Parametrix  
Address 700 NE Multnomah, Suite 1000  
Portland, OR 97232  
Phone 503-233-2400 Fax \_\_\_\_\_  
Project No. 273-1962-035 Project Name \_\_\_\_\_  
Project Site Location OR  WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By: Jessica Roberts  
Signature: Jessica Roberts  
Printed: Jessica Roberts

Signature \_\_\_\_\_  
Printed \_\_\_\_\_

Turn Around Time  
 Normal 5-7 Business Days  
 Rush \_\_\_\_\_  
Specify \_\_\_\_\_

**Rush Analyses Must Be Scheduled With The Lab In Advance**

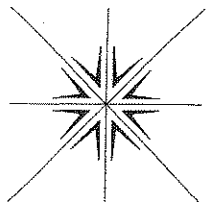
Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses						For Laboratory Use			
					HCID	NWTPH - Dx	NWTPH - Gx	PAHs	VOCS	RCRA 8 Metals	Lab Job No.	Comments	Lab I.D.	
5/31/14	935	M-5-14	S	2	X							1406009		
	940	M-5-19	S	1								Client		
	955	M-6-3	S	1										
	1000	M-6-13	S	2		X								
	1025	M-7-3	S	1	X									
	1030	M-7-13	S	2		X								
	1035	M-7-18	S	1										
	1045	M-8-3	S	1	X									
	1050	M-8-13	S	2		X	X	X		X				
	1055	M-8-18	S	1		X								
	1115	M-9-3	S	1	X									
	1120	M-9-13	S	2		X	X	X		X				

For Laboratory Use  
Lab Job No. 1406009  
Shipped Via Client  
Air Bill No. \_\_\_\_\_  
Temperature On Receipt 4 °C  
Specialty Analytical Containers?  Y /  N  
Specialty Analytical Trip Blanks?  Y /  N

Date	Time	Sample I.D.	Matrix
5/31/14	935	M-5-14	S
	940	M-5-19	S
	955	M-6-3	S
	1000	M-6-13	S
	1025	M-7-3	S
	1030	M-7-13	S
	1035	M-7-18	S
	1045	M-8-3	S
	1050	M-8-13	S
	1055	M-8-18	S
	1115	M-9-3	S
	1120	M-9-13	S

Relinquished By: <u>Jessica Roberts</u> Company: <u>Parametrix</u>	Date: <u>6/2/14</u> Time: <u>1200</u>	Received By: _____ Company: _____	Relinquished By: _____ Company: _____	Date: _____ Time: _____
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)		Received For Lab By: <u>[Signature]</u>		Date: <u>6/2/14</u> Time: <u>1200</u>

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
 Clackamas, OR 97015  
 Phone: 503-607-1331  
 Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
 Company Parametrix  
 Address 700 NE Multnomah, Suite 1000  
Portland, Oregon 97232  
 Phone 503-233-2400 Fax \_\_\_\_\_  
 Project No. 273-1962-035 Project Name \_\_\_\_\_  
 Project Site Location OR  WA \_\_\_\_\_ Other \_\_\_\_\_  
 Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By: \_\_\_\_\_  
 Signature Jessica Roberts  
 Printed Jessica Roberts

Signature \_\_\_\_\_  
 Printed \_\_\_\_\_

Turn Around Time  
 Normal 5-7 Business Days  
 Rush \_\_\_\_\_  
 Specify \_\_\_\_\_

Rush Analyses Must Be Scheduled With The Lab In Advance

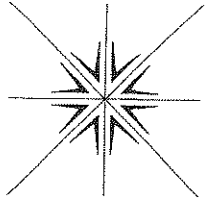
Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses								For Laboratory Use				
					HClD	NWTPH - Dx	NWTPH - 6x	PAHs	VOCs	RCRA 8 metals	Lab Job No.	Shipped Via	Air Bill No.	Temperature On Receipt	Specialty Analytical Containers?	Specialty Analytical Trip Blanks?	
5/31/14	1125	M-9-18	S	1								1406009	Client		4 °C	<input checked="" type="checkbox"/> Y / <input type="checkbox"/> N	<input type="checkbox"/> Y / <input type="checkbox"/> N
	1325	N-1-14	S	2	X					X							
	1330	N-1-19	S	1													
	1400	N-2-3	S	1	X					X							
	1425	N-2-14	S	2	X	X		X									
	1430	N-2-19	S	1	X	X		X		X							
	1615	N-3-3	S	1	X	X		X		X							
	1620	N-3-13	S	2	X	X											
	1625	N-3-19	S	1													
	1545	N-4-3	S	1	X					X							
	1550	N-4-13	S	2	X					X							
	1555	N-4-19	S	1													

Relinquished By: <u>Jessica Roberts</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>	Received By: _____	Relinquished By: _____	Date: _____	Time: _____
Company: <u>Parametrix</u>			Company: _____	Company: _____		

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.  
 Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: [Signature]  
 Date: 6/2/14 Time: 1200

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
Company Parametrix  
Address 700 NE Multnomah, Suite 1000  
Portland, Oregon 97232  
Phone 503-233-2400 Fax \_\_\_\_\_  
Project No. 273-1962-035 Project Name \_\_\_\_\_  
Project Site Location OR  WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By Jessica Roberts  
Signature Jessica Roberts  
Printed \_\_\_\_\_

Signature \_\_\_\_\_  
Printed \_\_\_\_\_

**Turn Around Time**

Normal 5-7 Business Days  
 Rush \_\_\_\_\_  
Specify \_\_\_\_\_

**Rush Analyses Must Be Scheduled With The Lab In Advance**

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses							For Laboratory Use					
					HCTD	NWTPH - Dx	NWTPH - Gx	PAHS	VOCs	RCRA 8 metals	Lab Job No.	Shipped Via	Air Bill No.	Temperature On Receipt	Specialty Analytical Containers?	Specialty Analytical Trip Blanks?	
5/31/14	1645	N-5-7	S	1	X	X											
↓	1650	N-5-15	S	2	X												
	1655	N-5-20	S	1													
↓	1510	N-6-8	S	2	X	X	X	X	X								
	1010	M-6-19	S	1	X	X	X	X	X								No

Relinquished By: <u>Jessica Roberts</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>	Received By: _____	Relinquished By: _____	Date: _____	Time: _____
Company: <u>Parametrix</u>			Company: _____	Company: _____		
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)				Received For Lab By: <u>[Signature]</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>



# Specialty Analytical

11711 SE Capps Road, Ste B  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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June 20, 2014

Rick Wadsworth  
Parametrix  
700 NE Multnomah Blvd  
Suite 1000  
Portland, OR 97232

TEL: (503) 233-2400

FAX (503) 233-4825

RE: PDC ODOT Blocks / 273-1962-035

Dear Rick Wadsworth:

Order No.: 1406007

Specialty Analytical received 22 sample(s) on 6/2/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French".

Marty French  
Lab Director

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-001  
**Client Sample ID:** S-1-4

**Collection Date:** 5/30/2014 11:45:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	30.0		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Mineral Spirits	ND	30.0		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Kerosene	ND	75.0		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Diesel	DIESEL	75.0		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Lube Oil	ND	150		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Hydraulic Oil	ND	150		mg/Kg-dry	1	6/12/2014 10:30:53 AM
Surr: BFB	77.8	50-150		%REC	1	6/12/2014 10:30:53 AM
Surr: o-Terphenyl	92.0	50-150		%REC	1	6/12/2014 10:30:53 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	3.40	1.52		mg/Kg	1	6/13/2014 6:55:58 PM
Barium	134	0.758		mg/Kg	1	6/13/2014 6:55:58 PM
Cadmium	ND	0.0758		mg/Kg	1	6/13/2014 6:55:58 PM
Chromium	16.1	0.379		mg/Kg	1	6/13/2014 6:55:58 PM
Lead	263	1.52		mg/Kg	1	6/16/2014 4:11:40 PM
Selenium	ND	1.52		mg/Kg	1	6/13/2014 6:55:58 PM
Silver	ND	1.52		mg/Kg	1	6/13/2014 6:55:58 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	1.94	0.278		mg/Kg	20	6/13/2014 9:51:36 AM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-002  
**Client Sample ID:** S-1-14

**Collection Date:** 5/30/2014 11:50:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	20.0		mg/Kg-dry	1	6/5/2014 4:51:00 PM
Lube Oil	ND	66.6		mg/Kg-dry	1	6/5/2014 4:51:00 PM
Surr: o-Terphenyl	102	50-150		%REC	1	6/5/2014 4:51:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	3.33		mg/Kg-dry	1	6/3/2014 2:01:54 PM
Surr: 4-Bromofluorobenzene	63.2	50-150		%REC	1	6/3/2014 2:01:54 PM

# Specialty Analytical

Date Reported: 20-Jun-14

---

**CLIENT:** Parametrix **Collection Date:** 5/30/2014 12:00:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-003  
**Client Sample ID:** S-1-18 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-004  
**Client Sample ID:** S-2-7

**Collection Date:** 5/30/2014 11:00:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	GASOLINE	23.2		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Mineral Spirits	ND	23.2		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Kerosene	ND	58.0		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Diesel	DIESEL	58.0		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Lube Oil	OIL	116		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Hydraulic Oil	ND	116		mg/Kg-dry	1	6/12/2014 2:00:53 PM
Surr: BFB	87.9	50-150		%REC	1	6/12/2014 2:00:53 PM
Surr: o-Terphenyl	102	50-150		%REC	1	6/12/2014 2:00:53 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-005  
Client Sample ID: S-2-15

Collection Date: 5/30/2014 11:05:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	25.0	20.5		mg/Kg-dry	1	6/5/2014 5:21:00 PM
Lube Oil	ND	68.3		mg/Kg-dry	1	6/5/2014 5:21:00 PM
Surr: o-Terphenyl	101	50-150		%REC	1	6/5/2014 5:21:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	253	3.41		mg/Kg-dry	1	6/3/2014 9:01:54 PM
Surr: 4-Bromofluorobenzene	123	50-150		%REC	1	6/3/2014 9:01:54 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-006  
Client Sample ID: S-2-20

Collection Date: 5/30/2014 11:10:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>BS</b>
Gasoline	221	3.56	H	mg/Kg-dry	1	6/18/2014 5:11:19 PM
Surr: 4-Bromofluorobenzene	115	50-150	H	%REC	1	6/18/2014 5:11:19 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-007  
Client Sample ID: S-3-5

Collection Date: 5/30/2014 10:15:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	24.0		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Mineral Spirits	ND	24.0		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Kerosene	ND	60.0		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Diesel	ND	60.0		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Lube Oil	ND	120		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Hydraulic Oil	ND	120		mg/Kg-dry	1	6/12/2014 2:30:53 PM
Surr: BFB	69.4	50-150		%REC	1	6/12/2014 2:30:53 PM
Surr: o-Terphenyl	92.4	50-150		%REC	1	6/12/2014 2:30:53 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-008  
Client Sample ID: S-3-15

Collection Date: 5/30/2014 10:20:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	28.1		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Mineral Spirits	ND	28.1		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Kerosene	ND	70.2		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Diesel	ND	70.2		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Lube Oil	ND	140		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Hydraulic Oil	ND	140		mg/Kg-dry	1	6/3/2014 8:46:47 PM
Surr: BFB	50.1	50-150		%REC	1	6/3/2014 8:46:47 PM
Surr: o-Terphenyl	87.8	50-150		%REC	1	6/3/2014 8:46:47 PM

# Specialty Analytical

Date Reported: 20-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/30/2014 10:25:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-009  
**Client Sample ID:** S-3-20 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-010  
Client Sample ID: S-4-12

Collection Date: 5/30/2014 1:00:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	28.3		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Mineral Spirits	ND	28.3		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Kerosene	ND	70.7		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Diesel	ND	70.7		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Lube Oil	ND	141		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Hydraulic Oil	ND	141		mg/Kg-dry	1	6/3/2014 9:16:47 PM
Surr: BFB	55.5	50-150		%REC	1	6/3/2014 9:16:47 PM
Surr: o-Terphenyl	98.3	50-150		%REC	1	6/3/2014 9:16:47 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-011  
Client Sample ID: S-4-18

Collection Date: 5/30/2014 1:15:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	26.2		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Mineral Spirits	ND	26.2		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Kerosene	ND	65.5		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Diesel	ND	65.5		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Lube Oil	ND	131		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Hydraulic Oil	ND	131		mg/Kg-dry	1	6/3/2014 9:46:47 PM
Surr: BFB	42.1	50-150	S	%REC	1	6/3/2014 9:46:47 PM
Surr: o-Terphenyl	78.5	50-150		%REC	1	6/3/2014 9:46:47 PM

# Specialty Analytical

Date Reported: 20-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/30/2014 1:20:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-012  
**Client Sample ID:** S-5-3 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-013  
**Client Sample ID:** S-5-14

**Collection Date:** 5/30/2014 1:30:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	717	19.6		mg/Kg-dry	1	6/13/2014 9:08:50 PM
Lube Oil	104	65.5	M	mg/Kg-dry	1	6/13/2014 9:08:50 PM
Surr: o-Terphenyl	136	50-150		%REC	1	6/13/2014 9:08:50 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>BS</b>
Gasoline	3640	32.7		mg/Kg-dry	10	6/12/2014 4:39:34 PM
Surr: 4-Bromofluorobenzene	800	50-150	SMI	%REC	10	6/12/2014 4:39:34 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.92		mg/Kg	1	6/13/2014 7:00:57 PM
Barium	114	0.962		mg/Kg	1	6/13/2014 7:00:57 PM
Cadmium	ND	0.0962		mg/Kg	1	6/13/2014 7:00:57 PM
Chromium	20.9	0.481		mg/Kg	1	6/13/2014 7:00:57 PM
Lead	ND	1.92		mg/Kg	1	6/16/2014 5:01:48 PM
Selenium	ND	1.92		mg/Kg	1	6/13/2014 7:00:57 PM
Silver	ND	1.92		mg/Kg	1	6/13/2014 7:00:57 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	ND	0.0161		mg/Kg	1	6/13/2014 9:54:36 AM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-014  
**Client Sample ID:** S-5-10

**Collection Date:** 5/30/2014 1:25:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	27.5		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Mineral Spirits	ND	27.5		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Kerosene	ND	68.8		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Diesel	ND	68.8		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Lube Oil	ND	138		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Hydraulic Oil	ND	138		mg/Kg-dry	1	6/3/2014 10:46:47 PM
Surr: BFB	61.3	50-150		%REC	1	6/3/2014 10:46:47 PM
Surr: o-Terphenyl	84.4	50-150		%REC	1	6/3/2014 10:46:47 PM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-015  
**Client Sample ID:** S-5-19

**Collection Date:** 5/30/2014 1:35:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	GASOLINE	27.7		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Mineral Spirits	ND	27.7		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Kerosene	ND	69.2		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Diesel	DIESEL	69.2		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Lube Oil	ND	138		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Hydraulic Oil	ND	138		mg/Kg-dry	1	6/3/2014 11:16:47 PM
Surr: BFB	110	50-150		%REC	1	6/3/2014 11:16:47 PM
Surr: o-Terphenyl	107	50-150		%REC	1	6/3/2014 11:16:47 PM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	1100	20.8		mg/Kg-dry	1	6/10/2014 9:19:02 AM
Lube Oil	ND	69.2		mg/Kg-dry	1	6/10/2014 9:19:02 AM
Surr: o-Terphenyl	135	50-150		%REC	1	6/10/2014 9:19:02 AM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	1470	34.6		mg/Kg-dry	10	6/6/2014 10:57:00 AM
Surr: 4-Bromofluorobenzene	83.0	50-150		%REC	10	6/6/2014 10:57:00 AM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	48.2	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Acenaphthylene	35.9	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Anthracene	29.2	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Benz(a)anthracene	7.65	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Benzo(b)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Benzo(g,h,i)perylene	7.94	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Chrysene	10.6	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Fluoranthene	33.8	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Fluorene	124	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Indeno(1,2,3-cd)pyrene	6.80	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Naphthalene	66.7	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Phenanthrene	198	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Pyrene	19.4	6.67		µg/Kg	1	6/12/2014 5:18:00 PM
Surr: 2-Fluorobiphenyl	56.4	42.6-128		%REC	1	6/12/2014 5:18:00 PM
Surr: Nitrobenzene-d5	66.5	21.7-155		%REC	1	6/12/2014 5:18:00 PM
Surr: p-Terphenyl-d14	109	44.9-155		%REC	1	6/12/2014 5:18:00 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406007-015  
 Client Sample ID: S-5-19

Collection Date: 5/30/2014 1:35:00 PM  
 Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1,1-Trichloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1,2,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1,2-Trichloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1-Dichloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,1-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2,3-Trichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2,3-Trichloropropane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2,4-Trichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2,4-Trimethylbenzene	32.9	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2-Dibromo-3-chloropropane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2-Dibromoethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2-Dichloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,2-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,3,5-Trimethylbenzene	65.0	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,3-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,3-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
1,4-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
2,2-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
2-Butanone	ND	20.0		µg/Kg	1	6/12/2014 5:57:00 AM
2-Chlorotoluene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
2-Hexanone	ND	20.0		µg/Kg	1	6/12/2014 5:57:00 AM
4-Chlorotoluene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
4-Isopropyltoluene	1530	1000		µg/Kg	100	6/12/2014 1:37:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/Kg	1	6/12/2014 5:57:00 AM
Acetone	ND	50.0		µg/Kg	1	6/12/2014 5:57:00 AM
Benzene	35.6	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Bromobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Bromochloromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Bromodichloromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Bromoform	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Bromomethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Carbon disulfide	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Carbon tetrachloride	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Chlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Chloroethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-015  
Client Sample ID: S-5-19

Collection Date: 5/30/2014 1:35:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
Chloroform	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Chloromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
cis-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
cis-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Dibromochloromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Dibromomethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Dichlorodifluoromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Ethylbenzene	602	100		µg/Kg	10	6/12/2014 5:23:00 AM
Hexachlorobutadiene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Isopropylbenzene	1570	1000		µg/Kg	100	6/12/2014 1:37:00 PM
m,p-Xylene	1990	200		µg/Kg	10	6/12/2014 5:23:00 AM
Methyl tert-butyl ether	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Methylene chloride	ND	50.0		µg/Kg	1	6/12/2014 5:57:00 AM
Naphthalene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
n-Butylbenzene	1750	100		µg/Kg	10	6/12/2014 5:23:00 AM
n-Propylbenzene	2570	1000		µg/Kg	100	6/12/2014 1:37:00 PM
o-Xylene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
sec-Butylbenzene	880	100		µg/Kg	10	6/12/2014 5:23:00 AM
Styrene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
tert-Butylbenzene	15.5	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Tetrachloroethene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Toluene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
trans-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
trans-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Trichloroethene	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Trichlorofluoromethane	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Vinyl chloride	ND	10.0		µg/Kg	1	6/12/2014 5:57:00 AM
Surr: 1,2-Dichloroethane-d4	296	71.5-112	SMI	%REC	1	6/12/2014 5:57:00 AM
Surr: 4-Bromofluorobenzene	406	75.7-122	SMI	%REC	1	6/12/2014 5:57:00 AM
Surr: Dibromofluoromethane	86.0	64.3-124		%REC	1	6/12/2014 5:57:00 AM
Surr: Toluene-d8	147	74.9-120	SMI	%REC	1	6/12/2014 5:57:00 AM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-016  
Client Sample ID: S-6-10

Collection Date: 5/30/2014 10:00:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.85		mg/Kg	1	6/13/2014 7:05:59 PM
Barium	139	0.926		mg/Kg	1	6/13/2014 7:05:59 PM
Cadmium	ND	0.0926		mg/Kg	1	6/13/2014 7:05:59 PM
Chromium	19.9	0.463		mg/Kg	1	6/13/2014 7:05:59 PM
Lead	48.0	1.85		mg/Kg	1	6/16/2014 5:06:48 PM
Selenium	ND	1.85		mg/Kg	1	6/13/2014 7:05:59 PM
Silver	ND	1.85		mg/Kg	1	6/13/2014 7:05:59 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	0.0731	0.0142		mg/Kg	1	6/13/2014 9:57:36 AM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-017  
**Client Sample ID:** S-6-14

**Collection Date:** 5/30/2014 10:05:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	25.7		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Mineral Spirits	ND	25.7		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Kerosene	ND	64.3		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Diesel	ND	64.3		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Lube Oil	ND	129		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Hydraulic Oil	ND	129		mg/Kg-dry	1	6/3/2014 11:46:47 PM
Surr: BFB	52.3	50-150		%REC	1	6/3/2014 11:46:47 PM
Surr: o-Terphenyl	94.0	50-150		%REC	1	6/3/2014 11:46:47 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-018  
Client Sample ID: S-7-5

Collection Date: 5/30/2014 9:05:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	24.6		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Mineral Spirits	ND	24.6		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Kerosene	ND	61.5		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Diesel	ND	61.5		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Lube Oil	ND	123		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Hydraulic Oil	ND	123		mg/Kg-dry	1	6/12/2014 11:30:53 AM
Surr: BFB	60.5	50-150		%REC	1	6/12/2014 11:30:53 AM
Surr: o-Terphenyl	88.2	50-150		%REC	1	6/12/2014 11:30:53 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.72		mg/Kg	1	6/13/2014 7:11:02 PM
Barium	116	0.862		mg/Kg	1	6/13/2014 7:11:02 PM
Cadmium	ND	0.0862		mg/Kg	1	6/13/2014 7:11:02 PM
Chromium	20.0	0.431		mg/Kg	1	6/13/2014 7:11:02 PM
Lead	ND	1.72		mg/Kg	1	6/16/2014 5:11:49 PM
Selenium	ND	1.72		mg/Kg	1	6/13/2014 7:11:02 PM
Silver	ND	1.72		mg/Kg	1	6/13/2014 7:11:02 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	0.0264	0.0161		mg/Kg	1	6/13/2014 10:00:36 AM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-019  
Client Sample ID: S-7-15

Collection Date: 5/30/2014 9:10:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	20.0		mg/Kg-dry	1	6/5/2014 5:51:00 PM
Lube Oil	ND	66.7		mg/Kg-dry	1	6/5/2014 5:51:00 PM
Surr: o-Terphenyl	90.4	50-150		%REC	1	6/5/2014 5:51:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	3.33		mg/Kg-dry	1	6/3/2014 2:31:54 PM
Surr: 4-Bromofluorobenzene	58.5	50-150		%REC	1	6/3/2014 2:31:54 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406007-020  
Client Sample ID: S-8-3

Collection Date: 5/30/2014 1:45:00 PM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	GASOLINE	23.9		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Mineral Spirits	ND	23.9		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Kerosene	ND	59.9		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Diesel	DIESEL	59.9		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Lube Oil	OIL	120		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Hydraulic Oil	ND	120		mg/Kg-dry	1	6/12/2014 3:30:53 PM
Surr: BFB	158	50-150	SMI	%REC	1	6/12/2014 3:30:53 PM
Surr: o-Terphenyl	210	50-150	SMI	%REC	1	6/12/2014 3:30:53 PM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-021  
**Client Sample ID:** S-8-9

**Collection Date:** 5/30/2014 1:50:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	18.1		mg/Kg-dry	1	6/13/2014 9:38:50 PM
Lube Oil	ND	60.4		mg/Kg-dry	1	6/13/2014 9:38:50 PM
Surr: o-Terphenyl	114	50-150		%REC	1	6/13/2014 9:38:50 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>BS</b>
Gasoline	13.0	3.02		mg/Kg-dry	1	6/12/2014 3:09:34 PM
Surr: 4-Bromofluorobenzene	72.5	50-150		%REC	1	6/12/2014 3:09:34 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Acenaphthylene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Benz(a)anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Benzo(b)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Benzo(g,h,i)perylene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Chrysene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Fluoranthene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Fluorene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Indeno(1,2,3-cd)pyrene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Naphthalene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Phenanthrene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Pyrene	ND	6.67		µg/Kg	1	6/12/2014 6:31:00 PM
Surr: 2-Fluorobiphenyl	63.6	42.6-128		%REC	1	6/12/2014 6:31:00 PM
Surr: Nitrobenzene-d5	58.0	21.7-155		%REC	1	6/12/2014 6:31:00 PM
Surr: p-Terphenyl-d14	126	44.9-155		%REC	1	6/12/2014 6:31:00 PM

# Specialty Analytical

Date Reported: 20-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406007-022  
**Client Sample ID:** S-8-14

**Collection Date:** 5/30/2014 1:55:00 PM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	958	20.2	L	mg/Kg-dry	1	6/5/2014 6:21:00 PM
Lube Oil	ND	67.3		mg/Kg-dry	1	6/5/2014 6:21:00 PM
Surr: o-Terphenyl	56.0	50-150		%REC	1	6/5/2014 6:21:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	364	33.6		mg/Kg-dry	10	6/3/2014 3:01:54 PM
Surr: 4-Bromofluorobenzene	43.2	50-150	S	%REC	10	6/3/2014 3:01:54 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.61		mg/Kg	1	6/3/2014 7:24:31 PM
Barium	89.5	0.806		mg/Kg	1	6/3/2014 7:24:31 PM
Cadmium	ND	0.0806		mg/Kg	1	6/3/2014 7:24:31 PM
Chromium	15.8	0.403		mg/Kg	1	6/3/2014 7:24:31 PM
Lead	4.29	1.61		mg/Kg	1	6/3/2014 7:24:31 PM
Selenium	ND	1.61		mg/Kg	1	6/3/2014 7:24:31 PM
Silver	ND	1.61		mg/Kg	1	6/3/2014 7:24:31 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	ND	0.0139		mg/Kg	1	6/4/2014 1:27:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	66.9	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Acenaphthylene	30.7	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Anthracene	36.0	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Benz(a)anthracene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Benzo(a)pyrene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Benzo(b)fluoranthene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Benzo(g,h,i)perylene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Benzo(k)fluoranthene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Chrysene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Dibenz(a,h)anthracene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Fluoranthene	21.5	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Fluorene	198	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Indeno(1,2,3-cd)pyrene	ND	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Naphthalene	4560	66.7		µg/Kg	10	6/6/2014 8:45:00 AM
Phenanthrene	284	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Pyrene	13.7	6.67		µg/Kg	1	6/5/2014 6:48:00 PM
Surr: 2-Fluorobiphenyl	59.6	42.6-128		%REC	1	6/5/2014 6:48:00 PM
Surr: Nitrobenzene-d5	42.7	21.7-155		%REC	1	6/5/2014 6:48:00 PM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406007-022  
 Client Sample ID: S-8-14

Collection Date: 5/30/2014 1:55:00 PM  
 Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Surr: p-Terphenyl-d14	115	44.9-155		%REC	1	6/5/2014 6:48:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1,1-Trichloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1,2,2-Tetrachloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1,2-Trichloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1-Dichloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1-Dichloroethene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,1-Dichloropropene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2,3-Trichlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2,3-Trichloropropane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2,4-Trichlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2,4-Trimethylbenzene	1050	100		µg/Kg	10	6/3/2014 11:41:00 AM
1,2-Dibromo-3-chloropropane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2-Dibromoethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2-Dichlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2-Dichloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,2-Dichloropropane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,3,5-Trimethylbenzene	3580	1000		µg/Kg	100	6/2/2014 5:22:00 PM
1,3-Dichlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,3-Dichloropropane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
1,4-Dichlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
2,2-Dichloropropane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
2-Butanone	ND	200	Q	µg/Kg	10	6/3/2014 11:41:00 AM
2-Chlorotoluene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
2-Hexanone	ND	200	Q	µg/Kg	10	6/3/2014 11:41:00 AM
4-Chlorotoluene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
4-Isopropyltoluene	6240	1000		µg/Kg	100	6/2/2014 5:22:00 PM
4-Methyl-2-pentanone	ND	200	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Acetone	ND	500	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Benzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Bromobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Bromochloromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Bromodichloromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Bromoform	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Bromomethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Carbon disulfide	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM

