

# APPENDIX D CVOC SOURCE AREA REMEDIATION REPORT



## DELIVERED VIA ELECTRONIC MAIL

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**CVOC Source Area Remediation and Groundwater Assessment Report** Re: **Commander Oil Terminal** One Commander Square Oyster Bay, New York **NYSDEC Case No. 99-25216** 

## Mr. Acampora:

Kleinfelder East, Inc (Kleinfelder), on behalf of Commander Terminal Holdings, LLC (Commander Oil) has prepared this CVOC Source Area Remediation and Groundwater Assessment Report for the Commander Oil Terminal located in Oyster Bay, New York (Site). This report documents the methods and findings of the chlorinated volatile organic compound (CVOC) remediation and investigation activities conducted at the Site as outlined in the New York State Department of Environmental Conservation (NYSDEC) approved Remedial Action Plan (RAP) dated June 4, 2010 and related to NYSDEC Case No. 99-25216, in addition to the investigation work plan sent via email on October 25, 2010.

In accordance with the RAP dated June 4, 2010, Kleinfelder supervised the excavation of CVOC and petroleum contaminated soils in the suspected source area located on the north side of the Site adjacent to MW-14 and MW-17. An excavation approximately 15 feet wide by 40 feet long by 2 feet deep was completed and endpoint soil samples were collected and analyzed.

In accordance with the investigation work plan dated October 25, 2010 Kleinfelder supervised the collection of discrete groundwater samples and the installation of three shallow groundwater monitoring wells. Discrete groundwater samples at multiple depths were collected at seven select locations illustrated in Figure 2. In addition, five soil borings were installed at locations adjacent to the CVOC source area and to the east and west of MW-14. Three of the soil borings were converted to shallow monitoring wells and groundwater samples were collected and analyzed for CVOCs.

The objective of this assessment was to:

- Further delineate the CVOC source area in the vicinity of groundwater monitoring well MW-14.
- Delineate the horizontal and vertical extent of CVOCs dissolved in groundwater.

## 1.0 SITE DESCRIPTION

The Site located at One Commander Square in Oyster Bay, New York (Figure 1) is currently an active oil terminal. The Site has been used as an oil terminal since 1929. The terminal has a current working storage capacity of over 5.6 million gallons, which classifies it as a Major Oil Storage Facility (MOSF). The daily through-put of the facility is approximately 100,000 gallons.

The surface of the Site is generally covered with asphalt and concrete. 24 aboveground storage tanks (ASTs) are located throughout the approximately 3.9-acre property. An office and maintenance building are located in the eastern portion of the property. A dock, for off-loading of petroleum products from barges to the ASTs, is located in Oyster Bay Harbor along the northeastern property border. A seawall constructed of concrete,

rock and steel extends from the northeastern corner of the property approximately 160 feet to the northwest and 175 feet to the west. Pertinent Site features described above are presented on Figure 2.

The surrounding land use consists of residential and commercial properties to the southwest and northwest, respectively. The property to the north is a commercial business and a storage yard for boats and contractor equipment. White's Creek is located along the south eastern property boundary. A marina and Oyster Bay border the Site to the northeast.

The northeast corner of the Site consists of several ASTs, a dock used for off-loading fuel barges and a concrete seawall that was modified on several occasions. According to a subsurface investigative activities report entitled *Subsurface Investigation Report* (SSIR) dated November 17, 2005, the base of the seawall in the northeast corner has an estimated maximum depth of 4.5 feet below the surface of the marine sediments.

Several spills were reported from 1978 to present in the vicinity of the tank field. With the exception of the active 1985 spill incident (NYSDEC Case No. 85-00426), and 1995 spill incident (NYSDEC Case No. 99-25216) the remaining case numbers have been closed. NYSDEC Case No. 85-00426 was assigned May 6, 1985 based on a report that #2 fuel oil was observed to be seeping through the seawall into White's Creek and Oyster Bay.

NYSDEC Case No. 99-25216 was assigned for a release that occurred on November 13, 1995, when approximately 330 gallons of 1, 1, 2-trichloroethylene was spilled while refilling a vapor recovery coolant storage tank. The liquid was spilled due to equipment failure during the transfer from drums staged outside the containment wall to the storage tank inside the containment area. The release occurred inside the containment area and 214 gallons of fluid was recovered and 10 tons of soil was removed. Endpoint soil samples were not collected. The recovered fluid was a mixture of 1,1,2-trichloroethylene and standing water that was present in the containment area at the time of the release. The NYSDEC subsequently closed NYSDEC Case No. 99-25216 and reopened it following Commander Terminal LLC's voluntary submittal of an environmental baseline report dated November 10, 2008 prepared by Environmental Compliance Services, Inc., (ECS) for Commander Terminal that reported the detection of CVOCs in groundwater beneath the Site.

In November 2008, a baseline environmental assessment report was prepared by Environmental Compliance Services (ECS) on behalf of Global Companies, LLC that identified concentrations of CVOCs in soil and groundwater in the area of MW-14 and in groundwater in MW-15, MW-16 and recovery well, RW-1 down gradient of the source area in the eastern portion of the Site. The assessment report was provided to the NYSDEC by Commander Terminals LLC and NYSDEC Case No. 99-25216 was reopened.

Subsequent subsurface investigations detected concentrations of dissolved-phase trichloroethene (TCE) and degradation compounds 1, 2-dichloroethane, cis- 1, 2-dichlorothene, trans-1, 2 dichloroethene and vinyl chloride (VC) in MW-17 and MW-19.

## 2.0 GEOLOGY/HYDROGEOLOGY

The geology observed in soil samples collected during multiple Site investigations consisted of coarse- to fine-grained sand and silt, clay, peat and fill material. The fill material beneath the Site consists of various shallow layers of construction material, silty sands, some ash, and marine sediments. An organic peat layer is present at depths ranging from 6 to 18 feet beneath the Site that overlies a sand and gravel layer. A clay deposit was identified ranging from 12 to 20 feet below grade (fbg). Both the clay and organic peat layers slope downward in a southeasterly direction towards the confluence of the Oyster Bay and White's Creek.

Groundwater beneath the Site ranges from 2.5 to 5 fbg and flows generally in a south-southeast direction towards the confluence of Oyster Bay and Whites Creek. Groundwater flow direction has varied slightly due to precipitation and operation of the groundwater recovery well RW-1. Based on historical information tidal influence on groundwater flow beneath the Site appears to be limited to the eastern boundary of the property adjacent to the Oyster Bay.

The most recent quarterly groundwater monitoring report dated November 22, 2010 interpreted groundwater flow to be in a south-southeast direction with a gradient of 0.05 foot/foot.

## 3.0 CVOC SOURCE AREA EXCAVATION

On October 12, 2010, American Environmental Assessment Services (American Environmental) under contract to Kleinfelder, excavated and removed approximately 58 tons of CVOC and petroleum contaminated soils from the area adjacent to MW-14 and MW-17 as part of the CVOC source area remediation for the Site.

Prior to commencing with excavation, a safety meeting was conducted with Kleinfelder and American Environmental personnel and afterwards the work area was delineated using traffic control devices. Privacy screening was placed on the northern propertyline fence adjacent to the excavation area.

A community air monitoring plan (CAMP) prepared specifically for the remedial excavation was implemented at the start of the field activities. In accordance with the CAMP, air was monitored for the presence of VOC vapors with a MiniRAE 2000 photoionization detector (PID) with a 10.6 ev lamp capable of displaying 15-minute running averages. Prior to monitoring, the PID was calibrated to a 100 parts per million by volume (ppm<sub>v</sub>) isobutylene span gas according to the manufacturer's specifications. A Personal Dust Ram (PDR) 1000 Dust Monitor was used to monitor particulate concentrations at the Site. Three air monitoring locations were utilized during the excavation activities. Two stationary locations were established; one upwind, the other downwind of the work zone. The third monitoring area was within the work zone.

To monitor air quality in the work zone a PID was used along with Draeger tubes. The Draeger tubes were used to monitor for concentrations of benzene and VC in the work zone and along the perimeter of the excavation. As specified in the site specific health and safety plan prepared for the excavation activities, an action level of 0.5 parts per million (ppm) was established as measured using a vinyl chloride Draeger tubes. Sustained concentrations above 0.5 ppm would necessitate cessation of excavation activities.

## **CVOC Source Area Excavation**

The excavation activities commenced with the removal of the asphalt surface covering an area 15 feet wide by 40 feet long. The asphalt was removed using an excavator and was loaded into a dump truck for offsite recycling as construction debris. Afterwards, the excavator began removing the underlying soil (fill material) from the east side of the excavation and loaded it directly into a 30 cubic yard dump trailer. The excavated fill material consisted primarily of recycled concrete aggregate (RCA) mixed with sand and silts and some gravel. Groundwater and black colored petroleum hydrocarbon stained soil was encountered in the excavation at a depth of approximately 3.0 ft.

During excavation of the southeast corner at a depth of approximately 2 to 2.5 fbg, VC vapors were detected using the Draeger tubes and concentrations ranged from 0.25 ppm to 2 ppm. Upon detection of VC, work was stopped and Rusmar Foam Technology® AC-645 Long Duration Foam was applied to suppress vapors emanating from the soils within the excavation. Foam suppressant was applied several times over the course of the excavation activities which helped reduce VC concentrations to less than 0.5 ppm. Each time VC concentrations increased to 0.25 ppm, more foam vapor suppressant was applied.

Due to the repeated concentrations of VC above 0.5 ppm in work zone, the depth of the excavation was limited to 2.5 fbg. Excavating soils below this depth increased the VC concentrations above the working action level. During the excavation activities VOC monitoring in the work zone using a PID did not detect concentrations of VOCs above 0.4 ppm. Dust particulates and VOCs in air were not detected at concentrations above background levels at the upwind and downwind air monitoring stations.

During the excavation activities, two concrete slabs were uncovered in the south side of the excavation at a depth of approximately 3 fbg. Each slab was several inches thick and approximately 6 feet long. One slab was encountered east of MW-14, the other immediately west of the light pole along the south side of the excavation. These concrete slabs are thought to be part of the foundation of the concrete containment wall

surrounding the AST 18. The approximate locations of the concrete are depicted in Figure 4.

When soil excavation was completed, a layer of polyethylene sheeting was placed in the excavation, and covered with imported recycled concrete aggregate. The excavation was filled to grade and compacted.

Endpoint soil samples were collected from the northern, western, eastern and one southern section of the excavation at depths ranging from 1.5 to 2.5 feet. A total of six endpoint soil samples: EP-1, EP-3, EP-5, EP-6, EP-7 and EP-8 were collected and the location of each endpoint soil sample is illustrated in Figure 4.

Endpoint soil samples were collected from the bottom of the excavation using a decontaminated stainless steel hand auger. The soil samples were removed from the auger, placed in plastic bags, field-screened for VOCs, classified and subsequently placed in laboratory supplied glassware and then placed in an ice-filled cooler, pending delivery to the laboratory. Each soil endpoint sample was analyzed for TCE, 1,2-dichloroethane, cis-1,2 dichloroethene, trans-1,2 dichloroethene, vinyl chloride (VC), benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) in accordance with United State Environmental Protection Agency (USEPA) Method 8260.

Laboratory analytical results are summarized in Table 1, and graphically presented in Figure 4. Laboratory reports are included in Appendix B. Photographs of the excavation area and excavation activities are included in Appendix D.

A total of 58 tons of excavated soil was transported by Horwith Trucking, LLC to CWM Chemical Services LLC, located in Model City, New York and delivered on October 13, 2010 for treatment and disposal. The soil was shipped as a characteristic hazardous waste for TCE (D014) and VC (D043). Copies of the shipping manifests are included in Appendix C.

## 4.0 DISCRETE GROUNDWATER PROFILING

Between November 18, 2010 and November 23, 2010, Associated Environmental Services (AES), of Hauppauge, New York provided drilling services to collect discrete groundwater samples and install five shallow soil borings, three of which were converted to shallow monitoring wells (MW-20, MW-21 and MW-22). Drilling was performed under the supervision of Kleinfelder personnel.

The objective of this phase of the assessment was to delineate the horizontal and vertical extent of dissolved-phase CVOCs in groundwater in the eastern half of the Site. As described in the October 25, 2010 investigation work plan, discrete groundwater samples were to be collected at each preselected location from approximately the three following depths:

- 4-5 fbg (above the peat layer)
- 10 fbg (beneath the peat layer)
- 20 fbg (beneath the peat layer).

To further delineate CVOC concentrations vertically, a fourth discrete groundwater sample was collected from a depth of 29 to 32 fbg at two locations: DS-4 and DS-5.

## 4.1 Methodology

Discrete groundwater samples were collected using a Geoprobe<sup>TM</sup> 6610 equipped with Geoprobe SP-16<sup>TM</sup> groundwater profiling equipment. The SP-16<sup>TM</sup> equipment incorporated direct-push probe tools, retractable screens and disposal drive points. Groundwater profiling equipment allows discrete groundwater samples to be collected at predetermined depths in an aquifer using the same borehole without generating drill cuttings or installing temporary monitoring wells. For the purpose of collecting groundwater samples during this assessment, the probe tool equipped with a retractable stainless steel screen and disposable drive tip was driven downwards to a predetermined depth. The cover of the screen was then retracted approximately 2 to 3

feet exposing the screen and allowing groundwater to enter the screen. Polyethylene tubing equipped with a stainless steel check valve was inserted into the probe tool and the accumulated water was purged, generally three to five volumes of standing water. Following purging, a groundwater sample was collected using the same tubing and transferred to two 40 milliliter (mL) vials containing hydrochloric acid preservative. Purge water from the sampling activities was placed in a drum for off Site disposal.

After each groundwater sample was collected, the probe tool was retracted and equipment decontaminated using Alconox and water. A new disposable tip was replaced and the drill rod was returned to the borehole and driven down to the next selected depth. The tubing was replaced between each sample depth and the stainless steel check valve was decontaminated.

At the end of each day the groundwater samples were delivered to American Analytical Laboratories of Farmingdale, New York for analysis of TCE, 1,2-dichloroethane, cis-1,2-dichlorothene, trans-1,2 dichloroethene and VC in accordance with US EPA Method 8260.

The locations of the seven discrete groundwater sample points are illustrated in Figure 3. Due to the varying depth of the peat layer beneath the Site, the individual sampling depths varied from location to location. The depths of the peat layer was estimated at each location by reviewing soil boring logs of adjacent monitoring wells and soil borings prepared from previous Site investigations. Generally, at each sampling location, the first groundwater sample was collected from above the peat layer (2 to 12 fbg), the second groundwater sample from immediately below the peat layer (9 to 18 fbg), the third groundwater sample from 19 to 26 fbg; and in the case of the two additional groundwater samples, from 29 to 32 fbg.

Laboratory analytical results of the discrete groundwater samples are summarized in Table 2, and graphically presented in Figures 3, 3A, 3B, 3C and 3D. Laboratory reports are included in Appendix B.

## 5.0 SHALLOW SOIL BORING AND MONITORING WELL INSTALLATION

On November 23, 2010, five soil borings were installed surrounding the CVOC excavation area to further delineate the horizontal extent of CVOC contamination in soil and groundwater adjacent to MW-14 and MW-17. Soil borings were initiated by hand clearing the locations to a depth of approximately 2.5 to 3 fbg where groundwater was encountered. Then, using a Geoprobe<sup>TM</sup> 6610 equipped with Macro Cores, continuous soil samples were collected down to the peat layer.

Four soil borings SB-1, SB-2, SB-3 and SB-5 were installed outside the excavation. SB-1, SB-2 and SB-5 were converted to shallow groundwater monitoring wells MW-20, MW-21 and MW-22; respectively. Soil boring SB-4 was installed along the southern edge of the excavation approximately 10 feet east of MW-14, and SB-3 was installed approximately 3 feet east of the southeast corner of the excavation, and north of DS-7. All five soil borings were completed to a depth that ranged from 8 to 9 fbg depending on the depth the peat layer.

Four additional soil borings were attempted in the area east of the excavation, however due to refusal conditions encountered at 3 fbg (suspected to be concrete) the soil borings were abandoned. The locations of the completed and abandoned soil borings, plus MW-20, MW-21 and MW-22 are shown on Figure 2.

Soil samples were collected continuously from each boring/well location using a Macro Core sampler. The soil samples were field-screened using a PID, and the soil sample interval with greatest PID response was transferred to laboratory supplied soil jars for subsequent laboratory analysis. PID response values from the soil field—screening are presented in the soil boring logs in Appendix A. In total, seven soil samples were analyzed for TCE, 1,2-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, vinyl chloride, BTEX and MTBE in accordance with US EPA Method 8260. Laboratory analytical results are summarized in Table 3, and a laboratory report is included in Appendix B.

Using a Geoprobe<sup>TM</sup> 6610 equipped with hollow stem augers, soil borings SB-1, SB-2, SB-5 were converted to monitoring wells MW-20, MW-21 and MW-22. Each well was constructed with 2 -inch diameter polyvinyl chloride (PVC) 10 slot well screen and sand pack surrounding the well screen. The sand pack was installed to within 1 feet of the asphalt surface. 6-inches of bentonite pellets mixed with sand was placed above the sand pack and then the well was completed with a road box set in concrete and a locking J-plug. Soil boring and well construction logs are presented in Appendix A. Soil cuttings from pre-clearing and the installation of monitoring wells were placed in a drum for off Site disposal.

On November 24, 2010, Kleinfelder personnel developed MW-20, MW-21 and MW-22 by purging three to five well volumes of water using disposable polyethylene bailers. Purged water from well development was placed in a drum for off Site disposal.

On December 7, 2010, Kleinfelder personnel gauged the depth to water and collected groundwater samples from MW-20, MW-21, and MW-22. After gauging, each well was purged and sampled using disposable polyethylene bailers. Groundwater samples were transferred to two 40 ml glass vials containing hydrochloric acid preservative. The sample containers were placed in an ice-filled cooler and delivered to American Analytical Laboratories of Farmingdale, New York for analysis of TCE, 1,2-dichloroethane, cis- 1,2-dichlorothene, trans-1,2 dichloroethene and VC in accordance with USEPA Method 8260. Laboratory analytical results are summarized in Table 2, and a laboratory report is included in Appendix B.

## **5.1 Groundwater Elevations**

On December 10, 2010, Kleinfelder personnel supervised Control Point Associates (CPA) who was contracted by Kleinfelder to survey the top of casing elevation and location of newly installed monitoring wells MW-20, MW-21 and MW-22. In addition CPA re-surveyed the top of casing elevations of MW-B, MW-6, MW-8, MW-9, MW-13, MW-14, MW-15, MW-16, MW-17, MW-18, MW-19, recovery well RW-1, RW-2 and RW-

3. All the wells were surveyed to a United States (US) Geological Survey Geodetic datum and elevations relative to mean sea level. A groundwater elevation and contour map of groundwater elevations measured on December 7, 2010, while the groundwater recovery system was in operation, is presented in Figure 5. Groundwater flow direction beneath the Site was interpreted to flow in a south-southeast direction with an average gradient of 0.020 foot /foot.

## 6.0 RESULTS

The following sections discuss the remediation and investigation activities.

## 6.1 CVOC Excavation

A total of seven soil endpoint samples were collected from the bottom of the CVOC excavation. The soil sample locations were selected based on observed soil conditions and indications of staining and odor favoring areas along the north, east and west side of the excavation. The area in the south and southeast corner of the excavation had dark colored soils that emitted an odor and samples were not collected.

During the excavation activities, groundwater was encountered in the excavation at an approximate depth of 3 fbg. At a depth of approximately 2.5 to 3 fbg, soils along the south and east side of the excavation as well as in the area of MW-14 exhibited staining and odor. Groundwater encountered in the south-east corner of the excavation exhibited a petroleum sheen and odor. Fill material (soils) removed from the excavation from just below the asphalt layer to approximately 1 to 1.5 fbg did not exhibit a petroleum odor or exhibit staining. The fill material consisted primarily of RCA, mixed with sand, silts and some gravel.

Laboratory analytical results of the seven endpoint soil samples: EP-1, EP-3, EP-5, EP-6, EP-7 and EP-8 reported concentrations of the following compounds:

- Cis-1,2 dichlorethene concentrations ranged from non-detect to 0.75 milligrams (mg/kg).
- Trans-1,2 dichloroethene concentrations ranged from non-detect to 0.0038 mg/kg (estimated).
- TCE concentrations ranged from non-detect to 0.044 mg/kg.
- VC concentrations ranged from non-detect to 0.56 mg/kg (estimated).
- Benzene concentrations ranged from non-detect to 0.015 mg/kg.
- Toluene concentrations ranged from 0.0009 (estimated) to 0.55 mg/kg.
- Ethylbenzene concentrations ranged from 0.0009 (estimated) to 0.89 mg/kg.
- Xylenes concentrations ranged from non-detect to 0.0041 mg/kg to 2.0 mg/kg.
- MTBE concentrations ranged from non-detect to 0.0098 mg/kg.

Concentrations of 1,2-dichloroethane were not detected in the six soil samples.

Analytes that exceeded the NYSDEC soil clean up objectives (SCO) for unrestricted use included:

- Cis-1,2 dichloroethene 0.75 mg/kg in EP-7;
- VC 0.56 mg/kg (estimated) in EP-7; and
- Xylenes 0.68 mg/kg in EP-6 and 2 mg/kg in EP-8.

Laboratory analytical results are summarized in Table 1, and graphically presented in Figure 4. A laboratory report is included in Appendix B.

## 6.2 Discrete Groundwater Profiling Results

A total of 23 discrete groundwater samples were collected from seven locations and analyzed for TCE, 1, 2-dichloroethane, cis-1,2 dichloroethene, trans-1,2 dichloroethene and VC. Three groundwater samples were also collected from the shallow monitoring wells MW-20, MW-21 and MW-22 and analyzed from the same constituents.

The depths of the discrete groundwater samples varied between locations to compensate for the varying depth of the organic peat layer. As noted previously, the depths selected were based on peat deposits recorded in boring logs prepared from borings and/or wells adjacent to each DS location. The maximum depth that groundwater samples were collected from each location is as follows:

- DS-1, 23-25 fbq
- DS-2, 23-26 fbg
- DS-3: 19-22 fbg
- DS-4: 29-32 fbq
- DS-5: 29-32 fbg
- DS-6: 20-21 fbg
- DS-7: 19-21 fbg

Presented in Table 2 is a summary of the groundwater analytical data reported for each of the 23 sample depths. Analytical results are also presented graphically, in Figures 3, 3A, 3B, 3C and 3D.

One compound; 1,2-dichloroethane was not detected in any of the samples analyzed.

Analytical results of cis-1,2 dichloroethene, trans-1,2 dichloroethene, TCE and VC measured in each groundwater sample indicate that greatest total concentrations of CVOCs occurred in samples collected from DS-6 and DS-7. Both locations are located in the CVOC source area adjacent to MW-14.

In addition, discrete sampling location DS-1 is situated west of RW-1, and DS-2 and DS-3 are situated in the alleyway east of RW-1 and adjacent to MW-16 and MW-19. DS-4 and DS-5 are adjacent to MW-18 and MW-15; respectively.

The following information summarizes the results of discrete groundwater sampling for each location by listing the range of concentrations for each compound and the depth of the greatest concentration.

- <u>DS-1</u>; compounds detected were cis-1,2 dichloroethene, TCE and VC. The concentrations of cis-1,2-dichloroethene ranged from 68 micrograms per liter (ug/l) to 230 ug/l at 8 to 10 fbg. TCE concentrations ranged from 190 ug/l to 4,300 ug/l at 8 to 10 fbg. VC concentrations ranged from non-detect to 28 ug/l at 8 to 10 fbg.
- <u>DS-2</u>: compounds detected were cis-1,2 dichloroethene, trans-1,2 dichloroethene, TCE and VC. The concentrations of cis-1,2-dichloroethene ranged from 24 ug/l to 3,100 ug/l at 9 to 12 fbg. Trans-1,2 dichloroethene ranged from non-detect to 16 ug/l at 9 to12 fbg. TCE concentrations ranged from 14 ug/l to 110 ug/l at 9 to12 fbg. VC concentrations ranged from non-detect to 710 ug/l at 9 to12 fbg.
- DS-3: compounds detected were cis-1,2 dichloroethene, trans-1,2 dichloroethene, TCE and VC. The concentrations of cis-1,2-dichloroethene ranged from 51 ug/l to 3,600 ug/l at 13 to 16 fbg. Trans-1,2 dichloroethene ranged from non-detect to 15 ug/l at 13 to 16 fbg. TCE concentrations ranged from 20 ug/l to 47 ug/l at 13 to 16 fbg. VC concentrations ranged from non-detect to 460 ug/l at 13 to 16 fbg.
- <u>DS-4</u>: compounds detected were cis-1,2 dichloroethene and TCE. The concentrations of cis-1,2-dichloroethene ranged from non-detect to 6.3 ug/l at 9 to 12 fbg. TCE concentrations ranged from 14 ug/l to 180 ug/l at 4 to 7 fbg.
- <u>DS-5</u>: compounds detected were cis-1,2 dichloroethene and TCE. The
  concentrations of cis-1,2-dichloroethene ranged from non-detect to 5.5 ug/l at 19 to
  22 fbg. TCE concentrations ranged from 29 ug/l to 620 ug/l at 19 to 22 fbg.
- DS-6: compounds detected were cis-1,2 dichloroethene, trans-1,2 dichloroethene, TCE and VC. The concentrations of cis-1,2-dichloroethene ranged from 680 ug/l to 150,000 ug/l at 5 to 6 fbg. Trans-1,2 dichloroethene ranged from 2.6 to 310 ug/l at 5 to 6 fbg. TCE concentrations ranged from non-detect to 31 ug/l at 20 to 21 fbg. VC concentrations ranged from 450 ug/l to 100,000 ug/l at 5 to 6 fbg.
- <u>DS-7</u>: compounds detected were cis-1,2 dichloroethene, trans-1,2 dichloroethene, TCE and VC. The concentrations of cis-1,2-dichloroethene ranged from 29,000 ug/l to 340,000 ug/l at 9 to 11 fbg. Trans-1,2 dichloroethene ranged from 56 to 680 ug/l at 9 to 11 fbg. TCE concentrations ranged from 62,000 ug/l to 770,000 ug/l at 4 to 6 fbg. VC concentrations ranged from 2,900 ug/l to 75,000 ug/l at 9 to 11 fbg.