# Specialty Analytical

Date Reported: 20-Jun-14

CLIENT: Parametrix

Collection Date: 5/30/2014 1:55:00 PM

Project: PDC ODOT Blocks / 273-1962-035

Lab ID: 1406007-022

Client Sample ID: S-8-14

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: CK		
Carbon tetrachloride	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Chlorobenzene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Chloroethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Chloroform	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Chloromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
cis-1,2-Dichloroethene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
cis-1,3-Dichloropropene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Dibromochloromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Dibromomethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Dichlorodifluoromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Ethylbenzene	8710	1000		µg/Kg	100	6/2/2014 5:22:00 PM
Hexachlorobutadiene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Isopropylbenzene	4780	1000		µg/Kg	100	6/2/2014 5:22:00 PM
m,p-Xylene	3650	2000		µg/Kg	100	6/2/2014 5:22:00 PM
Methyl tert-butyl ether	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Methylene chloride	ND	500	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Naphthalene	8280	1000		µg/Kg	100	6/2/2014 5:22:00 PM
n-Butylbenzene	5790	1000		µg/Kg	100	6/2/2014 5:22:00 PM
n-Propylbenzene	8520	1000		µg/Kg	100	6/2/2014 5:22:00 PM
o-Xylene	308	100		µg/Kg	10	6/3/2014 11:41:00 AM
sec-Butylbenzene	2480	1000		µg/Kg	100	6/2/2014 5:22:00 PM
Styrene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
tert-Butylbenzene	142	100		µg/Kg	10	6/3/2014 11:41:00 AM
Tetrachloroethene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Toluene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
trans-1,2-Dichloroethene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
trans-1,3-Dichloropropene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Trichloroethene	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Trichlorofluoromethane	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Vinyl chloride	ND	100	Q	µg/Kg	10	6/3/2014 11:41:00 AM
Surr: 1,2-Dichloroethane-d4	85.3	71.5-112		%REC	10	6/3/2014 11:41:00 AM
Surr: 4-Bromofluorobenzene	153	75.7-122	SMI	%REC	10	6/3/2014 11:41:00 AM
Surr: Dibromofluoromethane	79.9	64.3-124		%REC	10	6/3/2014 11:41:00 AM
Surr: Toluene-d8	114	74.9-120		%REC	10	6/3/2014 11:41:00 AM

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201128</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.8	2.00	100.0	0	94.8	90	110				
Barium	49.8	1.00	50.00	0	99.5	90	110				
Cadmium	4.90	0.100	5.000	0	98.0	90	110				
Chromium	24.3	0.500	25.00	0	97.0	90	110				
Lead	99.2	2.00	100.0	0	99.2	90	110				
Selenium	99.3	2.00	100.0	0	99.3	90	110				
Silver	51.8	2.00	50.00	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201130</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.9	2.00	100.0	0	95.9	90	110				
Barium	50.0	1.00	50.00	0	99.9	90	110				
Chromium	24.4	0.500	25.00	0	97.4	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	102	2.00	100.0	0	102	90	110				
Silver	52.2	2.00	50.00	0	104	90	110				

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 1 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	2.00									
Barium	ND	1.00									
Lead	ND	2.00									
Selenium	ND	2.00									
Silver	ND	2.00									

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201132</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4.88	0.100	5.000	0	97.6	87.2	115				
Chromium	21.0	0.500	25.00	0	84.1	84	113				
Lead	86.3	2.00	100.0	0	86.3	84.9	109				

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.56						2.508	200	20	RF
Barium	76.8	0.781						78.98	2.76	20	
Chromium	10.1	0.391						10.55	4.81	20	
Lead	8.08	1.56						6.850	16.5	20	
Selenium	ND	1.56						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 2 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	ND	1.56						0	0	20	
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Sample ID: <b>1405249-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201135</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Barium	113	0.862	43.10	78.98	78.2	75	125				
Chromium	25.8	0.431	21.55	10.55	70.6	75	121				S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201136</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	95.4	2.00	100.0	0	95.4	90	110				
Barium	49.1	1.00	50.00	0	98.1	90	110				
Cadmium	5.09	0.100	5.000	0	102	90	110				
Chromium	23.9	0.500	25.00	0	95.4	90	110				
Lead	98.1	2.00	100.0	0	98.1	90	110				
Selenium	98.0	2.00	100.0	0	98.0	90	110				
Silver	50.7	2.00	50.00	0	101	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 3 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: 1405249-004BMSD	SampType: MSD	TestCode: 6010_S	Units: mg/Kg	Prep Date: 6/3/2014	RunNo: 15369						
Client ID: ZZZZZZ	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/3/2014	SeqNo: 201137						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	63.1	1.85	92.59	2.508	65.4	86.1	109	56.88	10.3	20	S
Barium	129	0.926	46.30	78.98	108	75	125	112.7	13.5	20	
Cadmium	3.03	0.0926	4.630	0.3750	57.3	86.4	115	2.776	8.68	20	S
Chromium	28.5	0.463	23.15	10.55	77.3	75	121	25.77	9.91	20	
Lead	68.7	1.85	92.59	6.850	66.8	84.9	109	62.32	9.80	20	S
Selenium	61.4	1.85	92.59	0	66.3	77.7	116	55.22	10.6	20	S
Silver	26.8	1.85	46.30	0	57.9	75	123	23.23	14.3	20	S

Sample ID: ICV	SampType: ICV	TestCode: 6010_S	Units: mg/Kg	Prep Date:	RunNo: 15369						
Client ID: ICV	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/4/2014	SeqNo: 201516						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	96.8	2.00	100.0	0	96.8	90	110				
Cadmium	4.84	0.100	5.000	0	96.8	90	110				
Chromium	25.1	0.500	25.00	0	101	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	99.2	2.00	100.0	0	99.2	90	110				
Silver	49.4	2.00	50.00	0	98.9	90	110				

Sample ID: 1405249-004BDUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 6/3/2014	RunNo: 15369						
Client ID: ZZZZZZ	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/4/2014	SeqNo: 201519						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 4 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201519</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.0781						0	0	20	

Sample ID: <b>1405249-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201520</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	89.5	1.72	86.21	1.942	102	86.1	109				
Cadmium	4.29	0.0862	4.310	0	99.6	86.4	115				
Lead	99.9	1.72	86.21	10.39	104	84.9	109				
Selenium	87.7	1.72	86.21	0	102	77.7	116				
Silver	37.5	1.72	43.10	0	86.9	75	123				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	100	2.00	100.0	0	100	90	110				
Barium	51.7	1.00	50.00	0	103	90	110				
Cadmium	5.00	0.100	5.000	0	100	90	110				
Chromium	25.4	0.500	25.00	0	102	90	110				
Selenium	102	2.00	100.0	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 5 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201760</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	ND	0.100
Chromium	ND	0.500

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201761</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	98.8	2.00	100.0	0	98.8	85.1	107
Barium	51.3	1.00	50.00	0	103	85.7	110
Selenium	101	2.00	100.0	0	101	88.7	111

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201762</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	97.2	2.00	100.0	0	97.2	90	110
Barium	50.1	1.00	50.00	0	100	90	110
Cadmium	4.87	0.100	5.000	0	97.4	90	110
Chromium	24.6	0.500	25.00	0	98.5	90	110
Selenium	99.0	2.00	100.0	0	99.0	90	110

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202214</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	49.7	2.00	50.00	0	99.4	90	110				
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Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202215</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	50.2	2.00	50.00	0	100	79.3	109				
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202216</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	49.8	2.00	50.00	0	99.6	90	110				
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Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204024</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	101	2.00	100.0	0	101	90	110				
Barium	51.4	1.00	50.00	0	103	90	110				
Cadmium	5.05	0.100	5.000	0	101	90	110				
Chromium	25.2	0.500	25.00	0	101	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 7 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204024</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Selenium	101	2.00	100.0	0	101	90	110				
Silver	54.3	2.00	50.00	0	109	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204025</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	98.7	2.00	100.0	0	98.7	90	110				
Barium	49.5	1.00	50.00	0	99.1	90	110				
Cadmium	4.85	0.100	5.000	0	97.0	90	110				
Chromium	25.4	0.500	25.00	0	101	90	110				
Selenium	95.8	2.00	100.0	0	95.8	90	110				
Silver	52.6	2.00	50.00	0	105	90	110				

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	2.00									
Barium	ND	1.00									
Cadmium	ND	0.100									
Chromium	ND	0.500									
Selenium	ND	2.00									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 8 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	ND	2.00									
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Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	98.0	2.00	100.0	0	98.0	85.1	107				
Barium	49.9	1.00	50.00	0	99.8	85.7	110				
Cadmium	4.91	0.100	5.000	0	98.2	87.2	115				
Chromium	24.8	0.500	25.00	0	99.4	84	113				
Selenium	95.3	2.00	100.0	0	95.3	88.7	111				
Silver	47.3	2.00	50.00	0	94.6	79.3	109				

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204029</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	ND	1.56										
Barium	122	0.781										
Cadmium	0.141	0.0781							0	0	20	
Chromium	16.8	0.391							111.2	9.66	20	
Selenium	ND	1.56							0.2258	46.5	20	RF
Silver	ND	1.56							16.23	3.64	20	
									0	0	20	
									0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204029</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204030</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	82.9	1.85	92.59	0	89.5	86.1	109				
Barium	192	0.926	46.30	111.2	175	75	125				S
Cadmium	4.39	0.0926	4.630	0.2258	89.9	86.4	115				
Chromium	44.2	0.463	23.15	16.23	121	75	121				
Selenium	80.7	1.85	92.59	0	87.1	77.7	116				
Silver	45.4	1.85	46.30	0	98.0	75	123				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204031</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	2.00	100.0	0	101	90	110				
Barium	52.1	1.00	50.00	0	104	90	110				
Cadmium	5.08	0.100	5.000	0	102	90	110				
Chromium	26.9	0.500	25.00	0	108	90	110				
Selenium	99.5	2.00	100.0	0	99.5	90	110				
Silver	53.0	2.00	50.00	0	106	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 10 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204032</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	69.8	1.43	71.43	0	97.8	86.1	109	82.86	17.1	20	
Barium	149	0.714	35.71	111.2	107	75	125	192.3	25.1	20	R
Cadmium	3.54	0.0714	3.571	0.2258	92.9	86.4	115	4.389	21.3	20	R
Chromium	35.5	0.357	17.86	16.23	108	75	121	44.19	21.8	20	R
Selenium	65.1	1.43	71.43	0	91.1	77.7	116	80.69	21.4	20	R
Silver	36.6	1.43	35.71	0	102	75	123	45.35	21.5	20	R

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204250</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	100	2.00	100.0	0	100	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204251</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	95.9	2.00	100.0	0	95.9	90	110				

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204252</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	2.00									

Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204253</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	93.8	2.00	100.0	0	93.8	84.9	109				

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204255</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.56						3.008	200	20	RF

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204256</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	89.1	1.85	92.59	3.008	93.0	84.9	109				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 12 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204257</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	71.9	1.43	71.43	3.008	96.4	84.9	109	89.08	21.4	20	R
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204260</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	98.2	2.00	100.0	0	98.2	90	110
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204274</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lead	95.9	2.00	100.0	0	95.9	90	110
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1976</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200218</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	38.2	10.0	40.00	0	95.4	80	120				
1,2-Dichloropropane	36.7	10.0	40.00	0	91.8	80	120				
Chloroform	37.3	10.0	40.00	0	93.2	80	120				
Ethylbenzene	38.6	10.0	40.00	0	96.5	80	120				
Toluene	35.0	10.0	40.00	0	87.4	80	120				
Vinyl chloride	43.9	10.0	40.00	0	110	80	120				

Sample ID: <b>LCS MSVWS-1974</b>	SampType: <b>LCS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200333</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	61.6	10.0	60.00	0	103	46.6	147				
Benzene	54.2	10.0	60.00	0	90.4	65.2	121				
Chlorobenzene	51.5	10.0	60.00	0	85.8	40.9	122				
Toluene	49.9	10.0	60.00	0	83.2	52.1	127				
Trichloroethene	57.0	10.0	60.00	0	94.9	57.6	122				

Sample ID: <b>1405251-006BMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200334</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	598	100	600.0	0	99.6	46.6	147				
Benzene	522	100	600.0	0	87.0	65.2	121				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 14 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>1405251-006BMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200334</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	526	100	600.0	0	87.7	40.9	122				
Toluene	527	100	600.0	0	87.8	52.1	127				
Trichloroethene	529	100	600.0	0	88.1	57.6	122				

Sample ID: <b>1405251-006BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15308</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	584	100	600.0	0	97.4	46.6	147	597.5	2.22	30	
Benzene	517	100	600.0	0	86.2	65.2	121	522.2	0.981	30	
Chlorobenzene	530	100	600.0	0	88.4	40.9	122	526.3	0.776	30	
Toluene	537	100	600.0	0	89.5	52.1	127	526.7	1.97	30	
Trichloroethene	515	100	600.0	0	85.8	57.6	122	528.8	2.64	30	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 15 of 67  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	104		100.0		104	71.5	112				
Surr: 4-Bromofluorobenzene	101		100.0		101	75.7	122				
Surr: Dibromofluoromethane	102		100.0		102	64.3	124				
Surr: Toluene-d8	97.0		100.0		97.0	74.9	120				

Sample ID: <b>CCV MSVWS-1974</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200738</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	49.3	10.0	60.00	0	82.1	80	120				
1,2-Dichloropropane	54.5	10.0	60.00	0	90.9	80	120				
Chloroform	52.6	10.0	60.00	0	87.6	80	120				
Ethylbenzene	52.5	10.0	60.00	0	87.5	80	120				
Toluene	49.5	10.0	60.00	0	82.5	80	120				
Vinyl chloride	62.5	10.0	60.00	0	104	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 18 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1974</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200738</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200811</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	10.0
1,1,1-Trichloroethane	ND	10.0
1,1,2,2-Tetrachloroethane	ND	10.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0
1,1,2-Trichloroethane	ND	10.0
1,1-Dichloroethane	ND	10.0
1,1-Dichloroethene	ND	10.0
1,1-Dichloropropene	ND	10.0
1,2,3-Trichlorobenzene	ND	10.0
1,2,3-Trichloropropane	ND	10.0
1,2,4-Trichlorobenzene	ND	10.0
1,2,4-Trimethylbenzene	ND	10.0
1,2-Dibromo-3-chloropropane	ND	10.0
1,2-Dibromoethane	ND	10.0
1,2-Dichlorobenzene	ND	10.0
1,2-Dichloroethane	ND	10.0
1,2-Dichloropropane	ND	10.0
1,3,5-Trimethylbenzene	ND	10.0
1,3-Dichlorobenzene	ND	10.0

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 19 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: CCB	SampType: CCB	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 15308						
Client ID: CCB	Batch ID: 7506	TestNo: SW8260B	5030	Analysis Date: 6/3/2014	SeqNo: 200811						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15308</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7506</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200811</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	107		100.0		107	71.5	112				
Surr: 4-Bromofluorobenzene	103		100.0		103	75.7	122				
Surr: Dibromofluoromethane	108		100.0		108	64.3	124				
Surr: Toluene-d8	98.1		100.0		98.1	74.9	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>80 PPB ICAL</b>		SampType: <b>CCV</b>		TestCode: <b>8260_S</b>		Units: <b>µg/Kg</b>		Prep Date:		RunNo: <b>15493</b>	
Client ID: <b>CCV</b>		Batch ID: <b>7568</b>		TestNo: <b>SW8260B 5030</b>				Analysis Date: <b>6/11/2014</b>		SeqNo: <b>203373</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	71.8	10.0	80.00	0	89.7	80	120				
1,2-Dichloropropane	79.6	10.0	80.00	0	99.5	80	120				
Chloroform	81.3	10.0	80.00	0	102	80	120				
Ethylbenzene	84.7	10.0	80.00	0	106	80	120				
Toluene	81.3	10.0	80.00	0	102	80	120				
Vinyl chloride	83.3	10.0	80.00	0	104	80	120				

Sample ID: <b>80 PPB ICV</b>		SampType: <b>LCS</b>		TestCode: <b>8260_S</b>		Units: <b>µg/Kg</b>		Prep Date:		RunNo: <b>15493</b>	
Client ID: <b>LCSS</b>		Batch ID: <b>7568</b>		TestNo: <b>SW8260B 5030</b>				Analysis Date: <b>6/12/2014</b>		SeqNo: <b>203374</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	70.3	10.0	80.00	0	87.9	80	120				
Benzene	79.8	10.0	80.00	0	99.8	80	120				
Chlorobenzene	84.8	10.0	80.00	0	106	80	120				
Toluene	82.6	10.0	80.00	0	103	80	120				
Trichloroethene	75.9	10.0	80.00	0	94.9	80	120				

Sample ID: <b>80 PPB ICV</b>		SampType: <b>LCSD</b>		TestCode: <b>8260_S</b>		Units: <b>µg/Kg</b>		Prep Date:		RunNo: <b>15493</b>	
Client ID: <b>LCSS02</b>		Batch ID: <b>7568</b>		TestNo: <b>SW8260B 5030</b>				Analysis Date: <b>6/12/2014</b>		SeqNo: <b>203375</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	73.6	10.0	80.00	0	92.0	61.3	143	70.34	4.52	20	
Benzene	79.1	10.0	80.00	0	98.9	79.2	133	79.85	0.893	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>80 PPB ICV</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203375</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	82.1	10.0	80.00	0	103	78.2	126	84.84	3.26	20	
Toluene	80.5	10.0	80.00	0	101	77.9	130	82.64	2.62	20	
Trichloroethene	76.6	10.0	80.00	0	95.7	81.1	129	75.89	0.866	20	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 23 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	90.7		100.0		90.7	71.5	112				
Surr: 4-Bromofluorobenzene	95.4		100.0		95.4	75.7	122				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: Dibromofluoromethane	95.1		100.0		95.1	64.3	124
Surr: Toluene-d8	95.0		100.0		95.0	74.9	120

Sample ID: <b>1406007-015CMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/11/2014</b>	RunNo: <b>15493</b>						
Client ID: <b>S-5-19</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203382</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	6240	1000	6000	0	104	46.6	147
Benzene	6900	1000	6000	0	115	65.2	121
Chlorobenzene	6380	1000	6000	0	106	40.9	122
Toluene	7430	1000	6000	0	124	52.1	127
Trichloroethene	6180	1000	6000	0	103	57.6	122

Sample ID: <b>1406007-015CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/11/2014</b>	RunNo: <b>15493</b>						
Client ID: <b>S-5-19</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203383</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	5780	1000	6000	0	96.4	46.6	147	6238	7.54	30
Benzene	5900	1000	6000	0	98.3	65.2	121	6901	15.6	30
Chlorobenzene	6130	1000	6000	0	102	40.9	122	6384	4.08	30
Toluene	7400	1000	6000	0	123	52.1	127	7428	0.445	30
Trichloroethene	6100	1000	6000	0	102	57.6	122	6176	1.16	30

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 26 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1979</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203409</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	72.8	10.0	80.00	0	91.0	80	120				
1,2-Dichloropropane	80.9	10.0	80.00	0	101	80	120				
Chloroform	71.3	10.0	80.00	0	89.1	80	120				
Ethylbenzene	86.8	10.0	80.00	0	109	80	120				
Toluene	80.5	10.0	80.00	0	101	80	120				
Vinyl chloride	70.9	10.0	80.00	0	88.6	80	120				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 27 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: CCB	SampType: CCB	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 15493						
Client ID: CCB	Batch ID: 7568	TestNo: SW8260B	5030	Analysis Date: 6/12/2014	SeqNo: 203410						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	94.1		100.0		94.1	71.5	112				
Surr: 4-Bromofluorobenzene	83.5		100.0		83.5	75.7	122				
Surr: Dibromofluoromethane	78.8		100.0		78.8	64.3	124				
Surr: Toluene-d8	107		100.0		107	74.9	120				

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>MB-7513</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	87.4		100.0		87.4	50	150				
Surr: o-Terphenyl	92.6		100.0		92.6	50	150				

Sample ID: <b>1406006-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201043</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	24.2						0	0	20	
Mineral Spirits	ND	24.2						0	0	20	
Kerosene	ND	60.4						0	0	20	
Diesel	ND	60.4						0	0	20	
Lube Oil	OIL	121						202.2	10.0	20	
Hydraulic Oil	ND	121						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 31 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>1406007-011ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>S-4-18</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201048</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.2						0	0	20	
Mineral Spirits	ND	26.2						0	0	20	
Kerosene	ND	65.5						0	0	20	
Diesel	ND	65.5						0	0	20	
Lube Oil	ND	131						0	0	20	
Hydraulic Oil	ND	131						0	0	20	

Sample ID: <b>1406009-032ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201060</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.4						0	0	20	
Mineral Spirits	ND	26.4						0	0	20	
Kerosene	ND	66.1						0	0	20	
Diesel	ND	66.1						0	0	20	
Lube Oil	ND	132						226.9	200	20	RF
Hydraulic Oil	ND	132						0	0	20	

Sample ID: <b>MB-R15499</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15499</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 32 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>MB-R15499</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15499</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203466</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	90.0		100.0		90.0	50	150				
Surr: o-Terphenyl	93.2		100.0		93.2	50	150				

Sample ID: <b>1406007-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15499</b>						
Client ID: <b>S-1-4</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203468</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	30.0						0	0	20	
Mineral Spirits	ND	30.0						0	0	20	
Kerosene	ND	75.0						0	0	20	
Diesel	ND	75.0						110.6	200	20	RF
Lube Oil	ND	150						0	0	20	
Hydraulic Oil	ND	150						0	0	20	

Sample ID: <b>1406009-020ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15499</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7575</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203480</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 33 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: 1406009-020ADUP	SampType: DUP	TestCode: HCID_NW	Units: mg/Kg-dry	Prep Date: 6/12/2014	RunNo: 15499						
Client ID: ZZZZZZ	Batch ID: 7575	TestNo: NWHCID		Analysis Date: 6/12/2014	SeqNo: 203480						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	33.7						0	0	20	
Mineral Spirits	ND	33.7						0	0	20	
Kerosene	ND	84.2						0	0	20	
Diesel	DIESEL	84.2						1401	57.2	20	R
Lube Oil	OIL	168						3257	50.7	20	R
Hydraulic Oil	ND	168						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>MB-R15371</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0167

Sample ID: <b>LCS-R15371</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201154</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0167 0.4000 0 90.0 80 120

Sample ID: <b>1405223-002BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201156</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0161 0.0139 0.01710 5.79 20

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201157</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.242 0.0144 0.3448 0.01710 65.2 75 125 SMI

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 35 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201158</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.246	0.0149	0.3571	0.01710	64.0	75	125	0.2420	1.49	20	SMI

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201175</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.363	0.0167	0.4000	0	90.7	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201188</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.383	0.0167	0.4000	0	95.8	90	110				

Sample ID: <b>MB-R15506</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203556</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0167									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 36 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>LCS-R15506</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203557</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.410 0.0167 0.4000 0 103 80 120

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0259 0.0152 0.01783 37.0 20 RF

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0164 0.3922 0.01783 87.3 75 125

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.413 0.0164 0.3922 0.01783 101 75 125 0.3600 13.7 20

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 37 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.434	0.0167	0.4000	0	108	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203578</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.427	0.0167	0.4000	0	107	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 38 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1280	15.0	1332	0	96.3	85	115				
Lube Oil	753	50.0	666.0	0	113	85	115				

Sample ID: <b>MB-7510</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	28.8		33.30		86.5	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1290	15.0	1332	0	97.2	85	115				
Lube Oil	665	50.0	666.0	0	99.8	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 39 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	945	15.0	999.0	0	94.6	85	115				
Lube Oil	470	50.0	499.5	0	94.1	85	115				

Sample ID: <b>CCB-7510</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	30.1		33.30		90.4	50	150				

Sample ID: <b>1406009-021ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201570</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	48.1	19.6						84.88	55.4	20	R
Lube Oil	169	65.5						268.2	45.4	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 40 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1350	15.0	1332	0	101	85	115				
Lube Oil	763	50.0	666.0	0	115	85	115				

Sample ID: <b>1405249-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201632</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	18.6						0	0	20	
Lube Oil	ND	62.2						0	200	20	RF

Sample ID: <b>LCS-7510</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201679</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	150	15.0	166.5	0	89.8	76.3	125				
Lube Oil	150	50.0	166.5	0	89.9	69.9	127				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1340	15.0	1332	0	101	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 41 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lube Oil	723	50.0	666.0	0	109	85	115				
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202756</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1290	15.0	1332	0	96.7	85	115				
Lube Oil	600	50.0	666.0	0	90.1	85	115				

Sample ID: <b>MB-7552</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202757</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	34.2		33.33		103	50	150				

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	151	15.0	166.7	0	90.6	76.3	125				
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**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 42 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lube Oil	118	50.0	166.7	0	70.7	69.9	127				
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Sample ID: <b>1406009-031ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202765</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	31.6	16.3						25.51	21.3	20	R
Lube Oil	375	54.2						310.2	18.9	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202768</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	975	15.0	999.0	0	97.6	85	115				
Lube Oil	447	50.0	499.5	0	89.4	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1020	15.0	999.0	0	102	85	115				
Lube Oil	491	50.0	499.5	0	98.3	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 43 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	40.3		33.30		121	50	150				

Sample ID: <b>LCS-7581</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	196	15.0	166.7	0	118	76.3	125				
Lube Oil	161	50.0	166.7	0	96.7	69.9	127				

Sample ID: <b>1406062-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	52500	157						53920	2.61	20	
Lube Oil	6910	522						6409	7.51	20	M

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 44 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>1406062-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1370	15.0	1332	0	103	85	115				
Lube Oil	628	50.0	666.0	0	94.3	85	115				

Sample ID: <b>MB-7581</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203694</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	41.1		33.30		123	50	150				

Sample ID: <b>1406064-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	25.9						0	200	20	RF
Lube Oil	ND	86.5						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 45 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>1406064-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	42.0		33.30		126	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203760</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1410	15.0	1332	0	106	85	115				
Lube Oil	621	50.0	666.0	0	93.2	85	115				

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>CCV-7508</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15352</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200899</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	96.3	2.50	100.0	0	96.3	80	120				
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Sample ID: <b>LCS-7508</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	129	2.50	150.0	0	85.7	53.5	121				
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Sample ID: <b>MB-7508</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200901</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	2.50									
Surr: 4-Bromofluorobenzene	4.41		5.000		88.1	50	150				

Sample ID: <b>1405249-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200902</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	3.41						0	0	20	
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 47 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>1405249-002ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15352</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200904</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	3.32						0	200	20	RF

Sample ID: <b>CCV-7508</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15352</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200914</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	122	2.50	125.0	0	97.7	80	120				

Sample ID: <b>CCV-7508</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15352</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7508</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200926</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	99.1	2.50	100.0	0	99.1	80	120				

Sample ID: <b>CCV-7534</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15401</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7534</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201827</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	127	2.50	125.0	0	102	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 48 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>LCS-7534</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15401</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7534</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201828</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	51.5	2.50	50.00	0	103	53.5	121				
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Sample ID: <b>MB-7534</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15401</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7534</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201829</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	2.50									
Surr: 4-Bromofluorobenzene	3.29		5.000		65.8	50	150				

Sample ID: <b>1406007-015ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15401</b>						
Client ID: <b>S-5-19</b>	Batch ID: <b>7534</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201831</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	1390	34.6						1471	5.29	20	
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Sample ID: <b>CCV-7534</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15401</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7534</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201832</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	82.5	2.50	100.0	0	82.5	80	120				
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 49 of 67
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15546</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204121</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	143	2.50	125.0	0	114	80	120
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Sample ID: <b>MB-7570</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204122</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	2.50					
Surr: 4-Bromofluorobenzene	4.04		5.000		80.7	50	150