Analytical results of groundwater samples collected from shallow wells MW-20, MW-21 and MW-22 are the following:

- <u>MW-20</u>: compounds detected were cis-1,2 dichloroethene and VC. Concentration of cis-1,2 dichloroethene was 6.9 ug/l. Concentration of VC was 8 ug/l.
- <u>MW-21</u>: compounds detected were cis-1,2 dichloroethene, trans-1,2 dichloroethene and VC. Concentration of cis-1,2 dichloroethene was 2,800 ug/l. Concentration of trans-1,2 dichloroethene was 32 ug/l. Concentration of VC was 6,400 ug/l.
- <u>MW-22</u>: compounds detected were cis-1,2 dichloroethene and VC. Concentration of cis-1,2 dichloroethene was 110 ug/l. Concentration of VC was 730 ug/l.

Analytical results of the discrete groundwater samples and groundwater samples from MW-20, MW-21 and MW-22 are summarized in Table 2 and presented graphically in Figures 3, 3A, 3B, 3C and 3D.

Analytical results of soil samples collected from soil borings SB-1 (MW-20), SB-2 (MW-21), SB-3, SB-4 and SB-5 (MW-22) are summarized as follows:

- <u>SB-3:</u> analytical results of detected CVOCs in soil samples collected from a depth of 3 to 5 fbg reported concentrations of 1,2 dichloroethane (0.84 mg/kg), cis-1,2 dichloroethene (160 mg/kg), trans-1,2 dichloroethene (0.59 mg/kg estimated), TCE (6,100 mg/kg), and VC (1.5 mg/kg).
- SB-4: analytical results of detected CVOCs in soil samples collected from a depth of 4 to 7 fbg reported concentrations of cis-1,2 dichloroethene (41 mg/kg) and TCE (1,600 mg/kg).
- <u>MW-20</u>: analytical results of detected CVOCs in two soil samples; one collected at 3 to 4.5 fbg reported a concentration of cis-1,2 dichloroethene (0.35 mg/kg estimated). The soil sample collected at 4.5 to 6.5 fbg reported no detections of CVOCs.

- MW-21: analytical results of detected CVOCs in one soil sample collected at 5.5 to 6.5 fbg reported a concentration of cis-1,2 dichloroethene (24 mg/kg) and VC (36 mg/kg).
- <u>MW-22:</u> analytical results of detected CVOCs in two soil samples; one collected at 2-3 fbg reported a concentration of cis-1,2 dichloroethene (0.022 mg/kg), TCE (0.018 mg/kg), VC (0.0015 estimated). Soil sample collected at 6 to 7 fbg reported no detections of CVOCs.

Analytical results of soil samples collected from soil borings SB-1 (MW-20), SB-2 (MW-21), SB-3, SB-4 and SB-5 (MW-22) are summarized in Table 3.

## **6.0 CONCLUSIONS**

The following is a summary of CVOC excavation and delineation activities conducted at Commander Oil Terminal, located at One Commander Square, Oyster Bay, New York.

On October 12, 2010, American Environmental excavated and removed approximately 58 tons of contaminated soils from the area adjacent to MW-14 and MW-17 as part of the CVOC source area remediation.

Kleinfelder collected six soil endpoint samples for analysis to further delineate the CVOC contamination around the excavated area. Laboratory analytical results of the soil endpoint samples indicate that CVOC concentrations at depth ranging from 2 to 2.5 fbg are within NYSDEC SCOs with the exception of soils in the area of EP-7 that reported concentrations of cis-1,2 dichloroethene and VC above NYSDEC SCOs for unrestricted use. Based on the soil sampling results, impacted soil containing CVOCs still exist below the depth of 2.5 fbg.

Discrete groundwater sampling results indicate that primary concentrations of dissolved phase concentrations of CVOCs are located in the area of MW-14 (source area). Based on the findings of the discrete groundwater sampling, the horizontal and vertical delineation of TCE, 1,2-dichloroethane, cis-1,2 dichloroethene, trans-1,2 dichloroethene and VC in groundwater has been largely completed in the eastern downgradient area of the Site.

Maximum concentrations of TCE in DS-1 located on the southern portion of the Site were detected above the peat. TCE was delineated to a depth of 25 fbg in DS-1. TCE concentrations in groundwater samples (DS-2 and DS-3) collected in the alleyway adjacent to MW-16 and MW-19 have been delineated to a vertical depth of 26 fbg, with a maximum concentration of (110 ug/l) in 9 to 12 foot depth above the peat.

TCE concentrations in groundwater (DS-4 and DS-5) adjacent to MW-15 and MW-18 have been delineated below the peat layer to 32 fbg with concentrations of 14 ug/l and 36 ug/l; respectively. Maximum TCE concentrations were detected above the peat layer in DS-4 (180 ug/l) and below the peat layer in DS-5 (620 ug/l).

In the source area, TCE concentrations in groundwater (DS-6, DS-7, MW-20, MW-21 and MW-22) exist both above and below the peat layer in the area around MW-14. The vertical extent of TCE in the area of DS-7 has not been fully delineated. TCE in the shallow aquifer above the peat layer along the north property line is delineated with respect to non-detect concentrations.

Similar distribution and spatial extent of the dissolved-phase analytes apply to VC, cis and trans-1,2 dichlorethene in groundwater in the location of MW-14. These compounds were detected both above and below the peat layer and vertical delineation is incomplete in the area of DS-7. Horizontal and vertical delineation of TCE, VC, cis-1,2 dichloroethene and trans-1,2 dichloroethene has been completed for the area in the

alleyway. Horizontally these compounds appear to be limited to the area between and including MW-19 and RW-1 and primarily above the peat layer.

In addition to this assessment, previous assessment activities in 2008 performed by ECS included groundwater sampling of on-Site monitoring wells that included MW-3 and MW-4 located west and east of the source area; respectively. MW-3 is approximately 12 fbg, and MW-14 is approximately 14 fbg and both wells are screened above the peat layer. The 2008 groundwater analytical results from MW-3 and MW-4 did not detect concentrations of TCE, VC, cis-1,2 dichloroethene and trans-1,2 dichloroethene or 1,2-dichloroethane at or above the laboratory reporting limits. Based on this information the horizontal delineation CVOCs to the east and west of the source area is complete.

Based on the results of this assessment and focus on the distribution of compounds, groundwater flow direction is in a south-southeast direction, there is a hydraulic influence on groundwater flow created by the existing groundwater recovery system as evidence by the distribution of CVOCs and hydraulic gradient. A groundwater elevation and contour map based on groundwater gauging measurements collected on December 7, 2010 (RW-1 in operation) is provided as Figure 5.

## 7.0 Recommendations

- Perform additional vertical delineation of CVOCs in the area of the excavation (source area) and DS-7. Install two deep monitoring wells screened below the peat layer in the area of DS-7. One well should be screened at a depth of approximately 10 to 15 fbg, and the other at a depth of 25 to 30 fbg. These two wells will be used to confirm dissolved- phase concentrations of CVOCs at depth beneath the source area.
- Continue with quarterly monitoring of TCE, VC, 1,2-dichloroethane, cis-1,2-dichloroethene, and trans-1,2-dichloroethene in groundwater with the collection of groundwater samples from MW-B, MW-6, MW-14, MW-15, MW-16, MW-17,

MW-18, MW-19, RW-1, and RW-3. Add MW-3, MW-4, MW-9, MW-20, MW-21 and MW-22 to the quarterly sampling program.

A meeting with the NYSDEC Case Manager is scheduled for February 2011 to discuss the findings of this assessment and evaluate interim remedial action(s) with regards to remediation of CVOCs in the source area.

## **REFERENCES**

- Franke, O.L., and Cohen, Phillip, Regional Rates of Ground-Water Movement on Long Island, New York, United States Geological Survey Professional Paper 800-C, 1972.
- New York State Department of Environmental Conservation, Recommended Soil Cleanup Objectives for Gasoline Contaminated and Fuel Oil Contaminated Soils, August 22, 2001.
- New York State Department of Environmental Conservation, Memorandum: Soil Cleanup Consolidation Further Clarifications, July 10, 2001.
- New York State Department of Environmental Conservation, Part 375-6: Remedial Program Soil Cleanup Objectives, December 14, 2006.
- United States Geological Survey (USGS), 7.5-Minute Series Topographic Map of the Bayville New York Quadrangle, photorevised 1979.
- New York State Department of Environmental Conservation CP-51 / Soil Cleanup Guidance, October 21, 2010.

Sincerely,

Kleinfelder East, Inc.

Richard Swedborg

Senior Project Manager

Zachary R.Halsey

**Environmental Scientist** 

Attachment

Copy: William Schaefer

File

"Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more-detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that Commander Oil Terminal, LLC has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage or treatment of hazardous materials within the meaning of any governmental statute, regulation or order. Commander Oil Terminal, LLC is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. Commander Oil Terminal, LLC is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder's services."

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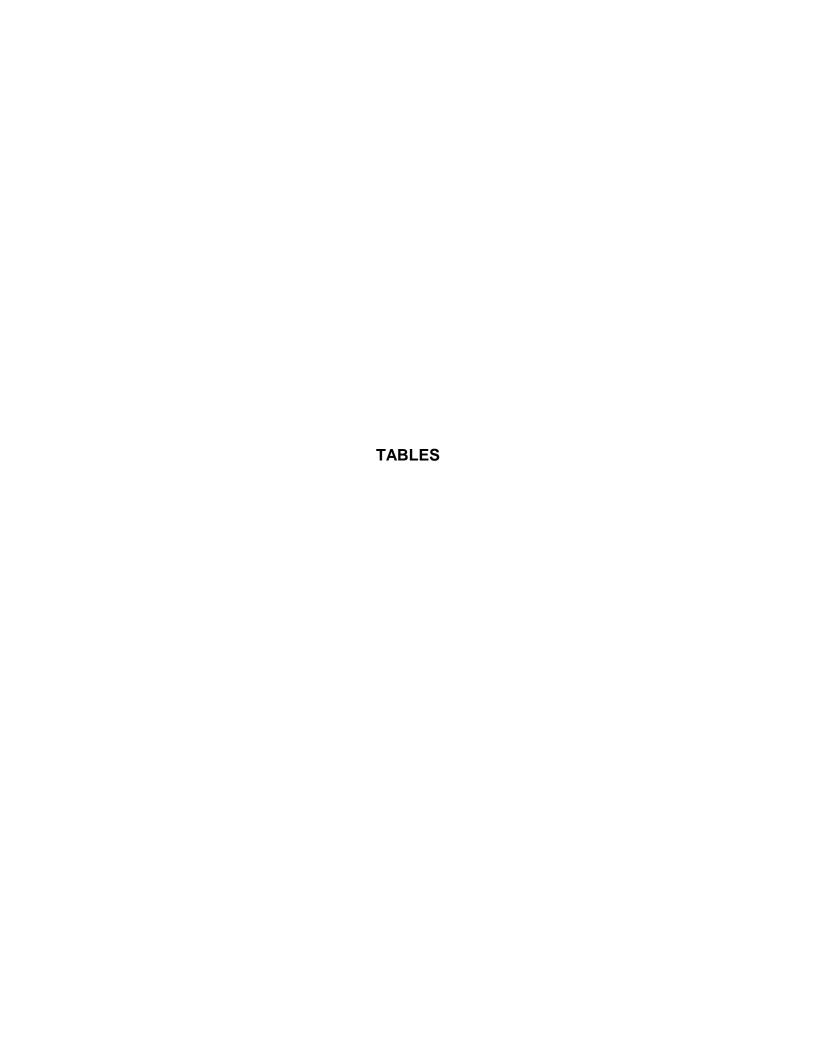
## **APPENDICES**

Appendix A -Soil Boring/Monitoring Well

Construction Logs

Appendix B -Appendix C -Appendix D -Laboratory Analytical Data Waste Disposal Documentation

Photographs



## Table 1 SOIL ANALYTICAL DATA VOLATILE ORGANIC COMPOUNDS

Commander Oil Terminal One Commander Square Oyster Bay, New York October 12, 2010

SAMPLE ID		EP-1, 2-2.5'	EP-3, 2-2.5'	EP-5, 1.5-2'	EP-6, 2-2.5'	EP-7, 2-2.5'	EP-8, 2-2.5'
SAMPLE DEPTH (fbg)		2' - 2.5'	2' - 2.5'	1.5' - 2'	2' - 2.5'	2' - 2.5'	2' - 2.5'
SAMPLE DATE		10/12/2010					
PARAMETER 375-6.8(a): Unrestricted Use Soil Cleanup Objectives (mg/kg)			10/12/2010	10/12/2010	10/12/2010	10/12/2010	10/12/2010
Benzene	0.06	0.015	0.0062 J	< 0.0053	<0.71	0.0035 J	<0.72
Ethylbenzene	1	0.025	0.0094	0.001 J	0.28 J	0.0029 J	0.89
Toluene	0.7	0.072	0.016	0.0009 J	0.14 J	0.011	0.55 J
Total Xylenes	0.26	0.0226	0.04	0.0041 J	0.68 J	0.0131	2
MTBE	0.93	<0.0052	0.0098	< 0.0053	<0.71	<0.006	<0.72
1,2-Dichloroethane	0.02 <sup>c</sup>	<0.0053	<0.0062	<0.0053	<0.71	<0.0062	<0.72
cis-1,2-Dichloroethene	0.25	0.0065	0.0055 J	< 0.0053	<0.71	0.75	0.19 J
trans-1,2-Dichloroethene	0.19	<0.0053	<0.0062	< 0.0053	<0.71	0.0038 J	<0.72
Trichloroethene	0.47	<0.0053	<0.0062	< 0.0053	<0.71	0.044	<0.72
Vinyl chloride	0.02	<0.0053	<0.0062	< 0.0053	<0.71	0.56 J	<0.72
Percent Moisture (wt%)	N/A	6.39	19.3	6.99	11.6	19.9	13.6

#### Notes:

c - For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

fbg - feet below grade

J - Analyte detected below quantitation range

Laboratory values and soil cleanup objectives (SCOs) are in milligrams per kilograms

N/A - Not applicable

Shading - Reported concentration detected above the applicable standard(s) or guidance value(s)

Subpart 375-6: Remedial Program Soil Cleanup Objectives, (Environmental Conservation Law (ECL) article 1, section 0101; ECL article 27, titles 13 and 14; ECL article 52, title 3; ECL article 56, title 5; ECL article 71, title 36; ECL article 3, section 0301; chapter 1, laws of 2003; chapter 577, laws of 2004 and State Finance Law article 6, section 97-b), [Effective December 14, 2006]

<sup>&</sup>lt;1.0 - Not detected at or above the laboratory reporting limit shown

## Table 2 **GROUNDWATER ANALYTICAL DATA** CHLORINATED VOLATILE ORGANIC COMPOUNDS

**Commander Oil Terminal One Commander Square** Oyster Bay, New York November 18, 2010

SAMPLE ID		DS-6, 5-6'	DS-6, 10-11'	DS-6, 20-21'	DS-7, 4-6'	DS-7, 9-11'	DS-7, 19-21'	DS-1, 8-10'
SAMPLE DEPTH (fbg)		5 - 6'	10 - 11'	20 - 21'	4 - 6'	9 - 11'	19 - 21'	8 - 10'
SAMPLE DATE								
PARAMETER NYSDEC STANDARDS (ug/L)		11/18/2010	11/18/2010	11/18/2010	11/18/2010	11/18/2010	11/18/2010	11/18/2010
1,2-Dichloroethane	0.6	<1.0	<1.0	<1.0	<10	<1.0	<10	<1.0
cis-1,2-Dichloroethene	5	150000	680	2700	76000	340000	29000	230
trans-1,2-Dichloroethene	5	310	2.6	14	330	680	56	<1.0
Trichloroethene	5	5.4	<1.0	31	770000	62000	200000	4300
Vinyl chloride	2	100000	450	1300	4700	75000	2900	28

#### Notes:

- ~ The NYSDEC has not established a standard or guidance value
- <1.0 Not detected at or above the laboratory reporting limit shown
- μg/L micrograms per liter (parts per billion)

NYSDEC Standards and Guidance Values - New York State Department of Environmental Conservation Technical and Operational Guidance

Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values, June 1998 and Addendum April 2000

Shading - Reported concentration detected above the applicable standard(s) or guidance value(s)

#### **Data Qualifier**

J - Analyte detected below quantitation limits

## Table 2 GROUNDWATER ANALYTICAL DATA CHLORINATED VOLATILE ORGANIC COMPOUNDS

Commander Oil Terminal One Commander Square Oyster Bay, New York November 19, 2010

SAMPLE ID		DS-1, 16-18'	DS-1, 23-25'	DS-5, 7-9'	DS-5, 10-13'	DS-5, 19-22'	DS-5, 29-32'	DS-4, 4-7'	DS-4, 9-12'
SAMPLE DEPTH (fbg)		16 - 18'	23 - 25'	7 - 9'	10 - 13'	19 - 22'	29 - 32'	4 - 7'	9 - 12'
SAMPLE DATE									
PARAMETER	NYSDEC STANDARDS (ug/L)	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010
1,2-Dichloroethane	0.6	<10	<10	<1.0	<1.0	<1.0	<1.0	<50	<1.0
cis-1,2-Dichloroethene	5	68	79	1.5	<1.0	5.5	5.4	<50	6.3
trans-1,2-Dichloroethene	5	<10	<10	<1.0	<1.0	<1.0	<1.0	<50	<1.0
Trichloroethene	5	350	190	<1.0	29	620	36	180	54
Vinyl chloride	2	<10	<10	<1.0	<1.0	<1.0	<1.0	<50	<1.0

SAMPLE ID		DS-4, 19-22'	DS-4, 29-32'	DS-2, 9-12'	DS-2, 15-18'	DS-2, 23-26'	DS-3, 5-8'	DS-3, 13-16'	DS-3, 19-22'
SAMPLE DEPTH (fbg)		19 - 22'	29 - 32'	9 - 12'	15 - 18'	23 - 26'	5 - 8'	13 - 16'	19 - 22'
SAMPLE DATE									
PARAMETER NYSDEC STANDARDS (ug/L)		11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010	11/19/2010
1,2-Dichloroethane	0.6	<1.0	<1.0	<10	<10	<1.0	<10	<1.0	<1.0
cis-1,2-Dichloroethene	5	1.4	<1.0	3100	1400	24	<10	3600	51
trans-1,2-Dichloroethene	5	<1.0	<1.0	16	<10	<1.0	<10	15	<1.0
Trichloroethene	5	54	14	110	59	14	<10	47	20
Vinyl chloride	2	<1.0	<1.0	710	180	<1.0	<10	460	<1.0

#### Notes:

- ~ The NYSDEC has not established a standard or guidance value
- <1.0 Not detected at or above the laboratory reporting limit shown

μg/L - micrograms per liter (parts per billion)

NYSDEC Standards and Guidance Values - New York State Department of Environmental Conservation Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values, June 1998 and Addendum April 2000

Shading - Reported concentration detected above the applicable standard(s) or guidance value(s)

### **Data Qualifier**

J - Analyte detected below quantitation limits

# Table 2 GROUNDWATER ANALYTICAL DATA CHLORINATED VOLATILE ORGANIC COMPOUNDS

Commander Oil Terminal One Commander Square Oyster Bay, New York December 7, 2010

SAMPLE ID		MW-20	MW-21	MW-22
SAMPLE DEPTH (fbg)		2 - 7'	2 - 7'	2 - 7'
SAMPLE DATE				
PARAMETER	NYSDEC STANDARDS (ug/L)	12/7/2010	12/7/2010	12/7/2010
1,2-Dichloroethane	0.6	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	5	6.9	2800	110
trans-1,2-Dichloroethene	5	<1.0	32	<1.0
Trichloroethene	5	<1.0	<1.0	<1.0
Vinyl chloride	2	8	6400	730

### Notes:

- ~ The NYSDEC has not established a standard or guidance value
- $<\!1.0$  Not detected at or above the laboratory reporting limit shown

μg/L - micrograms per liter (parts per billion)

NYSDEC Standards and Guidance Values - New York State Department of Environmental Conservation Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values, June 1998 and Addendum April 2000

Shading - Reported concentration detected above the applicable standard(s) or guidance value(s)

### **Data Qualifier**

J - Analyte detected below quantitation limits

# Table 3 SOIL ANALYTICAL DATA VOLATILE ORGANIC COMPOUNDS

Commander Oil Terminal One Commander Square Oyster Bay, New York November 22, 2010

SAMPLE ID		MW-22, 2-3'	MW-22, 6-7'	MW-21, 5.5-6.5'	MW-20, 3-4.5'	MW-20, 4.5-6.5'	SB-4, 4-7'	SB-3, 3-5'
SAMPLE DEPTH (fbg)		2' - 3' 6' - 7'		5.5' - 6.5'	3' - 4.5'	4.5' - 6.5'	4' - 7'	3' - 5'
SAMPLE DATE								
PARAMETER	375-6.8(a): Unrestricted Use Soil Cleanup Objectives (mg/kg)	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010	11/22/2010
Benzene	0.06	<0.0053	<0.006	0.83 J	<0.79	<0.79	<5.3	4.8
Ethylbenzene	1	0.0019 J	<0.006	3.4	0.06 J	0.24 J	0.99 J	15
Toluene	0.7	< 0.0053	<0.006	6	<0.79 U	<0.79	<5.3	37
Total Xylenes	0.26	0.0052 J	<0.018	9.1	0.13 J	0.79 J	1.5 J	63
MTBE	0.93	< 0.0053	<0.006	0.31 J	<0.79 U	<0.79	<5.3	<0.84
1,2-Dichloroethane	0.02 <sup>c</sup>	<0.0055	<0.0061	<1.1	<0.79 U	<0.79	<5.3	<0.84
cis-1,2-Dichloroethene	0.25	0.022	<0.0061	24	0.35 J	<0.79	41	160
trans-1,2-Dichloroethene	0.19	<0.0055	<0.0061	<1.1	<0.79 U	<0.79	<5.3	0.59 J
Trichloroethene	0.47	0.018	<0.0061	<1.1	<0.79 U	<0.79	1600	6100
Vinyl chloride	0.02	0.0015 J	<0.0061	36	<0.79 U	<0.79	<5.3	1.5
Percent Moisture (wt%)	N/A	8.34	17.6	40.8	20.6	20.9	40.9	25.2

## Notes:

- <1.0 Not detected at or above the laboratory reporting limit shown
- c For constituents where the calculated SCO was lower than the rural soil background concentration, as determined by the Department and Department of Health rural soil survey, the rural soil background concentration is used as the Track 1 SCO value for this use of the site.

fbg - feet below grade

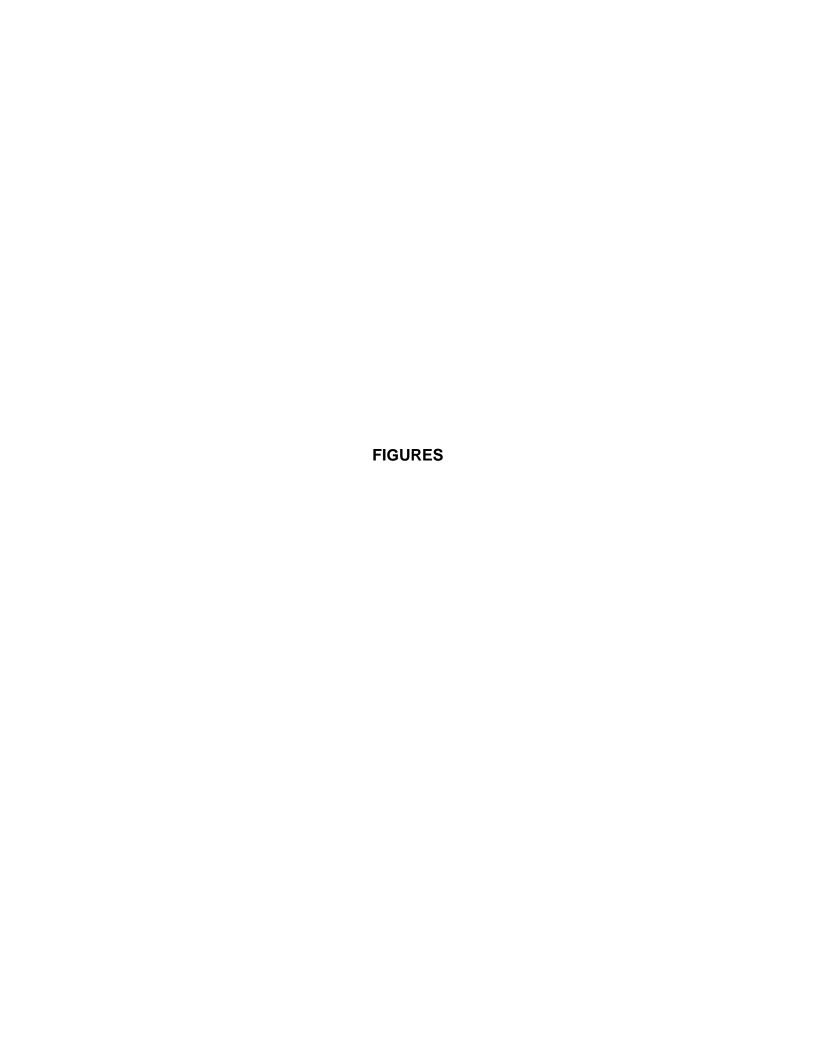
J - Analyte detected below quantitation range