Sample ID: <b>LCS-7570</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204123</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	114	2.50	100.0	0	114	53.5	121
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15546</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx</b>	<b>5030_G_S</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204129</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	97.3	2.50	100.0	0	97.3	80	120
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>1406007-021ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15546</b>						
Client ID: <b>S-8-9</b>	Batch ID: <b>7570</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>204131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	14.5	3.02						13.04	10.6	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15580</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7609</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/18/2014</b>	SeqNo: <b>204686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	82.5	2.50	100.0	0	82.5	80	120				

Sample ID: <b>MB-7609</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/17/2014</b>	RunNo: <b>15580</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7609</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/18/2014</b>	SeqNo: <b>204687</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	2.50									
Surr: 4-Bromofluorobenzene	2.99		5.000		59.7	50	150				

Sample ID: <b>LCS-7609</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/17/2014</b>	RunNo: <b>15580</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7609</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/18/2014</b>	SeqNo: <b>204688</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	60.1	2.50	50.00	0	120	53.5	121				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 51 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_S

Sample ID: <b>1406103-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/17/2014</b>	RunNo: <b>15580</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7609</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/18/2014</b>	SeqNo: <b>204690</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	3.46						0	0	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15580</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7609</b>	TestNo: <b>NWTPH-Gx 5030_G_S</b>		Analysis Date: <b>6/18/2014</b>	SeqNo: <b>204754</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	138	2.50	125.0	0	110	80	120				

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
<b>CCV-7518</b>	<b>CCV</b>	<b>PAHLL_S</b>	<b>µg/Kg</b>		<b>15393</b>						
<b>Client ID: CCV</b>	<b>Batch ID: 7518</b>	<b>TestNo: SW8270D</b>	<b>SW 3545A</b>	<b>Analysis Date: 6/5/2014</b>	<b>SeqNo: 201634</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	139	6.67	133.3	0	104	80	120				
Acenaphthylene	146	6.67	133.3	0	109	80	120				
Anthracene	141	6.67	133.3	0	106	80	120				
Benz(a)anthracene	121	6.67	133.3	0	90.7	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	97.9	80	120				
Benzo(b)fluoranthene	112	6.67	133.3	0	83.9	80	120				
Benzo(g,h,i)perylene	129	6.67	133.3	0	97.0	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	107	80	120				
Chrysene	133	6.67	133.3	0	99.6	80	120				
Dibenz(a,h)anthracene	120	6.67	133.3	0	90.3	80	120				
Fluoranthene	152	6.67	133.3	0	114	80	120				
Fluorene	150	6.67	133.3	0	112	80	120				
Indeno(1,2,3-cd)pyrene	116	6.67	133.3	0	87.2	80	120				
Naphthalene	142	6.67	133.3	0	107	80	120				
Phenanthrene	138	6.67	133.3	0	104	80	120				
Pyrene	121	6.67	133.3	0	90.6	80	120				

Sample ID:	SampType:	TestCode:	Units:	Prep Date:	RunNo:						
<b>LCS-7518</b>	<b>LCS</b>	<b>PAHLL_S</b>	<b>µg/Kg</b>	<b>6/4/2014</b>	<b>15393</b>						
<b>Client ID: LCSS</b>	<b>Batch ID: 7518</b>	<b>TestNo: SW8270D</b>	<b>SW 3545A</b>	<b>Analysis Date: 6/5/2014</b>	<b>SeqNo: 201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	222	6.67	333.3	0	66.7	39.6	107				
Acenaphthylene	229	6.67	333.3	0	68.6	38.9	102				
Anthracene	236	6.67	333.3	0	70.7	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 53 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7518</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	210	6.67	333.3	0	62.9	48.4	121				
Benzo(a)pyrene	216	6.67	333.3	0	64.9	37.7	137				
Benzo(b)fluoranthene	212	6.67	333.3	0	63.5	58.6	117				
Benzo(g,h,i)perylene	226	6.67	333.3	0	67.7	49.7	135				
Benzo(k)fluoranthene	287	6.67	333.3	0	86.1	46.1	124				
Chrysene	230	6.67	333.3	0	69.0	57.1	130				
Dibenz(a,h)anthracene	225	6.67	333.3	0	67.6	44.2	124				
Fluoranthene	263	6.67	333.3	0	78.9	53.4	113				
Fluorene	227	6.67	333.3	0	68.0	37.1	114				
Indeno(1,2,3-cd)pyrene	223	6.67	333.3	0	66.8	47.9	121				
Naphthalene	199	6.67	333.3	0	59.8	29.1	109				
Phenanthrene	222	6.67	333.3	0	66.5	48.4	115				
Pyrene	208	6.67	333.3	0	62.4	47.2	134				

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benzo(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 54 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.33		6.667		34.9	42.6	128				S
Surr: Nitrobenzene-d5	2.27		6.667		34.0	21.7	155				
Surr: p-Terphenyl-d14	4.15		6.667		62.2	44.9	155				

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201637</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	218	6.67	333.3	0	65.5	33.7	111				
Acenaphthylene	220	6.67	333.3	0	65.9	32.3	125				
Anthracene	226	6.67	333.3	0	67.9	42.7	121				
Benz(a)anthracene	222	6.67	333.3	0.9755	66.3	63.4	121				
Benzo(a)pyrene	257	6.67	333.3	0	77.2	64.6	110				
Benzo(b)fluoranthene	211	6.67	333.3	1.607	62.7	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 55 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID:	1405223-002BMS	SampType:	MS	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:	6/4/2014	RunNo:	15393
Client ID:	ZZZZZZ	Batch ID:	7518	TestNo:	SW8270D	SW	3545A	Analysis Date:	6/5/2014	SeqNo:	201637
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	255	6.67	333.3	0	76.4	15	128				
Benzo(k)fluoranthene	238	6.67	333.3	0	71.4	47.9	140				
Chrysene	240	6.67	333.3	1.824	71.4	37.5	125				
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125				
Fluoranthene	262	6.67	333.3	0.3698	78.5	56.8	141				
Fluorene	221	6.67	333.3	0	66.2	48.6	117				
Indeno(1,2,3-cd)pyrene	246	6.67	333.3	0	73.7	26.8	133				
Naphthalene	208	6.67	333.3	5.696	60.7	27.7	108				
Phenanthrene	214	6.67	333.3	0.7692	64.0	20.2	139				
Pyrene	209	6.67	333.3	0.5367	62.5	26.8	142				

Sample ID:	1405223-002BMSD	SampType:	MSD	TestCode:	PAHLL_S	Units:	µg/Kg	Prep Date:	6/4/2014	RunNo:	15393
Client ID:	ZZZZZZ	Batch ID:	7518	TestNo:	SW8270D	SW	3545A	Analysis Date:	6/5/2014	SeqNo:	201638
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	196	6.67	333.3	0	58.8	33.7	111	218.4	10.8	20	
Acenaphthylene	198	6.67	333.3	0	59.3	32.3	125	219.6	10.6	20	
Anthracene	215	6.67	333.3	0	64.4	42.7	121	226.5	5.29	20	
Benz(a)anthracene	211	6.67	333.3	0.9755	63.0	63.4	121	222.1	5.09	20	S
Benzo(a)pyrene	228	6.67	333.3	0	68.3	64.6	110	257.3	12.2	20	
Benzo(b)fluoranthene	223	6.67	333.3	1.607	66.5	41.6	172	210.6	5.89	20	
Benzo(g,h,i)perylene	240	6.67	333.3	0	71.9	15	128	254.7	6.12	20	
Benzo(k)fluoranthene	261	6.67	333.3	0	78.2	47.9	140	238.0	9.10	20	
Chrysene	230	6.67	333.3	1.824	68.4	37.5	125	239.9	4.31	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 56 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	236	6.67	333.3	0	70.9	23.6	125	251.3	6.08	20	
Fluoranthene	247	6.67	333.3	0.3698	74.1	56.8	141	262.0	5.71	20	
Fluorene	199	6.67	333.3	0	59.8	48.6	117	220.6	10.1	20	
Indeno(1,2,3-cd)pyrene	228	6.67	333.3	0	68.3	26.8	133	245.8	7.63	20	
Naphthalene	194	6.67	333.3	5.696	56.6	27.7	108	208.2	6.90	20	
Phenanthrene	201	6.67	333.3	0.7692	60.0	20.2	139	214.0	6.42	20	
Pyrene	199	6.67	333.3	0.5367	59.7	26.8	142	209.0	4.67	20	

Sample ID: <b>1405249-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	229	6.67	333.3	0	68.7	33.7	111				
Acenaphthylene	222	6.67	333.3	0	66.7	32.3	125				
Anthracene	238	6.67	333.3	0	71.5	42.7	121				
Benz(a)anthracene	228	6.67	333.3	0.6586	68.2	63.4	121				
Benzo(a)pyrene	240	6.67	333.3	0	72.0	64.6	110				
Benzo(b)fluoranthene	208	6.67	333.3	0	62.3	41.6	172				
Benzo(g,h,i)perylene	254	6.67	333.3	0	76.3	15	128				
Benzo(k)fluoranthene	277	6.67	333.3	0	83.2	47.9	140				
Chrysene	240	6.67	333.3	0.6117	71.8	37.5	125				
Dibenz(a,h)anthracene	253	6.67	333.3	0	75.8	23.6	125				
Fluoranthene	275	6.67	333.3	0	82.5	56.8	141				
Fluorene	237	6.67	333.3	0	71.1	48.6	117				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 57 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: 1405249-001BMS	SampType: MS	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201639						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	247	6.67	333.3	0	74.1	26.8	133				
Naphthalene	202	6.67	333.3	0	60.6	27.7	108				
Phenanthrene	230	6.67	333.3	0	69.0	20.2	139				
Pyrene	223	6.67	333.3	0	67.0	26.8	142				

Sample ID: 1405249-001BMSD	SampType: MSD	TestCode: PAHLL_S	Units: µg/Kg	Prep Date: 6/4/2014	RunNo: 15393						
Client ID: ZZZZZZ	Batch ID: 7518	TestNo: SW8270D	SW 3545A	Analysis Date: 6/5/2014	SeqNo: 201640						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	230	6.67	333.3	0	68.9	33.7	111	229.1	0.297	20	
Acenaphthylene	220	6.67	333.3	0	66.0	32.3	125	222.2	0.957	20	
Anthracene	246	6.67	333.3	0	73.8	42.7	121	238.2	3.27	20	
Benz(a)anthracene	230	6.67	333.3	0.6586	68.7	63.4	121	228.0	0.662	20	
Benzo(a)pyrene	242	6.67	333.3	0	72.5	64.6	110	240.1	0.653	20	
Benzo(b)fluoranthene	215	6.67	333.3	0	64.4	41.6	172	207.6	3.30	20	
Benzo(g,h,i)perylene	258	6.67	333.3	0	77.4	15	128	254.4	1.36	20	
Benzo(k)fluoranthene	276	6.67	333.3	0	82.7	47.9	140	277.4	0.603	20	
Chrysene	243	6.67	333.3	0.6117	72.9	37.5	125	240.0	1.42	20	
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125	252.5	0.529	20	
Fluoranthene	276	6.67	333.3	0	82.7	56.8	141	275.0	0.231	20	
Fluorene	241	6.67	333.3	0	72.3	48.6	117	237.1	1.56	20	
Indeno(1,2,3-cd)pyrene	252	6.67	333.3	0	75.5	26.8	133	247.0	1.91	20	
Naphthalene	210	6.67	333.3	0	63.1	27.7	108	201.9	4.03	20	
Phenanthrene	235	6.67	333.3	0	70.6	20.2	139	229.9	2.38	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 58 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405249-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201640</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	226	6.67	333.3	0	67.8	26.8	142	223.3	1.23	20	

Sample ID: <b>CCV-7518</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	140	6.67	133.3	0	105	80	120				
Acenaphthylene	147	6.67	133.3	0	110	80	120				
Anthracene	141	6.67	133.3	0	105	80	120				
Benz(a)anthracene	130	6.67	133.3	0	97.5	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	98.0	80	120				
Benzo(b)fluoranthene	132	6.67	133.3	0	98.9	80	120				
Benzo(g,h,i)perylene	133	6.67	133.3	0	99.4	80	120				
Benzo(k)fluoranthene	131	6.67	133.3	0	98.0	80	120				
Chrysene	127	6.67	133.3	0	95.0	80	120				
Dibenz(a,h)anthracene	129	6.67	133.3	0	96.5	80	120				
Fluoranthene	155	6.67	133.3	0	117	80	120				
Fluorene	147	6.67	133.3	0	110	80	120				
Indeno(1,2,3-cd)pyrene	134	6.67	133.3	0	101	80	120				
Naphthalene	141	6.67	133.3	0	106	80	120				
Phenanthrene	141	6.67	133.3	0	106	80	120				
Pyrene	123	6.67	133.3	0	92.2	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 59 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.27		6.667		34.0	42.6	128				S
Surr: Nitrobenzene-d5	2.31		6.667		34.7	21.7	155				
Surr: p-Terphenyl-d14	4.01		6.667		60.1	44.9	155				

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 60 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	130	6.67	133.3	0	97.6	80	120				
Acenaphthylene	135	6.67	133.3	0	101	80	120				
Anthracene	138	6.67	133.3	0	104	80	120				
Benz(a)anthracene	118	6.67	133.3	0	88.8	80	120				
Benzo(a)pyrene	122	6.67	133.3	0	91.1	80	120				
Benzo(b)fluoranthene	116	6.67	133.3	0	86.9	80	120				
Benzo(g,h,i)perylene	127	6.67	133.3	0	95.4	80	120				
Benzo(k)fluoranthene	124	6.67	133.3	0	93.0	80	120				
Chrysene	126	6.67	133.3	0	94.6	80	120				
Dibenz(a,h)anthracene	119	6.67	133.3	0	89.3	80	120				
Fluoranthene	142	6.67	133.3	0	107	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				
Indeno(1,2,3-cd)pyrene	126	6.67	133.3	0	94.4	80	120				
Naphthalene	132	6.67	133.3	0	98.8	80	120				
Phenanthrene	128	6.67	133.3	0	96.1	80	120				
Pyrene	116	6.67	133.3	0	86.6	80	120				

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	213	6.67	333.4	0	63.8	39.6	107				
Acenaphthylene	224	6.67	333.4	0	67.3	38.9	102				
Anthracene	225	6.67	333.4	0	67.6	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 61 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	207	6.67	333.4	0	62.2	48.4	121				
Benzo(a)pyrene	203	6.67	333.4	0	60.8	37.7	137				
Benzo(b)fluoranthene	202	6.67	333.4	0	60.6	58.6	117				
Benzo(g,h,i)perylene	202	6.67	333.4	0	60.7	49.7	135				
Benzo(k)fluoranthene	235	6.67	333.4	0	70.4	46.1	124				
Chrysene	210	6.67	333.4	0	62.9	57.1	130				
Dibenz(a,h)anthracene	210	6.67	333.4	0	63.0	44.2	124				
Fluoranthene	245	6.67	333.4	0	73.4	53.4	113				
Fluorene	221	6.67	333.4	0	66.2	37.1	114				
Indeno(1,2,3-cd)pyrene	212	6.67	333.4	0	63.6	47.9	121				
Naphthalene	185	6.67	333.4	0	55.6	29.1	109				
Phenanthrene	215	6.67	333.4	0	64.6	48.4	115				
Pyrene	202	6.67	333.4	0	60.7	47.2	134				

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benzo(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 62 of 67  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.64		6.667		69.7	42.6	128				
Surr: Nitrobenzene-d5	4.80		6.667		72.0	21.7	155				
Surr: p-Terphenyl-d14	8.09		6.667		121	44.9	155				

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203750</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	193	6.67	333.4	0	58.0	33.7	111				
Acenaphthylene	203	6.67	333.4	0	60.8	32.3	125				
Anthracene	209	6.67	333.4	0.4703	62.7	42.7	121				
Benz(a)anthracene	190	6.67	333.4	1.059	56.7	63.4	121				SMI
Benzo(a)pyrene	192	6.67	333.4	0.5058	57.5	64.6	110				SMI
Benzo(b)fluoranthene	181	6.67	333.4	0.4576	54.3	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 63 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203750</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	185	6.67	333.4	0	55.5	15	128				
Benzo(k)fluoranthene	198	6.67	333.4	0.4717	59.4	47.9	140				
Chrysene	194	6.67	333.4	0.5715	58.1	37.5	125				
Dibenz(a,h)anthracene	193	6.67	333.4	0.4878	57.8	23.6	125				
Fluoranthene	224	6.67	333.4	0	67.3	56.8	141				
Fluorene	202	6.67	333.4	0	60.7	48.6	117				
Indeno(1,2,3-cd)pyrene	191	6.67	333.4	0	57.2	26.8	133				
Naphthalene	171	6.67	333.4	0	51.4	27.7	108				
Phenanthrene	197	6.67	333.4	0.7136	58.9	20.2	139				
Pyrene	185	6.67	333.4	0	55.5	26.8	142				

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203751</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	164	6.67	333.4	0	49.1	33.7	111	193.5	16.8	20	
Acenaphthylene	171	6.67	333.4	0	51.2	32.3	125	202.8	17.1	20	
Anthracene	187	6.67	333.4	0.4703	56.0	42.7	121	209.3	11.2	20	
Benz(a)anthracene	179	6.67	333.4	1.059	53.3	63.4	121	189.9	6.12	20	SMI
Benzo(a)pyrene	180	6.67	333.4	0.5058	53.7	64.6	110	192.3	6.86	20	SMI
Benzo(b)fluoranthene	165	6.67	333.4	0.4576	49.3	41.6	172	181.4	9.63	20	
Benzo(g,h,i)perylene	175	6.67	333.4	0	52.6	15	128	185.1	5.40	20	
Benzo(k)fluoranthene	187	6.67	333.4	0.4717	56.0	47.9	140	198.4	5.84	20	
Chrysene	184	6.67	333.4	0.5715	55.0	37.5	125	194.2	5.52	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 64 of 67  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203751</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	185	6.67	333.4	0.4878	55.3	23.6	125	193.1	4.44	20	
Fluoranthene	209	6.67	333.4	0	62.8	56.8	141	224.4	6.95	20	
Fluorene	178	6.67	333.4	0	53.3	48.6	117	202.3	13.0	20	
Indeno(1,2,3-cd)pyrene	182	6.67	333.4	0	54.5	26.8	133	190.7	4.89	20	
Naphthalene	134	6.67	333.4	0	40.1	27.7	108	171.4	24.8	20	R
Phenanthrene	180	6.67	333.4	0.7136	53.9	20.2	139	197.2	8.90	20	
Pyrene	172	6.67	333.4	0	51.7	26.8	142	185.0	7.04	20	

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	129	6.67	133.3	0	96.7	80	120				
Acenaphthylene	136	6.67	133.3	0	102	80	120				
Anthracene	129	6.67	133.3	0	96.9	80	120				
Benz(a)anthracene	124	6.67	133.3	0	93.1	80	120				
Benzo(a)pyrene	124	6.67	133.3	0	93.0	80	120				
Benzo(b)fluoranthene	117	6.67	133.3	0	87.5	80	120				
Benzo(g,h,i)perylene	117	6.67	133.3	0	87.9	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	106	80	120				
Chrysene	121	6.67	133.3	0	90.5	80	120				
Dibenz(a,h)anthracene	115	6.67	133.3	0	86.6	80	120				
Fluoranthene	144	6.67	133.3	0	108	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 65 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	120	6.67	133.3	0	90.1	80	120				
Naphthalene	131	6.67	133.3	0	98.6	80	120				
Phenanthrene	135	6.67	133.3	0	101	80	120				
Pyrene	118	6.67	133.3	0	88.8	80	120				

Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 66 of 67
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# QC SUMMARY REPORT

WO#: 1406007

20-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

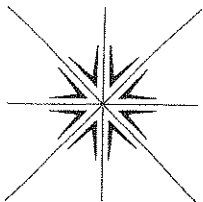
Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.61		6.667		69.2	42.6	128				
Surr: Nitrobenzene-d5	4.03		6.667		60.5	21.7	155				
Surr: p-Terphenyl-d14	8.32		6.667		125	44.9	155				

## KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- \* The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
Company Parametrix  
Address 700 NE Multnomah, Suite 1000  
Portland, Oregon 97232  
Phone 503-233-2400 Fax \_\_\_\_\_  
Project No. 273-1962-035 Project Name PDC ODOT Blocks  
Project Site Location OR  WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By: \_\_\_\_\_  
Signature Rick Wadsworth  
Printed Rick Wadsworth

Signature \_\_\_\_\_  
Printed \_\_\_\_\_

Turn Around Time  
 Normal 5-7 Business Days  
 Rush \_\_\_\_\_  
Specify \_\_\_\_\_

Rush Analyses Must Be Scheduled With The Lab In Advance

No. of Containers	Analyses								For Laboratory Use					
	HClD	NWTPH-Dx	NWTPH-Gx	PAHs	VOCs	RcRA 8 metals			Lab Job No.	Shipped Via	Air Bill No.	Temperature On Receipt	Specialty Analytical Containers?	Specialty Analytical Trip Blanks?
2	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>						4 °C	Y	N
1		X	X											
2	<input checked="" type="checkbox"/>													
2		X	X											
2			<input checked="" type="checkbox"/>											
2	<input checked="" type="checkbox"/>													
2	X													
2	X													
1														

Lab Job No. KA00007  
Shipped Via Client  
Air Bill No. \_\_\_\_\_  
Temperature On Receipt 4 °C  
Specialty Analytical Containers? Y / N  
Specialty Analytical Trip Blanks? Y / N

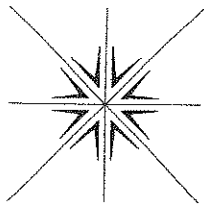
Date	Time	Sample I.D.	Matrix	No. of Containers	HClD	NWTPH-Dx	NWTPH-Gx	PAHs	VOCs	RcRA 8 metals	Comments	Lab I.D.
5/30/14	1145	S-1-4	S	2	<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>		
	1150	S-1-14	S	1		X	X					
	1200	S-1-18	S	2								
	1100	S-2-7	S	2	<input checked="" type="checkbox"/>							
	1105	S-2-15	S	2		X	X					
	1110	S-2-20	S	2			<input checked="" type="checkbox"/>					
	1015	S-3-5	S	2	<input checked="" type="checkbox"/>							
	1020	S-3-15	S	2	X							
	1025	S-3-20	S	2								
	100	S-4-12	S	2	X							
	115	S-4-18	S	2	X							
	120	S-5-3	S	1								

Relinquished By: <u>In Folouts</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>	Received By: _____	Relinquished By: _____	Date: _____	Time: _____
Company: <u>Parametrix</u>			Company: _____	Company: _____		

Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt.  
Samples held beyond 60 days subject to storage fee(s)

Received For Lab By: <u>[Signature]</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>
-----------------------------------------	---------------------	-------------------

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager Rick Wadsworth  
Company Parametrix  
Address 700 NE Multnomah, Suite 1000  
Portland, OR 97232  
Phone 503-233-2700 Fax \_\_\_\_\_  
Project No. 273-1962-035 Project Name \_\_\_\_\_  
Project Site Location OR X WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To Rick Wadsworth P.O. No. \_\_\_\_\_

Collected By:

Signature Rick Wadsworth

Printed Rick Wadsworth

Signature \_\_\_\_\_

Printed \_\_\_\_\_

Turn Around Time

Normal 5-7 Business Days

Rush \_\_\_\_\_

Specify

**Rush Analyses Must Be Scheduled With The Lab In Advance**

Date	Time	Sample I.D.	Matrix	No. of Containers	Analyses						For Laboratory Use								
					HCLID	NWTPH - Dx	NWTPH - Gx	PAHs	VOCS	RCRA 8 metals	Lab Job No.	Comments	Shipped Via	Air Bill No.	Temperature On Receipt	Specialty Analytical Containers?	Specialty Analytical Trip Blanks?		
5/30/14	130	S-5-14	S	2		X	X												
	125	S-5-10	S	2	X														
	135	S-5-19	S	1	X	X	X	X											
	1000	S-6-10	S	2						X									
	1005	S-6-14	S	2	X														
	965	S-7-5	S	2	X					X									
	910	S-7-15	S	2		X	X												
	145	S-8-3	S	1	X														
	150	S-8-9	S	2		X	X	X											
	155	S-8-17	S	2		X	X	X	X	X									

**For Laboratory Use**

Lab Job No. 1401057  
Shipped Via Client  
Air Bill No. \_\_\_\_\_  
Temperature On Receipt 4 °C  
Specialty Analytical Containers?  N  
Specialty Analytical Trip Blanks?  Y / N

Relinquished By: <u>Dr. Roberts</u>	Date: <u>6/2/14</u>	Time: <u>1200</u>	Received By: _____	Relinquished By: _____	Date: _____	Time: _____
Company: <u>Parametrix</u>			Company: _____	Company: _____		
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)				Received For Lab By: _____	Date: <u>6/2/14</u>	Time: <u>1200</u>



# Specialty Analytical

11711 SE Capps Road, Ste B  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

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June 17, 2014

Rick Wadsworth  
Parametrix  
700 NE Multnomah Blvd  
Suite 1000  
Portland, OR 97232

TEL: (503) 233-2400

FAX (503) 233-4825

RE: PDC ODOT Blocks / 273-1962-035

Dear Rick Wadsworth:

Order No.: 1406006

Specialty Analytical received 9 sample(s) on 6/2/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French". The signature is stylized and cursive.

Marty French  
Lab Director

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-001  
**Client Sample ID:** TP-1-6

**Collection Date:** 6/1/2014 8:45:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	16.5		mg/Kg-dry	1	6/5/2014 4:21:00 PM
Lube Oil	ND	55.0		mg/Kg-dry	1	6/5/2014 4:21:00 PM
Surr: o-Terphenyl	110	50-150		%REC	1	6/5/2014 4:21:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 6/1/2014 9:15:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-002  
**Client Sample ID:** TP-2-1 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-003  
**Client Sample ID:** TP-3-7

**Collection Date:** 6/1/2014 10:00:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	52.3	17.6		mg/Kg-dry	1	6/5/2014 11:21:00 PM
Lube Oil	337	58.5		mg/Kg-dry	1	6/5/2014 11:21:00 PM
Surr: o-Terphenyl	102	50-150		%REC	1	6/5/2014 11:21:00 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	ND	1.72		mg/Kg	1	6/3/2014 7:14:30 PM
Barium	54.9	0.862		mg/Kg	1	6/3/2014 7:14:30 PM
Cadmium	ND	0.0862		mg/Kg	1	6/3/2014 7:14:30 PM
Chromium	5.73	0.431		mg/Kg	1	6/3/2014 7:14:30 PM
Lead	8.18	1.72		mg/Kg	1	6/3/2014 7:14:30 PM
Selenium	ND	1.72		mg/Kg	1	6/3/2014 7:14:30 PM
Silver	ND	1.72		mg/Kg	1	6/3/2014 7:14:30 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>		Analyst: <b>VAS</b>		
Mercury	0.0226	0.0127		mg/Kg	1	6/4/2014 1:21:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	10.3	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Acenaphthylene	324	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Anthracene	146	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Benz(a)anthracene	347	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Benzo(a)pyrene	679	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Benzo(b)fluoranthene	662	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Benzo(g,h,i)perylene	826	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Benzo(k)fluoranthene	367	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Chrysene	579	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Dibenz(a,h)anthracene	142	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Fluoranthene	1090	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Fluorene	76.2	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Indeno(1,2,3-cd)pyrene	506	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Naphthalene	100	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Phenanthrene	767	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Pyrene	1220	6.67		µg/Kg	1	6/5/2014 10:30:00 PM
Surr: 2-Fluorobiphenyl	67.7	42.6-128		%REC	1	6/5/2014 10:30:00 PM
Surr: Nitrobenzene-d5	53.5	21.7-155		%REC	1	6/5/2014 10:30:00 PM
Surr: p-Terphenyl-d14	149	44.9-155		%REC	1	6/5/2014 10:30:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406006-004  
Client Sample ID: TP-4-4

Collection Date: 6/1/2014 10:25:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	24.2		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Mineral Spirits	ND	24.2		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Kerosene	ND	60.4		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Diesel	ND	60.4		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Lube Oil	OIL	121		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Hydraulic Oil	ND	121		mg/Kg-dry	1	6/3/2014 7:16:47 PM
Surr: BFB	73.4	50-150		%REC	1	6/3/2014 7:16:47 PM
Surr: o-Terphenyl	105	50-150		%REC	1	6/3/2014 7:16:47 PM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	34.6	18.1		mg/Kg-dry	1	6/10/2014 11:19:02 AM
Lube Oil	195	60.4		mg/Kg-dry	1	6/10/2014 11:19:02 AM
Surr: o-Terphenyl	115	50-150		%REC	1	6/10/2014 11:19:02 AM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 6/1/2014 10:45:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-005  
**Client Sample ID:** TP-5-5 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	18.0	17.5		mg/Kg-dry	1	6/13/2014 8:08:50 PM
Lube Oil	88.7	58.3		mg/Kg-dry	1	6/13/2014 8:08:50 PM
Surr: o-Terphenyl	107	50-150		%REC	1	6/13/2014 8:08:50 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-006  
**Client Sample ID:** TP-5-9

**Collection Date:** 6/1/2014 11:00:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	ND	17.7	A3	mg/Kg-dry	1	6/6/2014 4:53:37 AM
Lube Oil	2070	118		mg/Kg-dry	2	6/6/2014 10:01:00 AM
Surr: o-Terphenyl	110	50-150		%REC	1	6/6/2014 4:53:37 AM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.39		mg/Kg	1	6/3/2014 7:19:31 PM
Barium	99.9	0.694		mg/Kg	1	6/3/2014 7:19:31 PM
Cadmium	ND	0.0694		mg/Kg	1	6/3/2014 7:19:31 PM
Chromium	8.24	0.347		mg/Kg	1	6/3/2014 7:19:31 PM
Lead	23.4	1.39		mg/Kg	1	6/3/2014 7:19:31 PM
Selenium	ND	1.39		mg/Kg	1	6/3/2014 7:19:31 PM
Silver	ND	1.39		mg/Kg	1	6/3/2014 7:19:31 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>VAS</b>
Mercury	0.0548	0.0149		mg/Kg	1	6/4/2014 1:24:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	ND	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Acenaphthylene	232	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Anthracene	53.0	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Benz(a)anthracene	142	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Benzo(a)pyrene	410	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Benzo(b)fluoranthene	314	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Benzo(g,h,i)perylene	490	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Benzo(k)fluoranthene	181	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Chrysene	259	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Dibenz(a,h)anthracene	87.1	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Fluoranthene	428	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Fluorene	26.0	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Indeno(1,2,3-cd)pyrene	337	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Naphthalene	44.7	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Phenanthrene	289	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Pyrene	628	6.67		µg/Kg	1	6/16/2014 2:07:00 PM
Surr: 2-Fluorobiphenyl	63.5	42.6-128		%REC	1	6/16/2014 2:07:00 PM
Surr: Nitrobenzene-d5	67.6	21.7-155		%REC	1	6/16/2014 2:07:00 PM
Surr: p-Terphenyl-d14	127	44.9-155		%REC	1	6/16/2014 2:07:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406006-006  
Client Sample ID: TP-5-9

Collection Date: 6/1/2014 11:00:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1-Trichloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1,2,2-Tetrachloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1,2-Trichloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1-Dichloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,1-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2,3-Trichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2,3-Trichloropropane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2,4-Trichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2,4-Trimethylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2-Dibromo-3-chloropropane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2-Dibromoethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2-Dichloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,2-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,3,5-Trimethylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,3-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,3-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
1,4-Dichlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
2,2-Dichloropropane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
2-Butanone	ND	20.0		µg/Kg	1	6/12/2014 7:41:00 AM
2-Chlorotoluene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
2-Hexanone	ND	20.0		µg/Kg	1	6/12/2014 7:41:00 AM
4-Chlorotoluene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
4-Isopropyltoluene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
4-Methyl-2-pentanone	ND	20.0		µg/Kg	1	6/12/2014 7:41:00 AM
Acetone	ND	50.0		µg/Kg	1	6/12/2014 7:41:00 AM
Benzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Bromobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Bromochloromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Bromodichloromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Bromoform	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Bromomethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Carbon disulfide	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Carbon tetrachloride	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Chlorobenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Chloroethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Chloroform	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406006-006  
Client Sample ID: TP-5-9

Collection Date: 6/1/2014 11:00:00 AM

Matrix: SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
Chloromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
cis-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
cis-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Dibromochloromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Dibromomethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Dichlorodifluoromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Ethylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Hexachlorobutadiene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Isopropylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
m,p-Xylene	ND	20.0		µg/Kg	1	6/12/2014 7:41:00 AM
Methyl tert-butyl ether	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Methylene chloride	ND	50.0		µg/Kg	1	6/12/2014 7:41:00 AM
Naphthalene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
n-Butylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
n-Propylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
o-Xylene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
sec-Butylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Styrene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
tert-Butylbenzene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Tetrachloroethene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Toluene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
trans-1,2-Dichloroethene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
trans-1,3-Dichloropropene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Trichloroethene	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Trichlorofluoromethane	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Vinyl chloride	ND	10.0		µg/Kg	1	6/12/2014 7:41:00 AM
Surr: 1,2-Dichloroethane-d4	84.2	71.5-112		%REC	1	6/12/2014 7:41:00 AM
Surr: 4-Bromofluorobenzene	96.4	75.7-122		%REC	1	6/12/2014 7:41:00 AM
Surr: Dibromofluoromethane	92.0	64.3-124		%REC	1	6/12/2014 7:41:00 AM
Surr: Toluene-d8	94.5	74.9-120		%REC	1	6/12/2014 7:41:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 6/1/2014 11:25:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-007  
**Client Sample ID:** TP-6-3 **Matrix:** SOIL

---

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	174	17.3	K	mg/Kg-dry	1	6/13/2014 8:38:50 PM
Lube Oil	861	57.7		mg/Kg-dry	1	6/13/2014 8:38:50 PM
Surr: o-Terphenyl	117	50-150		%REC	1	6/13/2014 8:38:50 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-008  
**Client Sample ID:** TP-6-8

**Collection Date:** 6/1/2014 11:35:00 AM

**Matrix:** SOIL

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Gasoline	ND	23.5		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Mineral Spirits	ND	23.5		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Kerosene	ND	58.6		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Diesel	DIESEL	58.6		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Lube Oil	OIL	117		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Hydraulic Oil	ND	117		mg/Kg-dry	1	6/3/2014 8:16:47 PM
Surr: BFB	72.0	50-150		%REC	1	6/3/2014 8:16:47 PM
Surr: o-Terphenyl	115	50-150		%REC	1	6/3/2014 8:16:47 PM
<b>NWTPH-DX</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	73.7	17.6		mg/Kg-dry	1	6/10/2014 12:49:02 PM
Lube Oil	426	58.6		mg/Kg-dry	1	6/10/2014 12:49:02 PM
Surr: o-Terphenyl	102	50-150		%REC	1	6/10/2014 12:49:02 PM
<b>RCRA_8 ICP METALS- TOTAL RECOVERABLE</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	1.47		mg/Kg	1	6/13/2014 6:50:58 PM
Barium	172	0.735		mg/Kg	1	6/13/2014 6:50:58 PM
Cadmium	0.176	0.0735		mg/Kg	1	6/13/2014 6:50:58 PM
Chromium	9.29	0.368		mg/Kg	1	6/13/2014 6:50:58 PM
Lead	72.4	1.47		mg/Kg	1	6/16/2014 4:06:40 PM
Selenium	ND	1.47		mg/Kg	1	6/13/2014 6:50:58 PM
Silver	ND	1.47		mg/Kg	1	6/13/2014 6:50:58 PM
<b>RCRA_8 TOTAL MERCURY</b>		<b>SW 7471B</b>				Analyst: <b>BW</b>
Mercury	0.0336	0.0158		mg/Kg	1	6/13/2014 9:48:36 AM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 6/1/2014 9:55:00 AM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406006-009  
**Client Sample ID:** TP-3-4 **Matrix:** SOIL

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>HOLD PER CLIENT REQUEST</b>		<b>PER CLIENT</b>				Analyst: <b>clh</b>
Hold	Hold	0			1	6/17/2014

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201128</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	94.8	2.00	100.0	0	94.8	90	110				
Barium	49.8	1.00	50.00	0	99.5	90	110				
Cadmium	4.90	0.100	5.000	0	98.0	90	110				
Chromium	24.3	0.500	25.00	0	97.0	90	110				
Lead	99.2	2.00	100.0	0	99.2	90	110				
Selenium	99.3	2.00	100.0	0	99.3	90	110				
Silver	51.8	2.00	50.00	0	104	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201130</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.9	2.00	100.0	0	95.9	90	110				
Barium	50.0	1.00	50.00	0	99.9	90	110				
Chromium	24.4	0.500	25.00	0	97.4	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	102	2.00	100.0	0	102	90	110				
Silver	52.2	2.00	50.00	0	104	90	110				

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 1 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201131</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	2.00									
Barium	ND	1.00									
Lead	ND	2.00									
Selenium	ND	2.00									
Silver	ND	2.00									

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201132</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	4.88	0.100	5.000	0	97.6	87.2	115				
Chromium	21.0	0.500	25.00	0	84.1	84	113				
Lead	86.3	2.00	100.0	0	86.3	84.9	109				

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201134</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.56						2.508	200	20	RF
Barium	76.8	0.781						78.98	2.76	20	
Chromium	10.1	0.391						10.55	4.81	20	
Lead	8.08	1.56						6.850	16.5	20	
Selenium	ND	1.56						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 2 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: 1405249-004BDUP	SampType: DUP	TestCode: 6010_S	Units: mg/Kg	Prep Date: 6/3/2014	RunNo: 15369						
Client ID: ZZZZZZ	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/3/2014	SeqNo: 201134						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	1.56						0	0	20	

Sample ID: 1405249-004BMS	SampType: MS	TestCode: 6010_S	Units: mg/Kg	Prep Date: 6/3/2014	RunNo: 15369						
Client ID: ZZZZZZ	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/3/2014	SeqNo: 201135						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Barium	113	0.862	43.10	78.98	78.2	75	125				
Chromium	25.8	0.431	21.55	10.55	70.6	75	121				S

Sample ID: CCV	SampType: CCV	TestCode: 6010_S	Units: mg/Kg	Prep Date:	RunNo: 15369						
Client ID: CCV	Batch ID: 7514	TestNo: SW6010C	SW3050B	Analysis Date: 6/3/2014	SeqNo: 201136						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.4	2.00	100.0	0	95.4	90	110				
Barium	49.1	1.00	50.00	0	98.1	90	110				
Cadmium	5.09	0.100	5.000	0	102	90	110				
Chromium	23.9	0.500	25.00	0	95.4	90	110				
Lead	98.1	2.00	100.0	0	98.1	90	110				
Selenium	98.0	2.00	100.0	0	98.0	90	110				
Silver	50.7	2.00	50.00	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 3 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201137</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	63.1	1.85	92.59	2.508	65.4	86.1	109	56.88	10.3	20	S
Barium	129	0.926	46.30	78.98	108	75	125	112.7	13.5	20	
Cadmium	3.03	0.0926	4.630	0.3750	57.3	86.4	115	2.776	8.68	20	S
Chromium	28.5	0.463	23.15	10.55	77.3	75	121	25.77	9.91	20	
Lead	68.7	1.85	92.59	6.850	66.8	84.9	109	62.32	9.80	20	S
Selenium	61.4	1.85	92.59	0	66.3	77.7	116	55.22	10.6	20	S
Silver	26.8	1.85	46.30	0	57.9	75	123	23.23	14.3	20	S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201516</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	96.8	2.00	100.0	0	96.8	90	110				
Cadmium	4.84	0.100	5.000	0	96.8	90	110				
Chromium	25.1	0.500	25.00	0	101	90	110				
Lead	101	2.00	100.0	0	101	90	110				
Selenium	99.2	2.00	100.0	0	99.2	90	110				
Silver	49.4	2.00	50.00	0	98.9	90	110				

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201519</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 4 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1405249-004BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201519</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.0781						0	0	20	

Sample ID: <b>1405249-004BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201520</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	89.5	1.72	86.21	1.942	102	86.1	109				
Cadmium	4.29	0.0862	4.310	0	99.6	86.4	115				
Lead	99.9	1.72	86.21	10.39	104	84.9	109				
Selenium	87.7	1.72	86.21	0	102	77.7	116				
Silver	37.5	1.72	43.10	0	86.9	75	123				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	100	2.00	100.0	0	100	90	110				
Barium	51.7	1.00	50.00	0	103	90	110				
Cadmium	5.00	0.100	5.000	0	100	90	110				
Chromium	25.4	0.500	25.00	0	102	90	110				
Selenium	102	2.00	100.0	0	102	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 5 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7514</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201760</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	ND	0.100									
Chromium	ND	0.500									

Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201761</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.8	2.00	100.0	0	98.8	85.1	107				
Barium	51.3	1.00	50.00	0	103	85.7	110				
Selenium	101	2.00	100.0	0	101	88.7	111				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201762</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	97.2	2.00	100.0	0	97.2	90	110				
Barium	50.1	1.00	50.00	0	100	90	110				
Cadmium	4.87	0.100	5.000	0	97.4	90	110				
Chromium	24.6	0.500	25.00	0	98.5	90	110				
Selenium	99.0	2.00	100.0	0	99.0	90	110				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 6 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202214</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	49.7	2.00	50.00	0	99.4	90	110				
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Sample ID: <b>LCS-7514</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15369</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202215</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	50.2	2.00	50.00	0	100	79.3	109				
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Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15369</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7514</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202216</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Silver	49.8	2.00	50.00	0	99.6	90	110				
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Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204024</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	101	2.00	100.0	0	101	90	110				
Barium	51.4	1.00	50.00	0	103	90	110				
Cadmium	5.05	0.100	5.000	0	101	90	110				
Chromium	25.2	0.500	25.00	0	101	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date:	RunNo: <b>15536</b>
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204024</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Selenium	101	2.00	100.0	0	101	90 110
Silver	54.3	2.00	50.00	0	109	90 110

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date:	RunNo: <b>15536</b>
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204025</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Arsenic	98.7	2.00	100.0	0	98.7	90 110
Barium	49.5	1.00	50.00	0	99.1	90 110
Cadmium	4.85	0.100	5.000	0	97.0	90 110
Chromium	25.4	0.500	25.00	0	101	90 110
Selenium	95.8	2.00	100.0	0	95.8	90 110
Silver	52.6	2.00	50.00	0	105	90 110

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>		Prep Date:	RunNo: <b>15536</b>
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>		Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204026</b>
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Arsenic	ND	2.00				
Barium	ND	1.00				
Cadmium	ND	0.100				
Chromium	ND	0.500				
Selenium	ND	2.00				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 8 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204026</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	2.00									

Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204027</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	98.0	2.00	100.0	0	98.0	85.1	107				
Barium	49.9	1.00	50.00	0	99.8	85.7	110				
Cadmium	4.91	0.100	5.000	0	98.2	87.2	115				
Chromium	24.8	0.500	25.00	0	99.4	84	113				
Selenium	95.3	2.00	100.0	0	95.3	88.7	111				
Silver	47.3	2.00	50.00	0	94.6	79.3	109				

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204029</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	1.56						0	0	20	
Barium	122	0.781						111.2	9.66	20	
Cadmium	0.141	0.0781						0.2258	46.5	20	RF
Chromium	16.8	0.391						16.23	3.64	20	
Selenium	ND	1.56						0	0	20	
Silver	ND	1.56						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 9 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204029</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204030</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	82.9	1.85	92.59	0	89.5	86.1	109				
Barium	192	0.926	46.30	111.2	175	75	125				S
Cadmium	4.39	0.0926	4.630	0.2258	89.9	86.4	115				
Chromium	44.2	0.463	23.15	16.23	121	75	121				
Selenium	80.7	1.85	92.59	0	87.1	77.7	116				
Silver	45.4	1.85	46.30	0	98.0	75	123				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204031</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	101	2.00	100.0	0	101	90	110				
Barium	52.1	1.00	50.00	0	104	90	110				
Cadmium	5.08	0.100	5.000	0	102	90	110				
Chromium	26.9	0.500	25.00	0	108	90	110				
Lead	111	2.00	100.0	0	111	90	110				S
Selenium	99.5	2.00	100.0	0	99.5	90	110				
Silver	53.0	2.00	50.00	0	106	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 10 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204031</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>204032</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	69.8	1.43	71.43	0	97.8	86.1	109	82.86	17.1	20	
Barium	149	0.714	35.71	111.2	107	75	125	192.3	25.1	20	R
Cadmium	3.54	0.0714	3.571	0.2258	92.9	86.4	115	4.389	21.3	20	R
Chromium	35.5	0.357	17.86	16.23	108	75	121	44.19	21.8	20	R
Selenium	65.1	1.43	71.43	0	91.1	77.7	116	80.69	21.4	20	R
Silver	36.6	1.43	35.71	0	102	75	123	45.35	21.5	20	R

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204250</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	100	2.00	100.0	0	100	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204251</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 11 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204251</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	95.9	2.00	100.0	0	95.9	90	110				

Sample ID: <b>MBLK-7591</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204252</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	2.00									

Sample ID: <b>LCS-7591</b>	SampType: <b>LCS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204253</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	93.8	2.00	100.0	0	93.8	84.9	109				

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204255</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	ND	1.56						3.008	200	20	RF

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 12 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_S

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204256</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	89.1	1.85	92.59	3.008	93.0	84.9	109				

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15536</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204257</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	71.9	1.43	71.43	3.008	96.4	84.9	109	89.08	21.4	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15536</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7591</b>	TestNo: <b>SW6010C</b>	<b>SW3050B</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>204274</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead	95.9	2.00	100.0	0	95.9	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>80 PPB ICAL</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/11/2014</b>	SeqNo: <b>203373</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	71.8	10.0	80.00	0	89.7	80	120				
1,2-Dichloropropane	79.6	10.0	80.00	0	99.5	80	120				
Chloroform	81.3	10.0	80.00	0	102	80	120				
Ethylbenzene	84.7	10.0	80.00	0	106	80	120				
Toluene	81.3	10.0	80.00	0	102	80	120				
Vinyl chloride	83.3	10.0	80.00	0	104	80	120				

Sample ID: <b>80 PPB ICV</b>	SampType: <b>LCS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203374</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	70.3	10.0	80.00	0	87.9	80	120				
Benzene	79.8	10.0	80.00	0	99.8	80	120				
Chlorobenzene	84.8	10.0	80.00	0	106	80	120				
Toluene	82.6	10.0	80.00	0	103	80	120				
Trichloroethene	75.9	10.0	80.00	0	94.9	80	120				

Sample ID: <b>80 PPB ICV</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203375</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	73.6	10.0	80.00	0	92.0	61.3	143	70.34	4.52	20	
Benzene	79.1	10.0	80.00	0	98.9	79.2	133	79.85	0.893	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>80 PPB ICV</b>	SampType: <b>LCSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203375</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chlorobenzene	82.1	10.0	80.00	0	103	78.2	126	84.84	3.26	20	
Toluene	80.5	10.0	80.00	0	101	77.9	130	82.64	2.62	20	
Trichloroethene	76.6	10.0	80.00	0	95.7	81.1	129	75.89	0.866	20	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	90.7		100.0		90.7	71.5	112				
Surr: 4-Bromofluorobenzene	95.4		100.0		95.4	75.7	122				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203376</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	95.1		100.0		95.1	64.3	124				
Surr: Toluene-d8	95.0		100.0		95.0	74.9	120				

Sample ID: <b>1406007-015CMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/11/2014</b>	RunNo: <b>15493</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203382</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	6240	1000	6000	0	104	46.6	147				
Benzene	6900	1000	6000	0	115	65.2	121				
Chlorobenzene	6380	1000	6000	0	106	40.9	122				
Toluene	7430	1000	6000	0	124	52.1	127				
Trichloroethene	6180	1000	6000	0	103	57.6	122				

Sample ID: <b>1406007-015CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/11/2014</b>	RunNo: <b>15493</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203383</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	5780	1000	6000	0	96.4	46.6	147	6238	7.54	30	
Benzene	5900	1000	6000	0	98.3	65.2	121	6901	15.6	30	
Chlorobenzene	6130	1000	6000	0	102	40.9	122	6384	4.08	30	
Toluene	7400	1000	6000	0	123	52.1	127	7428	0.445	30	
Trichloroethene	6100	1000	6000	0	102	57.6	122	6176	1.16	30	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 18 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCV MSVWS-1979</b>	SampType: <b>CCV</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203409</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	72.8	10.0	80.00	0	91.0	80	120				
1,2-Dichloropropane	80.9	10.0	80.00	0	101	80	120				
Chloroform	71.3	10.0	80.00	0	89.1	80	120				
Ethylbenzene	86.8	10.0	80.00	0	109	80	120				
Toluene	80.5	10.0	80.00	0	101	80	120				
Vinyl chloride	70.9	10.0	80.00	0	88.6	80	120				

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	10.0									
1,1,1-Trichloroethane	ND	10.0									
1,1,2,2-Tetrachloroethane	ND	10.0									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0									
1,1,2-Trichloroethane	ND	10.0									
1,1-Dichloroethane	ND	10.0									
1,1-Dichloroethene	ND	10.0									
1,1-Dichloropropene	ND	10.0									
1,2,3-Trichlorobenzene	ND	10.0									
1,2,3-Trichloropropane	ND	10.0									
1,2,4-Trichlorobenzene	ND	10.0									
1,2,4-Trimethylbenzene	ND	10.0									
1,2-Dibromo-3-chloropropane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: CCB	SampType: CCB	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 15493						
Client ID: CCB	Batch ID: 7568	TestNo: SW8260B	5030	Analysis Date: 6/12/2014	SeqNo: 203410						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dibromoethane	ND	10.0									
1,2-Dichlorobenzene	ND	10.0									
1,2-Dichloroethane	ND	10.0									
1,2-Dichloropropane	ND	10.0									
1,3,5-Trimethylbenzene	ND	10.0									
1,3-Dichlorobenzene	ND	10.0									
1,3-Dichloropropane	ND	10.0									
1,4-Dichlorobenzene	ND	10.0									
2,2-Dichloropropane	ND	10.0									
2-Butanone	ND	20.0									
2-Chlorotoluene	ND	10.0									
2-Hexanone	ND	20.0									
4-Chlorotoluene	ND	10.0									
4-Isopropyltoluene	ND	10.0									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Benzene	ND	10.0									
Bromobenzene	ND	10.0									
Bromochloromethane	ND	10.0									
Bromodichloromethane	ND	10.0									
Bromoform	ND	10.0									
Bromomethane	ND	10.0									
Carbon disulfide	ND	10.0									
Carbon tetrachloride	ND	10.0									
Chlorobenzene	ND	10.0									
Chloroethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: CCB	SampType: CCB	TestCode: 8260_S	Units: µg/Kg	Prep Date:	RunNo: 15493						
Client ID: CCB	Batch ID: 7568	TestNo: SW8260B	5030	Analysis Date: 6/12/2014	SeqNo: 203410						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloroform	ND	10.0									
Chloromethane	ND	10.0									
cis-1,2-Dichloroethene	ND	10.0									
cis-1,3-Dichloropropene	ND	10.0									
Dibromochloromethane	ND	10.0									
Dibromomethane	ND	10.0									
Dichlorodifluoromethane	ND	10.0									
Ethylbenzene	ND	10.0									
Hexachlorobutadiene	ND	10.0									
Isopropylbenzene	ND	10.0									
m,p-Xylene	ND	20.0									
Methyl tert-butyl ether	ND	10.0									
Methylene chloride	ND	50.0									
Naphthalene	ND	10.0									
n-Butylbenzene	ND	10.0									
n-Propylbenzene	ND	10.0									
o-Xylene	ND	10.0									
sec-Butylbenzene	ND	10.0									
Styrene	ND	10.0									
tert-Butylbenzene	ND	10.0									
Tetrachloroethene	ND	10.0									
Toluene	ND	10.0									
trans-1,2-Dichloroethene	ND	10.0									
trans-1,3-Dichloropropene	ND	10.0									
Trichloroethene	ND	10.0									
Trichlorofluoromethane	ND	10.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_S

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15493</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7568</b>	TestNo: <b>SW8260B</b>	<b>5030</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203410</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Vinyl chloride	ND	10.0									
Surr: 1,2-Dichloroethane-d4	94.1		100.0		94.1	71.5	112				
Surr: 4-Bromofluorobenzene	83.5		100.0		83.5	75.7	122				
Surr: Dibromofluoromethane	78.8		100.0		78.8	64.3	124				
Surr: Toluene-d8	107		100.0		107	74.9	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>MB-7513</b>	SampType: <b>MBLK</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201041</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	20.0									
Mineral Spirits	ND	20.0									
Kerosene	ND	50.0									
Diesel	ND	50.0									
Lube Oil	ND	100									
Hydraulic Oil	ND	100									
Surr: BFB	87.4		100.0		87.4	50	150				
Surr: o-Terphenyl	92.6		100.0		92.6	50	150				

Sample ID: <b>1406006-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>TP-4-4</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201043</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	24.2						0	0	20	
Mineral Spirits	ND	24.2						0	0	20	
Kerosene	ND	60.4						0	0	20	
Diesel	ND	60.4						0	0	20	
Lube Oil	OIL	121						202.2	10.0	20	
Hydraulic Oil	ND	121						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 23 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HCID\_NW

Sample ID: <b>1406007-011ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201048</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.2						0	0	20	
Mineral Spirits	ND	26.2						0	0	20	
Kerosene	ND	65.5						0	0	20	
Diesel	ND	65.5						0	0	20	
Lube Oil	ND	131						0	0	20	
Hydraulic Oil	ND	131						0	0	20	

Sample ID: <b>1406009-032ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>HCID_NW</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15359</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7513</b>	TestNo: <b>NWHCID</b>		Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201060</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline	ND	26.4						0	0	20	
Mineral Spirits	ND	26.4						0	0	20	
Kerosene	ND	66.1						0	0	20	
Diesel	ND	66.1						0	0	20	
Lube Oil	ND	132						226.9	200	20	RF
Hydraulic Oil	ND	132						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 24 of 51  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>MB-R15371</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201153</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.0167

Sample ID: <b>LCS-R15371</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201154</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0167 0.4000 0 90.0 80 120

Sample ID: <b>1405223-002BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201156</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0161 0.0139 0.01710 5.79 20

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201157</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.242 0.0144 0.3448 0.01710 65.2 75 125 SMI

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15371</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201158</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.246	0.0149	0.3571	0.01710	64.0	75	125	0.2420	1.49	20	SMI

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201175</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.363	0.0167	0.4000	0	90.7	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15371</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7520</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201188</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.383	0.0167	0.4000	0	95.8	90	110				

Sample ID: <b>MB-R15506</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203556</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0167									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 26 of 51  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>LCS-R15506</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203557</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.410 0.0167 0.4000 0 103 80 120

Sample ID: <b>1406064-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.0259 0.0152 0.01783 37.0 20 R