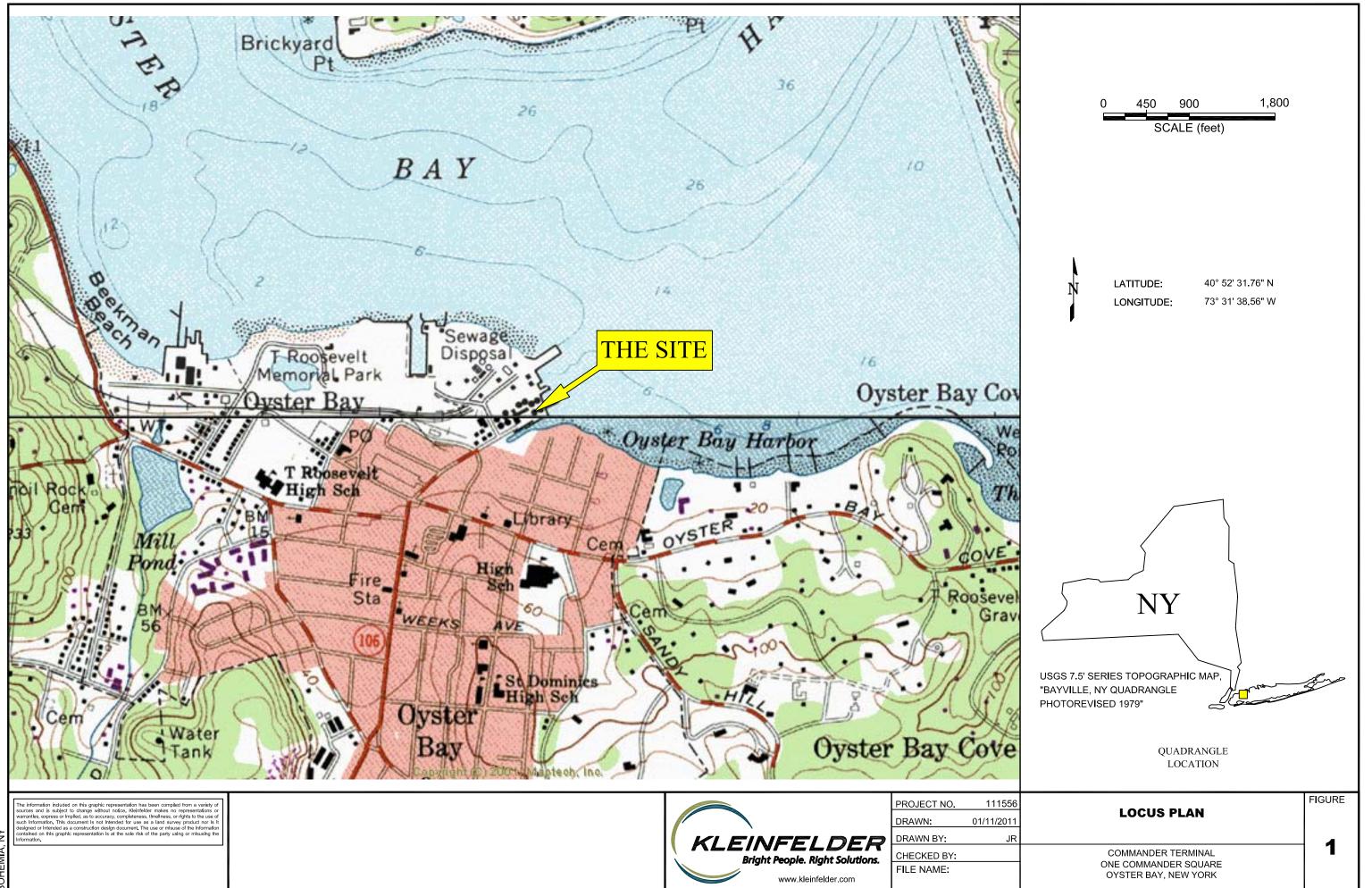
Laboratory values and soil cleanup objectives (SCOs) are in milligrams per kilograms

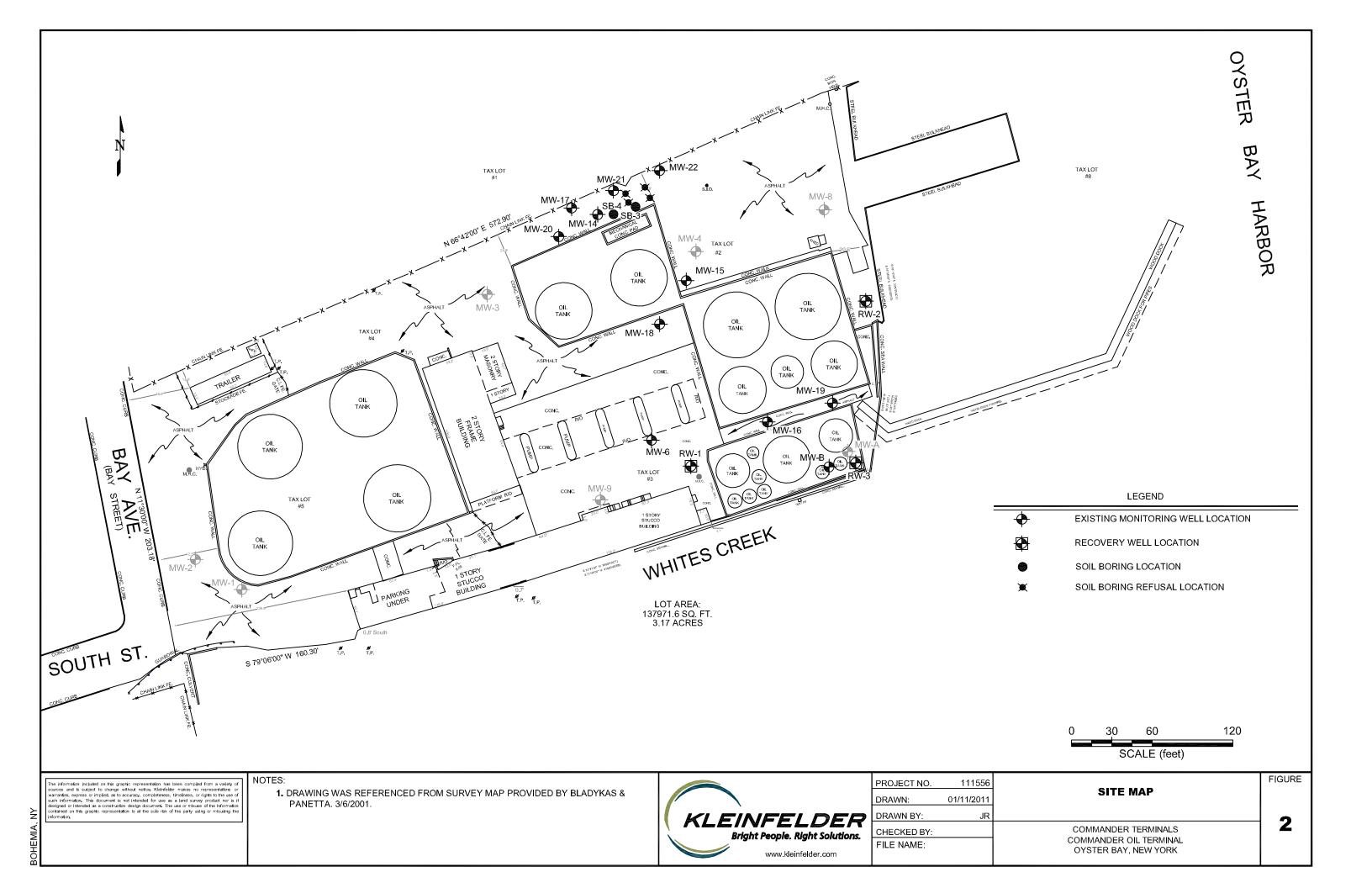
N/A - Not applicable

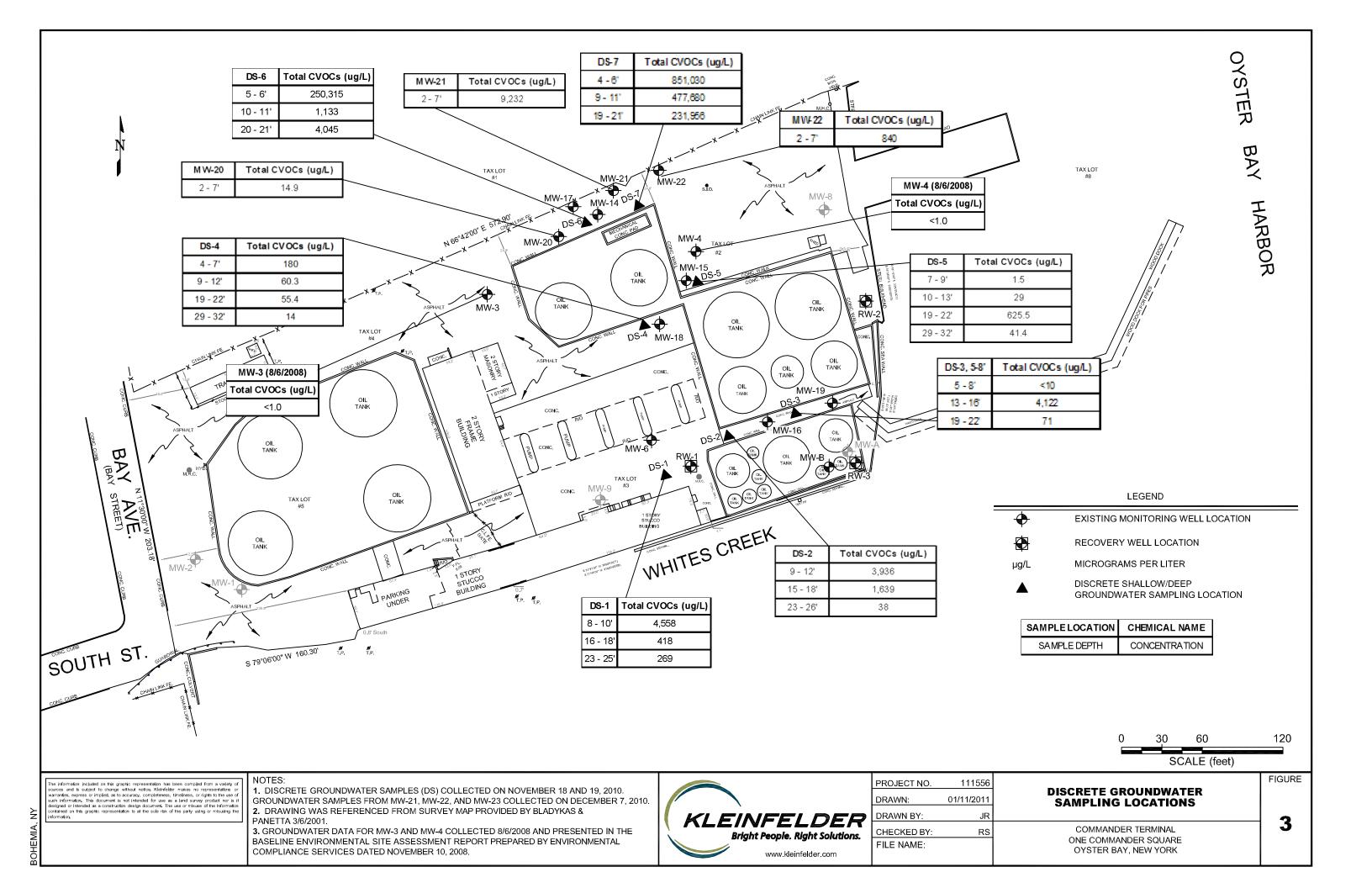
Shading - Reported concentration detected above the applicable standard(s) or guidance value(s)

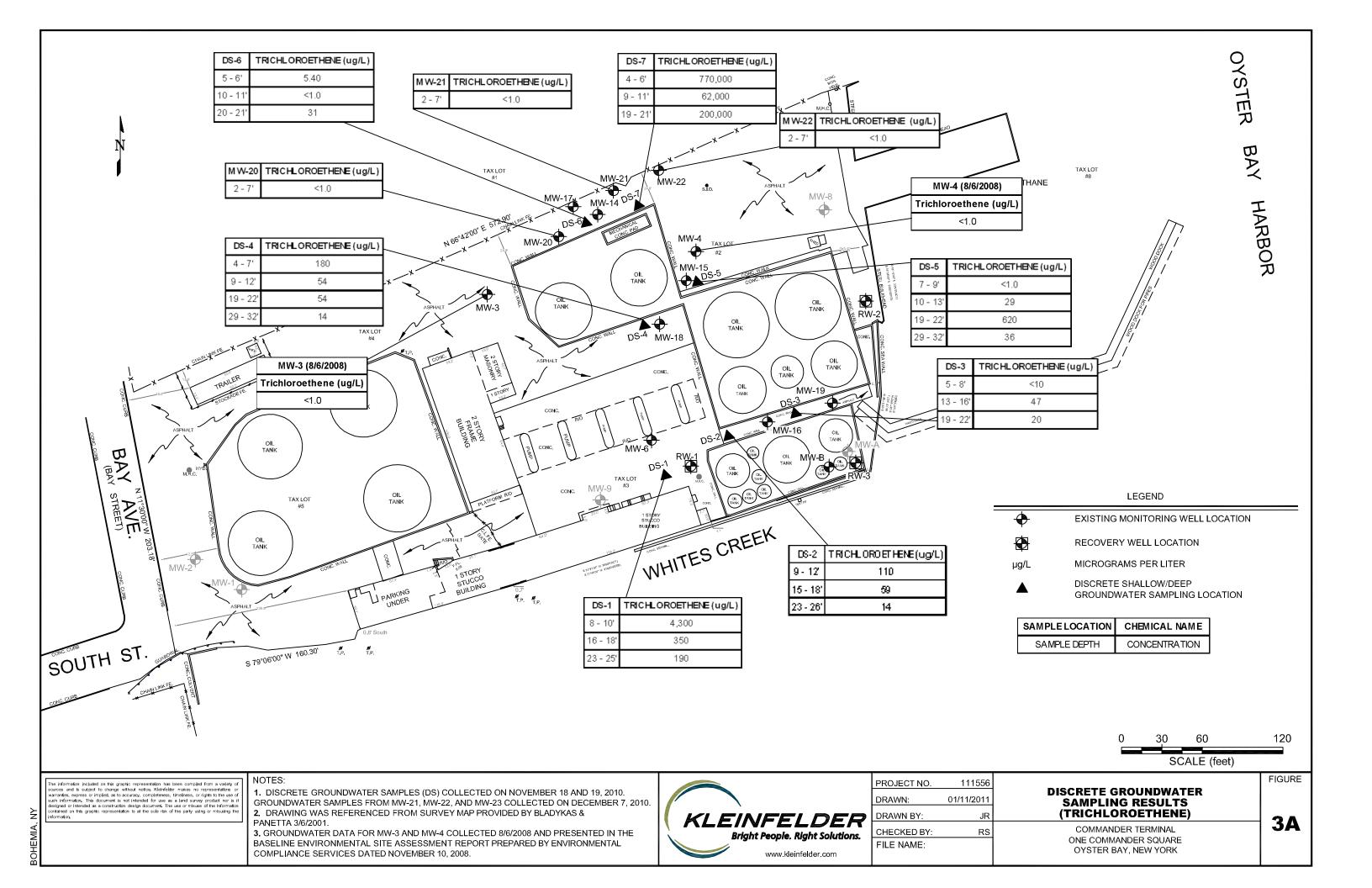
Subpart 375-6: Remedial Program Soil Cleanup Objectives, (Environmental Conservation Law (ECL) article 1, section 0101; ECL article 27, titles 13 and 14; ECL article 52, title 3; ECL article 56, title 5; ECL article 71, title 36; ECL article 3, section 0301; chapter 1, laws of 2003; chapter 577, laws of 2004 and State Finance Law article 6, section 97-b), [Effective December 14, 2006]