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203560</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.360 0.0164 0.3922 0.01783 87.3 75 125

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/13/2014</b>	RunNo: <b>15506</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203561</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.413 0.0164 0.3922 0.01783 101 75 125 0.3600 13.7 20

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 27 of 51  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CTS

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203576</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.434	0.0167	0.4000	0	108	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CTS</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15506</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7582</b>	TestNo: <b>SW 7471B</b>	<b>SW 7471B</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203578</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.427	0.0167	0.4000	0	107	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 28 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201548</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1280	15.0	1332	0	96.3	85	115				
Lube Oil	753	50.0	666.0	0	113	85	115				

Sample ID: <b>MB-7510</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201549</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	28.8		33.30		86.5	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1290	15.0	1332	0	97.2	85	115				
Lube Oil	665	50.0	666.0	0	99.8	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 29 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201567</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	945	15.0	999.0	0	94.6	85	115				
Lube Oil	470	50.0	499.5	0	94.1	85	115				

Sample ID: <b>CCB-7510</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	30.1		33.30		90.4	50	150				

Sample ID: <b>1406009-021ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201570</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	48.1	19.6						84.88	55.4	20	R
Lube Oil	169	65.5						268.2	45.4	20	R

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 30 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201575</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1350	15.0	1332	0	101	85	115				
Lube Oil	763	50.0	666.0	0	115	85	115				

Sample ID: <b>1405249-004ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201632</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	18.6						0	0	20	
Lube Oil	ND	62.2						0	200	20	RF

Sample ID: <b>LCS-7510</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15389</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201679</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	150	15.0	166.5	0	89.8	76.3	125				
Lube Oil	150	50.0	166.5	0	89.9	69.9	127				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1340	15.0	1332	0	101	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 31 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15389</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7510</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lube Oil 723 50.0 666.0 0 109 85 115

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202756</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel 1290 15.0 1332 0 96.7 85 115  
 Lube Oil 600 50.0 666.0 0 90.1 85 115

Sample ID: <b>MB-7552</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202757</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel ND 15.0  
 Lube Oil ND 50.0  
 Surr: o-Terphenyl 34.2 33.33 103 50 150

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel 151 15.0 166.7 0 90.6 76.3 125

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>LCS-7552</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202758</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Lube Oil	118	50.0	166.7	0	70.7	69.9	127				
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Sample ID: <b>1406009-031ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/9/2014</b>	RunNo: <b>15454</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202765</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	31.6	16.3						25.51	21.3	20	R
Lube Oil	375	54.2						310.2	18.9	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15454</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7552</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/10/2014</b>	SeqNo: <b>202768</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	975	15.0	999.0	0	97.6	85	115				
Lube Oil	447	50.0	499.5	0	89.4	85	115				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel	1020	15.0	999.0	0	102	85	115				
Lube Oil	491	50.0	499.5	0	98.3	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 33 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203678</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203679</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	40.3		33.30		121	50	150				

Sample ID: <b>LCS-7581</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>LCS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203680</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	196	15.0	166.7	0	118	76.3	125				
Lube Oil	161	50.0	166.7	0	96.7	69.9	127				

Sample ID: <b>1406062-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	52500	157						53920	2.61	20	
Lube Oil	6910	522						6409	7.51	20	M

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>1406062-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203686</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203693</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1370	15.0	1332	0	103	85	115				
Lube Oil	628	50.0	666.0	0	94.3	85	115				

Sample ID: <b>MB-7581</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203694</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	41.1		33.30		123	50	150				

Sample ID: <b>1406064-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	25.9						0	200	20	RF
Lube Oil	ND	86.5						0	0	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 35 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDX\_S

Sample ID: <b>1406064-001ADUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15514</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203696</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203759</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	15.0									
Lube Oil	ND	50.0									
Surr: o-Terphenyl	42.0		33.30		126	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDX_S</b>	Units: <b>mg/Kg</b>	Prep Date:	RunNo: <b>15514</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7581</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3545A</b>	Analysis Date: <b>6/14/2014</b>	SeqNo: <b>203760</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1410	15.0	1332	0	106	85	115				
Lube Oil	621	50.0	666.0	0	93.2	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 36 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7518</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201634</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	139	6.67	133.3	0	104	80	120				
Acenaphthylene	146	6.67	133.3	0	109	80	120				
Anthracene	141	6.67	133.3	0	106	80	120				
Benz(a)anthracene	121	6.67	133.3	0	90.7	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	97.9	80	120				
Benzo(b)fluoranthene	112	6.67	133.3	0	83.9	80	120				
Benzo(g,h,i)perylene	129	6.67	133.3	0	97.0	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	107	80	120				
Chrysene	133	6.67	133.3	0	99.6	80	120				
Dibenz(a,h)anthracene	120	6.67	133.3	0	90.3	80	120				
Fluoranthene	152	6.67	133.3	0	114	80	120				
Fluorene	150	6.67	133.3	0	112	80	120				
Indeno(1,2,3-cd)pyrene	116	6.67	133.3	0	87.2	80	120				
Naphthalene	142	6.67	133.3	0	107	80	120				
Phenanthrene	138	6.67	133.3	0	104	80	120				
Pyrene	121	6.67	133.3	0	90.6	80	120				

Sample ID: <b>LCS-7518</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	222	6.67	333.3	0	66.7	39.6	107				
Acenaphthylene	229	6.67	333.3	0	68.6	38.9	102				
Anthracene	236	6.67	333.3	0	70.7	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7518</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	210	6.67	333.3	0	62.9	48.4	121				
Benzo(a)pyrene	216	6.67	333.3	0	64.9	37.7	137				
Benzo(b)fluoranthene	212	6.67	333.3	0	63.5	58.6	117				
Benzo(g,h,i)perylene	226	6.67	333.3	0	67.7	49.7	135				
Benzo(k)fluoranthene	287	6.67	333.3	0	86.1	46.1	124				
Chrysene	230	6.67	333.3	0	69.0	57.1	130				
Dibenz(a,h)anthracene	225	6.67	333.3	0	67.6	44.2	124				
Fluoranthene	263	6.67	333.3	0	78.9	53.4	113				
Fluorene	227	6.67	333.3	0	68.0	37.1	114				
Indeno(1,2,3-cd)pyrene	223	6.67	333.3	0	66.8	47.9	121				
Naphthalene	199	6.67	333.3	0	59.8	29.1	109				
Phenanthrene	222	6.67	333.3	0	66.5	48.4	115				
Pyrene	208	6.67	333.3	0	62.4	47.2	134				

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.33		6.667		34.9	42.6	128				S
Surr: Nitrobenzene-d5	2.27		6.667		34.0	21.7	155				
Surr: p-Terphenyl-d14	4.15		6.667		62.2	44.9	155				

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201637</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	218	6.67	333.3	0	65.5	33.7	111				
Acenaphthylene	220	6.67	333.3	0	65.9	32.3	125				
Anthracene	226	6.67	333.3	0	67.9	42.7	121				
Benz(a)anthracene	222	6.67	333.3	0.9755	66.3	63.4	121				
Benzo(a)pyrene	257	6.67	333.3	0	77.2	64.6	110				
Benzo(b)fluoranthene	211	6.67	333.3	1.607	62.7	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405223-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201637</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	255	6.67	333.3	0	76.4	15	128				
Benzo(k)fluoranthene	238	6.67	333.3	0	71.4	47.9	140				
Chrysene	240	6.67	333.3	1.824	71.4	37.5	125				
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125				
Fluoranthene	262	6.67	333.3	0.3698	78.5	56.8	141				
Fluorene	221	6.67	333.3	0	66.2	48.6	117				
Indeno(1,2,3-cd)pyrene	246	6.67	333.3	0	73.7	26.8	133				
Naphthalene	208	6.67	333.3	5.696	60.7	27.7	108				
Phenanthrene	214	6.67	333.3	0.7692	64.0	20.2	139				
Pyrene	209	6.67	333.3	0.5367	62.5	26.8	142				

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	196	6.67	333.3	0	58.8	33.7	111	218.4	10.8	20	
Acenaphthylene	198	6.67	333.3	0	59.3	32.3	125	219.6	10.6	20	
Anthracene	215	6.67	333.3	0	64.4	42.7	121	226.5	5.29	20	
Benz(a)anthracene	211	6.67	333.3	0.9755	63.0	63.4	121	222.1	5.09	20	S
Benzo(a)pyrene	228	6.67	333.3	0	68.3	64.6	110	257.3	12.2	20	
Benzo(b)fluoranthene	223	6.67	333.3	1.607	66.5	41.6	172	210.6	5.89	20	
Benzo(g,h,i)perylene	240	6.67	333.3	0	71.9	15	128	254.7	6.12	20	
Benzo(k)fluoranthene	261	6.67	333.3	0	78.2	47.9	140	238.0	9.10	20	
Chrysene	230	6.67	333.3	1.824	68.4	37.5	125	239.9	4.31	20	

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405223-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	236	6.67	333.3	0	70.9	23.6	125	251.3	6.08	20	
Fluoranthene	247	6.67	333.3	0.3698	74.1	56.8	141	262.0	5.71	20	
Fluorene	199	6.67	333.3	0	59.8	48.6	117	220.6	10.1	20	
Indeno(1,2,3-cd)pyrene	228	6.67	333.3	0	68.3	26.8	133	245.8	7.63	20	
Naphthalene	194	6.67	333.3	5.696	56.6	27.7	108	208.2	6.90	20	
Phenanthrene	201	6.67	333.3	0.7692	60.0	20.2	139	214.0	6.42	20	
Pyrene	199	6.67	333.3	0.5367	59.7	26.8	142	209.0	4.67	20	

Sample ID: <b>1405249-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	229	6.67	333.3	0	68.7	33.7	111				
Acenaphthylene	222	6.67	333.3	0	66.7	32.3	125				
Anthracene	238	6.67	333.3	0	71.5	42.7	121				
Benz(a)anthracene	228	6.67	333.3	0.6586	68.2	63.4	121				
Benzo(a)pyrene	240	6.67	333.3	0	72.0	64.6	110				
Benzo(b)fluoranthene	208	6.67	333.3	0	62.3	41.6	172				
Benzo(g,h,i)perylene	254	6.67	333.3	0	76.3	15	128				
Benzo(k)fluoranthene	277	6.67	333.3	0	83.2	47.9	140				
Chrysene	240	6.67	333.3	0.6117	71.8	37.5	125				
Dibenz(a,h)anthracene	253	6.67	333.3	0	75.8	23.6	125				
Fluoranthene	275	6.67	333.3	0	82.5	56.8	141				
Fluorene	237	6.67	333.3	0	71.1	48.6	117				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 41 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405249-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	247	6.67	333.3	0	74.1	26.8	133				
Naphthalene	202	6.67	333.3	0	60.6	27.7	108				
Phenanthrene	230	6.67	333.3	0	69.0	20.2	139				
Pyrene	223	6.67	333.3	0	67.0	26.8	142				

Sample ID: <b>1405249-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201640</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	230	6.67	333.3	0	68.9	33.7	111	229.1	0.297	20	
Acenaphthylene	220	6.67	333.3	0	66.0	32.3	125	222.2	0.957	20	
Anthracene	246	6.67	333.3	0	73.8	42.7	121	238.2	3.27	20	
Benz(a)anthracene	230	6.67	333.3	0.6586	68.7	63.4	121	228.0	0.662	20	
Benzo(a)pyrene	242	6.67	333.3	0	72.5	64.6	110	240.1	0.653	20	
Benzo(b)fluoranthene	215	6.67	333.3	0	64.4	41.6	172	207.6	3.30	20	
Benzo(g,h,i)perylene	258	6.67	333.3	0	77.4	15	128	254.4	1.36	20	
Benzo(k)fluoranthene	276	6.67	333.3	0	82.7	47.9	140	277.4	0.603	20	
Chrysene	243	6.67	333.3	0.6117	72.9	37.5	125	240.0	1.42	20	
Dibenz(a,h)anthracene	251	6.67	333.3	0	75.4	23.6	125	252.5	0.529	20	
Fluoranthene	276	6.67	333.3	0	82.7	56.8	141	275.0	0.231	20	
Fluorene	241	6.67	333.3	0	72.3	48.6	117	237.1	1.56	20	
Indeno(1,2,3-cd)pyrene	252	6.67	333.3	0	75.5	26.8	133	247.0	1.91	20	
Naphthalene	210	6.67	333.3	0	63.1	27.7	108	201.9	4.03	20	
Phenanthrene	235	6.67	333.3	0	70.6	20.2	139	229.9	2.38	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 42 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1405249-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/4/2014</b>	RunNo: <b>15393</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201640</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	226	6.67	333.3	0	67.8	26.8	142	223.3	1.23	20	

Sample ID: <b>CCV-7518</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	140	6.67	133.3	0	105	80	120				
Acenaphthylene	147	6.67	133.3	0	110	80	120				
Anthracene	141	6.67	133.3	0	105	80	120				
Benz(a)anthracene	130	6.67	133.3	0	97.5	80	120				
Benzo(a)pyrene	131	6.67	133.3	0	98.0	80	120				
Benzo(b)fluoranthene	132	6.67	133.3	0	98.9	80	120				
Benzo(g,h,i)perylene	133	6.67	133.3	0	99.4	80	120				
Benzo(k)fluoranthene	131	6.67	133.3	0	98.0	80	120				
Chrysene	127	6.67	133.3	0	95.0	80	120				
Dibenz(a,h)anthracene	129	6.67	133.3	0	96.5	80	120				
Fluoranthene	155	6.67	133.3	0	117	80	120				
Fluorene	147	6.67	133.3	0	110	80	120				
Indeno(1,2,3-cd)pyrene	134	6.67	133.3	0	101	80	120				
Naphthalene	141	6.67	133.3	0	106	80	120				
Phenanthrene	141	6.67	133.3	0	106	80	120				
Pyrene	123	6.67	133.3	0	92.2	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 43 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCB-7518</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15393</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7518</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201682</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	2.27		6.667		34.0	42.6	128				S
Surr: Nitrobenzene-d5	2.31		6.667		34.7	21.7	155				
Surr: p-Terphenyl-d14	4.01		6.667		60.1	44.9	155				

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203736</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	130	6.67	133.3	0	97.6	80	120				
Acenaphthylene	135	6.67	133.3	0	101	80	120				
Anthracene	138	6.67	133.3	0	104	80	120				
Benz(a)anthracene	118	6.67	133.3	0	88.8	80	120				
Benzo(a)pyrene	122	6.67	133.3	0	91.1	80	120				
Benzo(b)fluoranthene	116	6.67	133.3	0	86.9	80	120				
Benzo(g,h,i)perylene	127	6.67	133.3	0	95.4	80	120				
Benzo(k)fluoranthene	124	6.67	133.3	0	93.0	80	120				
Chrysene	126	6.67	133.3	0	94.6	80	120				
Dibenz(a,h)anthracene	119	6.67	133.3	0	89.3	80	120				
Fluoranthene	142	6.67	133.3	0	107	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				
Indeno(1,2,3-cd)pyrene	126	6.67	133.3	0	94.4	80	120				
Naphthalene	132	6.67	133.3	0	98.8	80	120				
Phenanthrene	128	6.67	133.3	0	96.1	80	120				
Pyrene	116	6.67	133.3	0	86.6	80	120				

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	213	6.67	333.4	0	63.8	39.6	107				
Acenaphthylene	224	6.67	333.4	0	67.3	38.9	102				
Anthracene	225	6.67	333.4	0	67.6	43.4	119				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 45 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>LCS-7574</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>LCSS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	207	6.67	333.4	0	62.2	48.4	121				
Benzo(a)pyrene	203	6.67	333.4	0	60.8	37.7	137				
Benzo(b)fluoranthene	202	6.67	333.4	0	60.6	58.6	117				
Benzo(g,h,i)perylene	202	6.67	333.4	0	60.7	49.7	135				
Benzo(k)fluoranthene	235	6.67	333.4	0	70.4	46.1	124				
Chrysene	210	6.67	333.4	0	62.9	57.1	130				
Dibenz(a,h)anthracene	210	6.67	333.4	0	63.0	44.2	124				
Fluoranthene	245	6.67	333.4	0	73.4	53.4	113				
Fluorene	221	6.67	333.4	0	66.2	37.1	114				
Indeno(1,2,3-cd)pyrene	212	6.67	333.4	0	63.6	47.9	121				
Naphthalene	185	6.67	333.4	0	55.6	29.1	109				
Phenanthrene	215	6.67	333.4	0	64.6	48.4	115				
Pyrene	202	6.67	333.4	0	60.7	47.2	134				

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>MB-7574</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>PBS</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203749</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.64		6.667		69.7	42.6	128				
Surr: Nitrobenzene-d5	4.80		6.667		72.0	21.7	155				
Surr: p-Terphenyl-d14	8.09		6.667		121	44.9	155				

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203750</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	193	6.67	333.4	0	58.0	33.7	111				
Acenaphthylene	203	6.67	333.4	0	60.8	32.3	125				
Anthracene	209	6.67	333.4	0.4703	62.7	42.7	121				
Benz(a)anthracene	190	6.67	333.4	1.059	56.7	63.4	121				SMI
Benzo(a)pyrene	192	6.67	333.4	0.5058	57.5	64.6	110				SMI
Benzo(b)fluoranthene	181	6.67	333.4	0.4576	54.3	41.6	172				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 47 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1406064-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203750</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	185	6.67	333.4	0	55.5	15	128				
Benzo(k)fluoranthene	198	6.67	333.4	0.4717	59.4	47.9	140				
Chrysene	194	6.67	333.4	0.5715	58.1	37.5	125				
Dibenz(a,h)anthracene	193	6.67	333.4	0.4878	57.8	23.6	125				
Fluoranthene	224	6.67	333.4	0	67.3	56.8	141				
Fluorene	202	6.67	333.4	0	60.7	48.6	117				
Indeno(1,2,3-cd)pyrene	191	6.67	333.4	0	57.2	26.8	133				
Naphthalene	171	6.67	333.4	0	51.4	27.7	108				
Phenanthrene	197	6.67	333.4	0.7136	58.9	20.2	139				
Pyrene	185	6.67	333.4	0	55.5	26.8	142				

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203751</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	164	6.67	333.4	0	49.1	33.7	111	193.5	16.8	20	
Acenaphthylene	171	6.67	333.4	0	51.2	32.3	125	202.8	17.1	20	
Anthracene	187	6.67	333.4	0.4703	56.0	42.7	121	209.3	11.2	20	
Benz(a)anthracene	179	6.67	333.4	1.059	53.3	63.4	121	189.9	6.12	20	SMI
Benzo(a)pyrene	180	6.67	333.4	0.5058	53.7	64.6	110	192.3	6.86	20	SMI
Benzo(b)fluoranthene	165	6.67	333.4	0.4576	49.3	41.6	172	181.4	9.63	20	
Benzo(g,h,i)perylene	175	6.67	333.4	0	52.6	15	128	185.1	5.40	20	
Benzo(k)fluoranthene	187	6.67	333.4	0.4717	56.0	47.9	140	198.4	5.84	20	
Chrysene	184	6.67	333.4	0.5715	55.0	37.5	125	194.2	5.52	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 48 of 51  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>1406064-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15516</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203751</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	185	6.67	333.4	0.4878	55.3	23.6	125	193.1	4.44	20	
Fluoranthene	209	6.67	333.4	0	62.8	56.8	141	224.4	6.95	20	
Fluorene	178	6.67	333.4	0	53.3	48.6	117	202.3	13.0	20	
Indeno(1,2,3-cd)pyrene	182	6.67	333.4	0	54.5	26.8	133	190.7	4.89	20	
Naphthalene	134	6.67	333.4	0	40.1	27.7	108	171.4	24.8	20	R
Phenanthrene	180	6.67	333.4	0.7136	53.9	20.2	139	197.2	8.90	20	
Pyrene	172	6.67	333.4	0	51.7	26.8	142	185.0	7.04	20	

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	129	6.67	133.3	0	96.7	80	120				
Acenaphthylene	136	6.67	133.3	0	102	80	120				
Anthracene	129	6.67	133.3	0	96.9	80	120				
Benz(a)anthracene	124	6.67	133.3	0	93.1	80	120				
Benzo(a)pyrene	124	6.67	133.3	0	93.0	80	120				
Benzo(b)fluoranthene	117	6.67	133.3	0	87.5	80	120				
Benzo(g,h,i)perylene	117	6.67	133.3	0	87.9	80	120				
Benzo(k)fluoranthene	142	6.67	133.3	0	106	80	120				
Chrysene	121	6.67	133.3	0	90.5	80	120				
Dibenz(a,h)anthracene	115	6.67	133.3	0	86.6	80	120				
Fluoranthene	144	6.67	133.3	0	108	80	120				
Fluorene	136	6.67	133.3	0	102	80	120				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted reco	Page 49 of 51
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# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCV-7574</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203883</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	120	6.67	133.3	0	90.1	80	120				
Naphthalene	131	6.67	133.3	0	98.6	80	120				
Phenanthrene	135	6.67	133.3	0	101	80	120				
Pyrene	118	6.67	133.3	0	88.8	80	120				

Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	6.67									
Acenaphthylene	ND	6.67									
Anthracene	ND	6.67									
Benz(a)anthracene	ND	6.67									
Benzo(a)pyrene	ND	6.67									
Benzo(b)fluoranthene	ND	6.67									
Benzo(g,h,i)perylene	ND	6.67									
Benzo(k)fluoranthene	ND	6.67									
Chrysene	ND	6.67									
Dibenz(a,h)anthracene	ND	6.67									
Fluoranthene	ND	6.67									
Fluorene	ND	6.67									
Indeno(1,2,3-cd)pyrene	ND	6.67									
Naphthalene	ND	6.67									
Phenanthrene	ND	6.67									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

# QC SUMMARY REPORT

WO#: 1406006

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_S

Sample ID: <b>CCB-7574</b>	SampType: <b>CCB</b>	TestCode: <b>PAHLL_S</b>	Units: <b>µg/Kg</b>	Prep Date:	RunNo: <b>15516</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7574</b>	TestNo: <b>SW8270D</b>	<b>SW 3545A</b>	Analysis Date: <b>6/16/2014</b>	SeqNo: <b>203884</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	ND	6.67									
Surr: 2-Fluorobiphenyl	4.61		6.667		69.2	42.6	128				
Surr: Nitrobenzene-d5	4.03		6.667		60.5	21.7	155				
Surr: p-Terphenyl-d14	8.32		6.667		125	44.9	155				

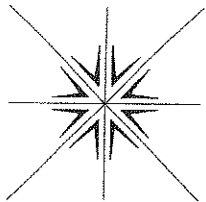
**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted reco

## KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- \* The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

# CHAIN OF CUSTODY RECORD



## Specialty Analytical

11711 SE Capps Road  
Clackamas, OR 97015  
Phone: 503-607-1331  
Fax: 503-607-1336

Contact Person/Project Manager RICK WADSWORTH  
Company PARAMETRIX  
Address 700 NE MULTNOMAH, STE 1000  
PORTLAND, OR 97232  
Phone 503-243-2400 Fax 503-  
Project No. 273-1962-035 Project Name PDC ODOT BLOCKS  
Project Site Location OR X WA \_\_\_\_\_ Other \_\_\_\_\_  
Invoice To RICK WADSWORTH P.O. No. \_\_\_\_\_

Collected By: POUNTS  
Signature \_\_\_\_\_  
Printed JESSICA ROBERTS

Signature \_\_\_\_\_  
Printed \_\_\_\_\_

Turn Around Time  
 Normal 5-7 Business Days  
 Rush \_\_\_\_\_  
Specify \_\_\_\_\_

**Rush Analyses Must Be Scheduled With The Lab In Advance**

No. of Containers	Analyses								For Laboratory Use	
	HClD	NW-TPH-DX	NW-TPH-CX	PAHS	VOCs	PCPA 8 METALS				
1		X								Lab Job No. <u>1406006</u>
1										Shipped Via <u>Client</u>
2		X		X		X				Air Bill No. _____
2	X	X								Temperature On Receipt <u>4</u> °C
2		X		X	X	X				Specialty Analytical Containers? Y/N
2		X		X	X					Specialty Analytical Trip Blanks? Y/N
2	X	X				X				
2										
1										

Date	Time	Sample I.D.	Matrix							Comments	Lab I.D.
6/1/14	845	TP-1-6	Soil	1		X					
	915	TP-2-1		1							
	1000	TP-3-7		2		X	X				
	1025	TP-4-4		2	X	X					
	1045	TP-5-5		2		X					
	1100	TP-5-9		2		X	X	X			
	1125	TP-6-3		2		X					
	1135	TP-6-8		2	X	X		X			
6/1/14	955	TP-3-4	S	1							

Relinquished By: <u>JR POUNTS</u> Company: <u>PARAMETRIX</u>	Date: <u>6/2/14</u> Time: <u>1200</u>	Received By: _____ Company: _____	Relinquished By: _____ Company: _____	Date: _____ Time: _____
Unless Reclaimed, Samples Will Be Disposed of 60 Days After Receipt. Samples held beyond 60 days subject to storage fee(s)		Received For Lab By: _____	Date: <u>6/2/14</u>	Time: <u>1200</u>



# Specialty Analytical

11711 SE Capps Road, Ste B  
Clackamas, Oregon 97015  
TEL: 503-607-1331 FAX: 503-607-1336  
Website: [www.specialtyanalytical.com](http://www.specialtyanalytical.com)

---

June 17, 2014

Rick Wadsworth  
Parametrix  
700 NE Multnomah Blvd  
Suite 1000  
Portland, OR 97232

TEL: (503) 233-2400

FAX (503) 233-4825

RE: PDC ODOT Blocks / 273-1962-035

Dear Rick Wadsworth:

Order No.: 1406008

Specialty Analytical received 12 sample(s) on 6/2/2014 for the analyses presented in the following report.

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

A handwritten signature in black ink, appearing to read "Marty French". The signature is stylized and cursive.

Marty French  
Lab Director

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-001  
**Client Sample ID:** S-1-W

**Collection Date:** 5/30/2014 12:00:00 PM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	5.89	0.0887	L	mg/L	1	6/4/2014 7:53:00 PM
Lube Oil	ND	0.222	A3	mg/L	1	6/4/2014 7:53:00 PM
Surr: o-Terphenyl	136	50-150		%REC	1	6/4/2014 7:53:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	9990	500		µg/L	5	6/2/2014 5:00:00 PM
Surr: 4-Bromofluorobenzene	130	50-150		%REC	5	6/2/2014 5:00:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	0.270	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Acenaphthylene	0.231	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Anthracene	0.291	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Benz(a)anthracene	0.217	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Benzo(a)pyrene	0.292	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Benzo(b)fluoranthene	0.177	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Benzo(g,h,i)perylene	0.256	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Benzo(k)fluoranthene	0.177	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Chrysene	0.301	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Dibenz(a,h)anthracene	ND	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Fluoranthene	1.22	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Fluorene	0.746	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Indeno(1,2,3-cd)pyrene	0.173	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Naphthalene	14.8	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Phenanthrene	2.64	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Pyrene	1.08	0.0538		µg/L	1	6/4/2014 3:38:00 PM
Surr: 2-Fluorobiphenyl	62.2	18.6-106		%REC	1	6/4/2014 3:38:00 PM
Surr: Nitrobenzene-d5	59.4	17-130		%REC	1	6/4/2014 3:38:00 PM
Surr: Terphenyl-d14	120	39.6-131		%REC	1	6/4/2014 3:38:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-001  
 Client Sample ID: S-1-W

Collection Date: 5/30/2014 12:00:00 PM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
2-Butanone	ND	10.0		µg/L	1	6/12/2014 11:58:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/12/2014 11:58:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
4-Isopropyltoluene	7.48	1.00		µg/L	1	6/12/2014 11:58:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/12/2014 11:58:00 PM
Acetone	ND	50.0		µg/L	1	6/12/2014 11:58:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/12/2014 11:58:00 PM
Benzene	68.8	0.300		µg/L	1	6/12/2014 11:58:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Bromoform	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Bromomethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Carbon disulfide	ND	2.00		µg/L	1	6/12/2014 11:58:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Chloroethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Chloroform	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Chloromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Ethylbenzene	14.7	1.00		µg/L	1	6/12/2014 11:58:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406008-001  
Client Sample ID: S-1-W

Collection Date: 5/30/2014 12:00:00 PM

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
Hexachlorobutadiene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Isopropylbenzene	36.8	1.00		µg/L	1	6/12/2014 11:58:00 PM
m,p-Xylene	15.4	2.00		µg/L	1	6/12/2014 11:58:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/12/2014 11:58:00 PM
Naphthalene	22.2	1.00		µg/L	1	6/12/2014 11:58:00 PM
n-Butylbenzene	12.8	1.00		µg/L	1	6/12/2014 11:58:00 PM
n-Propylbenzene	53.8	1.00		µg/L	1	6/12/2014 11:58:00 PM
o-Xylene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
sec-Butylbenzene	7.85	1.00		µg/L	1	6/12/2014 11:58:00 PM
Styrene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
tert-Butylbenzene	1.22	1.00		µg/L	1	6/12/2014 11:58:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Toluene	5.38	1.00		µg/L	1	6/12/2014 11:58:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/12/2014 11:58:00 PM
Surr: 1,2-Dichloroethane-d4	96.9	85.3-116		%REC	1	6/12/2014 11:58:00 PM
Surr: 4-Bromofluorobenzene	98.5	88.1-120		%REC	1	6/12/2014 11:58:00 PM
Surr: Dibromofluoromethane	12.8	94.2-122	SMI	%REC	1	6/12/2014 11:58:00 PM
Surr: Toluene-d8	104	86.2-135		%REC	1	6/12/2014 11:58:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-002  
**Client Sample ID:** S-2-W

**Collection Date:** 5/30/2014 11:30:00 AM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	6.30	0.0823	L	mg/L	1	6/4/2014 10:23:00 PM
Lube Oil	4.67	0.206		mg/L	1	6/4/2014 10:23:00 PM
Surr: o-Terphenyl	69.2	50-150		%REC	1	6/4/2014 10:23:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	26500	500		µg/L	5	6/2/2014 4:30:00 PM
Surr: 4-Bromofluorobenzene	125	50-150		%REC	5	6/2/2014 4:30:00 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/3/2014 5:08:02 PM
Barium	0.2892	0.01000		mg/L	1	6/3/2014 5:08:02 PM
Cadmium	ND	0.001000		mg/L	1	6/4/2014 4:36:35 PM
Chromium	0.03620	0.005000		mg/L	1	6/3/2014 5:08:02 PM
Lead	0.07680	0.02000		mg/L	1	6/3/2014 5:08:02 PM
Selenium	ND	0.02000		mg/L	1	6/3/2014 5:08:02 PM
Silver	ND	0.01000		mg/L	1	6/3/2014 5:08:02 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/6/2014 1:05:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	1.30	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Acenaphthylene	1.31	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Anthracene	1.71	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Benz(a)anthracene	2.47	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Benzo(a)pyrene	3.29	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Benzo(b)fluoranthene	2.21	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Benzo(g,h,i)perylene	3.22	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Benzo(k)fluoranthene	2.19	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Chrysene	4.09	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Dibenz(a,h)anthracene	0.756	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Fluoranthene	9.51	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Fluorene	3.66	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Indeno(1,2,3-cd)pyrene	2.00	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Naphthalene	86.3	0.257		µg/L	5	6/5/2014 10:39:00 AM
Phenanthrene	13.6	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Pyrene	7.69	0.0514		µg/L	1	6/4/2014 4:03:00 PM
Surr: 2-Fluorobiphenyl	46.2	18.6-106		%REC	1	6/4/2014 4:03:00 PM
Surr: Nitrobenzene-d5	63.8	17-130		%REC	1	6/4/2014 4:03:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-002  
**Client Sample ID:** S-2-W

**Collection Date:** 5/30/2014 11:30:00 AM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Surr: Terphenyl-d14	92.7	39.6-131		%REC	1	6/4/2014 4:03:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1,1-Trichloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1,2,2-Tetrachloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1,2-Trichloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1-Dichloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1-Dichloroethene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,1-Dichloropropene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2,3-Trichlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2,3-Trichloropropane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2,4-Trichlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2,4-Trimethylbenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2-Dibromo-3-chloropropane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2-Dibromoethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2-Dichlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2-Dichloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,2-Dichloropropane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,3,5-Trimethylbenzene	73.1	10.0		µg/L	10	6/6/2014 4:28:00 PM
1,3-Dichlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,3-Dichloropropane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
1,4-Dichlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
2,2-Dichloropropane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
2-Butanone	ND	100	Q	µg/L	10	6/6/2014 4:28:00 PM
2-Chlorotoluene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
2-Hexanone	ND	100	Q	µg/L	10	6/6/2014 4:28:00 PM
4-Chlorotoluene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
4-Isopropyltoluene	34.4	10.0		µg/L	10	6/6/2014 4:28:00 PM
4-Methyl-2-pentanone	ND	200	Q	µg/L	10	6/6/2014 4:28:00 PM
Acetone	ND	500	Q	µg/L	10	6/6/2014 4:28:00 PM
Acrylonitrile	ND	50.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Benzene	5210	30.0		µg/L	100	6/6/2014 3:52:00 PM
Bromobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Bromochloromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Bromodichloromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Bromoform	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Bromomethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-002  
 Client Sample ID: S-2-W

Collection Date: 5/30/2014 11:30:00 AM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
Carbon disulfide	ND	20.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Carbon tetrachloride	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Chlorobenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Chloroethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Chloroform	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Chloromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
cis-1,2-Dichloroethene	13.1	10.0		µg/L	10	6/6/2014 4:28:00 PM
cis-1,3-Dichloropropene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Dibromochloromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Dibromomethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Dichlorodifluoromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Ethylbenzene	1100	10.0		µg/L	10	6/6/2014 4:28:00 PM
Hexachlorobutadiene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Isopropylbenzene	196	10.0		µg/L	10	6/6/2014 4:28:00 PM
m,p-Xylene	619	20.0		µg/L	10	6/6/2014 4:28:00 PM
Methyl tert-butyl ether	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Methylene chloride	ND	200	Q	µg/L	10	6/6/2014 4:28:00 PM
Naphthalene	99.9	10.0		µg/L	10	6/6/2014 4:28:00 PM
n-Butylbenzene	25.2	10.0		µg/L	10	6/6/2014 4:28:00 PM
n-Propylbenzene	316	10.0		µg/L	10	6/6/2014 4:28:00 PM
o-Xylene	23.5	10.0		µg/L	10	6/6/2014 4:28:00 PM
sec-Butylbenzene	20.7	10.0		µg/L	10	6/6/2014 4:28:00 PM
Styrene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
tert-Butylbenzene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Tetrachloroethene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Toluene	137	10.0		µg/L	10	6/6/2014 4:28:00 PM
trans-1,2-Dichloroethene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
trans-1,3-Dichloropropene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Trichloroethene	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Trichlorofluoromethane	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Vinyl chloride	ND	10.0	Q	µg/L	10	6/6/2014 4:28:00 PM
Surr: 1,2-Dichloroethane-d4	89.7	85.3-116		%REC	10	6/6/2014 4:28:00 PM
Surr: 4-Bromofluorobenzene	97.6	88.1-120		%REC	10	6/6/2014 4:28:00 PM
Surr: Dibromofluoromethane	95.5	94.2-122		%REC	10	6/6/2014 4:28:00 PM
Surr: Toluene-d8	108	86.2-135		%REC	10	6/6/2014 4:28:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-003  
**Client Sample ID:** S-7-W

**Collection Date:** 5/30/2014 9:30:00 AM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	2.16	0.0787	L	mg/L	1	6/4/2014 9:53:00 PM
Lube Oil	2.89	0.197		mg/L	1	6/4/2014 9:53:00 PM
Surr: o-Terphenyl	132	50-150		%REC	1	6/4/2014 9:53:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	100		µg/L	1	6/2/2014 3:00:00 PM
Surr: 4-Bromofluorobenzene	110	50-150		%REC	1	6/2/2014 3:00:00 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/3/2014 5:13:02 PM
Barium	0.7421	0.01000		mg/L	1	6/3/2014 5:13:02 PM
Cadmium	ND	0.001000		mg/L	1	6/4/2014 4:41:34 PM
Chromium	0.1060	0.005000		mg/L	1	6/3/2014 5:13:02 PM
Lead	0.04500	0.02000		mg/L	1	6/3/2014 5:13:02 PM
Selenium	0.03230	0.02000		mg/L	1	6/3/2014 5:13:02 PM
Silver	ND	0.01000		mg/L	1	6/3/2014 5:13:02 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/6/2014 1:18:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	0.0931	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Acenaphthylene	0.191	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Anthracene	0.256	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Benz(a)anthracene	0.501	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Benzo(a)pyrene	0.918	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Benzo(b)fluoranthene	0.657	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Benzo(g,h,i)perylene	0.885	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Benzo(k)fluoranthene	0.441	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Chrysene	0.764	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Dibenz(a,h)anthracene	0.163	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Fluoranthene	2.01	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Fluorene	0.246	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Indeno(1,2,3-cd)pyrene	0.596	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Naphthalene	2.04	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Phenanthrene	1.98	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Pyrene	2.05	0.0510		µg/L	1	6/4/2014 4:27:00 PM
Surr: 2-Fluorobiphenyl	49.7	18.6-106		%REC	1	6/4/2014 4:27:00 PM
Surr: Nitrobenzene-d5	42.7	17-130		%REC	1	6/4/2014 4:27:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-003  
 Client Sample ID: S-7-W

Collection Date: 5/30/2014 9:30:00 AM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Surr: Terphenyl-d14	86.1	39.6-131		%REC	1	6/4/2014 4:27:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
2-Butanone	ND	10.0		µg/L	1	6/6/2014 3:15:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/6/2014 3:15:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/6/2014 3:15:00 PM
Acetone	ND	50.0		µg/L	1	6/6/2014 3:15:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/6/2014 3:15:00 PM
Benzene	ND	0.300		µg/L	1	6/6/2014 3:15:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Bromoform	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Bromomethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-003  
 Client Sample ID: S-7-W

Collection Date: 5/30/2014 9:30:00 AM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
Carbon disulfide	ND	2.00		µg/L	1	6/6/2014 3:15:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Chloroethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Chloroform	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Chloromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Ethylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
m,p-Xylene	ND	2.00		µg/L	1	6/6/2014 3:15:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/6/2014 3:15:00 PM
Naphthalene	4.66	1.00		µg/L	1	6/6/2014 3:15:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
o-Xylene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Styrene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Toluene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/6/2014 3:15:00 PM
Surr: 1,2-Dichloroethane-d4	13.2	85.3-116	SMI	%REC	1	6/6/2014 3:15:00 PM
Surr: 4-Bromofluorobenzene	98.5	88.1-120		%REC	1	6/6/2014 3:15:00 PM
Surr: Dibromofluoromethane	2.94	94.2-122	SMI	%REC	1	6/6/2014 3:15:00 PM
Surr: Toluene-d8	101	86.2-135		%REC	1	6/6/2014 3:15:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-004  
**Client Sample ID:** S-8-W

**Collection Date:** 5/30/2014 2:15:00 PM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	11.7	0.0922	L	mg/L	1	6/4/2014 5:23:00 PM
Lube Oil	0.707	0.230		mg/L	1	6/4/2014 5:23:00 PM
Surr: o-Terphenyl	141	50-150		%REC	1	6/4/2014 5:23:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	7330	500		µg/L	5	6/2/2014 4:00:00 PM
Surr: 4-Bromofluorobenzene	126	50-150		%REC	5	6/2/2014 4:00:00 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/12/2014 5:18:59 PM
Barium	0.05010	0.01000		mg/L	1	6/12/2014 5:18:59 PM
Cadmium	ND	0.001000		mg/L	1	6/12/2014 5:18:59 PM
Chromium	0.009300	0.005000		mg/L	1	6/12/2014 5:18:59 PM
Lead	ND	0.02000		mg/L	1	6/12/2014 5:18:59 PM
Selenium	ND	0.02000		mg/L	1	6/12/2014 5:18:59 PM
Silver	ND	0.01000		mg/L	1	6/12/2014 5:18:59 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/12/2014 1:28:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	0.322	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Acenaphthylene	0.125	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Anthracene	0.121	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Benz(a)anthracene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Benzo(a)pyrene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Benzo(b)fluoranthene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Benzo(g,h,i)perylene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Benzo(k)fluoranthene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Chrysene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Dibenz(a,h)anthracene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Fluoranthene	0.112	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Fluorene	0.836	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Naphthalene	4.28	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Phenanthrene	0.917	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Pyrene	0.0851	0.0741		µg/L	1	6/5/2014 9:25:00 AM
Surr: 2-Fluorobiphenyl	51.6	18.6-106		%REC	1	6/5/2014 9:25:00 AM
Surr: Nitrobenzene-d5	46.4	17-130		%REC	1	6/5/2014 9:25:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-004  
 Client Sample ID: S-8-W

Collection Date: 5/30/2014 2:15:00 PM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Surr: Terphenyl-d14	99.7	39.6-131		%REC	1	6/5/2014 9:25:00 AM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2,4-Trimethylbenzene	1.97	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,3,5-Trimethylbenzene	8.17	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
2-Butanone	ND	10.0		µg/L	1	6/13/2014 12:34:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/13/2014 12:34:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
4-Isopropyltoluene	5.34	1.00		µg/L	1	6/13/2014 12:34:00 AM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/13/2014 12:34:00 AM
Acetone	ND	50.0		µg/L	1	6/13/2014 12:34:00 AM
Acrylonitrile	ND	5.00		µg/L	1	6/13/2014 12:34:00 AM
Benzene	300	3.00		µg/L	10	6/12/2014 10:46:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Bromochloromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Bromoform	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Bromomethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-004  
 Client Sample ID: S-8-W

Collection Date: 5/30/2014 2:15:00 PM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: CK		
Carbon disulfide	ND	2.00		µg/L	1	6/13/2014 12:34:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Chlorobenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Chloroethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Chloroform	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Chloromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Dibromomethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Ethylbenzene	222	10.0		µg/L	10	6/12/2014 10:46:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Isopropylbenzene	31.5	1.00		µg/L	1	6/13/2014 12:34:00 AM
m,p-Xylene	83.5	2.00		µg/L	1	6/13/2014 12:34:00 AM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Methylene chloride	ND	20.0		µg/L	1	6/13/2014 12:34:00 AM
Naphthalene	9.81	1.00		µg/L	1	6/13/2014 12:34:00 AM
n-Butylbenzene	3.97	1.00		µg/L	1	6/13/2014 12:34:00 AM
n-Propylbenzene	39.3	1.00		µg/L	1	6/13/2014 12:34:00 AM
o-Xylene	7.87	1.00		µg/L	1	6/13/2014 12:34:00 AM
sec-Butylbenzene	3.36	1.00		µg/L	1	6/13/2014 12:34:00 AM
Styrene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Tetrachloroethene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Toluene	34.1	1.00		µg/L	1	6/13/2014 12:34:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Trichloroethene	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Vinyl chloride	ND	1.00		µg/L	1	6/13/2014 12:34:00 AM
Surr: 1,2-Dichloroethane-d4	95.7	85.3-116		%REC	1	6/13/2014 12:34:00 AM
Surr: 4-Bromofluorobenzene	99.4	88.1-120		%REC	1	6/13/2014 12:34:00 AM
Surr: Dibromofluoromethane	2.37	94.2-122	SMI	%REC	1	6/13/2014 12:34:00 AM
Surr: Toluene-d8	102	86.2-135		%REC	1	6/13/2014 12:34:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/30/2014 4:30:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-005  
**Client Sample ID:** M-2-W **Matrix:** GROUNDWATER

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	2.32	0.103		mg/L	1	6/4/2014 9:23:00 PM
Lube Oil	3.20	0.257		mg/L	1	6/4/2014 9:23:00 PM
Surr: o-Terphenyl	74.7	50-150		%REC	1	6/4/2014 9:23:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	100		µg/L	1	6/2/2014 3:30:00 PM
Surr: 4-Bromofluorobenzene	123	50-150		%REC	1	6/2/2014 3:30:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-006  
**Client Sample ID:** M-3-W

**Collection Date:** 5/31/2014 8:50:00 AM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>		Analyst: <b>BS</b>		
Diesel	1.34	0.194		mg/L	1	6/4/2014 8:23:00 PM
Lube Oil	2.48	0.485		mg/L	1	6/4/2014 8:23:00 PM
Surr: o-Terphenyl	88.1	50-150		%REC	1	6/4/2014 8:23:00 PM
<b>NWTPH HCID</b>		<b>NWHCID</b>		Analyst: <b>BS</b>		
Diesel	ND	1.53		mg/L	1	6/3/2014 3:25:04 PM
Gasoline	ND	0.607		mg/L	1	6/3/2014 3:25:04 PM
Kerosene	ND	1.53		mg/L	1	6/3/2014 3:25:04 PM
Lube Oil	OIL	1.53		mg/L	1	6/3/2014 3:25:04 PM
Mineral Spirits	ND	0.607		mg/L	1	6/3/2014 3:25:04 PM
Surr: BFB	54.8	30.2-133		%REC	1	6/3/2014 3:25:04 PM
Surr: o-Terphenyl	75.0	50-150		%REC	1	6/3/2014 3:25:04 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Acenaphthene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Acenaphthylene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Anthracene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Benz(a)anthracene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Benzo(a)pyrene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Benzo(b)fluoranthene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Benzo(g,h,i)perylene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Benzo(k)fluoranthene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Chrysene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Dibenz(a,h)anthracene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Fluoranthene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Fluorene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Naphthalene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Phenanthrene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Pyrene	ND	0.0727	HT	µg/L	1	6/12/2014 1:38:00 PM
Surr: 2-Fluorobiphenyl	59.7	18.6-106	HT	%REC	1	6/12/2014 1:38:00 PM
Surr: Nitrobenzene-d5	50.8	17-130	HT	%REC	1	6/12/2014 1:38:00 PM
Surr: Terphenyl-d14	107	39.6-131	HT	%REC	1	6/12/2014 1:38:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-006  
 Client Sample ID: M-3-W

Collection Date: 5/31/2014 8:50:00 AM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
2-Butanone	ND	10.0		µg/L	1	6/13/2014 1:10:00 AM
2-Chlorotoluene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
2-Hexanone	ND	10.0		µg/L	1	6/13/2014 1:10:00 AM
4-Chlorotoluene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/13/2014 1:10:00 AM
Acetone	ND	50.0		µg/L	1	6/13/2014 1:10:00 AM
Acrylonitrile	ND	5.00		µg/L	1	6/13/2014 1:10:00 AM
Benzene	ND	0.300		µg/L	1	6/13/2014 1:10:00 AM
Bromobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Bromochloromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Bromodichloromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Bromoform	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Bromomethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Carbon disulfide	ND	2.00		µg/L	1	6/13/2014 1:10:00 AM
Carbon tetrachloride	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Chlorobenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Chloroethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Chloroform	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Chloromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-006  
**Client Sample ID:** M-3-W

**Collection Date:** 5/31/2014 8:50:00 AM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Dibromochloromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Dibromomethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Ethylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Isopropylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
m,p-Xylene	ND	2.00		µg/L	1	6/13/2014 1:10:00 AM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Methylene chloride	ND	20.0		µg/L	1	6/13/2014 1:10:00 AM
Naphthalene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
n-Butylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
n-Propylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
o-Xylene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
sec-Butylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Styrene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
tert-Butylbenzene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Tetrachloroethene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Toluene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Trichloroethene	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Vinyl chloride	ND	1.00		µg/L	1	6/13/2014 1:10:00 AM
Surr: 1,2-Dichloroethane-d4	96.8	85.3-116		%REC	1	6/13/2014 1:10:00 AM
Surr: 4-Bromofluorobenzene	91.6	88.1-120		%REC	1	6/13/2014 1:10:00 AM
Surr: Dibromofluoromethane	99.9	94.2-122		%REC	1	6/13/2014 1:10:00 AM
Surr: Toluene-d8	97.9	86.2-135		%REC	1	6/13/2014 1:10:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix

Collection Date: 5/31/2014 11:00:00 AM

Project: PDC ODOT Blocks / 273-1962-035

Lab ID: 1406008-007

Client Sample ID: M-8-W

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	1.84	0.0792		mg/L	1	6/4/2014 8:53:00 PM
Lube Oil	1.87	0.198		mg/L	1	6/4/2014 8:53:00 PM
Surr: o-Terphenyl	128	50-150		%REC	1	6/4/2014 8:53:00 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/12/2014 5:24:03 PM
Barium	0.06190	0.01000		mg/L	1	6/12/2014 5:24:03 PM
Cadmium	ND	0.001000		mg/L	1	6/12/2014 5:24:03 PM
Chromium	0.01430	0.005000		mg/L	1	6/12/2014 5:24:03 PM
Lead	ND	0.02000		mg/L	1	6/12/2014 5:24:03 PM
Selenium	ND	0.02000		mg/L	1	6/12/2014 5:24:03 PM
Silver	ND	0.01000		mg/L	1	6/12/2014 5:24:03 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/12/2014 1:40:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Acenaphthylene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Anthracene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Benz(a)anthracene	0.0593	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Benzo(a)pyrene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Benzo(b)fluoranthene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Benzo(g,h,i)perylene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Benzo(k)fluoranthene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Chrysene	0.129	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Dibenz(a,h)anthracene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Fluoranthene	0.177	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Fluorene	0.0612	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Indeno(1,2,3-cd)pyrene	ND	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Naphthalene	0.116	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Phenanthrene	0.254	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Pyrene	0.172	0.0515	HT	µg/L	1	6/12/2014 2:03:00 PM
Surr: 2-Fluorobiphenyl	63.0	18.6-106	HT	%REC	1	6/12/2014 2:03:00 PM
Surr: Nitrobenzene-d5	61.9	17-130	HT	%REC	1	6/12/2014 2:03:00 PM
Surr: Terphenyl-d14	115	39.6-131	HT	%REC	1	6/12/2014 2:03:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
 Project: PDC ODOT Blocks / 273-1962-035  
 Lab ID: 1406008-007  
 Client Sample ID: M-8-W

Collection Date: 5/31/2014 11:00:00 AM  
 Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
2-Butanone	ND	10.0		µg/L	1	6/5/2014 1:11:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/5/2014 1:11:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/5/2014 1:11:00 PM
Acetone	ND	50.0		µg/L	1	6/5/2014 1:11:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/5/2014 1:11:00 PM
Benzene	ND	0.300		µg/L	1	6/5/2014 1:11:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Bromoform	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Bromomethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Carbon disulfide	ND	2.00		µg/L	1	6/5/2014 1:11:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Chloroethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406008-007  
Client Sample ID: M-8-W

Collection Date: 5/31/2014 11:00:00 AM

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
Chloroform	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Chloromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Ethylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
m,p-Xylene	ND	2.00		µg/L	1	6/5/2014 1:11:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/5/2014 1:11:00 PM
Naphthalene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
o-Xylene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Styrene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Toluene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/5/2014 1:11:00 PM
Surr: 1,2-Dichloroethane-d4	99.0	85.3-116		%REC	1	6/5/2014 1:11:00 PM
Surr: 4-Bromofluorobenzene	98.3	88.1-120		%REC	1	6/5/2014 1:11:00 PM
Surr: Dibromofluoromethane	102	94.2-122		%REC	1	6/5/2014 1:11:00 PM
Surr: Toluene-d8	91.4	86.2-135		%REC	1	6/5/2014 1:11:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-008  
**Client Sample ID:** M-9-W

**Collection Date:** 5/31/2014 11:30:00 AM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	0.608	0.109		mg/L	1	6/4/2014 5:53:00 PM
Lube Oil	0.539	0.272		mg/L	1	6/4/2014 5:53:00 PM
Surr: o-Terphenyl	96.6	50-150		%REC	1	6/4/2014 5:53:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	100		µg/L	1	6/12/2014 8:36:00 AM
Surr: 4-Bromofluorobenzene	114	50-150		%REC	1	6/12/2014 8:36:00 AM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/3/2014 4:27:46 PM
Barium	0.05290	0.01000		mg/L	1	6/3/2014 4:27:46 PM
Cadmium	ND	0.001000		mg/L	1	6/3/2014 4:27:46 PM
Chromium	0.006800	0.005000		mg/L	1	6/3/2014 4:27:46 PM
Lead	ND	0.02000		mg/L	1	6/3/2014 4:27:46 PM
Selenium	ND	0.02000		mg/L	1	6/3/2014 4:27:46 PM
Silver	ND	0.01000		mg/L	1	6/3/2014 4:27:46 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/6/2014 1:21:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Acenaphthylene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Anthracene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Benz(a)anthracene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Benzo(a)pyrene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Benzo(b)fluoranthene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Benzo(g,h,i)perylene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Benzo(k)fluoranthene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Chrysene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Dibenz(a,h)anthracene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Fluoranthene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Fluorene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Naphthalene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Phenanthrene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Pyrene	ND	0.0594		µg/L	1	6/5/2014 9:50:00 AM
Surr: 2-Fluorobiphenyl	43.3	18.6-106		%REC	1	6/5/2014 9:50:00 AM
Surr: Nitrobenzene-d5	44.0	17-130		%REC	1	6/5/2014 9:50:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-008  
**Client Sample ID:** M-9-W

**Collection Date:** 5/31/2014 11:30:00 AM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>		Analyst: <b>bda</b>		
Surr: Terphenyl-d14	90.2	39.6-131		%REC	1	6/5/2014 9:50:00 AM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
2-Butanone	ND	10.0		µg/L	1	6/12/2014 8:57:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/12/2014 8:57:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/12/2014 8:57:00 PM
Acetone	ND	50.0		µg/L	1	6/12/2014 8:57:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/12/2014 8:57:00 PM
Benzene	ND	0.300		µg/L	1	6/12/2014 8:57:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Bromoform	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Bromomethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix

Collection Date: 5/31/2014 11:30:00 AM

Project: PDC ODOT Blocks / 273-1962-035

Lab ID: 1406008-008

Client Sample ID: M-9-W

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: CK		
Carbon disulfide	ND	2.00		µg/L	1	6/12/2014 8:57:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Chloroethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Chloroform	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Chloromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Ethylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
m,p-Xylene	ND	2.00		µg/L	1	6/12/2014 8:57:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/12/2014 8:57:00 PM
Naphthalene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
o-Xylene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Styrene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Toluene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/12/2014 8:57:00 PM
Surr: 1,2-Dichloroethane-d4	97.2	85.3-116		%REC	1	6/12/2014 8:57:00 PM
Surr: 4-Bromofluorobenzene	91.9	88.1-120		%REC	1	6/12/2014 8:57:00 PM
Surr: Dibromofluoromethane	101	94.2-122		%REC	1	6/12/2014 8:57:00 PM
Surr: Toluene-d8	99.8	86.2-135		%REC	1	6/12/2014 8:57:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-009  
**Client Sample ID:** N-1-W