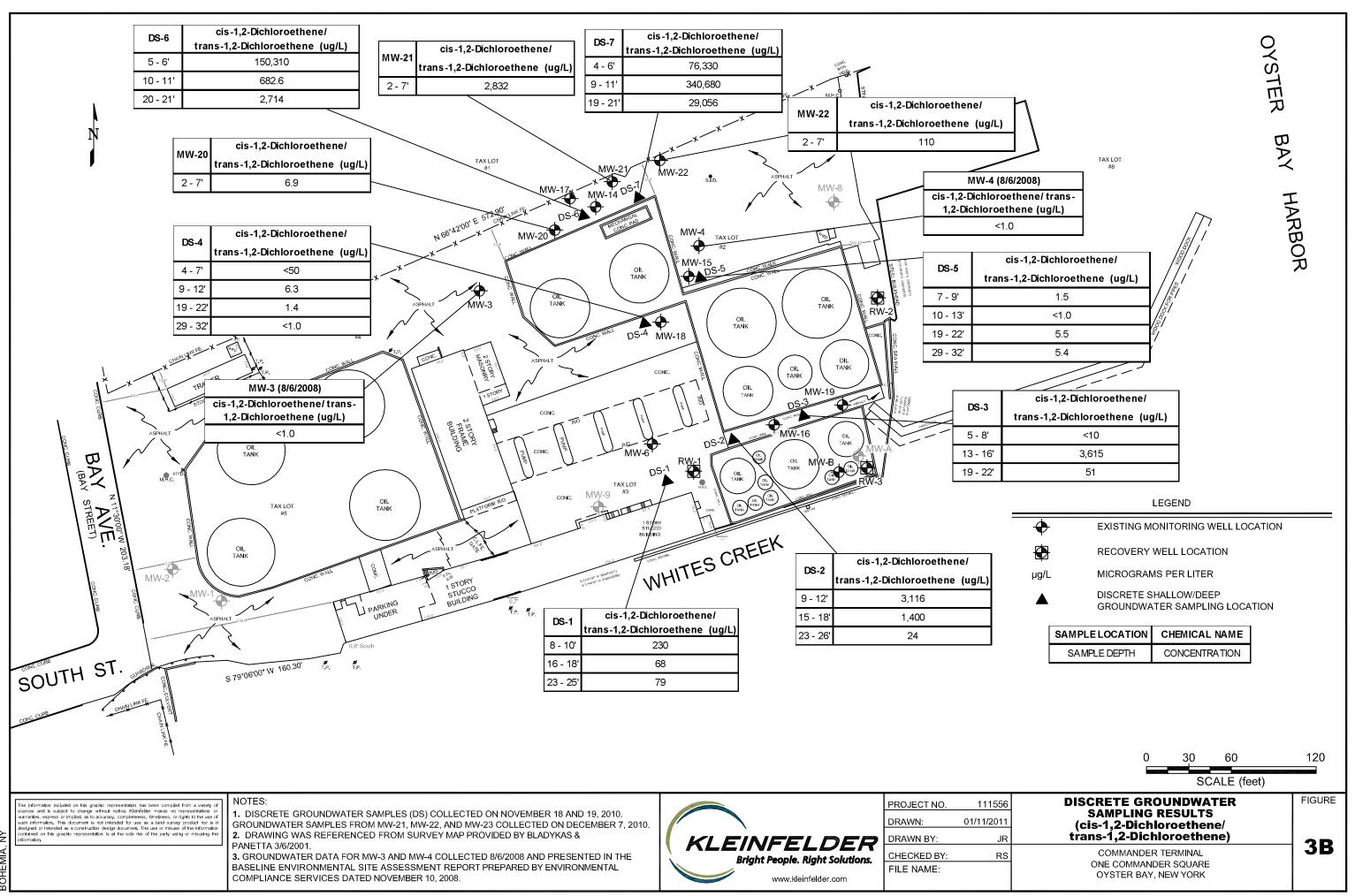




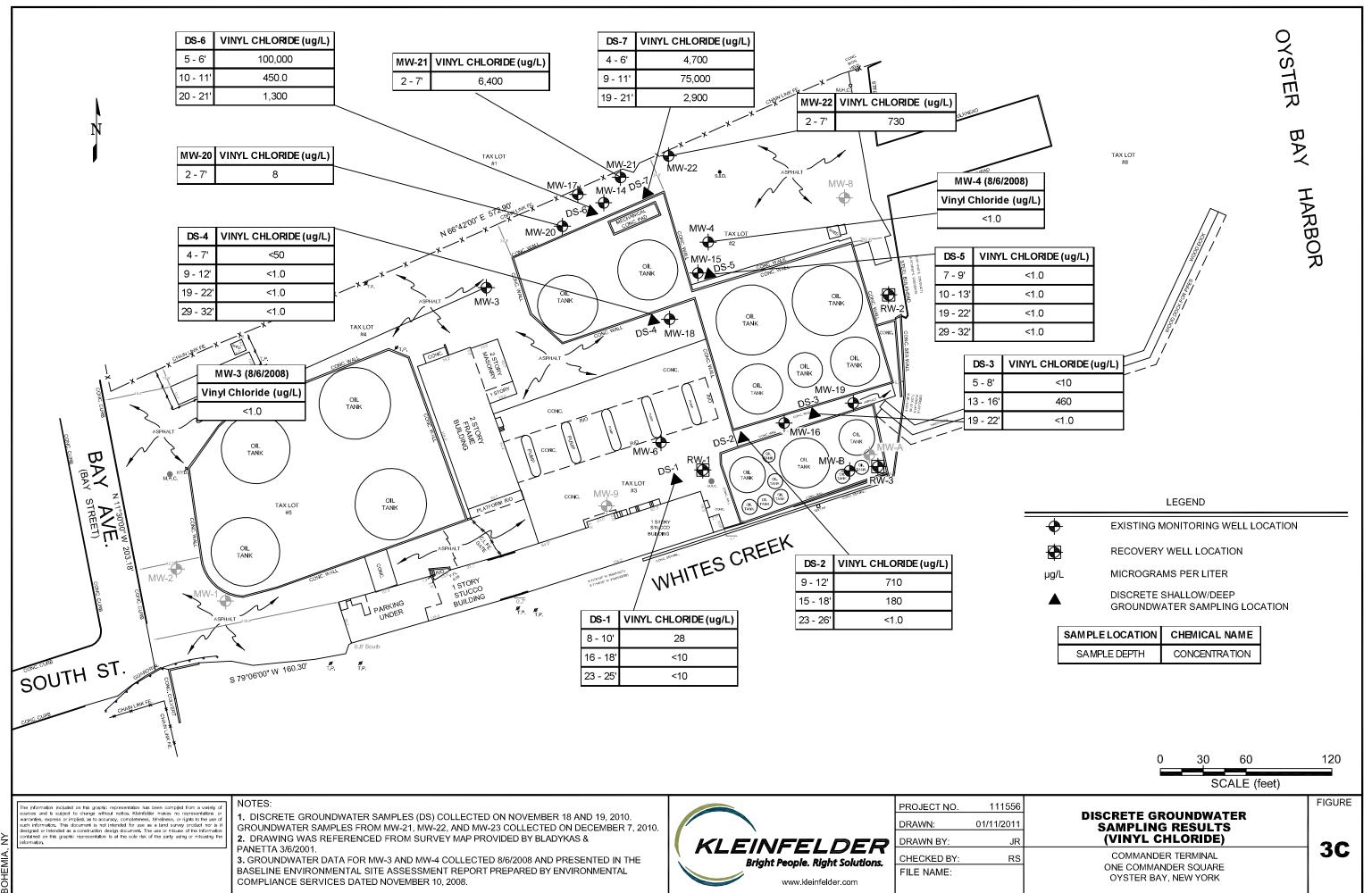


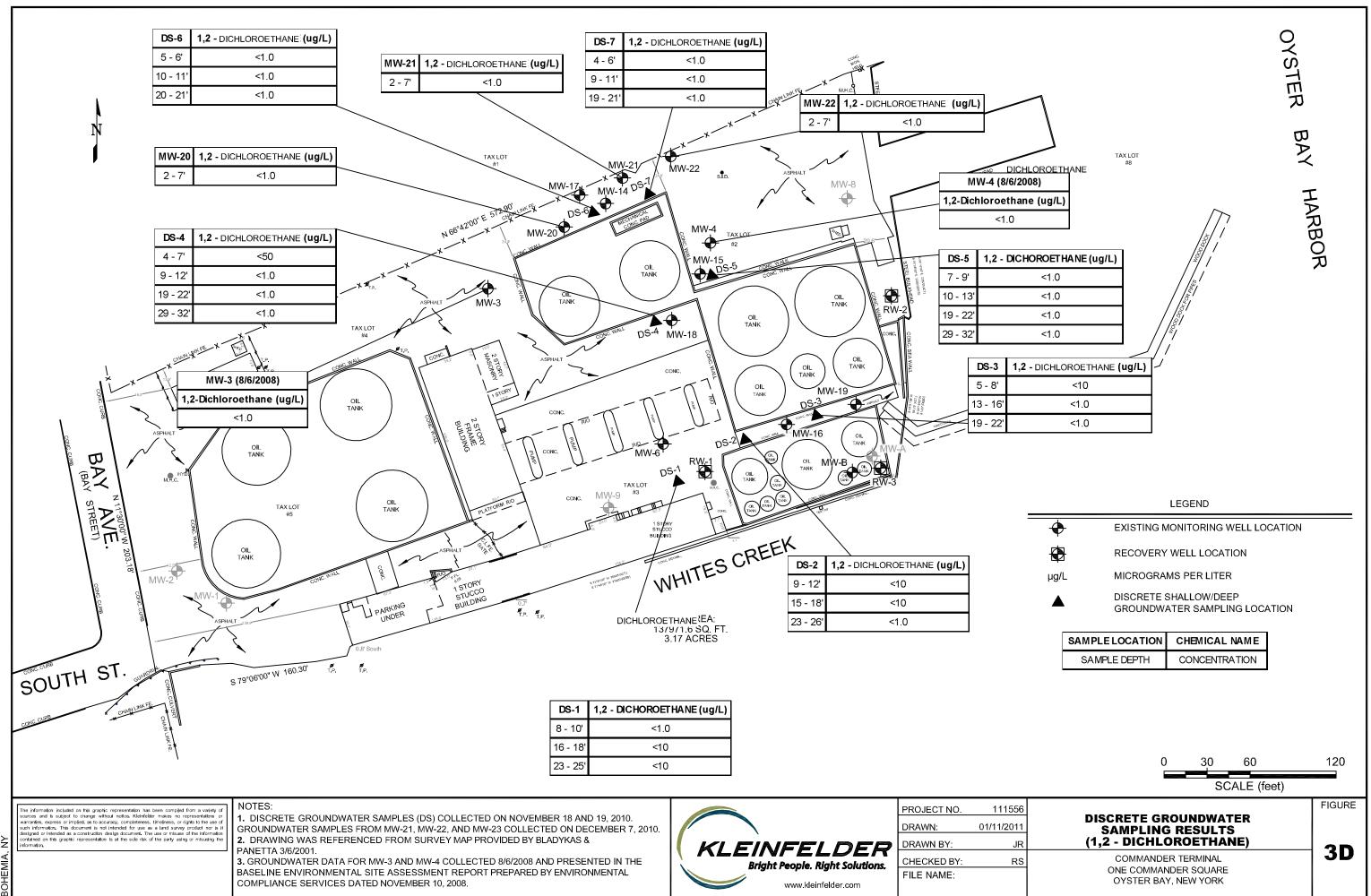


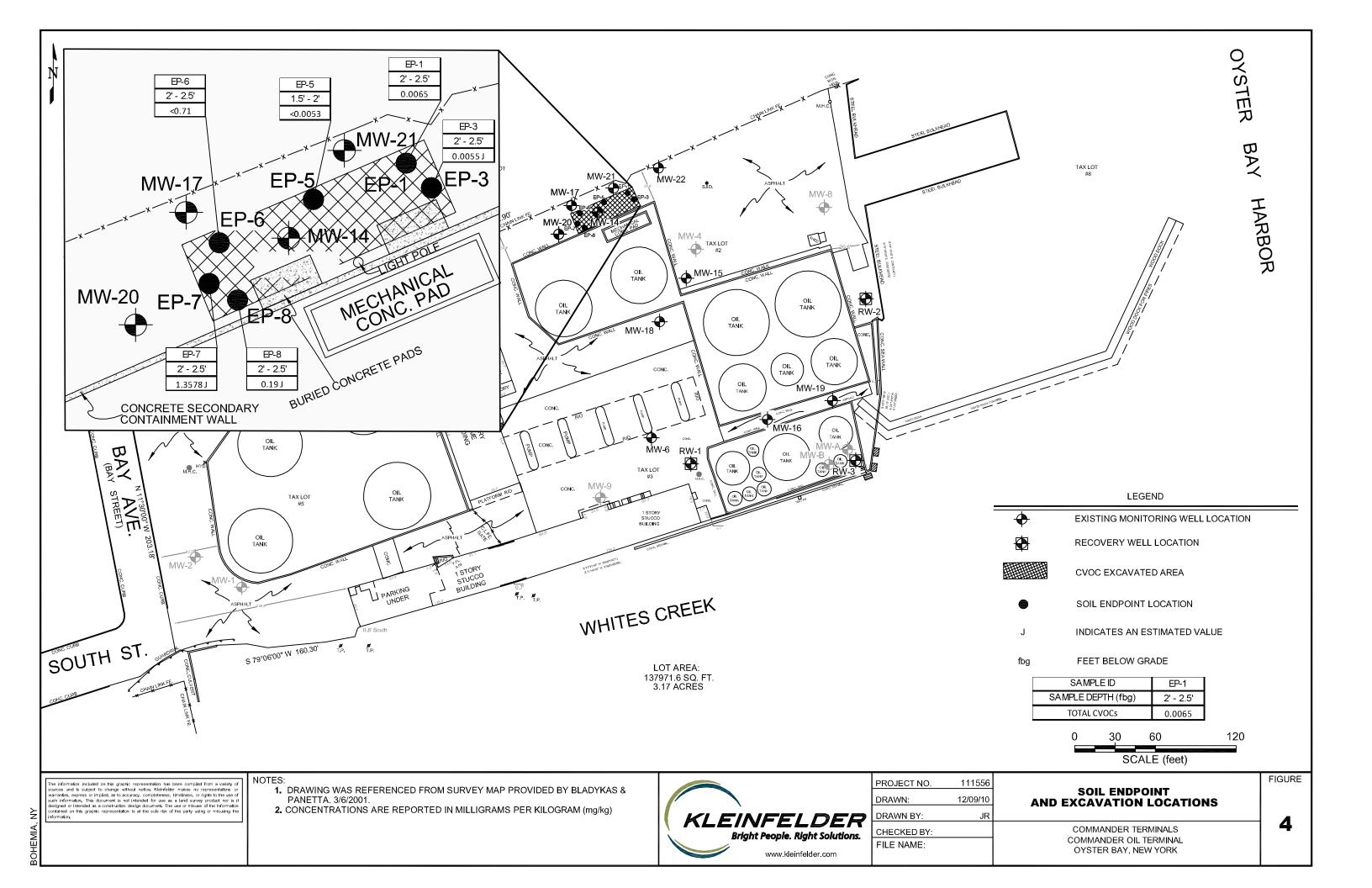


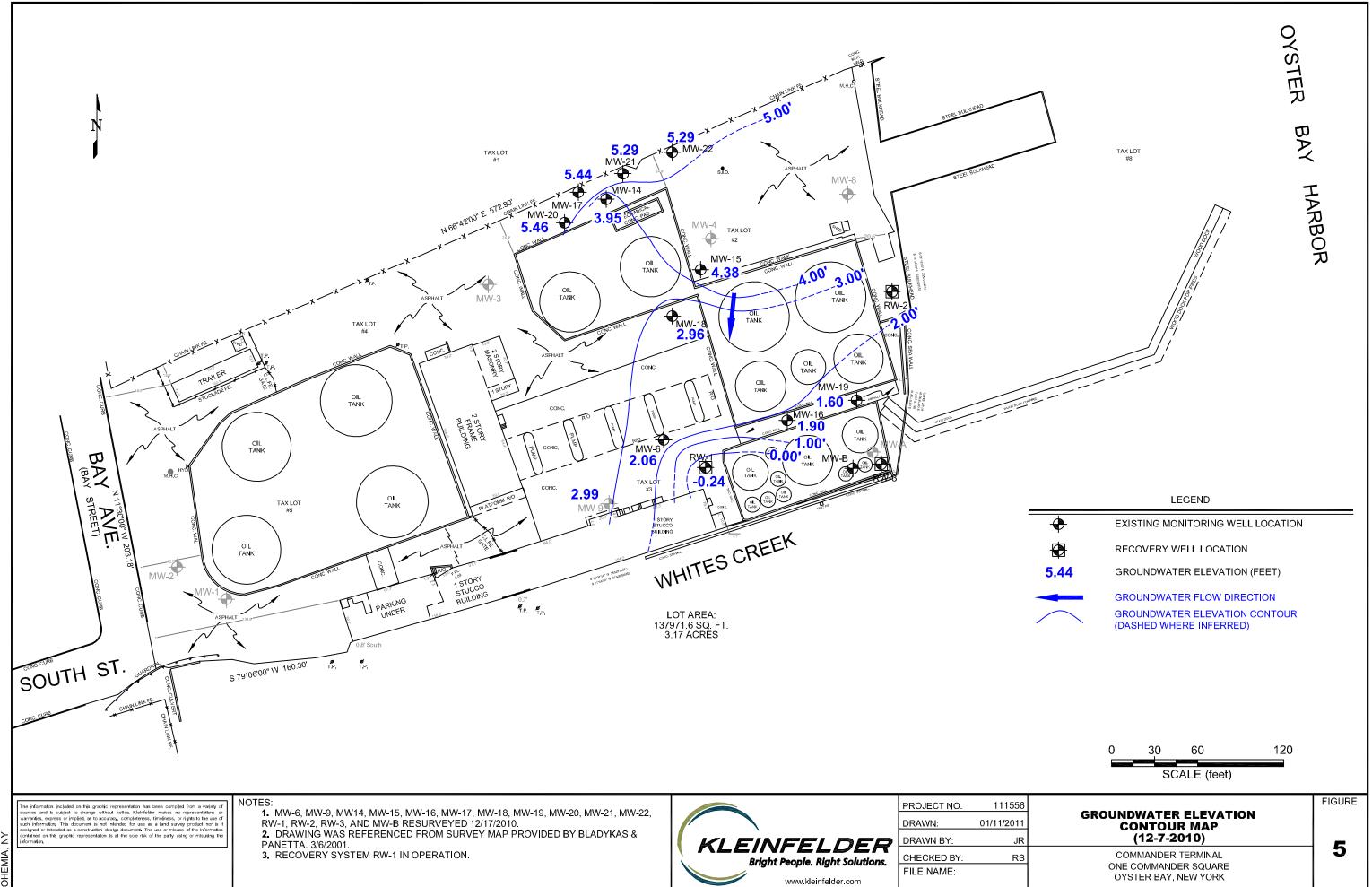


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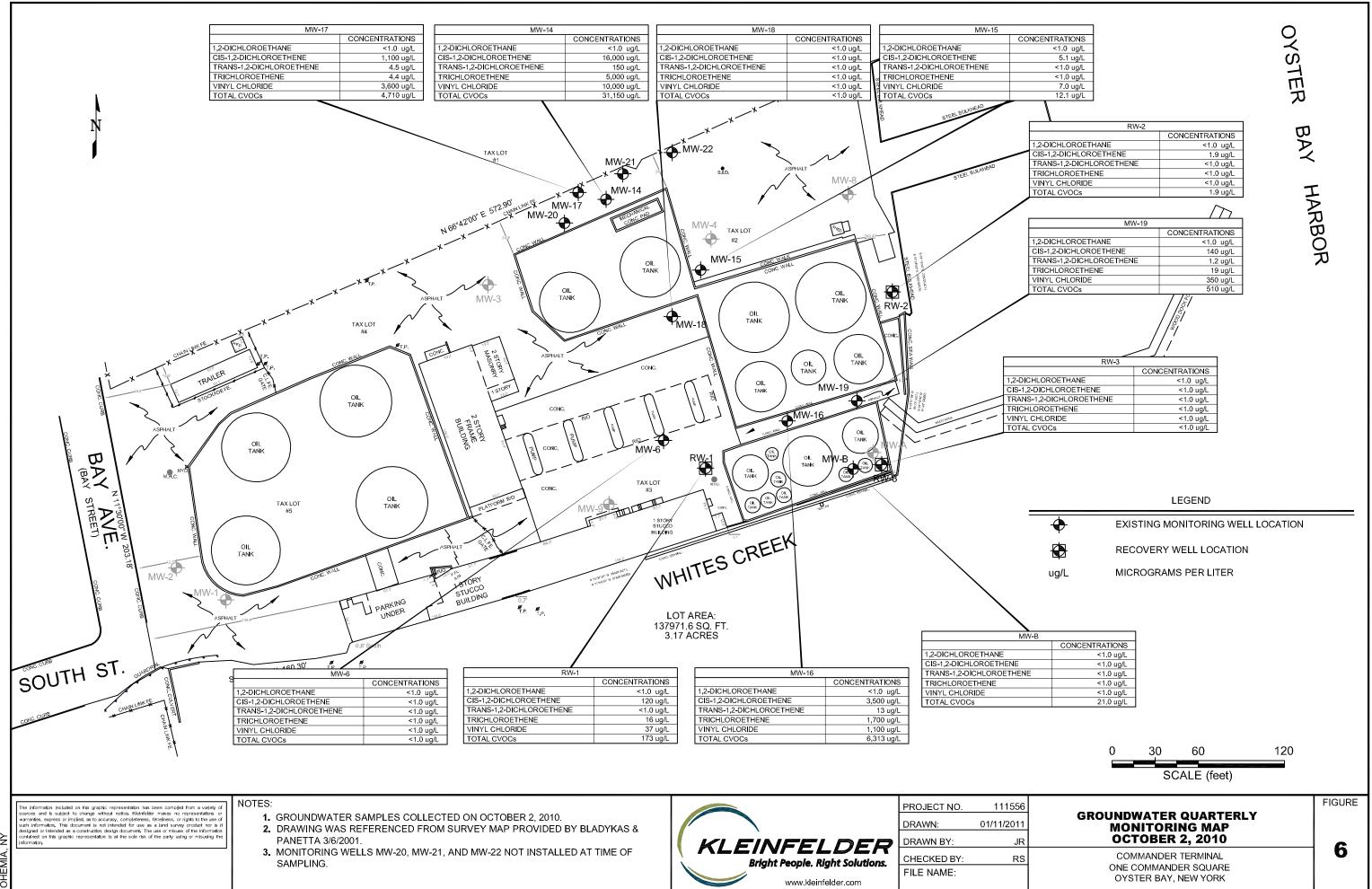








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# APPENDIX A Soil Boring/Monitoring Well Construction Logs



Soil Boring Log/Monitoring **Well Construction Diagram** Well No. MW-20/SB-1

Project Name: Commander Oil Terminal

Site Location: 1 Commander Square, Oyster Bay, NY

Kleinfelder Project No: 111556 Client: Renaissance Property Associates

Start Date: 11/22/10 End Date: 11/22/10

NM - not measured

Logged By (Geol.): Zachary Halsey Checked By: Zachary Halsey

**Drilling Company: AES** Driller: Ryan Jensen

Drill Rig Type: Geoprobe 6610 DT Drilling Method: Hollow Stem Auger

Total Hole Depth: 8 fbg

Depth to Bedrock: Not encountered

Borehole Diameter: 6" Sampling Method: Macrocore Surface Elevation: 7.50 Initial Water Level: 2.5 fbg

Notes:

	SI	JBSURFACE PROFILE		SAMPL	E					
Depth (feet)	Graphic Log	Soil/Geologic Description	Sample ID (fbg)	Blow Counts (6-inch interval)	Sample Recovery (inches)	DID 250 500	Well C	Comple	tion Details	Depth (feet)
0-		Ground Surface								0-
- -		SP-SM Dark brown, poorly graded SAND with Silt - Fine to medium grained SAND, some Silt, little fine gravel, moist.	0-1	NA	NA	0.0	ion Cap		ete Pad	-
1 — - -		Dark brown, Silty SAND - Fine to medium grained Silty SAND, crushed oyster shells throughout, odor, moist.	1-2	NA	NA	76.1	Locking Compression Cap		ا Manhole 2'x2' Concrete Pad	1 -
2- - - -		SM Grayish-brown, Silty SAND - Fine to medium grained Silty SAND with crushed oyster shells throughout, odor, moist/wet.	2-3	NA	NA	81.7	Locking		Bolted Steel Manhole 2'x2' Conc	2
3- - -		SM Gray, Silty SAND - Medium grained Silty SAND, some oyster shells, odor, staining, wet.				159				3-
4 - -	:09:i0::i0:l	ML Dark brown Sandy SILT - Black staining with some gray layers, compacted fine grained Sandy SILT, crushed glass throughout, wet.				144	t Screen	**************************************	wel Pack	4
5— - - -		SP Brownish-gray, poorly graded SAND - Medium to coarse grained SAND with some fine Gravel, trace silt, wet.	3-8	NA	48	173	PVC 0.020" Slot Screen		Morie #2 Sand/Gravel Pack	5-
6— - - -	700 700 700 700 70 700 700 700 700 70 700 700	SW Gray, well-graded SAND - Medium grained SAND, some fine Gravel, trace clay, oyster shells, odor, wet.				191	2" PV		Morie	6-
7- - -	\$\frac{\psi_{1}}{\psi_{1}} \frac{\psi_{1}}{\psi_{1}} \frac{\psi_{1}}{\	PEAT - Brown PEAT, wet.				2.6				7-
8	sile sile sile	End of Borehole								8-
9-										9-
1	BDL - below bg - feet be msl - mean s NA - not app	sea level PID - photoioniz	ed		Geologic	proximated using Mur descriptions based or collected for laborator	n ASTM D 2488.	, 2000.		

PID - photoionization detector ppmv - parts per million by volume PVC - polyvinyl chloride



Soil Boring Log/Monitoring Well Construction Diagram Well No. MW-21/SB-2

**Project Name:** Commander Oil Terminal

Site Location: 1 Commander Square, Oyster Bay, NY

Kleinfelder Project No: 111556 Client: Renaissance Property Associates

**Start Date:** 11/22/10 **End Date:** 11/22/10

msl - mean sea level

NA - not applicable NM - not measured

**Logged By (Geol.):** Zachary Halsey **Checked By:** Zachary Halsey

Drilling Company: AES
Driller: Ryan Jensen

**Drill Rig Type:** Geoprobe 6610 DT **Drilling Method:** Hollow Stem Auger

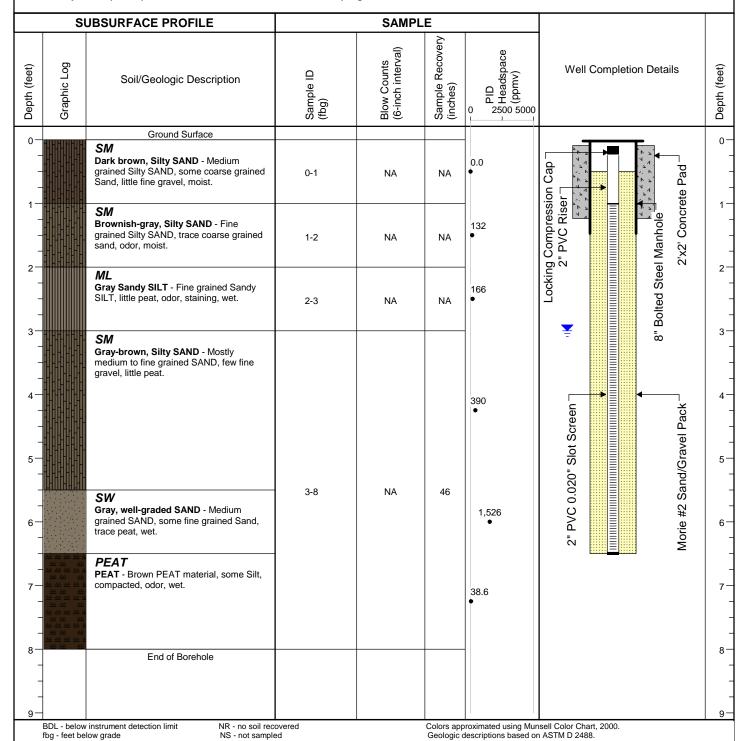
Total Hole Depth: 8 fbg

Depth to Bedrock: Not encountered

Borehole Diameter: 6"
Sampling Method: Macrocore

Surface Elevation: 7.45 Initial Water Level: 3 fbg

Notes:



\* - sample collected for laboratory analysis

PID - photoionization detector

ppmv - parts per million by volume PVC - polyvinyl chloride



Soil Boring Log/Monitoring **Well Construction Diagram** Well No. MW-22/SB-5

Project Name: Commander Oil Terminal

Site Location: 1 Commander Square, Oyster Bay, NY

Kleinfelder Project No: 111556 Client: Renaissance Property Associates

Start Date: 11/22/10 End Date: 11/22/10

NM - not measured

Logged By (Geol.): Zachary Halsey Checked By: Zachary Halsey

**Drilling Company: AES** Driller: Ryan Jensen

Drill Rig Type: Geoprobe 6610 DT Drilling Method: Hollow Stem Auger

Total Hole Depth: 8 fbg

Depth to Bedrock: Not encountered

Borehole Diameter: 6" Sampling Method: Macrocore Surface Elevation: 7.93 Initial Water Level: 3 fbg

Notes:

	SI	JBSURFACE PROFILE		SAMPL	.E					
Deptn (reet)	Graphic Log	Soil/Geologic Description	Sample ID (fbg)	Blow Counts (6-inch interval)	Sample Recovery (inches)	BID BID O 250 O 250	Well C	complet	ion Details	Denth (feet)
0-		Ground Surface							_	
- - -		SP Dark brown, poorly graded SAND - Medium grained SAND, some coarse grained Sand, little fine gravel, trace silt, moist.	0-1	NA	NA	0.0	ion Cap	<b>&gt;</b>	ete Pad	
		SM Gray, Silty SAND - Medium grained Silty SAND, some coarse grained Sand, little fine gravel, odor, moist (soil very compacted).	1-2	NA	NA	0.0	Locking Compression Cap 2" PVC Riser		ا Manhole 2'x2' Concrete Pad	
		SP Grayish-brown, poorly graded SAND - Medium to coarse grained SAND, some coarse Gravel, odor, moist.	2-3	NA	NA	431 •			8" Bolted Steel Manhole 2'x2' Conc	
- - -		SP Grayish-brown, poorly graded SAND - Medium to coarse grained SAND, some coarse Gravel, odor, wet.					¥		<u></u> 80	
 - -							. Screen	*	rel Pack _	
;- - -	\$\dark \dark	PEAT PEAT - Light gray PEAT, some Oyster Shells, wet. PEAT	3-8	NA	44		PVC 0.020" Slot Screen		Morie #2 Sand/Gravel Pack	
- 3- -	the the the the	PEAT - Black/brown PEAT mixed, trace medium grained sand, wet.  SW Gray, well-graded SAND - Medium grained SAND, trace coarse grained					2" PVC 0		Morie #2	
- ,_ -	\$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$ \$\$	sand, wet.  SW  Dark brown, well-graded SAND - Black stained medium grained SAND, wet.				39.7				
- 3-	\$1.50 \$1.50	PEAT PEAT - Brown PEAT, trace fine grained sand, trace silt, wet.  End of Borehole				-				
-										
9—				l	1					- 1

PID - photoionization detector ppmv - parts per million by volume PVC - polyvinyl chloride



# **Soil Boring Log Boring No. SB-3**

Project Name: Commander Oil Terminal

Site Location: 1 Commander Square, Oyster Bay, NY

Kleinfelder Project No: 111556 Client: Renaissance Property Associates

Start Date: 11/22/10 End Date: 11/22/10

NM - not measured

Logged By (Geol.): Zachary Halsey Checked By: Zachary Halsey

**Drilling Company: AES** Driller: Ryan Jensen

Drill Rig Type: Geoprobe 6610 DT Drilling Method: Direct Push Total Hole Depth: 8 fbg

Depth to Bedrock: Not encountered

Borehole Diameter: 2" Sampling Method: Macrocore Surface Elevation: NA Initial Water Level:

Notes:

		SUBSURFACE PROFILE	SAMPLE							
Depth (feet)	Graphic Log	Soil/Geologic Description	Sample ID (fbg)	PID Headspace (ppmv) 0 2500 5000	Blow Counts (6-inch interval)	Sample Recovery (inches)	Depth (feet)			
0-		Ground Surface					0-			
- - -		FILL - Compacted RCA FILL	0-1	NS •	NA	NA	-			
1 <del>-</del> - -		SM Brown, Silty SAND - Medium to coarse grained SAND, some coarse Gravel, trace brick, moist, odor.	1-2	590 •	NA	NA	1-			
2		SM Brown, Silty SAND - Medium to coarse grained SAND, some coarse Gravel, trace brick, moist, odor.	2-3	600	NA	NA	2-			
3- - -		SP Dark brown, poorly graded SAND - Medium to coarse grained SAND with some fine Gravel and trace silt, wet, odor.		404			3-			
4 — - - -		SP Brown, poorly graded SAND - Medium to coarse grained SAND with some stained peat, trace fine gravel, wet, odor.		2,350			4-			
5— - -		SP-SM Dark brown, poorly graded SAND with Silt - Fine to medium grained SAND, some Silt, trace peat, wet, odor.	3-8	937	NA	52	5-			
6— - - 7— -		ML Brown, Sandy SILT - Mostly fine to medium Sandy SILT, brown with staining, some Peat, trace fine gravel. Peat present at end of macrocore, wet, odor.		1,816			6- - - - 7-			
8— 8—		End of Borehole		_			8-			
9-							9-			
- - 10-		ument detection limit NR - no soil recovered			insell Color Chart, 2000.		10-			

PID - photoionization detector ppmv - parts per million by volume PVC - polyvinyl chloride



# **Soil Boring Log Boring No. SB-4**

Project Name: Commander Oil Terminal

Site Location: 1 Commander Square, Oyster Bay, NY

Kleinfelder Project No: 111556 Client: Renaissance Propery Associates

Start Date: 11/22/10 End Date: 11/22/10

Logged By (Geol.): Zachary Halsey Checked By: Zachary Halsey

**Drilling Company: AES** Driller: Ryan Jensen

Drill Rig Type: Geoprobe 6610 DT Drilling Method: Direct Push Total Hole Depth: 9 fbg

Depth to Bedrock: Not encountered

Borehole Diameter: 2" Sampling Method: Macrocore Surface Elevation: NA Initial Water Level:

Notes:

		SUBSURFACE PROFILE		•	SAMPLE		
Depth (feet)	Graphic Log	Soil/Geologic Description	Sample ID (fbg)	PID Headspace (ppmv) 0 2500 5000	Blow Counts (6-inch interval)	Sample Recovery (inches)	Depth (feet)
0-		Ground Surface					0-
- - 1- - -		FILL FILL - RCA FILL Material	0-2	NS •	NA	NA	1-
2— - - 3—		SP-SM Gray-brown, poorly graded SAND with Silt - Medium to coarse grained SAND, some Silt, trace fine gravel, shells, odor, wet.		319 •			3-
3 - - - 4-		SM Gray-brown, Silty SAND - Fine to medium grained Silty SAND, little fine gravel, odor, wet, compacted.		1,194			4-
- - 5-		ML Grayish-black Sandy SILT - Fine grained Sandy SILT, some Peat with staining and odor, wet.	2-7	1,585 ●	NA	40	5
6—		ML Dark gray Sandy SILT - Medium to fine grained Sandy SILT, some Peat, odor, wet.		2,115			6
7- - -		SM Dark brown, Silty SAND - Fine grained Silty SAND, trace fine gravel, trace peat, odor, wet.					7
8- - -			7-9	2,089	NA	20	8-
9		End of Borehole					9-
fbg ms NA	DL - below instr g - feet below g sl - mean sea le A - not applicab M - not measure	evel PID - photoionization detector ppmv - parts per million by volume	Geolo	s approximated using Mu ogic descriptions based on ple collected for laborato	on ASTM D 2488.		10-

# APPENDIX B Laboratory Analytical Data



Monday, October 18, 2010

Richard Swedborg Kleinfelder 1 Corporate Dr., Suite 201 Bohemia, NY 11716

TEL: (631) 218-0612 FAX (631) 218-0787

RE: Commander Oil Terminal, One Commander

Dear Richard Swedborg:

Order No.: 1010099

American Analytical Laboratories, LLC. received 6 sample(s) on 10/13/2010 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lori Beyer Lab Director

**Date:** 18-Oct-10

CLIENT: Kleinfelder

Project: Commander Oil Terminal, One Commander Squ Work Order Sample Summary

**Lab Order:** 1010099

Lab Sample ID	Client Sample ID	Date Collected	Date Received
1010099-01A	EP-1, 2-2.5'	10/12/2010 12:55:00 PM	10/13/2010
1010099-02A	EP-3, 2-2.5'	10/12/2010 1:20:00 PM	10/13/2010
1010099-03A	EP-5, 1.5-2'	10/12/2010 2:02:00 PM	10/13/2010
1010099-04A	EP-6, 2-2.5'	10/12/2010 2:28:00 PM	10/13/2010
1010099-05A	EP-7, 2-2.5'	10/12/2010 2:31:00 PM	10/13/2010
1010099-06A	EP-8, 2-2.5'	10/12/2010 2:34:00 PM	10/13/2010

AMERICAN ANALYTICAN ELABORATOR

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 (631) 454-6100 • FAX (631) 454-8027

www.american-analytical.com

PH-0205 11418 NYSDOH CTDOH

NY050 68-573 NJDEP PADEP

	Z			CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT			2000		
CLIENT NAME/ADDRESS	0	**************************************	CONTACT:	10.8 1.18		SAMPLER (SIGNATURE)	J.	SAMPLE(S) SEALED	(rés) NO
Owe Corporate Dr., Suite 201	が べ な な を な を な を な を な の を の の の の の の の の の の の の の	300	2 2	18 AP (NO)		SAMPLER NAME (PRINT)	0	CORRECT CONTAINER(S)	(ES//NO
Solow x	2 2 3	210				- acheny R.	Halspy	TEMPERATURE (° C)	C) (O
PROJECT LOCATION:	Commader Cul- One Continuous Oxsler Boar,	F. 1	Townsol Square		SISA TUNG	SISTER STANGED TO STAN	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
LABORATORY ID# LAB USE ONLY	MATRIX/ NO. OF TYPE CONTAINERS	RS DATE	SAMPLING TE TIME	SAMPLE # - LOCATION					
IDIOPPOIN SG	\(\alpha\)	10/0/10 1255	la 55	EP. 1. 2-2.5'	X	XXX XXX	X		eritari Priside de Artino (de matematica para de Artino (de Maria de Artino (de Artino de Artino (de Artino de
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2 487		10/0/cl		10	ズ ベ	メメメメ	X		
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OS NOT		15/1/0/1431	1421	スシン	\(\frac{1}{\times}\)	XXXXX	X X		
20 A90-	てめ、	10/13/10	10/a/10 1434	5-C 8-JJ	-12.7c/   2.7c/   2.7c/	Ž Ž Ž	X		
					ż				
COMMENTS / INSTRUCTIONS	TIONS	senia senino assas de la composició de l	a fractiona constituent and a second account and a second account and a second account and a second account account and a second account and a second account account and a second account account a second accoun			B	Samples must be on ICE	<b>3 2 5 6</b>	
							(<0° C)		
MATRIX S=SOIL; W=WATER; SL=SLUDGE; A=AIR; M=MISCELLANEOUS	=WATER; SL=S	LUDGE; A=AI	R; M=MISCE	ELLANEOUS	TURNAROUND REQUIRED	REQUIRED	E-MAIL ADI	E-MAIL ADDRESS FOR RESULTS:	
TYPE G=GRAB; C	G=GRAB; C=COMPOSITE				STANDARD (7-10 business days)	STAT CI BY	1 - TSW&	MS wedlen Chenrolds	\$.00m
RELINQUISHED BY (SIGNATURE)	IGNATURE)	DATE	DATE PRINTED NAME	VAME	RECEIVED BY	RECEIVED BY LAB (SIGNATURE)		DATE / 9/3/ PRINTED NAME	
My har	My		No. Land	y Halloy	J.	Mast	TIME	mas	
RELINQUISHED BY (SIGNATURE)	IGNATURE)	DATE	PRINTED NAME	JAME	RECEIVED BY	RECEIVED BY LAB (SIGNATURE)	DATE	PRINTED NAME	
		TIME					<u></u>		

### Sample Receipt Checklist

Client Name KLEINFELDER			Date and Tin	ne Receive	10/13/2010	1:22:16 PM
Work Order Numbe 1010099	RcptNo: 1		Received by	PM		
COC_ID: CoolerID:	,			0	^	
Checklist completed by Signature	10/3/ <sub>Date</sub>	6	Reviewed by	Initials	B	/0//3/10
Matrix:	Carrier name	<u>Courier</u>				
		Yes 🗸	No 🗔	Not Presen	17	
Shipping container/cooler in good condition?	0	,				
Custody seals intact on shippping container/cool	er?	Yes L	No 🗔	Not Presen	21.11%	
Custody seals intact on sample bottles?		Yes	No 🗔	Not Presen	<b>(</b>	
Chain of custody present?		Yes 🗸	No 🗔			
Chain of custody signed when relinquished and r	received?	Yes 🗸	No 🗀			
Chain of custody agrees with sample labels?		Yes 🗹	No 🗌			
Samples in proper container/bottle?		Yes 🗹	No 🗀			
Sample containers intact?		Yes 🗸	No			
Sufficient sample volume for indicated test?		Yes 🗸	No			
All samples received within holding time?		Yes 🗸	No			
Container/Temp Blank temperature in compliance	e?	Yes 🗹	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗸	Yes 🗌	No 🗆		
Water - pH acceptable upon receipt?		Yes 🗌	No 🗌	N/A		
	Adjusted?	Cl	hecked b			
Any No and/or NA (not applicable) response mus	st be detailed in the co	omments section	on be			
Client contacted '	Date contacted:		Pers	on contacted		
Contacted by:	Regarding:					
Comments: Cooler with ice @ 1.5C  Corrective Action						

**Date:** 18-Oct-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: EP-1, 2-2.5'

Lab Order:

1010099

Collection Date: 10/12/2010 12:55:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: SOIL

Lab ID:

1010099-01A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2216			Analyst: CB
Percent Moisture	6.39	0	0	wt%	1	10/14/2010
VOLATILE SW-846 METHOD 826	60		SW8260B			Analyst: LA
1,2-Dichloroethane	U	0.32	5.3	μg/Kg-dry	1	10/14/2010 2:03:00 PM
cis-1,2-Dichloroethene	6.5	0.32	5.3	μg/Kg-dry	1	10/14/2010 2:03:00 PM
trans-1,2-Dichloroethene	U	0.43	5.3	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Trichloroethene	U	0.32	5.3	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Vinyl chloride	U	0.32	5.3	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Surr: 4-Bromofluorobenzene	113	0	61-135	%REC	1	10/14/2010 2:03:00 PM
Surr: Dibromofluoromethane	111	0	63-131	%REC	1	10/14/2010 2:03:00 PM
Surr: Toluene-d8	104	0	61-131	%REC	1	10/14/2010 2:03:00 PM
VOLATILE BTEX/MTBE BY 8260	)		SW8260			Analyst: LA
Benzene	15	0.31	5.2	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Ethylbenzene	25	0.31	5.2	μg/Kg-dry	1	10/14/2010 2:03:00 PM
m,p-Xylene	15	0.31	10	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Methyl tert-butyl ether	U	0.31	5.2	μg/Kg-dry	1	10/14/2010 2:03:00 PM
o-Xylene	7.6	0.31	5.2	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Toluene	72	0.31	5.2	μg/Kg-dry	1	10/14/2010 2:03:00 PM
Surr: 4-Bromofluorobenzene	113	0	63-127	%REC	1	10/14/2010 2:03:00 PM
Surr: Toluene-d8	104	0	62-128	%REC	1	10/14/2010 2:03:00 PM

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<u>nelad</u>

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 18-Oct-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: EP-3, 2-2.5'

Lab Order:

1010099

Collection Date: 10/12/2010 1:20:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: SOIL

Lab ID:

1010099-02A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: CB
Percent Moisture	19.3	0	0		wt%	1	10/14/2010
VOLATILE SW-846 METHOD 8	260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
cis-1,2-Dichloroethene	5.5	0.37	6.2	J	μg/Kg-dry	1	10/14/2010 2:30:00 PM
trans-1,2-Dichloroethene	U	0.5	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Trichloroethene	U	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Vinyl chloride	U	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Surr: 4-Bromofluorobenzene	92.8	0	61-135		%REC	1	10/14/2010 2:30:00 PM
Surr: Dibromofluoromethane	81.7	0	63-131		%REC	1	10/14/2010 2:30:00 PM
Surr: Toluene-d8	101	0	61-131		%REC	1	10/14/2010 2:30:00 PM
VOLATILE BTEX/MTBE BY 826	60		SW	8260			Analyst: <b>LA</b>
Benzene	6.2	0.37	6.2	J	μg/Kg-dry	1	10/14/2010 2:30:00 PM
Ethylbenzene	9.4	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
m,p-Xylene	27	0.37	12		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Methyl tert-butyl ether	9.8	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
o-Xylene	13	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Toluene	16	0.37	6.2		μg/Kg-dry	1	10/14/2010 2:30:00 PM
Surr: 4-Bromofluorobenzene	92.8	0	63-127		%REC	1	10/14/2010 2:30:00 PM
Surr: Toluene-d8	101	0	62-128		%REC	1	10/14/2010 2:30:00 PM

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nelac:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 18-Oct-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: EP-5, 1.5-2'

Lab Order:

1010099

Collection Date: 10/12/2010 2:02:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: SOIL

Lab ID:

1010099-03A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: <b>CB</b>
Percent Moisture	6.99	0	0		wt%	1	10/14/2010
VOLATILE SW-846 METHOD 8	260		SW8	260B			Analyst: LA
1,2-Dichloroethane	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
cis-1,2-Dichloroethene	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
trans-1,2-Dichloroethene	U	0.42	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
Trichloroethene	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
Vinyl chloride	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
Surr: 4-Bromofluorobenzene	96.9	0	61-135		%REC	1	10/15/2010 6:14:00 PM
Surr: Dibromofluoromethane	90.4	0	63-131		%REC	1	10/15/2010 6:14:00 PM
Surr: Toluene-d8	99.1	0	61-131		%REC	1	10/15/2010 6:14:00 PM
VOLATILE BTEX/MTBE BY 826	30		SW	8260			Analyst: LA
Benzene	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
Ethylbenzene	1.0	0.32	5.3	J	μg/Kg-dry	1	10/15/2010 6:14:00 PM
m,p-Xylene	1.6	0.32	11	J	μg/Kg-dry	1	10/15/2010 6:14:00 PM
Methyl tert-butyl ether	U	0.32	5.3		μg/Kg-dry	1	10/15/2010 6:14:00 PM
o-Xylene	2.5	0.32	5.3	J	μg/Kg-dry	1	10/15/2010 6:14:00 PM
Toluene	0.90	0.32	5.3	J	μg/Kg-dry	1	10/15/2010 6:14:00 PM
Surr: 4-Bromofluorobenzene	96.9	0	63-127		%REC	1	10/15/2010 6:14:00 PM
Surr: Toluene-d8	99.1	0	62-128		%REC	1	10/15/2010 6:14:00 PM

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nelac

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**ELAP ID: 11418** 

CLIENT: Kleinfelder

einfelder Client Sample ID: EP-6, 2-2.5'

Date: 18-Oct-10

Project: Commander Oil Terminal, One Commander Squ Matrix: SOIL

**Lab ID:** 1010099-04A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE Percent Moisture	11.6	0	<b>D2</b> 0	216	wt%	1	Analyst: <b>CB</b> 10/14/2010
, crocine wordere	11.0	0	Ū		WI 70	,	10/14/2010
<b>VOLATILE SW-846 METHOD 82</b>	:60		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
cis-1,2-Dichloroethene	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
trans-1,2-Dichloroethene	U	56.5	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
Trichloroethene	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
Vinyl chloride	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
Surr: 4-Bromofluorobenzene	105	0	61-135		%REC	125	10/14/2010 3:23:00 PM
Surr: Dibromofluoromethane	93.6	0	63-131		%REC	125	10/14/2010 3:23:00 PM
Surr: Toluene-d8	100	0	61-131		%REC	125	10/14/2010 3:23:00 PM
VOLATILE BTEX/MTBE BY 826	0		sw	8260			Analyst: LA
Benzene	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
Ethylbenzene	280	42.4	710	J	μg/Kg-dry	125	10/14/2010 3:23:00 PM
m,p-Xylene	340	42.4	1400	J	μg/Kg-dry	125	10/14/2010 3:23:00 PM
Methyl tert-butyl ether	U	42.4	710		μg/Kg-dry	125	10/14/2010 3:23:00 PM
o-Xylene	340	42.4	710	J	μg/Kg-dry	125	10/14/2010 3:23:00 PM
Toluene	140	42.4	710	J	μg/Kg-dry	125	10/14/2010 3:23:00 PM
Surr: 4-Bromofluorobenzene	105	0	63-127		%REC	125	10/14/2010 3:23:00 PM
Surr: Toluene-d8	100	0	62-128		%REC	125	10/14/2010 3:23:00 PM

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Qualifiers: B Analyte detected in the associated Method Blank
E Value above quantitation range

J Analyte detected below quantitation limits

LOQ Limit of Quantitation

S Spike Recovery outside accepted recovery limits

C Calibration %RSD/%D exceeded for non-CCC analytes

H Holding times for preparation or analysis exceeded

LOD Limit of Detection

P  $\rightarrow$  >40% diff for detected conc between the two GC columns

J Indicates the compound was analyzed but not detected.

**ELAP ID: 11418** 

CLIENT: Kleinfelder

Client Sample ID: EP-7, 2-2.5'

Date: 18-Oct-10

1010099 Lab Order:

Project:

Collection Date: 10/12/2010 2:31:00 PM Commander Oil Terminal, One Commander Squ Matrix: SOIL

Lab ID: 1010099-05A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: CB
Percent Moisture	19.9	0	0		wt%	1	10/14/2010
VOLATILE SW-846 METHOD 8	260		SW8	3260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.37	6.2		μg/Kg-dry	1	10/14/2010 3:48:00 PM
cis-1,2-Dichloroethene	750	45.3	750		μg/Kg-dry	125	10/15/2010 6:42:00 PM
trans-1,2-Dichloroethene	3.8	0.5	6.2	J	µg/Kg-dry	1	10/14/2010 3:48:00 PM
Trichloroethene	44	0.37	6.2		μg/Kg-dry	1	10/14/2010 3:48:00 PM
Vinyl chloride	560	45.3	750	J	μg/Kg-dry	125	10/15/2010 6:42:00 PM
Surr: 4-Bromofluorobenzene	99.2	0	61-135		%REC	1	10/14/2010 3:48:00 PM
Surr: 4-Bromofluorobenzene	102	0	61-135		%REC	125	10/15/2010 6:42:00 PM
Surr: Dibromofluoromethane	88.2	0	63-131		%REC	1	10/14/2010 3:48:00 PM
Surr: Dibromofluoromethane	93.2	0	63-131		%REC	125	10/15/2010 6:42:00 PM
Surr: Toluene-d8	96.9	0	61-131		%REC	1	10/14/2010 3:48:00 PM
Surr: Toluene-d8	100	0	61-131		%REC	125	10/15/2010 6:42:00 PM
VOLATILE BTEX/MTBE BY 826	50		sw	8260			Analyst: LA
Benzene	3.5	0.36	6.0	J	µg/Kg-dry	1	. 10/14/2010 3:48:00 PM
Ethylbenzene	2.9	0.36	6.0	J	μg/Kg-dry	1	10/14/2010 3:48:00 PM
m,p-Xylene	5.5	0.36	12	J	μg/Kg-dry	1	10/14/2010 3:48:00 PM
Methyl tert-butyl ether	U	0.36	6.0		μg/Kg-dry	1	10/14/2010 3:48:00 PM
o-Xylene	7.6	0.36	6.0		μg/Kg-dry	1	10/14/2010 3:48:00 PM
Toluene	11	0.36	6.0		μg/Kg-dry	1	10/14/2010 3:48:00 PM
Surr: 4-Bromofluorobenzene	99.2	0	63-127		%REC	1	10/14/2010 3:48:00 PM
Surr: Toluene-d8	96.9	0	62-128		%REC	1	10/14/2010 3:48:00 PM

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Qualifiers: Analyte detected in the associated Method Blank

> Value above quantitation range Analyte detected below quantitation limits

LOQ Limit of Quantitation

Ε

Spike Recovery outside accepted recovery limits

Calibration %RSD/%D exceeded for non-CCC analytes

Holding times for preparation or analysis exceeded Η

LOD Limit of Detection

>40% diff for detected conc between the two GC columns Ρ

Indicates the compound was analyzed but not detected.

Date: 18-Oct-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: EP-8, 2-2.5'

Lab Order:

1010099

Collection Date: 10/12/2010 2:34:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: SOIL

Lab ID:

1010099-06A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: CB
Percent Moisture	13.6	0	0		wt%	1	10/14/2010
VOLATILE SW-846 METHOD 82	260		SW8	3260B			Analyst: LA
1,2-Dichloroethane	U	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
cis-1,2-Dichloroethene	190	43.4	720	J	μg/Kg-dry	125	10/14/2010 4:16:00 PM
trans-1,2-Dichloroethene	U	57.8	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
Trichloroethene	U	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
Vinyl chloride	U	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
Surr: 4-Bromofluorobenzene	113	0	61-135		%REC	125	10/14/2010 4:16:00 PM
Surr: Dibromofluoromethane	91.8	0	63-131		%REC	125	10/14/2010 4:16:00 PM
Surr: Toluene-d8	100	0	61-131		%REC	125	10/14/2010 4:16:00 PM
VOLATILE BTEX/MTBE BY 826	0		sw	8260			Analyst: <b>LA</b>
Benzene	U	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
Ethylbenzene	890	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
m,p-Xylene	1000	43.4	1400	J	μg/Kg-dry	125	10/14/2010 4:16:00 PM
Methyl tert-butyl ether	U	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
o-Xylene	1000	43.4	720		μg/Kg-dry	125	10/14/2010 4:16:00 PM
Toluene	550	43.4	720	J	μg/Kg-dry	125	10/14/2010 4:16:00 PM
Surr: 4-Bromofluorobenzene	113	0	63-127		%REC	125	10/14/2010 4:16:00 PM
Surr: Toluene-d8	100	0	62-128		%REC	125	10/14/2010 4:16:00 PM

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nelac

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

CLIENT:

Kleinfelder 1010099 Work Order:

Commander Oil Terminal, One Commander Squ Project:

ANALYTICAL QC SUMMARY REPORT

Date: 18-Oct-10

TestCode: 8260breakdown\_Soil

Sample ID: V624LCS-101410YS	CS-101410YS	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:			RunNo: 53724	
Client ID: LCSS		Batch ID: <b>R53724</b>	Test	TestNo: SW8260B		`	Analysis Date:	10/14/2010	0	SeqNo: <b>754856</b>	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit R	RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	<i>(</i> 1	46	5.0	50.00	0	92.6	30	130			
Tetrachloroethene		31	5.0	50.00	0	62.1	20	120			
trans-1,2-Dichloroethene	sthene	41	5.0	50.00	0	82.1	20	120			
Trichloroethene		37	5.0	50.00	0	73.8	23	121			
Vinyl chloride		09	5.0	50.00	0	120	30	130			
Surr: 4-Bromofluorobenzene	torobenzene	49		50.00		98.2	61	135			
Surr: Dibromofluoromethane	oromethane	55		50.00		110	63	131			
Surr: Toluene-d8	8	51		20.00		103	61	131			
Sample ID: VBLK-101410YS	-101410YS	SampType: MBLK	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:			RunNo: 53724	
Client ID: PBS		Batch ID: R53724	Test	TestNo: SW8260B		*	Analysis Date:	10/14/2010	0	SeqNo: <b>754857</b>	
Analyte		Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane		ר	5.0				d'un'tainideach i de cuid de cuid agus ann an aideach agus ann an aideach agus ann an aideach agus ann an aideach ann ann ann ann ann ann ann ann ann an				
cis-1,2-Dichloroethene	ene	D	5.0								
Tetrachloroethene		)	5.0								
trans-1,2-Dichloroethene	thene	J	5.0								
Trichloroethene		)	9.0								
Vinyl chloride		<b>5</b>	5.0								
Surr: 4-Bromofluorobenzene	ıorobenzene	51		50.00		101	61	135			
Surr: Dibromofluoromethane	oromethane	54		50.00		108	63	131			
Surr: Toluene-d8	8	52		20.00		104	61	131			
Sample ID: V624LCS-101410YS	CS-101410YS	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:			RunNo: 53724	
Client ID: LCSS		Batch ID: R53724B	Test	TestNo: SW8260B		*	Analysis Date:	10/14/2010	0	SeqNo: <b>754866</b>	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane		46	5.0	20.00	0	92.0	30	130			
Tetrachloroethene		34	5.0	50.00	0	0.89	20	120			
Qualifiers: B	Analyte detect	Analyte detected in the associated Method Blank	3lank	C Calibrat	Calibration %RSD/%D exceeded for non-CCC analytes	led for non	-CCC analytes	E Val	Value above quantitation range	tation range	
H .		Holding times for preparation or analysis exceeded	pepeec		Analyte detected below quantitation limits	itation limi	ts .	TOD	Limit of Detection	:	
007	Limit of Quantitation	ıtitation		P >40% d	>40% diff for detected conc between the two GC column	etween the	two GC colum.	~	O outside accepi	RPD outside accepted recovery limits	

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Commander Oil Terminal, One Commander Squ Project:

Kleinfelder 1010099

Work Order: CLIENT:

Sample ID: V624LCS-101410YS	CS-101410YS SampType: LCS	TestCod	TestCode: 8260breakdo	o Units: µg/Kg		Prep Date	;;	Andreas de la Companya de la Company	RunNo: 53724		
Client ID: LCSS	Batch ID: <b>R53724B</b>	TestN	TestNo: SW8260B			Analysis Date:	3: 10/14/2010	01	SeqNo: <b>754866</b>	<sub>C</sub>	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD RI	RPDLimit	Qual
trans-1,2-Dichloroethene	40	5.0	50.00	0	80.1	20	120				
Trichloroethene	39	5.0	50.00	0	78.5	23	121				
Vinyl chloride	22	5.0	50.00	0	115	30	130				
Surr: 4-Bromofluorobenzene	20		50.00		99.2	61	135				
Surr: Dibromofluoromethane	52		50.00		103	63	131				
Surr: Toluene-d8	51		50.00		101	61	131				
Sample ID: VBLK-101410YS	SampType: MBLK	TestCod	TestCode: 8260breakdo	o Units: µg/Kg		Prep Date			RunNo: 53724		
Client ID: PBS	Batch ID: <b>R53724B</b>	TestN	TestNo: SW8260B			Analysis Date:	3: 10/14/2010	0	SeqNo: <b>754867</b>	4	
Analyte	Result	Pal	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD R	RPDLimit	Qual
1,2-Dichloroethane		5.0									
cis-1,2-Dichloroethene	n	5.0									
Tetrachloroethene	n	5.0									
trans-1,2-Dichloroethene	D	5.0									
Trichloroethene	D	5.0									
Vinyl chloride	D	5.0									
Surr: 4-Bromofluorobenzene	20		50.00		99.5	61	135				
Surr: Dibromofluoromethane	54		50.00		108	63	131				
Surr: Toluene-d8	51		20.00		102	61	131				
Sample ID: V624LCS-101510YS	SampType: LCS	TestCod	TestCode: 8260breakdo	o Units: µg/Kg		Prep Date		Andrean and the control of the contr	RunNo: 53724		
Client ID: LCSS	Batch ID: R53724D	TestN	TestNo: SW8260B			Analysis Date:	9: 10/15/2010	0	SeqNo: <b>754981</b>	_	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD R	RPDLimit (	Qual
1,2-Dichloroethane	37	5.0	50.00	0	74.9	30	130				
Tetrachloroethene	32	5.0	50.00	0	63.9	20	120				
trans-1,2-Dichloroethene	37	5.0	50.00	0	73.5	20	120				
Trichloroethene	38	5.0	50.00	0	75.2	23	121				
Vinyl chloride	47	5.0	50.00	0	93.1	30	130				
Surr: 4-Bromofluorobenzene	49		20.00		98.6	61	135				
Qualifiers: B Analyte detect	Analyte detected in the associated Method Blank	lank	C Calibratic	Calibration %RSD/%D exceeded for non-CCC analytes	ded for non	-CCC analyte	ш	Value above quantitation range	itation range	TA POSTOPOTO PORTOPOTO COMPOS A STATE OF TAXABLE PARTY.	Andrew Principles Medical Section 1
H Holding times	Holding times for preparation or analysis exceeded	pepeed	•	Analyte detected below quantitation limits	itation limi	ts	LOD Lin	Limit of Detection			
LOQ Limit of Quantitation	ıtitation		P >40% dif	>40% diff for detected conc between the two GC column	etween the	two GC colun	~	D outside accep	RPD outside accepted recovery limits		