**Collection Date:** 5/31/2014 1:30:00 PM  
**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH HCID</b>		<b>NWHCID</b>		Analyst: <b>BS</b>		
Diesel	ND	0.629		mg/L	1	6/3/2014 3:55:04 PM
Gasoline	ND	0.250		mg/L	1	6/3/2014 3:55:04 PM
Kerosene	ND	0.629		mg/L	1	6/3/2014 3:55:04 PM
Lube Oil	ND	0.629		mg/L	1	6/3/2014 3:55:04 PM
Mineral Spirits	ND	0.250		mg/L	1	6/3/2014 3:55:04 PM
Surr: BFB	45.0	30.2-133		%REC	1	6/3/2014 3:55:04 PM
Surr: o-Terphenyl	68.4	50-150		%REC	1	6/3/2014 3:55:04 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>		Analyst: <b>VAS</b>		
Arsenic	ND	0.02000		mg/L	1	6/12/2014 5:29:07 PM
Barium	0.1471	0.01000		mg/L	1	6/12/2014 5:29:07 PM
Cadmium	ND	0.001000		mg/L	1	6/12/2014 5:29:07 PM
Chromium	0.02950	0.005000		mg/L	1	6/12/2014 5:29:07 PM
Lead	ND	0.02000		mg/L	1	6/12/2014 5:29:07 PM
Selenium	ND	0.02000		mg/L	1	6/12/2014 5:29:07 PM
Silver	ND	0.01000		mg/L	1	6/12/2014 5:29:07 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>		Analyst: <b>VAS</b>		
Mercury	ND	0.000100		mg/L	1	6/12/2014 1:43:00 PM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>		Analyst: <b>CK</b>		
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix

Collection Date: 5/31/2014 1:30:00 PM

Project: PDC ODOT Blocks / 273-1962-035

Lab ID: 1406008-009

Client Sample ID: N-1-W

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
2-Butanone	ND	10.0		µg/L	1	6/12/2014 9:33:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/12/2014 9:33:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/12/2014 9:33:00 PM
Acetone	ND	50.0		µg/L	1	6/12/2014 9:33:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/12/2014 9:33:00 PM
Benzene	ND	0.300		µg/L	1	6/12/2014 9:33:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Bromoform	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Bromomethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Carbon disulfide	ND	2.00		µg/L	1	6/12/2014 9:33:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Chloroethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Chloroform	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Chloromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Ethylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
m,p-Xylene	ND	2.00		µg/L	1	6/12/2014 9:33:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/12/2014 9:33:00 PM
Naphthalene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
o-Xylene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406008-009  
Client Sample ID: N-1-W

Collection Date: 5/31/2014 1:30:00 PM

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
sec-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Styrene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Toluene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/12/2014 9:33:00 PM
Surr: 1,2-Dichloroethane-d4	100	85.3-116		%REC	1	6/12/2014 9:33:00 PM
Surr: 4-Bromofluorobenzene	93.0	88.1-120		%REC	1	6/12/2014 9:33:00 PM
Surr: Dibromofluoromethane	102	94.2-122		%REC	1	6/12/2014 9:33:00 PM
Surr: Toluene-d8	99.8	86.2-135		%REC	1	6/12/2014 9:33:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406008-010  
Client Sample ID: N-4-W

Collection Date: 5/31/2014 4:00:00 PM

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Diesel	ND	0.629		mg/L	1	6/3/2014 4:25:04 PM
Gasoline	ND	0.250		mg/L	1	6/3/2014 4:25:04 PM
Kerosene	ND	0.629		mg/L	1	6/3/2014 4:25:04 PM
Lube Oil	ND	0.629		mg/L	1	6/3/2014 4:25:04 PM
Mineral Spirits	ND	0.250		mg/L	1	6/3/2014 4:25:04 PM
Surr: BFB	52.2	30.2-133		%REC	1	6/3/2014 4:25:04 PM
Surr: o-Terphenyl	70.6	50-150		%REC	1	6/3/2014 4:25:04 PM

# Specialty Analytical

Date Reported: 17-Jun-14

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**CLIENT:** Parametrix **Collection Date:** 5/31/2014 2:30:00 PM  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-011  
**Client Sample ID:** N-2-W **Matrix:** GROUNDWATER

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Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH HCID</b>		<b>NWHCID</b>				Analyst: <b>BS</b>
Diesel	ND	0.690		mg/L	1	6/3/2014 4:55:04 PM
Gasoline	ND	0.274		mg/L	1	6/3/2014 4:55:04 PM
Kerosene	ND	0.690		mg/L	1	6/3/2014 4:55:04 PM
Lube Oil	ND	0.690		mg/L	1	6/3/2014 4:55:04 PM
Mineral Spirits	ND	0.274		mg/L	1	6/3/2014 4:55:04 PM
Surr: BFB	42.5	30.2-133		%REC	1	6/3/2014 4:55:04 PM
Surr: o-Terphenyl	68.2	50-150		%REC	1	6/3/2014 4:55:04 PM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-012  
**Client Sample ID:** N-6-W

**Collection Date:** 5/30/2014 3:15:00 PM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>NWTPH-DX - RBC</b>		<b>NWTPH-DX</b>				Analyst: <b>BS</b>
Diesel	0.142	0.0903		mg/L	1	6/4/2014 6:23:00 PM
Lube Oil	0.286	0.226		mg/L	1	6/4/2014 6:23:00 PM
Surr: o-Terphenyl	91.7	50-150		%REC	1	6/4/2014 6:23:00 PM
<b>NWTPH-GX</b>		<b>NWTPH-GX</b>				Analyst: <b>bda</b>
Gasoline	ND	100		µg/L	1	6/2/2014 2:30:00 PM
Surr: 4-Bromofluorobenzene	109	50-150		%REC	1	6/2/2014 2:30:00 PM
<b>RCRA 8 AQUEOUS ICP METALS- TOTAL</b>		<b>SW6010C</b>				Analyst: <b>VAS</b>
Arsenic	ND	0.02000		mg/L	1	6/3/2014 5:18:01 PM
Barium	0.05270	0.01000		mg/L	1	6/3/2014 5:18:01 PM
Cadmium	ND	0.001000		mg/L	1	6/4/2014 4:46:32 PM
Chromium	0.01110	0.005000		mg/L	1	6/3/2014 5:18:01 PM
Lead	ND	0.02000		mg/L	1	6/3/2014 5:18:01 PM
Selenium	ND	0.02000		mg/L	1	6/3/2014 5:18:01 PM
Silver	ND	0.01000		mg/L	1	6/3/2014 5:18:01 PM
<b>RCRA 8 AQUEOUS TOTAL MERCURY</b>		<b>E7470A</b>				Analyst: <b>VAS</b>
Mercury	ND	0.000100		mg/L	1	6/6/2014 1:24:00 PM
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Acenaphthene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Acenaphthylene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Anthracene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Benz(a)anthracene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Benzo(a)pyrene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Benzo(b)fluoranthene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Benzo(g,h,i)perylene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Benzo(k)fluoranthene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Chrysene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Dibenz(a,h)anthracene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Fluoranthene	0.0667	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Fluorene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Indeno(1,2,3-cd)pyrene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Naphthalene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Phenanthrene	0.0592	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Pyrene	ND	0.0579		µg/L	1	6/5/2014 10:14:00 AM
Surr: 2-Fluorobiphenyl	53.5	18.6-106		%REC	1	6/5/2014 10:14:00 AM
Surr: Nitrobenzene-d5	56.7	17-130		%REC	1	6/5/2014 10:14:00 AM

# Specialty Analytical

Date Reported: 17-Jun-14

**CLIENT:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035  
**Lab ID:** 1406008-012  
**Client Sample ID:** N-6-W

**Collection Date:** 5/30/2014 3:15:00 PM

**Matrix:** GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>PAH'S BY GC/MS - LOW LEVEL</b>		<b>SW8270D</b>				Analyst: <b>bda</b>
Surr: Terphenyl-d14	94.0	39.6-131		%REC	1	6/5/2014 10:14:00 AM
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
1,1,1,2-Tetrachloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1,1-Trichloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1,2,2-Tetrachloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1,2-Trichloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1-Dichloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,1-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2,3-Trichlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2,3-Trichloropropane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2,4-Trichlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2,4-Trimethylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2-Dibromo-3-chloropropane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2-Dibromoethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2-Dichloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,2-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,3,5-Trimethylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,3-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,3-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
1,4-Dichlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
2,2-Dichloropropane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
2-Butanone	ND	10.0		µg/L	1	6/5/2014 9:07:00 PM
2-Chlorotoluene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
2-Hexanone	ND	10.0		µg/L	1	6/5/2014 9:07:00 PM
4-Chlorotoluene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
4-Isopropyltoluene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
4-Methyl-2-pentanone	ND	20.0		µg/L	1	6/5/2014 9:07:00 PM
Acetone	ND	50.0		µg/L	1	6/5/2014 9:07:00 PM
Acrylonitrile	ND	5.00		µg/L	1	6/5/2014 9:07:00 PM
Benzene	ND	0.300		µg/L	1	6/5/2014 9:07:00 PM
Bromobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Bromochloromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Bromodichloromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Bromoform	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Bromomethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM

# Specialty Analytical

Date Reported: 17-Jun-14

CLIENT: Parametrix  
Project: PDC ODOT Blocks / 273-1962-035  
Lab ID: 1406008-012  
Client Sample ID: N-6-W

Collection Date: 5/30/2014 3:15:00 PM

Matrix: GROUNDWATER

Analyses	Result	RL	Qual	Unit	DF	Date Analyzed
<b>VOLATILE ORGANICS BY GC/MS</b>		<b>SW8260B</b>				Analyst: <b>CK</b>
Carbon disulfide	ND	2.00		µg/L	1	6/5/2014 9:07:00 PM
Carbon tetrachloride	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Chlorobenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Chloroethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Chloroform	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Chloromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
cis-1,2-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
cis-1,3-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Dibromochloromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Dibromomethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Dichlorodifluoromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Ethylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Hexachlorobutadiene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Isopropylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
m,p-Xylene	ND	2.00		µg/L	1	6/5/2014 9:07:00 PM
Methyl tert-butyl ether	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Methylene chloride	ND	20.0		µg/L	1	6/5/2014 9:07:00 PM
Naphthalene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
n-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
n-Propylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
o-Xylene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
sec-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Styrene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
tert-Butylbenzene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Tetrachloroethene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Toluene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
trans-1,2-Dichloroethene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
trans-1,3-Dichloropropene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Trichloroethene	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Trichlorofluoromethane	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Vinyl chloride	ND	1.00		µg/L	1	6/5/2014 9:07:00 PM
Surr: 1,2-Dichloroethane-d4	97.8	85.3-116		%REC	1	6/5/2014 9:07:00 PM
Surr: 4-Bromofluorobenzene	96.9	88.1-120		%REC	1	6/5/2014 9:07:00 PM
Surr: Dibromofluoromethane	105	94.2-122		%REC	1	6/5/2014 9:07:00 PM
Surr: Toluene-d8	91.8	86.2-135		%REC	1	6/5/2014 9:07:00 PM

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15365</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201089</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9475	0.02000	1.000	0	94.8	90	110				
Barium	0.4977	0.01000	0.5000	0	99.5	90	110				
Cadmium	0.04900	0.001000	0.05000	0	98.0	90	110				
Chromium	0.2426	0.005000	0.2500	0	97.0	90	110				
Lead	0.9919	0.02000	1.000	0	99.2	90	110				
Selenium	0.9929	0.02000	1.000	0	99.3	90	110				
Silver	0.5177	0.01000	0.5000	0	104	90	110				

Sample ID: <b>MBLK-7515</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15365</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201090</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02000									
Barium	ND	0.01000									
Cadmium	ND	0.001000									
Chromium	ND	0.005000									
Lead	ND	0.02000									
Selenium	ND	0.02000									
Silver	ND	0.01000									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 1 of 43
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>LCS-7515</b>	SampType: <b>LCS</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15365</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201091</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9772	0.02000	1.000	0	97.7	93.8	107				
Barium	0.5146	0.01000	0.5000	0	103	95	111				
Cadmium	0.05020	0.001000	0.05000	0	100	91.8	115				
Chromium	0.2576	0.005000	0.2500	0	103	93.9	113				
Lead	1.009	0.02000	1.000	0	101	93.1	112				
Selenium	1.005	0.02000	1.000	0	101	93.9	111				
Silver	0.5442	0.01000	0.5000	0	109	87.1	113				

Sample ID: <b>1406008-008DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15365</b>						
Client ID: <b>M-9-W</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>201093</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02000						0	0	20	
Barium	0.05050	0.01000						0.05290	4.64	20	
Cadmium	ND	0.001000						0	0	20	
Chromium	0.009100	0.005000						0.006800	28.9	20	RF
Lead	ND	0.02000						0	0	20	
Selenium	ND	0.02000						0	0	20	
Silver	ND	0.01000						0	0	20	

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 2 of 43
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID:	CCV	SampType:	CCV	TestCode:	6010_W	Units:	mg/L	Prep Date:	RunNo:	15365	
Client ID:	CCV	Batch ID:	7515	TestNo:	SW6010C	SW3010A		Analysis Date:	6/3/2014	SeqNo:	201094
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9947	0.02000	1.000	0	99.5	90	110				
Barium	0.5156	0.01000	0.5000	0	103	90	110				
Cadmium	0.05050	0.001000	0.05000	0	101	90	110				
Chromium	0.2603	0.005000	0.2500	0	104	90	110				
Lead	1.054	0.02000	1.000	0	105	90	110				
Selenium	1.029	0.02000	1.000	0	103	90	110				
Silver	0.5335	0.01000	0.5000	0	107	90	110				

Sample ID:	ICV	SampType:	ICV	TestCode:	6010_W	Units:	mg/L	Prep Date:	RunNo:	15365	
Client ID:	ICV	Batch ID:	7515	TestNo:	SW6010C	SW3010A		Analysis Date:	6/4/2014	SeqNo:	201525
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9682	0.02000	1.000	0	96.8	90	110				
Barium	0.4997	0.01000	0.5000	0	99.9	90	110				
Cadmium	0.04840	0.001000	0.05000	0	96.8	90	110				
Chromium	0.2514	0.005000	0.2500	0	101	90	110				
Lead	1.010	0.02000	1.000	0	101	90	110				
Selenium	0.9919	0.02000	1.000	0	99.2	90	110				
Silver	0.4943	0.01000	0.5000	0	98.9	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID:	1406008-008DMS	SampType:	MS	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/3/2014	RunNo:	15365
Client ID:	M-9-W	Batch ID:	7515	TestNo:	SW6010C	SW3010A		Analysis Date:	6/4/2014	SeqNo:	201526
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.001	0.02000	1.000	0	100	90.1	110				
Barium	0.5677	0.01000	0.5000	0.05290	103	90.7	112				
Cadmium	0.04950	0.001000	0.05000	0	99.0	93.4	115				
Chromium	0.2669	0.005000	0.2500	0.006800	104	93.4	112				
Lead	1.017	0.02000	1.000	0	102	91.9	112				
Selenium	1.051	0.02000	1.000	0	105	93.5	113				
Silver	0.5410	0.01000	0.5000	0	108	90.1	113				

Sample ID:	1406008-008DMSD	SampType:	MSD	TestCode:	6010_W	Units:	mg/L	Prep Date:	6/3/2014	RunNo:	15365
Client ID:	M-9-W	Batch ID:	7515	TestNo:	SW6010C	SW3010A		Analysis Date:	6/4/2014	SeqNo:	201527
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9657	0.02000	1.000	0	96.6	90.1	110	1.001	3.59	20	
Barium	0.5491	0.01000	0.5000	0.05290	99.2	90.7	112	0.5677	3.33	20	
Cadmium	0.04740	0.001000	0.05000	0	94.8	93.4	115	0.04950	4.33	20	
Chromium	0.2464	0.005000	0.2500	0.006800	95.8	93.4	112	0.2669	7.99	20	
Lead	0.9751	0.02000	1.000	0	97.5	91.9	112	1.017	4.21	20	
Selenium	1.029	0.02000	1.000	0	103	93.5	113	1.051	2.12	20	
Silver	0.5217	0.01000	0.5000	0	104	90.1	113	0.5410	3.63	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 4 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15365</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201528</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9776	0.02000	1.000	0	97.8	90	110				
Barium	0.5086	0.01000	0.5000	0	102	90	110				
Cadmium	0.04860	0.001000	0.05000	0	97.2	90	110				
Chromium	0.2579	0.005000	0.2500	0	103	90	110				
Lead	1.022	0.02000	1.000	0	102	90	110				
Selenium	1.015	0.02000	1.000	0	102	90	110				
Silver	0.4880	0.01000	0.5000	0	97.6	90	110				

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15365</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201796</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.05000	0.001000	0.05000	0	100	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15365</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7515</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201800</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	0.04940	0.001000	0.05000	0	98.8	90	110				

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15510</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203603</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.003	0.02000	1.000	0	100	90	110				
Barium	0.5071	0.01000	0.5000	0	101	90	110				
Cadmium	0.04960	0.001000	0.05000	0	99.2	90	110				
Chromium	0.2570	0.005000	0.2500	0	103	90	110				
Lead	1.028	0.02000	1.000	0	103	90	110				
Selenium	1.009	0.02000	1.000	0	101	90	110				
Silver	0.4881	0.01000	0.5000	0	97.6	90	110				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203604</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9894	0.02000	1.000	0	98.9	90	110				
Barium	0.5104	0.01000	0.5000	0	102	90	110				
Cadmium	0.04980	0.001000	0.05000	0	99.6	90	110				
Chromium	0.2576	0.005000	0.2500	0	103	90	110				
Lead	1.035	0.02000	1.000	0	104	90	110				
Selenium	1.008	0.02000	1.000	0	101	90	110				
Silver	0.4813	0.01000	0.5000	0	96.3	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>MBLK-7577</b>	SampType: <b>MBLK</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15510</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203605</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02000									
Barium	ND	0.01000									
Cadmium	ND	0.001000									
Chromium	ND	0.005000									
Lead	ND	0.02000									
Selenium	ND	0.02000									
Silver	ND	0.01000									

Sample ID: <b>LCS-7577</b>	SampType: <b>LCS</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15510</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203606</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9885	0.02000	1.000	0	98.9	93.8	107				
Barium	0.5082	0.01000	0.5000	0	102	95	111				
Cadmium	0.04960	0.001000	0.05000	0	99.2	91.8	115				
Chromium	0.2560	0.005000	0.2500	0	102	93.9	113				
Lead	1.025	0.02000	1.000	0	103	93.1	112				
Selenium	0.9970	0.02000	1.000	0	99.7	93.9	111				
Silver	0.4946	0.01000	0.5000	0	98.9	87.1	113				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 7 of 43
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>1406071-002BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15510</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203608</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02000						0	0	20	
Barium	0.07750	0.01000						0.08220	5.89	20	
Cadmium	ND	0.001000						0	0	20	
Chromium	0.006000	0.005000						0.007800	26.1	20	RF
Lead	ND	0.02000						0	0	20	
Selenium	ND	0.02000						0	0	20	
Silver	ND	0.01000						0	0	20	

Sample ID: <b>1406071-002BMS</b>	SampType: <b>MS</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15510</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203609</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9812	0.02000	1.000	0	98.1	90.1	110				
Barium	0.5784	0.01000	0.5000	0.08220	99.2	90.7	112				
Cadmium	0.04910	0.001000	0.05000	0	98.2	93.4	115				
Chromium	0.2499	0.005000	0.2500	0.007800	96.8	93.4	112				
Lead	0.9924	0.02000	1.000	0	99.2	91.9	112				
Selenium	1.017	0.02000	1.000	0	102	93.5	113				
Silver	0.4715	0.01000	0.5000	0.007600	92.8	90.1	113				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 8 of 43
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203610</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9961	0.02000	1.000	0	99.6	90	110				
Barium	0.5101	0.01000	0.5000	0	102	90	110				
Cadmium	0.04960	0.001000	0.05000	0	99.2	90	110				
Chromium	0.2572	0.005000	0.2500	0	103	90	110				
Lead	1.029	0.02000	1.000	0	103	90	110				
Selenium	1.006	0.02000	1.000	0	101	90	110				
Silver	0.4849	0.01000	0.5000	0	97.0	90	110				

Sample ID: <b>1406071-002BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15510</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203611</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	1.004	0.02000	1.000	0	100	90.1	110	0.9812	2.30	20	
Barium	0.5913	0.01000	0.5000	0.08220	102	90.7	112	0.5784	2.21	20	
Cadmium	0.05000	0.001000	0.05000	0	100	93.4	115	0.04910	1.82	20	
Chromium	0.2563	0.005000	0.2500	0.007800	99.4	93.4	112	0.2499	2.53	20	
Lead	1.015	0.02000	1.000	0	102	91.9	112	0.9924	2.25	20	
Selenium	1.018	0.02000	1.000	0	102	93.5	113	1.017	0.0983	20	
Silver	0.4659	0.01000	0.5000	0.007600	91.7	90.1	113	0.4715	1.19	20	

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 9 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix

**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 6010\_W

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>6010_W</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15510</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7577</b>	TestNo: <b>SW6010C</b>	<b>SW3010A</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203620</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.9991	0.02000	1.000	0	99.9	90	110				
Barium	0.5097	0.01000	0.5000	0	102	90	110				
Cadmium	0.04950	0.001000	0.05000	0	99.0	90	110				
Chromium	0.2589	0.005000	0.2500	0	104	90	110				
Lead	1.044	0.02000	1.000	0	104	90	110				
Selenium	1.000	0.02000	1.000	0	100	90	110				
Silver	0.4838	0.01000	0.5000	0	96.8	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank  
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>CCV MSVWS-1976</b>	SampType: <b>CCV</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201541</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	36.4	1.00	40.00	0	90.9	80	120				
1,2-Dichloropropane	33.2	1.00	40.00	0	83.0	80	120				
Chloroform	32.6	1.00	40.00	0	81.4	80	120				
Ethylbenzene	35.6	1.00	40.00	0	88.9	80	120				
Toluene	35.6	1.00	40.00	0	88.9	80	120				
Vinyl chloride	32.6	1.00	40.00	0	81.4	80	120				

Sample ID: <b>LCS MSVWS-1974</b>	SampType: <b>LCS</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201542</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	43.6	1.00	40.00	0	109	61.2	135				
Benzene	37.2	0.300	40.00	0	93.0	76.8	125				
Chlorobenzene	37.5	1.00	40.00	0	93.8	84.1	116				
Toluene	37.7	1.00	40.00	0	94.2	82	122				
Trichloroethene	34.7	1.00	40.00	0	86.8	68.5	124				

Sample ID: <b>1406008-007CMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>M-8-W</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201543</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	16.7	1.00	20.00	0	83.6	47.8	165				
Benzene	23.9	0.300	20.00	0.08000	119	74.1	136				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank O RSD is greater than RSDlimit	H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	ND Not Detected at the Reporting Limit S Spike Recovery outside accepted recovery	Page 11 of 43
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>1406008-007CMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>M-8-W</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201543</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chlorobenzene	23.5	1.00	20.00	0.05000	117	70.7	133				
Toluene	22.7	1.00	20.00	0.1100	113	68.4	135				
Trichloroethene	20.7	1.00	20.00	0	104	50.8	164				

Sample ID: <b>1406008-007CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>M-8-W</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201544</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	17.1	1.00	20.00	0	85.4	47.8	165	16.73	2.13	20	
Benzene	21.0	0.300	20.00	0.08000	104	74.1	136	23.87	12.9	30	
Chlorobenzene	22.9	1.00	20.00	0.05000	114	70.7	133	23.53	2.89	30	
Toluene	23.3	1.00	20.00	0.1100	116	68.4	135	22.69	2.48	30	
Trichloroethene	19.8	1.00	20.00	0	98.8	50.8	164	20.72	4.79	30	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 12 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	1.00									
1,2,3-Trichlorobenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2-Dibromoethane	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dichloroethane	ND	1.00									
1,2-Dichloropropane	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,3-Dichloropropane	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
2,2-Dichloropropane	ND	1.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	1.00									
2-Hexanone	ND	10.0									
4-Chlorotoluene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Acrylonitrile	ND	5.00									
Benzene	ND	0.300									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 13 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Bromobenzene	ND	1.00									
Bromochloromethane	ND	1.00									
Bromodichloromethane	ND	1.00									
Bromoform	ND	1.00									
Bromomethane	ND	1.00									
Carbon disulfide	ND	2.00									
Carbon tetrachloride	ND	1.00									
Chlorobenzene	ND	1.00									
Chloroethane	ND	1.00									
Chloroform	ND	1.00									
Chloromethane	ND	1.00									
cis-1,2-Dichloroethene	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Dibromochloromethane	ND	1.00									
Dibromomethane	ND	1.00									
Dichlorodifluoromethane	ND	1.00									
Ethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	1.00									
Isopropylbenzene	ND	1.00									
m,p-Xylene	ND	2.00									
Methyl tert-butyl ether	ND	1.00									
Methylene chloride	ND	20.0									
Naphthalene	ND	1.00									
n-Butylbenzene	ND	1.00									
n-Propylbenzene	ND	1.00									
o-Xylene	ND	1.00									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201545</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
sec-Butylbenzene	ND	1.00									
Styrene	ND	1.00									
tert-Butylbenzene	ND	1.00									
Tetrachloroethene	ND	1.00									
Toluene	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
Trichloroethene	ND	1.00									
Trichlorofluoromethane	ND	1.00									
Vinyl chloride	ND	1.00									
Surr: 1,2-Dichloroethane-d4	98.8		100.0		98.8	85.3	116				
Surr: 4-Bromofluorobenzene	94.6		100.0		94.6	88.1	120				
Surr: Dibromofluoromethane	103		100.0		103	94.2	122				
Surr: Toluene-d8	93.7		100.0		93.7	86.2	135				

Sample ID: <b>CCV MSVWS-1976</b>	SampType: <b>CCV</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201899</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	112	1.00	120.0	0	93.5	80	120				
1,2-Dichloropropane	117	1.00	120.0	0	97.9	80	120				
Chloroform	113	1.00	120.0	0	94.2	80	120				
Ethylbenzene	128	1.00	120.0	0	107	80	120				
Toluene	125	1.00	120.0	0	104	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 15 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>CCV MSVWS-1976</b>	SampType: <b>CCV</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201899</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Vinyl chloride	110	1.00	120.0	0	91.6	80	120				
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Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,1-Dichloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	1.00									
1,2,3-Trichlorobenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2-Dibromoethane	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dichloroethane	ND	1.00									
1,2-Dichloropropane	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,3-Dichlorobenzene	ND	1.00									
1,3-Dichloropropane	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
2,2-Dichloropropane	ND	1.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	1.00									
2-Hexanone	ND	10.0									
4-Chlorotoluene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									
Acrylonitrile	ND	5.00									
Benzene	ND	0.300									
Bromobenzene	ND	1.00									
Bromochloromethane	ND	1.00									
Bromodichloromethane	ND	1.00									
Bromoform	ND	1.00									
Bromomethane	ND	1.00									
Carbon disulfide	ND	2.00									
Carbon tetrachloride	ND	1.00									
Chlorobenzene	ND	1.00									
Chloroethane	ND	1.00									
Chloroform	ND	1.00									
Chloromethane	ND	1.00									
cis-1,2-Dichloroethene	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibromochloromethane	ND	1.00									
Dibromomethane	ND	1.00									
Dichlorodifluoromethane	ND	1.00									
Ethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	1.00									
Isopropylbenzene	ND	1.00									
m,p-Xylene	ND	2.00									
Methyl tert-butyl ether	ND	1.00									
Methylene chloride	ND	20.0									
Naphthalene	ND	1.00									
n-Butylbenzene	ND	1.00									
n-Propylbenzene	ND	1.00									
o-Xylene	ND	1.00									
sec-Butylbenzene	ND	1.00									
Styrene	ND	1.00									
tert-Butylbenzene	ND	1.00									
Tetrachloroethene	ND	1.00									
Toluene	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
Trichloroethene	ND	1.00									
Trichlorofluoromethane	ND	1.00									
Vinyl chloride	ND	1.00									
Surr: 1,2-Dichloroethane-d4	90.6		100.0		90.6	85.3	116				
Surr: 4-Bromofluorobenzene	92.7		100.0		92.7	88.1	120				
Surr: Dibromofluoromethane	96.5		100.0		96.5	94.2	122				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>CCB</b>	SampType: <b>CCB</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15388</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R15388</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/6/2014</b>	SeqNo: <b>201900</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: Toluene-d8	103		100.0		103	86.2	135				
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Sample ID: <b>CCV MSVWS-1979</b>	SampType: <b>CCV</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203635</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	39.8	1.00	40.00	0	99.4	80	120				
1,2-Dichloropropane	41.3	1.00	40.00	0	103	80	120				
Chloroform	39.2	1.00	40.00	0	98.1	80	120				
Ethylbenzene	40.9	1.00	40.00	0	102	80	120				
Toluene	45.8	1.00	40.00	0	114	80	120				
Vinyl chloride	43.2	1.00	40.00	0	108	80	120				

Sample ID: <b>LCS MSVWS-1980</b>	SampType: <b>LCS</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

1,1-Dichloroethene	39.3	1.00	40.00	0	98.2	61.2	135				
Benzene	41.8	0.300	40.00	0	105	76.8	125				
Chlorobenzene	40.0	1.00	40.00	0	99.9	84.1	116				
Toluene	44.9	1.00	40.00	0	112	82	122				
Trichloroethene	40.0	1.00	40.00	0	100	68.5	124				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 19 of 43
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>1406008-001CMS</b>	SampType: <b>MS</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>S-1-W</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203637</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	2080	100	2000	0	104	47.8	165				
Benzene	2290	30.0	2000	156.0	106	74.1	136				
Chlorobenzene	2220	100	2000	0	111	70.7	133				
Toluene	2380	100	2000	12.00	119	68.4	135				
Trichloroethene	2020	100	2000	0	101	50.8	164				

Sample ID: <b>1406008-001CMSD</b>	SampType: <b>MSD</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>S-1-W</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	2140	100	2000	0	107	47.8	165	2078	2.75	20	
Benzene	2260	30.0	2000	156.0	105	74.1	136	2286	1.32	20	
Chlorobenzene	2290	100	2000	0	114	70.7	133	2218	3.11	20	
Toluene	2370	100	2000	12.00	118	68.4	135	2385	0.631	20	
Trichloroethene	2100	100	2000	0	105	50.8	164	2021	3.64	20	

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,1,2-Tetrachloroethane	ND	1.00									
1,1,1-Trichloroethane	ND	1.00									
1,1,2,2-Tetrachloroethane	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 20 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	1.00									
1,1,2-Trichloroethane	ND	1.00									
1,1-Dichloroethane	ND	1.00									
1,1-Dichloroethene	ND	1.00									
1,1-Dichloropropene	ND	1.00									
1,2,3-Trichlorobenzene	ND	1.00									
1,2,3-Trichloropropane	ND	1.00									
1,2,4-Trichlorobenzene	ND	1.00									
1,2,4-Trimethylbenzene	ND	1.00									
1,2-Dibromo-3-chloropropane	ND	1.00									
1,2-Dibromoethane	ND	1.00									
1,2-Dichlorobenzene	ND	1.00									
1,2-Dichloroethane	ND	1.00									
1,2-Dichloropropane	ND	1.00									
1,3,5-Trimethylbenzene	ND	1.00									
1,3-Dichlorobenzene	ND	1.00									
1,3-Dichloropropane	ND	1.00									
1,4-Dichlorobenzene	ND	1.00									
2,2-Dichloropropane	ND	1.00									
2-Butanone	ND	10.0									
2-Chlorotoluene	ND	1.00									
2-Hexanone	ND	10.0									
4-Chlorotoluene	ND	1.00									
4-Isopropyltoluene	ND	1.00									
4-Methyl-2-pentanone	ND	20.0									
Acetone	ND	50.0									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
 O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acrylonitrile	ND	5.00									
Benzene	ND	0.300									
Bromobenzene	ND	1.00									
Bromochloromethane	ND	1.00									
Bromodichloromethane	ND	1.00									
Bromoform	ND	1.00									
Bromomethane	ND	1.00									
Carbon disulfide	ND	2.00									
Carbon tetrachloride	ND	1.00									
Chlorobenzene	ND	1.00									
Chloroethane	ND	1.00									
Chloroform	ND	1.00									
Chloromethane	ND	1.00									
cis-1,2-Dichloroethene	ND	1.00									
cis-1,3-Dichloropropene	ND	1.00									
Dibromochloromethane	ND	1.00									
Dibromomethane	ND	1.00									
Dichlorodifluoromethane	ND	1.00									
Ethylbenzene	ND	1.00									
Hexachlorobutadiene	ND	1.00									
Isopropylbenzene	ND	1.00									
m,p-Xylene	ND	2.00									
Methyl tert-butyl ether	ND	1.00									
Methylene chloride	ND	20.0									
Naphthalene	ND	1.00									
n-Butylbenzene	ND	1.00									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 22 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** 8260\_W

Sample ID: <b>MB</b>	SampType: <b>MBLK</b>	TestCode: <b>8260_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15511</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15511</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203639</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
n-Propylbenzene	ND	1.00									
o-Xylene	ND	1.00									
sec-Butylbenzene	ND	1.00									
Styrene	ND	1.00									
tert-Butylbenzene	ND	1.00									
Tetrachloroethene	ND	1.00									
Toluene	ND	1.00									
trans-1,2-Dichloroethene	ND	1.00									
trans-1,3-Dichloropropene	ND	1.00									
Trichloroethene	ND	1.00									
Trichlorofluoromethane	ND	1.00									
Vinyl chloride	ND	1.00									
Surr: 1,2-Dichloroethane-d4	94.1		100.0		94.1	85.3	116				
Surr: 4-Bromofluorobenzene	89.5		100.0		89.5	88.1	120				
Surr: Dibromofluoromethane	102		100.0		102	94.2	122				
Surr: Toluene-d8	97.3		100.0		97.3	86.2	135				

<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CT

Sample ID: <b>MB-R15419</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15419</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202091</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.000100

Sample ID: <b>LCS-R15419</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15419</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202092</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00383 0.000100 0.004000 0 95.8 85.4 116

Sample ID: <b>1406008-002DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15419</b>						
Client ID: <b>S-2-W</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202093</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury ND 0.000100 0 0 20

Sample ID: <b>1406008-002DMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15419</b>						
Client ID: <b>S-2-W</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202095</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00370 0.000100 0.004000 0 92.4 69.5 125

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 24 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CT

Sample ID: <b>1406008-002DMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/6/2014</b>	RunNo: <b>15419</b>						
Client ID: <b>S-2-W</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202096</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00372	0.000100	0.004000	0	92.9	69.5	125	0.003698	0.486	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15419</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7539</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/6/2014</b>	SeqNo: <b>202100</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00360	0.000100	0.004000	0	90.0	90	110				

Sample ID: <b>MB-R15497</b>	SampType: <b>MBLK</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203430</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000100									

Sample ID: <b>LCS-R15497</b>	SampType: <b>LCS</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203431</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00392	0.000100	0.004000	0	97.9	85.4	116				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 25 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CT

Sample ID: <b>1406008-004DDUP</b>	SampType: <b>DUP</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15497</b>						
Client ID: <b>S-8-W</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203433</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.000100						0	0	20	

Sample ID: <b>1406008-004DMS</b>	SampType: <b>MS</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15497</b>						
Client ID: <b>S-8-W</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203434</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00325	0.000100	0.004000	0	81.3	69.5	125				

Sample ID: <b>1406008-004DMSD</b>	SampType: <b>MSD</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15497</b>						
Client ID: <b>S-8-W</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203435</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00328	0.000100	0.004000	0	82.0	69.5	125	0.003253	0.827	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203449</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00396	0.000100	0.004000	0	99.1	90	110				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 26 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** HG\_CT

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203450</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00396 0.000100 0.004000 0 99.0 90 110

Sample ID: <b>ICV</b>	SampType: <b>ICV</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>ICV</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203507</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00388 0.000100 0.004000 0 96.9 90 110

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>HG_CT</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15497</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7579</b>	TestNo: <b>E7470A</b>	<b>E245.1</b>	Analysis Date: <b>6/13/2014</b>	SeqNo: <b>203513</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.00393 0.000100 0.004000 0 98.3 90 110

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDXLL\_W

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15382</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201347</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	7.58	0.0800	8.000	0	94.8	85	115				
Lube Oil	4.03	0.200	4.000	0	101	85	115				

Sample ID: <b>MB-7498</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15382</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201348</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800									
Lube Oil	ND	0.200									
Surr: o-Terphenyl	0.157		0.2000		78.6	50	150				

Sample ID: <b>LCS-7498</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15382</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201349</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.823	0.0800	1.000	0	82.3	60.7	121				
Lube Oil	0.669	0.200	1.000	0	66.9	64	126				

Sample ID: <b>LCSD-7498</b>	SampType: <b>LCSD</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15382</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 28 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDXLL\_W

Sample ID: <b>LCSD-7498</b>	SampType: <b>LCSD</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15382</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201350</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.732	0.0800	1.000	0	73.2	60.7	121	0.8231	11.7	20	
Lube Oil	0.699	0.200	1.000	0	69.9	64	126	0.6691	4.34	20	

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15382</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201361</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	5.72	0.0800	6.000	0	95.4	85	115				
Lube Oil	2.99	0.200	3.000	0	99.6	85	115				

Sample ID: <b>CCB-7498</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15382</b>						
Client ID: <b>CCB</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201362</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800									
Lube Oil	ND	0.200									
Surr: o-Terphenyl	0.162		0.2000		80.8	50	150				

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15382</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201369</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 29 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix

**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHDXLL\_W

Sample ID: <b>CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHDXLL</b>	Units: <b>mg/L</b>	Prep Date:	RunNo: <b>15382</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7498</b>	TestNo: <b>NWTPH-Dx</b>	<b>SW3510B</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201369</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	7.38	0.0800	8.000	0	92.3	85	115				
Lube Oil	4.26	0.200	4.000	0	106	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank  
O RSD is greater than RSDlimit

H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits

ND Not Detected at the Reporting Limit  
S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_W

Sample ID: <b>LCS-R15330</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200557</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	2330	100	2500	0	93.4	74.4	128				
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Sample ID: <b>MB-R15330</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200558</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100									
Surr: 4-Bromofluorobenzene	108		100.0		108	50	150				

Sample ID: <b>1405224-001BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>ZZZZZ</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200559</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100						0	0	20	
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Sample ID: <b>CCV-R15330</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200568</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	2080	100	2000	0	104	80	120				
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 31 of 43
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_W

Sample ID: <b>CCB-R15330</b>	SampType: <b>CCB</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>CCB</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200569</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100									
Surr: 4-Bromofluorobenzene	109		100.0		109	50	150				

Sample ID: <b>1405252-006BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>ZZZZZZ</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200570</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100						0	0	20	
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Sample ID: <b>CCV-R15330</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15330</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15330</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200577</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	5150	100	5000	0	103	80	120				
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Sample ID: <b>LCS-R15490</b>	SampType: <b>LCS</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15490</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>R15490</b>	TestNo: <b>NWTPH-Gx</b>		Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203365</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	2130	100	2000	0	106	74.4	128				
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<b>Qualifiers:</b>	B Analyte detected in the associated Method Blank	H Holding times for preparation or analysis exceeded	ND Not Detected at the Reporting Limit	Page 32 of 43
	O RSD is greater than RSDlimit	R RPD outside accepted recovery limits	S Spike Recovery outside accepted recovery	

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHGX\_W

Sample ID: <b>MB-R15490</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15490</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R15490</b>	TestNo: <b>NWTPH-Gx</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203366</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100									
Surr: 4-Bromofluorobenzene	114		100.0		114	50	150				

Sample ID: <b>1406008-008CDUP</b>	SampType: <b>DUP</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15490</b>						
Client ID: <b>M-9-W</b>	Batch ID: <b>R15490</b>	TestNo: <b>NWTPH-Gx</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203366</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	ND	100						0	0	20	
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Sample ID: <b>R15490CCV</b>	SampType: <b>CCV</b>	TestCode: <b>NWTPHGX_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15490</b>						
Client ID: <b>CCV</b>	Batch ID: <b>R15490</b>	TestNo: <b>NWTPH-Gx</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203369</b>							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline	2860	100	2500	0	114	80	120				
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# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** NWTPHHCID\_W

Sample ID: <b>MB-7499</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHHCID_</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15332</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7499</b>	TestNo: <b>NWHCID</b>	<b>HCID_W</b>	Analysis Date: <b>6/2/2014</b>	SeqNo: <b>200586</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.630									
Gasoline	ND	0.250									
Kerosene	ND	0.630									
Lube Oil	ND	0.630									
Mineral Spirits	ND	0.250									
Surr: BFB	0.516		1.000		51.6	30.2	133				
Surr: o-Terphenyl	0.610		1.000		61.0	50	150				

Sample ID: <b>MB-7499</b>	SampType: <b>MBLK</b>	TestCode: <b>NWTPHHCID_</b>	Units: <b>mg/L</b>	Prep Date: <b>6/2/2014</b>	RunNo: <b>15357</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7499</b>	TestNo: <b>NWHCID</b>	<b>HCID_W</b>	Analysis Date: <b>6/3/2014</b>	SeqNo: <b>200978</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.630									
Gasoline	ND	0.250									
Kerosene	ND	0.630									
Lube Oil	ND	0.630									
Mineral Spirits	ND	0.250									
Surr: BFB	0.507		1.000		50.7	30.2	133				
Surr: o-Terphenyl	0.581		1.000		58.1	50	150				

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>CCV-7512</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15377</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201264</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2.07	0.0500	2.000	0	104	80	120				
Acenaphthylene	2.15	0.0500	2.000	0	107	80	120				
Anthracene	2.12	0.0500	2.000	0	106	80	120				
Benz(a)anthracene	1.96	0.0500	2.000	0	97.9	80	120				
Benzo(a)pyrene	1.92	0.0500	2.000	0	95.8	80	120				
Benzo(b)fluoranthene	2.18	0.0500	2.000	0	109	80	120				
Benzo(g,h,i)perylene	2.02	0.0500	2.000	0	101	80	120				
Benzo(k)fluoranthene	2.16	0.0500	2.000	0	108	80	120				
Chrysene	1.88	0.0500	2.000	0	94.0	80	120				
Dibenz(a,h)anthracene	1.89	0.0500	2.000	0	94.5	80	120				
Fluoranthene	2.33	0.0500	2.000	0	116	80	120				
Fluorene	2.22	0.0500	2.000	0	111	80	120				
Indeno(1,2,3-cd)pyrene	2.00	0.0500	2.000	0	99.8	80	120				
Naphthalene	2.08	0.0500	2.000	0	104	80	120				
Phenanthrene	2.12	0.0500	2.000	0	106	80	120				
Pyrene	1.75	0.0500	2.000	0	87.4	80	120				

Sample ID: <b>LCS-7512</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15377</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201265</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2.51	0.0500	5.000	0	50.3	35.1	100				
Acenaphthylene	2.58	0.0500	5.000	0	51.7	29	89.1				
Anthracene	3.01	0.0500	5.000	0	60.1	42	97.4				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 35 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>LCS-7512</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15377</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201265</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benz(a)anthracene	2.86	0.0500	5.000	0	57.2	34.2	95.8				
Benzo(a)pyrene	2.89	0.0500	5.000	0	57.8	23.4	103				
Benzo(b)fluoranthene	2.92	0.0500	5.000	0	58.5	36.6	99.5				
Benzo(g,h,i)perylene	2.87	0.0500	5.000	0	57.5	20.8	120				
Benzo(k)fluoranthene	2.96	0.0500	5.000	0	59.3	39.7	93.4				
Chrysene	2.88	0.0500	5.000	0	57.6	39.1	119				
Dibenz(a,h)anthracene	2.98	0.0500	5.000	0	59.5	5.05	89				
Fluoranthene	3.41	0.0500	5.000	0	68.1	42.4	95.9				
Fluorene	2.80	0.0500	5.000	0	56.1	37.4	88.4				
Indeno(1,2,3-cd)pyrene	2.95	0.0500	5.000	0	59.0	10.5	98.4				
Naphthalene	1.76	0.0500	5.000	0	35.3	25.6	106				
Phenanthrene	2.88	0.0500	5.000	0	57.5	38.1	106				
Pyrene	2.63	0.0500	5.000	0	52.7	41.3	118				

Sample ID: <b>MB-7512</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15377</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201267</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benzo(a)anthracene	ND	0.0500									
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 36 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>MB-7512</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/3/2014</b>	RunNo: <b>15377</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/4/2014</b>	SeqNo: <b>201267</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Chrysene	ND	0.0500									
Dibenz(a,h)anthracene	ND	0.0500									
Fluoranthene	ND	0.0500									
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	0.0425		0.1000		42.5	18.6	106				
Surr: Nitrobenzene-d5	0.0352		0.1000		35.2	17	130				
Surr: Terphenyl-d14	0.0768		0.1000		76.8	39.6	131				

Sample ID: <b>CCV-7512</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15377</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201393</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2.09	0.0500	2.000	0	104	80	120				
Acenaphthylene	2.20	0.0500	2.000	0	110	80	120				
Anthracene	2.11	0.0500	2.000	0	106	80	120				
Benz(a)anthracene	1.96	0.0500	2.000	0	97.8	80	120				
Benzo(a)pyrene	1.96	0.0500	2.000	0	98.1	80	120				
Benzo(b)fluoranthene	1.84	0.0500	2.000	0	91.9	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 37 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>CCV-7512</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15377</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201393</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(g,h,i)perylene	2.01	0.0500	2.000	0	100	80	120				
Benzo(k)fluoranthene	2.21	0.0500	2.000	0	110	80	120				
Chrysene	1.88	0.0500	2.000	0	94.1	80	120				
Dibenz(a,h)anthracene	1.91	0.0500	2.000	0	95.3	80	120				
Fluoranthene	2.32	0.0500	2.000	0	116	80	120				
Fluorene	2.20	0.0500	2.000	0	110	80	120				
Indeno(1,2,3-cd)pyrene	2.00	0.0500	2.000	0	99.9	80	120				
Naphthalene	2.08	0.0500	2.000	0	104	80	120				
Phenanthrene	2.10	0.0500	2.000	0	105	80	120				
Pyrene	1.79	0.0500	2.000	0	89.5	80	120				

Sample ID: <b>CCB-7512</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15377</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201394</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	ND	0.0500									
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Chrysene	ND	0.0500									

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 38 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>CCB-7512</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15377</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7512</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/5/2014</b>	SeqNo: <b>201394</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	ND	0.0500									
Fluoranthene	ND	0.0500									
Fluorene	ND	0.0500									
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	0.0394		0.1000		39.4	18.6	106				
Surr: Nitrobenzene-d5	0.0382		0.1000		38.2	17	130				
Surr: Terphenyl-d14	0.0762		0.1000		76.2	39.6	131				

Sample ID: <b>CCV-7571</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15495</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203402</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	1.94	0.0500	2.000	0	97.1	80	120				
Acenaphthylene	2.02	0.0500	2.000	0	101	80	120				
Anthracene	2.06	0.0500	2.000	0	103	80	120				
Benz(a)anthracene	1.77	0.0500	2.000	0	88.4	80	120				
Benzo(a)pyrene	1.81	0.0500	2.000	0	90.7	80	120				
Benzo(b)fluoranthene	1.73	0.0500	2.000	0	86.4	80	120				
Benzo(g,h,i)perylene	1.90	0.0500	2.000	0	94.9	80	120				
Benzo(k)fluoranthene	1.85	0.0500	2.000	0	92.6	80	120				
Chrysene	1.88	0.0500	2.000	0	94.1	80	120				

**Qualifiers:** B Analyte detected in the associated Method Blank      H Holding times for preparation or analysis exceeded      ND Not Detected at the Reporting Limit      Page 39 of 43  
O RSD is greater than RSDlimit      R RPD outside accepted recovery limits      S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>CCV-7571</b>	SampType: <b>CCV</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date:	RunNo: <b>15495</b>						
Client ID: <b>CCV</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203402</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Dibenz(a,h)anthracene	1.78	0.0500	2.000	0	88.8	80	120				
Fluoranthene	2.12	0.0500	2.000	0	106	80	120				
Fluorene	2.04	0.0500	2.000	0	102	80	120				
Indeno(1,2,3-cd)pyrene	1.88	0.0500	2.000	0	93.9	80	120				
Naphthalene	1.97	0.0500	2.000	0	98.4	80	120				
Phenanthrene	1.91	0.0500	2.000	0	95.6	80	120				
Pyrene	1.72	0.0500	2.000	0	86.2	80	120				

Sample ID: <b>MB-7571</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203403</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	0.0500									
Acenaphthylene	ND	0.0500									
Anthracene	ND	0.0500									
Benz(a)anthracene	ND	0.0500									
Benzo(a)pyrene	ND	0.0500									
Benzo(b)fluoranthene	ND	0.0500									
Benzo(g,h,i)perylene	ND	0.0500									
Benzo(k)fluoranthene	ND	0.0500									
Chrysene	ND	0.0500									
Dibenz(a,h)anthracene	ND	0.0500									
Fluoranthene	ND	0.0500									
Fluorene	ND	0.0500									

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 40 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>MB-7571</b>	SampType: <b>MBLK</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>PBW</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203403</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	ND	0.0500									
Naphthalene	ND	0.0500									
Phenanthrene	ND	0.0500									
Pyrene	ND	0.0500									
Surr: 2-Fluorobiphenyl	0.0537		0.1000		53.7	18.6	106				
Surr: Nitrobenzene-d5	0.0496		0.1000		49.6	17	130				
Surr: Terphenyl-d14	0.0907		0.1000		90.7	39.6	131				

Sample ID: <b>LCS-7571</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203404</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2.52	0.0500	5.000	0	50.4	35.1	100				
Acenaphthylene	2.64	0.0500	5.000	0	52.8	29	89.1				
Anthracene	2.83	0.0500	5.000	0	56.7	42	97.4				
Benz(a)anthracene	2.49	0.0500	5.000	0	49.9	34.2	95.8				
Benzo(a)pyrene	2.72	0.0500	5.000	0	54.5	23.4	103				
Benzo(b)fluoranthene	2.78	0.0500	5.000	0	55.6	36.6	99.5				
Benzo(g,h,i)perylene	2.71	0.0500	5.000	0	54.2	20.8	120				
Benzo(k)fluoranthene	2.85	0.0500	5.000	0	57.0	39.7	93.4				
Chrysene	2.64	0.0500	5.000	0	52.9	39.1	119				
Dibenz(a,h)anthracene	2.62	0.0500	5.000	0	52.5	5.05	89				
Fluoranthene	3.02	0.0500	5.000	0	60.4	42.4	95.9				
Fluorene	2.73	0.0500	5.000	0	54.6	37.4	88.4				

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit Page 41 of 43  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>LCS-7571</b>	SampType: <b>LCS</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>LCSW</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203404</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	2.66	0.0500	5.000	0	53.1	10.5	98.4				
Naphthalene	2.18	0.0500	5.000	0	43.5	25.6	106				
Phenanthrene	2.60	0.0500	5.000	0	52.1	38.1	106				
Pyrene	2.43	0.0500	5.000	0	48.6	41.3	118				

Sample ID: <b>LCSD-7571</b>	SampType: <b>LCSD</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203405</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3.11	0.0500	5.000	0	62.2	35.1	100	2.521	20.8	20	R
Acenaphthylene	3.25	0.0500	5.000	0	65.1	29	89.1	2.642	20.7	20	R
Anthracene	3.40	0.0500	5.000	0	68.0	42	97.4	2.833	18.2	20	
Benz(a)anthracene	3.08	0.0500	5.000	0	61.6	34.2	95.8	2.495	21.0	20	R
Benzo(a)pyrene	3.16	0.0500	5.000	0	63.2	23.4	103	2.724	14.8	20	
Benzo(b)fluoranthene	2.98	0.0500	5.000	0	59.6	36.6	99.5	2.778	6.99	20	
Benzo(g,h,i)perylene	3.00	0.0500	5.000	0	60.1	20.8	120	2.709	10.3	20	
Benzo(k)fluoranthene	3.49	0.0500	5.000	0	69.9	39.7	93.4	2.850	20.3	20	R
Chrysene	3.16	0.0500	5.000	0	63.2	39.1	119	2.644	17.8	20	
Dibenz(a,h)anthracene	3.06	0.0500	5.000	0	61.3	5.05	89	2.624	15.5	20	
Fluoranthene	3.72	0.0500	5.000	0	74.4	42.4	95.9	3.018	20.8	20	R
Fluorene	3.28	0.0500	5.000	0	65.6	37.4	88.4	2.732	18.3	20	
Indeno(1,2,3-cd)pyrene	3.09	0.0500	5.000	0	61.8	10.5	98.4	2.655	15.2	20	
Naphthalene	2.76	0.0500	5.000	0	55.2	25.6	106	2.175	23.7	20	R
Phenanthrene	3.23	0.0500	5.000	0	64.6	38.1	106	2.604	21.4	20	R

**Qualifiers:** B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit  
O RSD is greater than RSDlimit R RPD outside accepted recovery limits S Spike Recovery outside accepted recovery

# QC SUMMARY REPORT

WO#: 1406008

17-Jun-14

## Specialty Analytical

**Client:** Parametrix  
**Project:** PDC ODOT Blocks / 273-1962-035

**TestCode:** PAHLL\_W

Sample ID: <b>LCSD-7571</b>	SampType: <b>LCSD</b>	TestCode: <b>PAHLL_W</b>	Units: <b>µg/L</b>	Prep Date: <b>6/12/2014</b>	RunNo: <b>15495</b>						
Client ID: <b>LCSS02</b>	Batch ID: <b>7571</b>	TestNo: <b>SW8270D</b>	<b>SW 3510C</b>	Analysis Date: <b>6/12/2014</b>	SeqNo: <b>203405</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Pyrene	3.00	0.0500	5.000	0	59.9	41.3	118	2.428	20.9	20	R

## KEY TO FLAGS

Rev. May 12, 2010

- A This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was quantified against gasoline calibration standards
- A1 This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was quantified against diesel calibration standards.
- A2 This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was quantified against a lube oil calibration standard.
- A3 The result was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.
- A4 The product appears to be aged or degraded diesel.
- B The blank exhibited a positive result great than the reporting limit for this compound.
- CN See Case Narrative.
- D Result is based from a dilution.
- E Result exceeds the calibration range for this compound. The result should be considered as estimate.
- F The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.
- G Result may be biased high due to biogenic interferences. Clean up is recommended.
- H Sample was analyzed outside recommended holding time.
- HT At clients request, samples was analyzed outside of recommended holding time.
- J The result for this analyte is between the MDL and the PQL and should be considered as estimated concentration.
- K Diesel result is biased high due to amount of Oil contained in the sample.
- L Diesel result is biased high due to amount of Gasoline contained in the sample.
- M Oil result is biased high due to amount of Diesel contained in the sample.
- MC Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.
- MI Result is outside control limits due to matrix interference.
- MSA Value determined by Method of Standard Addition.
- O Laboratory Control Standard (LCS) exceeded laboratory control limits, but meets CCV criteria. Data meets EPA requirements.
- Q Detection levels elevated due to sample matrix.
- R RPD control limits were exceeded.
- RF Duplicate failed due to result being at or near the method-reporting limit.
- RP Matrix spike values exceed established QC limits; post digestion spike is in control.
- S Recovery is outside control limits.
- SC Closing CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.
- \* The result for this parameter was greater than the maximum contaminant level of the TCLP regulatory limit.