# CLIENT: Kleinfelder

Work Order: 1010099

Project: Commander Oil Terminal, One Commander Squ

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Pick ID: R53724D   TestNo: SW8260B   Analysis Date: 10	Sample ID: V624LCS-101510YS	SampType: LCS	TestCoc	le: 8260breakd	TestCode: 8260breakdo Units: µg/Kg		Prep Date:			RunNo: 53724	4.	
Result   PQL   SPK value   SPK Ref Val   %REC   LowLimit   HighLimit   50.00   50.00   97.3   63   131		Batch ID: <b>R53724D</b>	Test	lo: SW8260B		•	Analysis Date:		0,	SeqNo: <b>754981</b>	181	
SampType: MBLK   TestCode: 8260breakdo   Units: µg/Kg   Frep Date: 10115/20	Analyte	Result	PQL		SPK Ref Val	%REC			Val	%RPD	RPDLimit	Qual
SampType: MBLK TestCode: 8260breakdo Units: μg/Kg Analysis Date: 10/15/20  Batch ID: R53724D TestNo: SW8260B Analysis Date: 10/15/20  U 5.0 U 5.	Surr: Dibromofluoromethane	49		50.00		97.3	63	131		**************************************		
SampType:         MBLK         TestCode:         8260breakdo         Units:         µg/Kg         Analysis Date:         10/15/20           Batch ID:         R53724D         TestNo:         SW8260B         Analysis Date:         10/15/20           U         5.0         A.0         A.0         A.0         A.0         Analysis Date:         10/15/20           U         5.0         A.0         A.0         A.0         A.0         A.0         Analysis Date:         10/15/20           U         5.0         5.0         A.0         A.0         A.0         A.0         Analysis Date:         135           49         5.0         50.00         A.0         A.0         Analysis Date:         131           50         50.00         A.0         Analysis Date:         10/15/20           Batch ID:         R53724F         TestNo:         SW8260B         Analysis Date:         10/15/20           Adatysis Date:         A.0         50.00         Analysis Date:         10/15/20           Batch ID:         R53724F         TestNo:         SPK Value         SPK Ref Val         Analysis Date:         10/16/20           A6         5.0         50.00         0         92.9         20	Surr: Toluene-d8	50		50.00		100	61	131				
Batch ID:         Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           U         5.0         A         5.0         A         B	Sample ID: VBLK-101510YS	SampType: MBLK	TestCod	le: 8260breakd			Prep Date:	A THE REAL PROPERTY OF THE PRO		RunNo: 53724	4.	
Sebult   PQL   SPK value   SPK Ref Val   %REC   LowLimit   HighLimit     U   5.0		Batch ID: R53724D	TestN	lo: SW8260B			Analysis Date:	10/15/2010	0,1	SeqNo: <b>754982</b>	82	
U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 C 6.1 C 78.4 C 78.	Analyte	Result	PQL		SPK Ref Val	%REC			Val	%RPD	RPDLimit	Qual
U 5.0 E.0 U 6.0 U 5.0 E.0 U 6.0 E.0 E.0 E.0 E.0 E.0 E.0 E.0 E.0 E.0 E	1,2-Dichloroethane	n	5.0									
U       5.0         U       5.0         U       5.0         49       50.00         49       61         49       131         50       94.8       63         131       131         50.00       94.8       63         131       131         50.00       100       61         131       131         SampType: LCS       TestCode: 8260breakdo Units: µg/Kg       Prep Date:         Ratch ID: R53724F       TestNo: SW8260B       Analysis Date:       10/16/IZ         Ratch ID: R53724F       TestNo: SW8260B       Analysis Date:       10/16/IZ         Ratch ID: R53724F       TestNo: SW8260B       Analysis Date:       10/16/IZ         A1       5.0       50.00       0       78.4       20       120         46       5.0       50.00       0       92.9       20       120         50       50.00       0       91.2       23       121         50       50.00       0       96.9       61       135         50       50.00       0       96.9       61       135         50       50.00	cis-1,2-Dichloroethene	D	5.0									
U         5.0           U         5.0           49         50.00         97.4         61         135           47         50.00         94.8         63         131           50         50.00         94.8         63         131           SampType: LCS         TestCode: 8260breakdo         Units: µg/Kg         Analysis Date:         131           SampType: LCS         TestNo: SW8260B         Analysis Date:         10/16/12           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         92.9         20         120           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         92.9         20         120           53         50.00         0         106         30         131           50         50.00         0         96.9         61         131           50         50.00         0         90.9	Tetrachloroethene	)	5.0									
U         5.0           U         5.0         50.00         97.4         61         135           49         50.00         97.4         61         135           50         50.00         94.8         63         131           50         50.00         94.8         63         131           SampType: LCS         TestCode: 8260breakdo         Units: µg/Kg         Prep Date:         131           Batch ID: R53724F         TestNo: SW8260B         Analysis Date:         101/6/20           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         131           50         50.00         0         96.9         61         135           50         50.00         96.9         61         135           50         50.00         96.9         63         61           60         96.9         65 <td>trans-1,2-Dichloroethene</td> <td>J</td> <td>5.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	trans-1,2-Dichloroethene	J	5.0									
U         5.0         50.00         97.4         61         135           49         50.00         94.8         63         131           50         50.00         94.8         63         131           SampType: LCS         TestCode: 8260breakdo         Units: µg/Kg         Prep Date:         131           Batch ID: R53724F         TestNo: SW8260B         Analysis Date:         10/15/20           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         778.4         20         120           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         91.2         23         130           50         50.00         0         96.9         61         135           50         50.00         0         96.9         61         135           50         50.00         0         96.9         61         135           50         50.00 </td <td>Trichloroethene</td> <td>D</td> <td>5.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Trichloroethene	D	5.0									
49         50.00         97.4         61         135           47         50.00         94.8         63         131           50         50.00         100         61         131           SampType: LCS         TestCode: 8260breakdo         Units: µg/Kg         Prep Date:         131           Batch ID: R53724F         TestNo: SW8260B         Analysis Date:         10/15/20           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         78.4         20         120           46         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         91.2         23         130           48         50.00         60.00         0         96.9         61         135           50.00         50.00         69.9         61         136           50.00         60.00         69.9         61         136           50.00         60.00         60.00	Vinyl chloride	n	5.0									
50.00         94.8         63         131           50.00         50.00         100         61         131           SampType: LCS         TestCode: 8260breakdo Units: µg/Kg         Prep Date:           Batch ID: R53724F         TestNo: SW8260B         Analysis Date: 10/15/20           Result         PQL         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         50.00         0         91.2         23         130           48         50.00         60.00         96.9         61         135           50.00         50.00         96.9         61         135	Surr: 4-Bromofluorobenzene	49		50.00		97.4	61	135				
SampType:         LCS         TestCode:         8260breakdo         Units:         µg/Kg         Prep Date:           Batch ID:         R53724F         TestNo:         SW8260B         Analysis Date:         10/15/20           Result         PQL         SPK katue         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         91.2         23         130           56.00         50.00         0         96.9         61         135           50.00         50.00         96.9         61         135           50.00         50.00         96.9         61         135	Surr: Dibromofluoromethane	47		50.00		94.8	63	131				
SampType: LCS         TestCode: 8260breakdo         Units: µg/Kg         Prep Date:         10/15/20           Batch ID: R53724F         TestNo: SW8260B         Analysis Date: 10/15/20         10/15/20           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         91.2         23         131           48         50.00         50.00         96.9         61         135           50         50.00         60.00         63.2         63         131	Surr: Toluene-d8	50		50.00		100	61	131				
Batch ID: R53724F         TestNo: SW8260B         Analysis Date: 10/15/20           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         78.4         20         120           46         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         106         30         130           sthane         50         50.00         96.9         61         135	Sample ID: V624LCS-101510YS	SampType: LCS	TestCod	e: 8260breakd	1		Prep Date:		T.	RunNo: 53724	4	
Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit           41         5.0         50.00         0         81.7         30         130           39         5.0         50.00         0         78.4         20         120           46         5.0         50.00         0         92.9         20         120           46         5.0         50.00         0         91.2         23         121           53         5.0         50.00         0         106         30         130           sthane         50         50.00         99.2         61         135		Batch ID: R53724F	TestN	lo: SW8260B		`	Analysis Date:		U)	SeqNo: <b>754987</b>	87	
41 5.0 50.00 0 81.7 30 39 5.0 50.00 0 78.4 20 46 5.0 50.00 0 92.9 20 46 5.0 50.00 0 91.2 23 53 5.0 50.00 0 106 30 thane 50 50.00 50.00 63.	Analyte	Result	Pal		SPK Ref Val	%REC			Val	%RPD	RPDLimit	Qual
39     5.0     50.00     0     78.4     20       46     5.0     50.00     0     92.9     20       46     5.0     50.00     0     91.2     23       53     5.0     50.00     0     106     30       sthane     50     50.00     96.9     61       sthane     50     50.00     99.2     63	1,2-Dichloroethane	41	5.0	50.00	0	81.7	30	130				
46     5.0     50.00     0     92.9     20       46     5.0     50.00     0     91.2     23       53     5.0     50.00     0     106     30       arhane     50     50.00     96.9     61       chane     50     50.00     99.2     63	Tetrachloroethene	39	5.0	50.00	0	78.4	20	120				
46     5.0     50.00     0     91.2     23       53     5.0     50.00     0     106     30       ofluorobenzene     48     50.00     96.9     61       ofluoromethane     50     50.00     99.2     63	trans-1,2-Dichloroethene	46	5.0	20.00	0	92.9	20	120				
53     5.0     50.00     0     106     30       mofluorobenzene     48     50.00     96.9     61       nofluoromethane     50     50.00     99.2     63	Trichloroethene	46	5.0	20.00	0	91.2	23	121				
48     50.00     96.9     61       50     50.00     99.2     63	Vinyl chloride	53	5.0	50.00	0	106	30	130				
50 50.00 99.2 63	Surr: 4-Bromofluorobenzene	48		50.00		6.96	61	135				
4 4 4 4 4	Surr: Dibromofluoromethane	20		50.00		99.2	63	131				
49 50.00 98.6 61	Surr: Toluene-d8	49		20.00		98.6	61	131				

Qualifiers: B Analyte detected in the associated Method	В	Analyte detected in the associated Method Blank	ပ	Calibration %RSD/%D exceeded for non-CCC analytes	ш	Value above quantitation range
	Ξ	Holding times for preparation or analysis exceeded	~	Analyte detected below quantitation limits	LOD	LOD Limit of Detection
	100 r	Limit of Quantitation	۵	>40% diff for detected conc between the two GC column	×	RPD outside accepted recovery limits

CLIENT: Kleinfelder

Work Order: 1010099

Project: Commander Oil Terminal, One Commander Squ

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Sample ID: VBLK-101510YS	SampType: MBLK	TestCode: 8260brea	TestCode: 8260breakdo Units: µg/Kg	no one experience de la constanta de la consta	Prep Date:		RunNo: 53724	
Client ID: PBS	Batch ID: <b>R53724F</b>	TestNo: SW8260B	m	₫.	Analysis Date: 10/15/2010	10/15/2010	SeqNo: <b>754988</b>	
Analyte	Result	PQL SPK value	SPK value SPK Ref Val	%REC	LowLimit Hi	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	Qual
1,2-Dichloroethane	n	5.0						
cis-1,2-Dichloroethene	⊃	5.0						
Tetrachloroethene	n	5.0						
trans-1,2-Dichloroethene	n	5.0						
Trichloroethene	⊃	5.0						
Vinyl chloride	⊃	5.0						
Surr: 4-Bromofluorobenzene	48	50.00		9.96	61	135		
Surr: Dibromofluoromethane	49	50.00		98.4	63	131		
Surr: Toluene-d8	20	50.00		99.3	61	131		

			THE PERSON NAMED IN COLUMN			CONTROL OF THE PROPERTY OF THE
Qualifiers:	B	Analyte detected in the associated Method Blank	ပ	Calibration %RSD/%D exceeded for non-CCC analytes	Ш	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	٦	Analyte detected below quantitation limits	COD	Limit of Detection
	700	Limit of Quantitation	а	>40% diff for detected conc between the two GC column	R	RPD outside accepted recovery limits

# CLIENT: Kleinfelder

Work Order: 1010099

Project: Commander Oil Terminal, One Commander Squ

# ANALYTICAL QC SUMMARY REPORT

TestCode: DryBTEXMTBE

Sample ID: V624LCS-101410YS	SampType: LCS	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	10/14/2010	RunNo: 53724		
Client ID: LCSS	Batch ID: <b>R53724A</b>	Test	No: SW8260			Analysis Date:	10/14/2010	SeqNo: 754861		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43	5.0	50.00	0	86.0	30	130			
Ethylbenzene	40	5.0	50.00	0	80.5	15	130			
Toluene	40	5.0	50.00	0	80.2	20	119			
Surr: 4-Bromofluorobenzene	49		50.00		98.2	61	133			
Surr: Toluene-d8	51		20.00		103	22	131			
Sample ID: VBLK-101410YS	SampType: MBLK	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	10/14/2010	RunNo: 53724		
Client ID: PBS	Batch ID: R53724A	Test	TestNo: SW8260			Analysis Date:	10/14/2010	SeqNo: <b>754862</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	n	5.0								
Ethylbenzene	n	5.0								
m,p-Xylene	Π	10								
Methyl tert-butyl ether	Π	5.0								
o-Xylene	n	5.0								
Toluene	Π	5.0								
Surr: 4-Bromofluorobenzene	51		50.00		101	63	127			
Surr: Toluene-d8	52		20.00		104	62	128			
Sample ID: V624LCS-101410YS	SampType: LCS	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	10/14/2010	RunNo: 53724		
Client ID: LCSS	Batch ID: <b>R53724C</b>	Test	TestNo: SW8260			Analysis Date:	10/14/2010	SeqNo: <b>754870</b>		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	43	5.0	50.00	0	86.9	30	130			
Ethylbenzene	43	5.0	50.00	0	85.0	15	130			
Toluene	42	5.0	50.00	0	84.7	20	119			
Surr: 4-Bromofluorobenzene	50		50.00		99.2	61	133			
Surr: Toluene-d8	51		50.00		101	25	131			

alifiers:	В	Analyte detected in the associated Method Blank	Ö	Calibration %RSD/%D exceeded for non-CCC analytes	E	Value above quantitation range
	エ	Holding times for preparation or analysis exceeded	-	Analyte detected below quantitation limits	COD	LOD Limit of Detection
	007	LOQ Limit of Quantitation	۵	>40% diff for detected conc between the two GC column	R	RPD outside accepted recovery limits

# ANALYTICAL QC SUMMARY REPORT

TestCode: DryBTEXMTBE

Commander Oil Terminal, One Commander Squ

Kleinfelder 1010099

CLIENT: Work Order:

Project:

Sample ID: VBLK-101410YS	SampType: MBLK	TestCo	de: DrvBTEXI	TestCode: DrvBTEXMTB Units: 11α/Κα		Prep Date: 10/14/2010	10/14/2010	RunNo: 53724	.24	
Client ID: PBS	Batch ID: <b>R53724C</b>	Test	TestNo: <b>SW8260</b>		4	Analysis Date: 10/14/2010	10/14/2010	SeqNo: 754871	1871	
Analyte	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit Hig	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Benzene		5.0	***************************************							
Ethylbenzene	<b>&gt;</b>	5.0								
m,p-Xylene	J	9								
Methyl tert-butyl ether	)	5.0								
o-Xylene	D	5.0								
Toluene	D	5.0								
Surr: 4-Bromofluorobenzene	50		50.00		99.5	63	127			
Surr: Toluene-d8	51		50.00		102	62	128			
Sample ID: WE341 C6 404540VC Sampling: 1 C6	Camp Time: 1 Co		Ac. Dave TEVE	Toet Codo: DevotEVMTD   hite:		Dren Date: 40/48/2040	40/48/2040	Dundo 62794	νς,	

Sample ID: V624LCS-101510YS Client ID: LCSS	SampType: LCS Batch ID: R53724E	TestCo	stCode: DryBTEXN TestNo: SW8260	TestCode: DryBTEXMTB Units: µg/Kg TestNo: SW8260		Prep Date: Analysis Date:	10/15/2010	RunNo: 53724 SeqNo: 754984	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	al %RPD RPDLimit	mit Qual
Benzene	37	5.0	50.00	0	74.3	30	130		
Ethylbenzene	37	5.0	50.00	0	74.8	15	130		
Toluene	38	9.0	50.00	0	76.7	20	119		
Surr: 4-Bromofluorobenzene	49		50.00		98.6	61	133		
Surr: Toluene-d8	50		50.00		100	57	131		
Sample ID: VBLK-101510YS	SampType: MBLK	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	10/15/2010	RunNo: 53724	
Client ID: PBS	Batch ID: R53724E	Test	TestNo: SW8260			Analysis Date:	10/15/2010	SeqNo: <b>754985</b>	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	al %RPD RPDLimit	mit Qual
Benzene	n	5.0							
Ethylbenzene	⊃	5.0							
m,p-Xylene	n	9							
Methyl tert-butyl ether	n	5.0							
o-Xylene	)	5.0							
Toluene	n	5.0							
Surr: 4-Bromofluorobenzene	49		90.00		97.4	63	127		
Surr: Toluene-d8	90		20.00		100	62	128		
Qualifiers: B Analyte detect	Analyte detected in the associated Method Blank	ınk	C Calibra	Calibration %RSD/%D exceeded for non-CCC analytes	ded for no	n-CCC analytes	Э	Value above quantitation range	
	Holding times for preparation or analysis exceeded	eded	J Analyt	Analyte detected below quantitation limits	itation lim	its	LOD Limit of Detection	ction	
LOQ Limit of Quantitation	titation		P >40%	>40% diff for detected conc between the two GC column	etween the	two GC colum	×	RPD outside accepted recovery limits	



Tuesday, November 23, 2010

Richard Swedborg Kleinfelder 1 Corporate Dr., Suite 201 Bohemia, NY 11716

TEL: (631) 218-0612 FAX (631) 218-0787

RE: Commander Oil Term., One Commander Sq

Dear Richard Swedborg:

Order No.: 1011219

American Analytical Laboratories, LLC. received 8 sample(s) on 11/18/2010 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. This report consists of \_\_/\_\_\_\_ pages.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lab Director

Date: 23-Nov-10

CLIENT: Kleinfelder

**Project:** Commander Oil Term., One Commander Sq. Oy

Work Order Sample Summary

**Lab Order:** 1011219

Lab Sample ID	Client Sample ID	Date Collected	Date Received
1011219-01A	DS-6, 5-6'	11/18/2010 10:30:00 AM	11/18/2010
1011219-02A	DS-6, 10-11'	11/18/2010 10:45:00 AM	11/18/2010
1011219-03A	DS-6, 20-21'	11/18/2010 11:16:00 AM	11/18/2010
1011219-04A	DS-7, 4-6'	11/18/2010 12:04:00 PM	11/18/2010
1011219-05A	DS-7, 9-11'	11/18/2010 12:20:00 PM	11/18/2010
1011219-06A	DS-7, 19-21'	11/18/2010 12:45:00 PM	11/18/2010
1011219-07A	DS-1, 8-10'	11/18/2010 3:25:00 PM	11/18/2010
1011219-08A	Trip Blank	11/18/2010	11/18/2010

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 (631) 454-6100 • FAX (631) 454-8027 www.american-analytical.com

PH-0205 NY050 68-573 11418 NYSDOH CTDOH NJDEP PADEP

			1 /			
		うのうしてもり				
CLIENT NAME/ADDRESS		CONTAC	CONTACT:	SAMPLER (SIGNATURE)	SAMPLE(S) (YES) SEALED	YES/NO
One Corpordo Dr., Suit 201	Seaks		(CS1) 218-0012	AMPLER NAME (PRINT)	CONTAINER(S) (FES)	MES/NO
PROJECT LOCATION: Commender Ory Townsol	See Co	of Towney		200 000 000 000 000 000 000 000 000 000	IEMPERATORE ( C)	11
300 S	One Convert	5 mms >	Task of the second seco	The state of the s		
LABORATORY ID# MATRIX/ LAB USE ONLY TYPE	CONTAINERS	SAMPLING DATE TIME	SAMPLE # - LOCATION			
SM 10-617.01	n	11/18/10 1030	19-5-6, 5-61	×		
102 WG	7	11/18/10 10-15	11-01,0-50	×		
03 WG	N	11/18/10 1116	15-08-3-50			
3M 160	N	11/18/10 1204	12-1-161	×		
JM JO	R	11/18/10 1220	11-67-50			
06 WG	7	11/18/10 13415	からし,19-21	×		
SM tO A	A	11/18/10/1525	101-8-1-50		State of the state	
3A	X	11/18/10 154 W	-, 21-11, 7 SQ	X	- 12 Willy	A
categoral foot dotter maaaa agaa ayaa ayaa ayaa ayaa ayaa ahaa ah	esto de propositionos estre consistentes intercentarios destro	OF THE STATE OF TH	125			
~ 8041E1101	R	The state of the s	Two Blade	\(\)		
COMMENTS/INSTRUCTIONS  * Report only CVCCs:	S CCs: T	CE, DCE, c/s	-1,2 dichlostere, trons	TCE, DCE, CIS-1,2 dichleshere, Louis-1,2 dichesedize, (<6° C)	IOE	
MATRIX S=SOIL W=WATER; \$L=SLUDGE; A=AIR; M=MISCELLANEOUS	ER; \$L=SLUI	DGE; A=AIR; M=MIS(			E-MAIL ADDRESS FOR RESULTS:	
TYPE G=GRAB, C=COMPOSITE	MPÓSITE			STANDARD STAT BY / STATUS STANDARD STATUS (7-10 business days) 2-1-4/8-hvs	rswed Song @ Klenkelder, Com	W.

WHITE-OFFICE / CANARY-LAB / PINK-SAMPLE CUSTODIAN / GOLDENROD-CLIENT

PRINTED NAME

RECEIVED BY LAB (SIGNATURE)

PRINTED NAME

DATE TIME

AB (SIGNATURE)

RECEIVED BY

PRINTED NAME

000

RELINQUISHED BX (SIGNATURE)

RELINQUISHED BY (SIGNATURE)

2

### Sample Receipt Checklist

Client Name KLEINFELDER	,	Date and Time Receive 11/18/2010
Work Order Numbe 1011219 R	cptNo: 1	Received by LB
COC_ID: CoolerID:  Checklist completed b  Signature	1/1/9/10 Date:	Reviewed by B 1//19//o
Matrix	Carrier name <u>Lab Cou</u>	<u>urier</u>
Shipping container/cooler in good condition?  Custody seals intact on shippping container/coole		No Not Presen ✓
Custody seals intact on sample bottles?	Yes	***************************************
Chain of custody present?	Yes 🗸	. 144
Chain of custody signed when relinquished and re		
Chain of custody agrees with sample labels?	Yes 🗸	
Samples in proper container/bottle?	Yes 🗸	and the second s
Sample containers intact?	Yes 🗸	Zi No ai
Sufficient sample volume for indicated test?	Yes 🛂	No
All samples received within holding time?	Yes 🗸	Ž. No i
Container/Temp Blank temperature in compliance	? Yes ✓	No and
Water - VOA vials have zero headspace?	No VOA vials submitted	Yes 🗸 No
Water - pH acceptable upon receipt?	Yes 🗸	No N/A
A	djusted	Checked b
Any No and/or NA (not applicable) response must	be detailed in the comments	s section b
Client contacted	Pate contacted:	Person contacted
Contacted by:	Regarding	
Comments: cooler with ice. 5.2 degrees C		
Corrective Action		

Date: 23-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-6, 5-6'

Lab Order:

1011219

Collection Date: 11/18/2010 10:30:00 AM

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-01A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW8260	)B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/19/2010 4:42:00 PM
cis-1,2-Dichloroethene	150000	15	50	μg/L	50	11/23/2010 12:21:00 AM
trans-1,2-Dichloroethene	310	15	50	μg/L	50	11/23/2010 12:21:00 AM
Trichloroethene	5.4	0.3	1.0	μg/L	1	11/19/2010 4:42:00 PM
Vinyl chloride	100000	15	50	μg/L	50	11/23/2010 12:21:00 AM
Surr: 4-Bromofluorobenzene	105	0	65-130	%REC	50	11/23/2010 12:21:00 AM
Surr: 4-Bromofluorobenzene	94.3	0	65-130	%REC	1	11/19/2010 4:42:00 PM
Surr: Dibromofluoromethane	106	0	63-127	%REC	50	11/23/2010 12:21:00 AM
Surr: Dibromofluoromethane	104	0	63-127	%REC	1	11/19/2010 4:42:00 PM
Surr: Toluene-d8	102	0	61-128	%REC	50	11/23/2010 12:21:00 AM
Surr: Toluene-d8	107	0	61-128	%REC	1	11/19/2010 4:42:00 PM

American Analytical Laboratories, LLC., 56 Toledo Street, Farmingdale, NY, Zip - 11735

Tel - 6314546100 Fax - 6314548027 www.American-Analytical.com



- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 23-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-6, 10-11'

Lab Order:

1011219

Collection Date: 11/18/2010 10:45:00 AM

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-02A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Qı	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	46 8260		SW8260	В		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	µg/L	1	11/22/2010 6:43:00 PM
cis-1,2-Dichloroethene	680	15	50	µg/L	50	11/22/2010 7:31:00 PM
trans-1,2-Dichloroethene	2.6	0.3	1.0	μg/L	1	11/22/2010 6:43:00 PM
Trichloroethene	U	0.3	1.0	μg/L	1	11/22/2010 6:43:00 PM
Vinyl chloride	450	15	50	μg/L	50	11/22/2010 7:31:00 PM
Surr: 4-Bromofluorobenzene	101	0	65-130	%REC	50	11/22/2010 7:31:00 PM
Surr: 4-Bromofluorobenzene	103	0	65-130	%REC	1	11/22/2010 6:43:00 PM
Surr: Dibromofluoromethane	101	0	63-127	%REC	50	11/22/2010 7:31:00 PM
Surr: Dibromofluoromethane	101	0	63-127	%REC	1	11/22/2010 6:43:00 PM
Surr: Toluene-d8	107	0	61-128	%REC	50	11/22/2010 7:31:00 PM
Surr: Toluene-d8	106	0	61-128	%REC	1	11/22/2010 6:43:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits

- Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 23-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-6, 20-21'

Lab Order:

1011219

Collection Date: 11/18/2010 11:16:00 AM

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-03A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	Ü	0.3	1.0	μg/L	1	11/19/2010 5:54:00 PM
cis-1,2-Dichloroethene	2700	15	50	μg/L	50	11/23/2010 12:45:00 AM
trans-1,2-Dichloroethene	14	0.3	1.0	μg/L	1	11/19/2010 5:54:00 PM
Trichloroethene	31	0.3	1.0	μg/L	1	11/19/2010 5:54:00 PM
Vinyl chloride	1300	15	50	μg/L	50	11/23/2010 12:45:00 AM
Surr: 4-Bromofluorobenzene	105	0	65-130	%REC	50	11/23/2010 12:45:00 AM
Surr: 4-Bromofluorobenzene	96.6	0	65-130	%REC	1	11/19/2010 5:54:00 PM
Surr: Dibromofluoromethane	103	0	63-127	%REC	50	11/23/2010 12:45:00 AM
Surr: Dibromofluoromethane	109	0	63-127	%REC	1	11/19/2010 5:54:00 PM
Surr: Toluene-d8	106	0	61-128	%REC	50	11/23/2010 12:45:00 AM
Surr: Toluene-d8	101	0	61-128	%REC	1	11/19/2010 5:54:00 PM

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<u>nelac</u>

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P > 40% diff for detected conc between the two GC columns
- U Indicates the compound was analyzed but not detected.

**Date:** 23-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-7, 4-6'

Lab Order:

1011219

Collection Date: 11/18/2010 12:04:00 PM

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-04A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qua	l Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10		μg/L	10	11/19/2010 6:30:00 PM
cis-1,2-Dichloroethene	76000	15	50		μg/L	50	11/23/2010 1:09:00 AM
trans-1,2-Dichloroethene	330	3	10		μg/L	10	11/19/2010 6:30:00 PM
Trichloroethene	770000	15	50		µg/L	50	11/23/2010 1:09:00 AM
Vinyl chloride	4700	15	50		μg/L	50	11/23/2010 1:09:00 AM
Surr: 4-Bromofluorobenzene	104	0	65-130		%REC	50	11/23/2010 1:09:00 AM
Surr: 4-Bromofluorobenzene	96.3	0	65-130		%REC	10	11/19/2010 6:30:00 PM
Surr: Dibromofluoromethane	94.4	0	63-127		%REC	50	11/23/2010 1:09:00 AM
Surr: Dibromofluoromethane	112	0	63-127		%REC	10	11/19/2010 6:30:00 PM
Surr: Toluene-d8	182	0	61-128	S	%REC	50	11/23/2010 1:09:00 AM
Surr: Toluene-d8	429	0	61-128	S	%REC	10	11/19/2010 6:30:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P > 40% diff for detected conc between the two GC columns
- U Indicates the compound was analyzed but not detected.

ELAP ID: 11418

CLIENT: Kleinfe

Kleinfelder Client Sample ID: DS-7, 9-11'

Lab Order: 1011219 Collection Date: 11/18/2010 12:20:00 PM

Project: Commander Oil Term., One Commander Sq. Oy Matrix: LIQUID

**Lab ID:** 1011219-05A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qua	l Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0		µg/L	1	11/19/2010 7:08:00 PM
cis-1,2-Dichloroethene	340000	15	50		µg/L	50	11/23/2010 1:32:00 AM
trans-1,2-Dichloroethene	680	15	50		µg/L	50	11/23/2010 1:32:00 AM
Trichloroethene	62000	15	50		μg/L	50	11/23/2010 1:32:00 AM
Vinyl chloride	75000	15	50		µg/L	50	11/23/2010 1:32:00 AM
Surr: 4-Bromofluorobenzene	102	0	65-130		%REC	50	11/23/2010 1:32:00 AM
Surr: 4-Bromofluorobenzene	98.0	0	65-130		%REC	1	11/19/2010 7:08:00 PM
Surr: Dibromofluoromethane	105	0	63-127		%REC	50	11/23/2010 1:32:00 AM
Surr: Dibromofluoromethane	106	0	63-127		%REC	1	11/19/2010 7:08:00 PM
Surr: Toluene-d8	109	0	61-128		%REC	50	11/23/2010 1:32:00 AM
Surr: Toluene-d8	361	0	61-128	S	%REC	1	11/19/2010 7:08:00 PM

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### Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded

Date: 23-Nov-10

- LOD Limit of Detection
  - P  $\rightarrow$  >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 23-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-7, 19-21'

Lab Order:

1011219

Collection Date: 11/18/2010 12:45:00 PM

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-06A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	46 8260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10		µg/L	10	11/19/2010 7:46:00 PM
cis-1,2-Dichloroethene	29000	15	50		µg/L	50	11/23/2010 1:56:00 AM
trans-1,2-Dichloroethene	56	3	10		μg/L	10	11/19/2010 7:46:00 PM
Trichloroethene	200000	15	50		μg/L	50	11/23/2010 1:56:00 AM
Vinyl chloride	2900	15	50		μg/L	50	11/23/2010 1:56:00 AM
Surr: 4-Bromofluorobenzene	103	0	65-130		%REC	50	11/23/2010 1:56:00 AM
Surr: 4-Bromofluorobenzene	100	0	65-130		%REC	10	11/19/2010 7:46:00 PM
Surr: Dibromofluoromethane	99.1	0	63-127		%REC	50	11/23/2010 1:56:00 AM
Surr: Dibromofluoromethane	108	0	63-127		%REC	10	11/19/2010 7:46:00 PM
Surr: Toluene-d8	116	0	61-128		%REC	50	11/23/2010 1:56:00 AM
Surr: Toluene-d8	161	0	61-128	S	%REC	10	11/19/2010 7:46:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**ELAP ID: 11418** 

CLIENT: Kleinfelder

Client Sample ID: DS-1, 8-10'

Lab Order:

1011219

Collection Date: 11/18/2010 3:25:00 PM

Date: 23-Nov-10

Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Lab ID:

1011219-07A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/22/2010 7:07:00 PM
cis-1,2-Dichloroethene	230	15	50	μg/L	50	11/22/2010 7:54:00 PM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/22/2010 7:07:00 PM
Trichloroethene	4300	15	50	μg/L	50	11/22/2010 7:54:00 PM
Vinyl chloride	28	0.3	1.0	μg/L	1	11/22/2010 7:07:00 PM
Surr: 4-Bromofluorobenzene	99.4	0	65-130	%REC	50	11/22/2010 7:54:00 PM
Surr: 4-Bromofluorobenzene	100	0	65-130	%REC	1	11/22/2010 7:07:00 PM
Surr: Dibromofluoromethane	115	0	63-127	%REC	50	11/22/2010 7:54:00 PM
Surr: Dibromofluoromethane	96.6	0	63-127	%REC	1	11/22/2010 7:07:00 PM
Surr: Toluene-d8	106	0	61-128	%REC	50	11/22/2010 7:54:00 PM
Surr: Toluene-d8	120	0	61-128	%REC	1	11/22/2010 7:07:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

ELAP ID: 11418

CLIENT: Kleint

Kleinfelder 1011219 Client Sample ID: Trip Blank

Collection Date: 11/18/2010

Lab Order: Project:

Commander Oil Term., One Commander Sq. Oy

Matrix: LIQUID

Date: 23-Nov-10

Lab ID:

1011219-08A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/22/2010 6:19:00 PM
cis-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/22/2010 6:19:00 PM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/22/2010 6:19:00 PM
Trichloroethene	U	0.3	1.0	μg/L	1	11/22/2010 6:19:00 PM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/22/2010 6:19:00 PM
Surr: 4-Bromofluorobenzene	105	0	65-130	%REC	1	11/22/2010 6:19:00 PM
Surr: Dibromofluoromethane	104	0	63-127	%REC	1	11/22/2010 6:19:00 PM
Surr: Toluene-d8	104	0	61-128	%REC	1	11/22/2010 6:19:00 PM

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nelac

Qualifiers:

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits

LOQ Limit of Quantitation

- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

CLIENT:

Kleinfelder 1011219 Work Order:

Commander Oil Term., One Commander Sq. Oy

Project:

ANALYTICAL QC SUMMARY REPORT

Date: 23-Nov-10

A CANADA MANAGEMENT OF THE PROPERTY OF THE PRO									
Sample ID: V624LCS-111910HW SampType: LCS	SampType: LCS	TestCoc	TestCode: 8260breakdo	do Units: µg/L	demandred demandation responses du	Prep Date:	11/19/2010	RunNo: 54491	
Client ID: LCSW	Batch ID: <b>R54491</b>	Testh	TestNo: SW8260B			Analysis Date:	11/19/2010	SeqNo: <b>765553</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	47	1.0	50.00	0	94.7	36	141		
Tetrachloroethene	32	1.0	50.00	0	63.9	45	136		
trans-1,2-Dichloroethene	40	1.0	50.00	0	80.4	42	135		
Trichloroethene	37	1.0	50.00	0	74.8	43	140		
Vinyl chloride	55	1.0	50.00	0	110	35	142		
Surr: 4-Bromofluorobenzene	48		50.00		95.0	09	130		
Surr: Dibromofluoromethane	54		50.00		108	63	127		
Surr: Toluene-d8	52		50.00		103	61	128		
Sample ID: VBLK-111910HW	SampType: WBLK	TestCoc	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/19/2010	RunNo: 54491	
Client ID: PBW	Batch ID: R54491	Testh	TestNo: SW8260B			Analysis Date:	11/19/2010	SeqNo: <b>765554</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane		1.0							-
cis-1,2-Dichloroethene	)	1.0							
Tetrachloroethene	)	1.0							
trans-1,2-Dichloroethene	n	1.0							
Trichloroethene	⊃	1.0							
Vinyl chloride	n	0.1							
Surr: 4-Bromofluorobenzene	20		50.00		9.66	09	130		
Surr: Dibromofluoromethane	53		50.00		107	63	127		
Surr: Toluene-d8	50		20.00		101	61	128		
Sample ID: V624LCS-112210LW	SampType: LCS	TestCoc	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/22/2010	RunNo: 54491	
Client ID: LCSW	Batch ID: R54491A	Test	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: <b>766424</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	39	1.0	50.00	0	77.1	36	141		
Tetrachloroethene	37	1.0	50.00	0	74.8	45	136		
Qualifiers: B Analyte detecte	Analyte detected in the associated Method Blank	lank	C Calibra	Calibration %RSD/%D exceeded for non-CCC analytes	eded for nor	1-CCC analytes	E Value above quantitation range	titation range	
	Holding times for preparation or analysis exceeded	eeded		Analyte detected below quantitation limits	titation limi	ts	COD		
LOQ Limit of Quantitation	titation		P >40%	>40% diff for detected conc between the two GC column	between the	two GC column	×	RPD outside accepted recovery limits	

Work Order: CLIENT:

Kleinfelder 1011219 Commander Oil Term., One Commander Sq. Oy Project:

# ANALYTICAL QC SUMMARY REPORT

Sample ID: V624LCS-112210LW	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: ua/L		Prep Date:	11/22/2010	RunNo: 54491	
Client ID: LCSW	Batch ID: <b>R54491A</b>	Test	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: 766424	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
trans-1.2-Dichloroethene	35	10	50.00	0	70.1	7.7	135		
Trichloroethene	) & &	0.1	50.00	) C	75.0	43	140		
Vinyl chloride	55		50.55		2.5	5 C	0 7		
Court A Drownoffing to be compared to	4 (2	<u>.</u>	00.00	Þ	† 6	င်င	741		
Suff: 4-Bromotiuorobenzene	94		20.00		98.6	09	130		
Surr: Dibromofluoromethane	46		50.00		92.2	63	127		
Surr: Toluene-d8	53		20.00		107	61	128		
Sample ID: VBLK-112210LW	SampType: MBLK	TestCo	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/22/2010	RunNo: 54491	
Client ID: PBW	Batch ID: <b>R54491A</b>	Test	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: <b>766425</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane		1.0							
cis-1,2-Dichloroethene	)	1.0							
Tetrachloroethene	⊃	1.0							
trans-1,2-Dichloroethene	_	1.0							
Trichloroethene	)	1.0							
Vinyl chloride	n	1.0							
Surr: 4-Bromofluorobenzene	49		50.00		98.3	09	130		
Surr: Dibromofluoromethane	51		50.00		102	63	127		
Surr: Toluene-d8	52		20.00		104	61	128		
Sample ID: V624LCS-112210aL	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/22/2010	RunNo: 54491	
Client ID: LCSW	Batch ID: <b>R54491B</b>	Test	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: <b>766431</b>	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	41	1.0	50.00	0	82.2	36	141		
Tetrachloroethene	38	1.0	50.00	0	75.0	45	136		
trans-1,2-Dichloroethene	35	1.0	50.00	0	70.9	42	135		
Trichloroethene	38	1.0	50.00	0	75.3	43	140		
Vinyl chloride	51	1.0	50.00	0	102	35	142		
Surr: 4-Bromofluorobenzene	20		20.00		6'66	09	130		
Qualifiers: B Analyte detect	Analyte detected in the associated Method Blank Holding times for preparation or analysis exceeded	lank eeded	C Calibra	Calibration %RSD/%D exceeded for non-CCC analytes Analyte detected below quantitation limits	eded for no	n-CCC analytes	E Value above quantitation range	itation range	
_	fitation			> 100, diff for defected come between the two CO column	hotmoon the				
				אוווז זכן מפוספופם פפווי	חלניאיניו נווי	two OC continue		INFID outside accepted recovery limits	

### CLIENT: Kleinfelder

Work Order: 1011219

Commander Oil Term., One Commander Sq. Oy

Project:

# ANALYTICAL QC SUMMARY REPORT

Sample ID: V624LCS-112210aL Client ID: LCSW	SampType: LCS Batch ID: R54491B	TestCode: 8260breakdo Units: µg/L TestNo: SW8260B		Prep Date: 11/22/2010 Analysis Date: 11/22/2010	RunNo: <b>54491</b> SeqNo: <b>766431</b>
Analyte	Result	PQL SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	/al %RPD RPDLimit Qual
Surr. Dibromofluoromethane Surr. Toluene-d8	53	50.00	106	63 127 61 128	
Sample ID: VBLK-112210aLW	SampType: MBLK Batch ID: R54491B	TestCode: 8260breakdo Units: µg/L		Prep Date: 11/22/2010 Analysis Date: 11/22/2010	RunNo: 54491 SedNo: 766432
Analyte	Result	PQL SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	
1,2-Dichloroethane	7	1.0			
cis-1,2-Dichloroethene	D	1.0			
Tetrachloroethene	D	1.0			
trans-1,2-Dichloroethene	)	1.0			
Trichloroethene	)	1.0			
Vinyl chloride	D	1.0			
Surr: 4-Bromofluorobenzene	90	50.00	101	60 130	
Surr: Dibromofluoromethane	53	50.00	105	63 127	
Surr: Toluene-d8	52	50.00	104	61 128	



Fire Capy PN 110226 DS-GWS.

NYSDOH NJDEP CTDOH

PADEP

11418 NY050 PH-0205 68-00573

Wednesday, November 24, 2010

Richard Swedborg Kleinfelder 1 Corporate Dr., Suite 201 Bohemia, NY 11716

TEL: (631) 218-0612 FAX (631) 218-0787

RE: Commander Oil Terminal, One Commander

Dear Richard Swedborg:

Order No.: 1011233

American Analytical Laboratories, LLC. received 17 sample(s) on 11/19/2010 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. This report consists of 26 pages.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lori Bever

Lab Director

Date: 24-Nov-10

CLIENT:

Kleinfelder

Project:

Commander Oil Terminal, One Commander Squ

Lab Order:

1011233

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date Collected	Date Received
1011233-01A	DS-1, 16-18'	11/18/2010 4:26:00 PM	11/19/2010
1011233-02A	DS-1, 23-25'	11/18/2010 4:50:00 PM	11/19/2010
1011233-03A	DS-5, 7-9'	11/19/2010 8:50:00 AM	11/19/2010
1011233-04A	DS-5, 10-13'	11/19/2010 9:18:00 AM	11/19/2010
1011233-05A	DS-5, 19-22'	11/19/2010 9:40:00 AM	11/19/2010
1011233-06A	DS-5, 29-32'	11/19/2010 10:10:00 AM	11/19/2010
1011233-07A	DS-4, 4-7'	11/19/2010 11:15:00 AM	11/19/2010
1011233-08A	DS-4, 9-12'	11/19/2010 11:30:00 AM	11/19/2010
1011233-09A	DS-4, 19-22'	11/19/2010 11:50:00 AM	11/19/2010
1011233-10A	DS-4, 29-32'	11/19/2010 12:15:00 PM	11/19/2010
1011233-11A	DS-2, 9-12'	11/19/2010 1:40:00 PM	11/19/2010
1011233-12A	DS-2, 15-18'	11/19/2010 1:55:00 PM	11/19/2010
1011233-13A	DS-2, 23-26'	11/19/2010 2:05:00 PM	11/19/2010
1011233-14A	DS-3, 5-8'	11/19/2010 2:50:00 PM	11/19/2010
1011233-15A	DS-3, 13-16'	11/19/2010 3:00:00 PM	11/19/2010
1011233-16A	DS-3, 19-22'	11/19/2010 3:25:00 PM	11/19/2010
1011233-17A	Trip Blank	11/18/2010	11/19/2010



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NYSDOH CTDOH NJDEP PADEP

11418 PH-0205 NY050 68-573

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-OTA WG	M	11/19/10 0940	08-5, 19-20	×			
JOH MC	R		105-5,29-321	·×			
DM YCE	B	11/19/10 1115	14-4-50	>			
30 #85	~	1130	10-67-50	<b>×</b>			
-ON MG	K	11/11/10 1150	CC-51 / SQ	×			
JM 40)-	A		1	×			
JUA WG	K	11/15/10 1340	05-2, 9-12,	<b>&gt;</b>			
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11418 PH-0205 NY050 68-573 NYSDOH CTDOH NJDEP PADEP

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Che Committee Dr., Surte 201	1057	Ĭ	(621) 2K-CCL	SKAMPLEFFKAME (PRINT)		CORRECT CONTAINER(S)	YES// NO
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3M Ph1~	Š	11/19/10 1450	05-3, 5-81	×			
8		11/19/16 150C	DS-3 13-16'	×			-
ı	$\sim$	11/18/16 1525	05-3,019-20	<u> </u>			-
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COMMENTS/INSTRUCTIONS * Regart and CVOCS TCE,	theyant i	TISDOD YOU		DCE, cit-12-dalle oftere, Samples must be on ICE	t be on IC	ログなりョ	C43
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MATRIX S=SOIL; W=WATER; SL=SLUDGE; A=AIR; M=MISCELLANEOUS	3; SL=SLUD	IGE; A=AIR; M=MISC			E-MAIL ADDRESS FOR RESULTS	-OR RESULTS:	
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### Sample Receipt Checklist

Client Name KLEINFELDER			Date and Tim	e Receive	11/19/2010	
Work Order Numbe 1011233	RcptNo: 1		Received by	СВ		
COC_ID: CoolerID Checklist completed by	: > 11/22 /	160	Reviewed by	fa 1	В	1/12/10
Signature /	Date			Initialis	-   (	- Bate / D
Matrix:	Carrier name	Courier				•
Shipping container/cooler in good condition?		Yes 🗹	No 🗀	Not Presen		· 3·
Custody seals intact on shippping container/cod	oler?	Yes 🗌	No 🗔	Not Presen	V	
Custody seals intact on sample bottles?		Yes []	No 🗌	Not Presen	<b>V</b>	
Chain of custody present?		Yes 🗸	No 🗍			
Chain of custody signed when relinquished and	received?	Yes 🔽	No 🗌			
Chain of custody agrees with sample labels?	•	Yes 🗹	No 🗀			
Samples in proper container/bottle?		Yes 🗹	No 🗌			
Sample containers intact?	:	Yes 🗹	No 🗌			
Sufficient sample volume for indicated test?		Yes 🔽	No 🗀			
All samples received within holding time?		Yes 🔽	No []			
Container/Temp Blank temperature in compliar	nce?	Yes 🔽	No 🗀			
Water - VOA vials have zero headspace?	No VOA vials subn	nitted []	Yes 🗸	No		
Water - pH acceptable upon receipt?		Yes 🔽	No L.	N/A[]		
	Adjusted?		Checked b			
Any No and/or NA (not applicable) response m	ust be detailed in the c	omments sec	tion be			
Client contacted	Date contacted:		Perso	on contacted		
Contacted by:	Regarding:					
Comments: Cooler with ice @ 3.6C						
Corrective Action						
		14.77.67.47			ada a ang a sa an arang ar	

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-1, 16-18'

Lab Order:

1011233

Collection Date: 11/18/2010 4:26:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-01A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	346 8260		SW826	ОВ		Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10	μg/L	10	11/23/2010 2:20:00 AM
cis-1,2-Dichloroethene	68	3	10	μg/L	10	11/23/2010 2:20:00 AM
trans-1,2-Dichloroethene	U	3	10	μg/L	10	11/23/2010 2:20:00 AM
Trichloroethene	350	3	10	μg/L	10	11/23/2010 2:20:00 AM
Vinyl chloride	U	3	10	μg/L	10	11/23/2010 2:20:00 AM
Surr: 4-Bromofluorobenzene	103	0 ′	65-130	%REC	10	11/23/2010 2:20:00 AM
Surr: Dibromofluoromethane	104	0	63-127	%REC	10	11/23/2010 2:20:00 AM
Surr: Toluene-d8	108	0	61-128	%REC	10	11/23/2010 2:20:00 AM

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Qualifiers:

В Analyte detected in the associated Method Blank

- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- Holding times for preparation or analysis exceeded Н
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-1, 23-25'

Lab Order:

1011233

Collection Date: 11/18/2010 4:50:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-02A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10	μg/L	10	11/23/2010 2:44:00 AM
cis-1,2-Dichloroethene	79	3	10	μg/L	10	11/23/2010 2:44:00 AM
trans-1,2-Dichloroethene	U	3	10	μg/L	10	11/23/2010 2:44:00 AM
Trichloroethene	190	3	10	µg/L	10	11/23/2010 2:44:00 AM
Vinyl chloride	U	3	10	μg/L	10	11/23/2010 2:44:00 AM
Surr: 4-Bromofluorobenzene	104	0 .	65-130	%REC	10	11/23/2010 2:44:00 AM
Surr: Dibromofluoromethane	91.0	0	63-127	%REC	10	11/23/2010 2:44:00 AM
Surr: Toluene-d8	104	0	61-128	%REC	10	11/23/2010 2:44:00 AM

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- Analyte detected in the associated Method Blank В
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- Holding times for preparation or analysis exceeded Н
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

**Date:** 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-5, 7-9'

Lab Order:

1011233

Collection Date: 11/19/2010 8:50:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-03A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/24/2010 1:52:00 AM
cis-1,2-Dichloroethene	1.5	0.3	1.0	μg/L	1	11/24/2010 1:52:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 1:52:00 AM
Trichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 1:52:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/24/2010 1:52:00 AM
Surr: 4-Bromofluorobenzene	97.6	0 '	65-130	%REC	1	11/24/2010 1:52:00 AM
Surr: Dibromofluoromethane	108	0	63-127	%REC	1	11/24/2010 1:52:00 AM
Surr: Toluene-d8	105	0	61-128	%REC	1	11/24/2010 1:52:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Commander Oil Terminal, One Commander Squ

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-5, 10-13'

Lab Order:

1011233

Collection Date: 11/19/2010 9:18:00 AM

Project:

1011233

Matrix: LIQUID

Lab ID:

1011233-04A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	346 8260		SW826	)B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/24/2010 10:44:00 AM
cis-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 10:44:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 10:44:00 AM
Trichloroethene	29	0.3	1.0	μg/L	1	11/24/2010 10:44:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/24/2010 10:44:00 AM
Surr: 4-Bromofluorobenzene	99.1	0 -	65-130	%REC	1	11/24/2010 10:44:00 AM
Surr: Dibromofluoromethane	102	0	63-127	%REC	1	11/24/2010 10:44:00 AM
Surr: Toluene-d8	106	0	61-128	%REC	1	11/24/2010 10:44:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-5, 19-22'

Lab Order:

1011233

Collection Date: 11/19/2010 9:40:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-05A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Qual	Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW8260B			Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 3:55:00 AM
cis-1,2-Dichloroethene	5.5	0.3	1.0	μg/L	1	11/23/2010 3:55:00 AM
trans-1,2-Dichloroethene	υ	0.3	1.0	μg/L	1	11/23/2010 3:55:00 AM
Trichloroethene	620	3	10	μg/L	10	11/23/2010 9:40;00 PM
Vinyl chloride	U	0.3	1.0	µg/L	1	11/23/2010 3:55:00 AM
Surr: 4-Bromofluorobenzene	101	0 .	65-130	%REC	10	11/23/2010 9:40:00 PM
Surr: 4-Bromofluorobenzene	102	. 0	65-130	%REC	1	11/23/2010 3:55:00 AM
Surr: Dibromofluoromethane	105	0	63-127	%REC	10	11/23/2010 9:40:00 PM
Surr: Dibromofluoromethane	102	0	63-127	%REC	1	11/23/2010 3:55:00 AM
Surr: Toluene-d8	106	<sup>1</sup> 0	61-128	%REC	10	11/23/2010 9:40:00 PM
Surr: Toluene-d8	101	0	61-128	%REC	1	11/23/2010 3:55:00 AM

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- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-5, 29-321

Lab Order:

1011233

Collection Date: 11/19/2010 10:10:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-06A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	846 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/24/2010 2:40:00 AM
cis-1,2-Dichloroethene	5.4	0.3	1.0	µg/L	1	11/24/2010 2:40:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 2:40:00 AM
Trichloroethene	36	0.3	1.0	μg/L	1	11/24/2010 2:40:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/24/2010 2:40:00 AM
Surr: 4-Bromofluorobenzene	109	0 '	65-130	%REC	1	11/24/2010 2:40:00 AM
Surr: Dibromofluoromethane	110	0	63-127	%REC	1	11/24/2010 2:40:00 AM
Surr: Toluene-d8	111	0	61-128	%REC	1	11/24/2010 2:40:00 AM

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- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes C
- Holding times for preparation or analysis exceeded H
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-4, 4-7'

Lab Order:

1011233

Collection Date: 11/19/2010 11:15:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-07A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-I	346 8260		SW826	0B		Analyst: LA
1,2-Dichloroethane	U	15	50	μg/L	50	11/23/2010 4:43:00 AM
cis-1,2-Dichloroethene	U	15	50	μg/L	50	11/23/2010 4:43:00 AM
trans-1,2-Dichloroethene	υ	15	50	μg/L	50	11/23/2010 4:43:00 AM
Trichloroethene	180	15	50	μg/L	50	11/23/2010 4:43:00 AM
Vinyl chłoride	U	15	50	μg/L.	50	11/23/2010 4:43:00 AM
Surr: 4-Bromofluorobenzene	101	0 .	65-130	%REC	50	11/23/2010 4:43:00 AM
Surr: Dibromofluoromethane	105	0	63-127	%REC	50	11/23/2010 4:43:00 AM
Surr: Toluene-d8	101	0	61-128	%REC	50	11/23/2010 4:43:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %R\$D/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
- P >40% diff for detected conc between the two GC columns
- U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-4, 9-12'

Lab Order:

1011233

Collection Date: 11/19/2010 11:30:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-08A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Ç	Qual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	846 8260		SW826	60B		Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/24/2010 3:05:00 AM
cis-1,2-Dichloroethene	6.3	0.3	1.0	μg/L	1	11/24/2010 3:05:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 3:05:00 AM
Trichloroethene	54	0.3	1.0	μg/L	1	11/24/2010 3:05:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/24/2010 3:05:00 AM
Surr: 4-Bromofluorobenzene	105	0 ′	65-130	%REC	1	11/24/2010 3:05:00 AM
Surr: Dibromofluoromethane	105	0	63-127	%REC	1	11/24/2010 3:05:00 AM
Surr: Toluene-d8	101	0	61-128	%REC	1	11/24/2010 3:05:00 AM

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- Analyte detected in the associated Method Blank В
- Ε Value above quantitation range
- Analyte detected below quantitation limits Ţ
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes C
- Holding times for preparation or analysis exceeded Н
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-4, 19-22'

Lab Order:

1011233

Collection Date: 11/19/2010 11:50:00 AM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-09A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	346 8260		SW826	)B		Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 5:30:00 AM
cis-1,2-Dichloroethene	1.4	0.3	1.0	µg/L	1	11/23/2010 5:30:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/23/2010 5:30:00 AM
Trichloroethene	54	0.3	. 1.0	μg/L	1	11/23/2010 5:30:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/23/2010 5:30:00 AM
Surr: 4-Bromofluorobenzene	101	0 '	65-130	%REC	1	11/23/2010 5:30:00 AM
Surr: Dibromofluoromethane	106	0	63-127	%REC	1	11/23/2010 5:30:00 AM
Surr: Toluene-d8	101	0	61-128	%REC	1	11/23/2010 5:30:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-4, 29-32'

Lab Order:

1011233

Collection Date: 11/19/2010 12:15:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-10A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 5:54:00 AM
cis-1,2-Dichloroethene	U	0.3	1.0	µg/L	1	11/23/2010 5:54:00 AM
trans-1,2-Dichloroethene	ឋ	0.3	1.0	μg/L	1	11/23/2010 5:54:00 AM
Trichloroethene	14	0.3	1.0	μg/L	1	11/23/2010 5:54:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/23/2010 5:54:00 AM
Surr: 4-Bromofluorobenzene	103	0 .	65-130	%REC	1	11/23/2010 5:54:00 AM
Surr: Dibromofluoromethane	101	0	63-127	%REC	1	11/23/2010 5:54:00 AM
Surr: Toluene-d8	102	0	61-128	%REC	1	11/23/2010 5:54:00 AM

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- В Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

**CLIENT:** 

Kleinfelder

Client Sample ID: DS-2, 9-12'

Lab Order:

1011233

Collection Date: 11/19/2010 1:40:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-11A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: LA
1,2-Dichloroethane	U	3	10	μg/L	10	11/23/2010 6:18:00 AM
cis-1,2-Dichloroethene	3100	3	10	μg/L	10	11/23/2010 6:18:00 AM
trans-1,2-Dichloroethene	16	3	10	μg/L	10	11/23/2010 6:18:00 AM
Trichloroethene	110	3	10	μg/L	10	11/23/2010 6:18:00 AM
Vinyl chloride	710	3	10	μg/L	10	11/23/2010 6:18:00 AM
Surr: 4-Bromofluorobenzene	105	0 ′	65-130	%REC	10	11/23/2010 6:18:00 AM
Surr: Dibromofluoromethane	104	0	63-127	%REC	10	11/23/2010 6:18:00 AM
Surr: Toluene-d8	102	0	61-128	%REC	10	11/23/2010 6:18:00 AM

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Qualifiers:

B Analyte detected in the associated Method Blank

- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-2, 15-18'

Lab Order:

1011233

Collection Date: 11/19/2010 1:55:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-12A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10	μg/L	10	11/23/2010 6:43:00 AM
cis-1,2-Dichloroethene	1400	3	10	μg/L	10	11/23/2010 6:43:00 AM
trans-1,2-Dichloroethene	U	3	10	μg/L	10	11/23/2010 6:43:00 AM
Trichloroethene	59	3	10	μg/L	10	11/23/2010 6:43:00 AM
Vinyl chloride	180	3	10	μg/L	10	11/23/2010 6:43:00 AM
Surr: 4-Bromofluorobenzene	101	0 .	65-130	%REC	10	11/23/2010 6:43:00 AM
Surr: Dibromofluoromethane	102	0	63-127	%REC	10	11/23/2010 6:43:00 AM
Surr: Toluene-d8	104	0	61-128	%REC	10	11/23/2010 6:43:00 AM

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- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes C
- Holding times for preparation or analysis exceeded Н
- LOD Limit of Detection
- >40% diff for detected conc between the two GC columns
- Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-2, 23-26'

Lab Order:

1011233

Collection Date: 11/19/2010 2:05:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-13A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	346 8260		SW8260	)B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 7:07:00 AM
cis-1,2-Dichloroethene	24	0.3	1.0	μg/L	1	11/23/2010 7:07:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/23/2010 7:07:00 AM
Trichloroethene	14	0.3	1.0	μg/L	1	11/23/2010 7:07:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/23/2010 7:07:00 AM
Surr: 4-Bromofluorobenzene	101	0 .	65-130	%REC	1	11/23/2010 7:07:00 AM
Surr: Dibromofluoromethane	104	0	63-127	%REC	1	11/23/2010 7:07:00 AM
Surr: Toluene-d8	107	0	61-128	%REC	1	11/23/2010 7:07:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-3, 5-8'

Lab Order:

1011233

Collection Date: 11/19/2010 2:50:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-14A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	3	10	μg/L	10	11/23/2010 7:31:00 AM
cis-1,2-Dichloroethene	U	3	10	μg/L	10	11/23/2010 7:31:00 AM
trans-1,2-Dichloroethene	U	3	10	μg/L	10	11/23/2010 7:31:00 AM
Trichloroethene	U	3	10	μg/L	10	11/23/2010 7:31:00 AM
Vinyl chloride	U	3	10	µg/L	10	11/23/2010 7:31:00 AM
Surr: 4-Bromofluorobenzene	106	0 1	65-130	%REC	10	11/23/2010 7:31:00 AM
Surr: Dibromofluoromethane	107	0	63-127	%REC	10	11/23/2010 7:31:00 AM
Surr: Toluene-d8	103	0	61-128	%REC	10	11/23/2010 7:31:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
- P >40% diff for detected conc between the two GC columns
- U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-3, 13-16'

Lab Order:

1011233

Collection Date: 11/19/2010 3:00:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-15A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Qua	al Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW82601	3		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 7:55:00 AM
cis-1,2-Dichloroethene	3600	3	10	μg/L	10	11/23/2010 10:04:00 PM
trans-1,2-Dichloroethene	15	0.3	1.0	μg/L	1	11/23/2010 7:55:00 AM
Trichloroethene	47	0.3	1.0	μg/L	1	11/23/2010 7:55:00 AM
Vinyl chloride	460	3	10	μg/L	10	11/23/2010 10:04:00 PM
Surr: 4-Bromofluorobenzene	105	0 '	65-130	%REC	10	11/23/2010 10:04:00 PM
Surr: 4-Bromofluorobenzene	103	0	65-130	%REC	1	11/23/2010 7:55:00 AM
Surr: Dibromofluoromethane	109	0	63-127	%REC	10	11/23/2010 10:04:00 PM
Surr: Dibromofluoromethane	102	0	63-127	%REC	1	11/23/2010 7:55:00 AM
Surr: Toluene-d8	106	0	61-128	%REC	10	11/23/2010 10:04:00 PM
Surr: Toluene-d8	100	0	61-128	%REC	1	11/23/2010 7:55:00 AM

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- Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- Holding times for preparation or analysis exceeded H
- LOD Limit of Detection
  - >40% diff for detected cone between the two GC columns
  - Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: DS-3, 19-22'

Lab Order:

1011233

Collection Date: 11/19/2010 3:25:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-16A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-	346 8260		SW826	0B		Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/24/2010 11:08:00 AM
cis-1,2-Dichloroethene	51	0.3	1.0	μg/L	1	11/24/2010 11:08:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/24/2010 11:08:00 AM
Trichloroethene	20	0.3	1.0	μg/L	1	11/24/2010 11:08:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/24/2010 11:08:00 AM
Surr: 4-Bromofluorobenzene	96.8	0 '	65-130	%REC	1	11/24/2010 11:08:00 AM
Surr: Dibromofluoromethane	104	0	63-127	%REC	1	11/24/2010 11:08:00 AM
Surr: Toluene-d8	109	0	61-128	%REC	1	11/24/2010 11:08:00 AM

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- Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 24-Nov-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: Trip Blank

Lab Order:

1011233

Collection Date: 11/18/2010

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1011233-17A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: LA
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	11/23/2010 8:42:00 AM
cis-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/23/2010 8:42:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	11/23/2010 8:42:00 AM
Trichloroethene	U	0.3	1.0	μg/L	1	11/23/2010 8:42:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	11/23/2010 8:42:00 AM
Surr: 4-Bromofluorobenzene	102	0 '	65-130	%REC	1	11/23/2010 8:42:00 AM
Surr: Dibromofluoromethane	102	0	63-127	%REC	1	11/23/2010 8:42:00 AM
Surr: Toluene-d8	106	0	61-128	%REC	1	11/23/2010 8:42:00 AM

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- Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

CLIENT:

Kleinfelder 1011233 Work Order:

Commander Oil Terminal, One Commander Squ Project:

ANALYTICAL QC SUMMARY REPORT

	The state of the s								
Sample ID V624LCS-112210aL	SampType: LCS	TestCoc	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/22/2010	RunNo: 54542	
Client ID: LCSW	Batch ID: R54542	Testh	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: 766508	<del>,</del>
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	41	1.0	50.00	0	82.2	36	141		
Tetrachloroethene	38	1.0	50.00	0	75.0	45	136		
trans-1,2-Dichloroethene	35	1.0	50.00	0	70.9	42	135		
Trichloroethene	38	1.0	50.00	0	75.3	43	140		
Vinyl chloride	55	1.0	50.00	0	102	35	142		
Surr: 4-Bromofluorobenzene	20		50.00		99.9	60	130		
Surr: Dibromofluoromethane	53		50.00		106	63	127		
Surr. Toluene-d8	53		50.00		106	61	128		
Sample ID VBLK-112210aLW	SampType: MBLK	TestCoc	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	11/22/2010	RunNo: 54542	
Client ID: PBW	Batch ID: R54542	Test	TestNo: SW8260B			Analysis Date:	11/22/2010	SeqNo: <b>766509</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	n	1.0							
cis-1,2-Dichloroethene	ח	1.0							
Tetrachloroethene	'n	1.0							
trans-1,2-Dichloroethene	D	1.0							
Trichloroethene	Ö	1.0							
Vinyl chloride	ם	1.0							
Surr: 4-Bromofluorobenzene	20		50.00		101	90	130	-	
Surr: Dibromofluoromethane	53		50.00		105	63	127		
Surr; Toluene-d8	52		50.00		104	61	128		
Sample ID 1011233-17AMS	SampType: MS	TestCoc	TestCode: 8260breakdo	do Units: µg/L		Prep Date:		RunNo: 54542	
Client ID: Trip Blank	Batch ID: R54542	Test	TestNo: SW8260B			Analysis Date:	11/23/2010	SeqNo: 766522	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
'1,2-Dichloroethane	33	1.0	50.00	0	66.2	36	141		
trans-1,2-Dichloroethene	32	1.0	50.00	0	64.2	42	135		
Qualifiers: B Analyte detect	Analyte detected in the associated Method Blank		C Calibra	Calibration %RSD/%D exceeded for non-CCC analytes	eded for no	n-CCC analytes	E Value above quantitation range	ntitation range	
Ξ	Holding times for preparation or analysis exceeded	ceeded	J Analyte	Analyte detected below quantitation limits	ntitation lim	its	LOD Limit of Detection	L	٠
LOQ Limit of Quantitation	titation		P >40%	>40% diff for detected conc between the two GC column	between th	e two GC column	ద	RPD outside accepted recovery limits	

Kleinfelder CLIENT:

1011233 Work Order:

Commander Oil Terminal, One Commander Squ

Project:

# ANALYTICAL QC SUMMARY REPORT

Sample ID 1011233-17AMS	SampType: MS	TestCod	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	 		RunNo: 54542		
Client ID: Trip Blank	Batch ID: R54542	TestN	TestNo: SW8260B			Analysis Date:	3: 11/23/2010	2010	SeqNo: 766522		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RP	RPDLimit	Qual
Trichloroethene	37	1.0	50.00	0	74.4	43	140				
Vinyl chloride	46	1.0	50.00	0	92.7	35	142				
Surr: 4-Bromofluorobenzene	51		50.00		103	9	130				
Surr: Dibromofluoromethane	53		50.00		107	63	127				
Surr: Toluene-d8	54		50.00		108	61	128				
Sample ID 1011233-17AMSD	SampType: MSD	TestCod	TestCode: 8260breakdo	do Units: µg/L		Prep Date	, a		RunNo: 54542		
Client ID: Trip Blank	Batch ID: R54542	TestN	TestNo: SW8260B			Analysis Date:	s: 11/23/2010	2010	SeqNo: 766523		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPC	RPDLimit	Qual
1,2-Dichloroethane	35	1.0	50.00	0	7.07	36	141	33.10	6.55	20	
trans-1,2-Dichloroethene	29	1.0	50.00	0	58.9	42	135	32.11	8.71	20	
Trichloroethene	33	1.0	50.00	0	65.3	43	140	37.21	13.0	20	
Vinyl chloride	45	1.0	50.00	0	89.8	35	142	46.36	3.16	20	
Surr: 4-Bromofluorobenzene	51		50.00		101	99	130		0	0	
Surr: Dibromofluoromethane	51		50.00		102	63	127		0	0	
Surr: Toluene-d8	52		50.00		104	61	128		0	0	
Sample ID V624LCS-112310LW	V SampType: LCS	TestCod	TestCode: 8260breakdo	cdo Units: µg/L		Prep Date:			RunNo: 54542		
Client ID: LCSW	Batch ID: R54542A	TestN	TestNo: SW8260B			Analysis Date:	9: 11/23/2010	2010	SeqNo: 766700		
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPE	RPDLimit	Qual
1,2-Dichloroethane	42	1.0	50.00	0	83.7	36	141				
Tetrachloroethene	39	1.0	50.00	0	77.5	45	136				
trans-1,2-Dichloroethene	36	1.0	50.00	0	72.5	42	135				
Trichloroethene	39	1.0	50.00	0	79.0	43	140			-	
Vinyl chloride	53	1.0	50.00	0	107	35	142				
Surr: 4-Bromofluorobenzene	48		20.00		96.5	90	130				
Surr: Dibromofluoromethane	52		50.00		104	63	127				
Surr: Toluene-d8	51		50.00		102	61	128	ł			
<u>~</u>	Analyte detected in the associated Method Blank	Rlank	Calibr	Calibration %RSD/%D exceeded for non-CC analytes	eeded for no	m-CCC analyti	ΓL	Value above quantitation range	titation range		
	Holding times for preparation of analysis exceeded	ceeded		Analyte detected helow quantitation limits	ntitation lin	nits	_	Limit of Detection	,		
	es for preparation of analysis of	200	, 400, v	mah waka paranganan				Drive cutable and			
LOQ Limit of Quantitation	intitation			>40% diff for detected conc between the two GC column	: between m	e two CC com	저	KPD ourside acce	KPD outside accepted recovery limits		

### Kleinfelder CLIENT:

1011233 Work Order: Commander Oil Terminal, One Commander Squ

Project:

# ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_W

Sample ID VBLK-112310LW	SampType: MBLK	TestCode	TestCode: 8260breakdo	Units: ua/L		Prep Date.		RunNo. 54542	
Client ID: PBW	Batch ID: R54542A	TestNo	TestNo: SW8260B		•	Analysis Date:	11/23/2010	SeqNo: 766701	
Analyte		Pal		SPK Ref Val	%REC	LowLimit Hig	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	ר	1.0							
cis-1,2-Dichloroethene	D	1.0							
Tetrachloroethene	n	1.0							
trans-1,2-Dichloroethene	n	1.0							
Trichloroethene	J	1.0							
Vinyl chloride	⊃	1.0							
Surr: 4-Bromofluorobenzene	90		50.00		101	90	130		
Surr: Dibromofluoromethane	51		90.09		103	63	127		
Surr: Toluene-d8	53		50.00		105	61	128		
Sample ID V624LCS-112310aL	SampType: LCS	TestCode	TestCode: 8260breakdo	Units: µg/L		Prep Date:	11/23/2010	RunNo: 54542	
Client ID: LCSW	Batch ID: <b>R54542B</b>	TestNo	TestNo: SW8260B		-	Analysis Date:	11/24/2010	SeqNo: 766975	
Analyte	Result	PQL	SPK value Si	SPK Ref Val	%REC	LowLimit Hig	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	41	1.0	50.00	0	82.4	36	141		
Tetrachloroethene	35	1.0	50.00	0	69.2	45	136		
trans-1,2-Dichloroethene	35	1.0	50.00	0	70.4	42	135		
Trichloroethene	88	1.0	50.00	0	75.2	43	140		
Vinyl chloride	52	1.0	50.00	0	105	35	142		
Surr: 4-Bromofluorobenzene	56		50.00		112	90	130		
Surr: Dibromofluoromethane	53		50.00		106	63	127		
Surr: Toluene-d8	51		50.00		103	61	128		
Sample ID VBLK-112310aLW	SampType: MBLK	TestCode	TestCode: 8260breakdo	Units: µg/L		Prep Date:	11/23/2010	RunNo: 54542	
Client ID: PBW	Batch ID: <b>R54542B</b>	TestNo	TestNo: SW8260B		-	Analysis Date:	11/24/2010	SeqNo: 766982	11 11
Analyte	Result	PQL	SPK value SI	SPK Ref Val	%REC	LowLimit Hig	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	n	1.0							
cis-1,2-Dichloroethene	כ	1.0							
Tetrachloroethene	n	0.							
trans-1,2-Dichloroethene	n	1.0					r		
Qualifiers: B Analyte detec	Analyte detected in the associated Method Blank	lank	C Calibratio	Calibration %RSD/%D exceeded for non-CCC analytes	eded for no	n-CCC analytes	E Value above quantitation range	intitation range	
Ħ	Holding times for preparation or analysis exceeded	pepea		Analyte detected below quantitation limits	ıtitation lim	its	TOD	nc	
LOQ Limit of Quantitation	ntitation		P >40% dif	>40% diff for detected conc between the two GC column	between the	two GC column	ĸ	RPD outside accepted recovery limits	

CLIENT: Kleinfelder

Work Order: 1011233

Project: Commander Oil Terminal, One Commander Squ

# ANALYTICAL QC SUMMARY REPORT

Sample ID VBLK-112310aLW SampType: MBLK	SampType: MBLK	TestCoo	TestCode: 8260breakdo Units: µg/L		Prep Date: 11/23/2010	11/23/2010	RunNo: 54542	
Client ID: PBW	Batch ID: R54542B	Test	TestNo: SW8260B		Analysis Date: 11/24/2010	11/24/2010	SeqNo: 766982	
Analyte	Result	PQL	SPK value SPK Ref Val	%REC	LowLimit Hig	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	Qual
Trichloroethene	n	1.0						
Vinyl chloride	J	1.0						
Surr: 4-Bromofluorobenzene	47		50.00	94.2	9	130		
Surr: Dibromofluoromethane	52		50.00	104	63	127		
Surr: Toluene-d8	57		50.00	101	61	128		

Value above quantitation range	LOD Limit of Detection	RPD outside accepted recovery limits
E Va	TOD	<u>ح</u>
Calibration %RSD/%D exceeded for non-CCC analytes	Analyte detected below quantitation limits	>40% diff for detected conc between the two GC column
Ç	-	Δ,
Analyte detected in the associated Method Blank	Holding times for preparation or analysis exceeded	Limit of Quantitation
В	I	007
Qualifiers: 500		

Order No.: 1011264



Monday, December 06, 2010

Richard Swedborg Kleinfelder 1 Corporate Dr., Suite 201 Bohemia, NY 11716

TEL: (631) 218-0612 FAX (631) 218-0787

RE: Commander Oil Terminal, Oyster Bay

Dear Richard Swedborg:

American Analytical Laboratories, LLC. received 8 sample(s) on 11/23/2010 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. This report consists of 2/ pages.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely,

Lori Beyer Lab Director

Date: 06-Dec-10

Work Order Sample Summary

CLIENT: Kleinfelder

**Project:** Commander Oil Terminal, Oyster Bay

**Lab Order:** 1011264

Lab Sample ID	Client Sample ID	Date Collected	Date Received
1011264-01A	MW-22, 2-3'	11/22/2010 8:50:00 AM	11/23/2010
1011264-02A	MW-22, 6-7'	11/22/2010 9:25:00 AM	11/23/2010
1011264-03A	MW-21, 5.5-6.5'	11/22/2010 10:38:00 AM	11/23/2010
1011264-04A	MW-20, 3-4.5'	11/22/2010 11:35:00 AM	11/23/2010
1011264-05A	MW-20, 4.5-6.5'	11/22/2010 11:42:00 AM	11/23/2010
1011264-06A	SB-4, 4-7'	11/22/2010 1:08:00 PM	11/23/2010
1011264-07A	SB-3, 3-5'	11/22/2010 2:30:00 PM	11/23/2010
1011264-08A	Trip Blank	11/22/2010	11/23/2010

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735

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AMERICAN EANAIVIICAL ELABORATORIES

PH-0205 NY050 68-573 CTDOH NJDEP PADEP

11418 NYSDOH

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT	<b>FOR ANALYSIS DOCUM</b>	
CLIENT NAME/ADDRESS CONTACT: CONTACT:	SAMPLER (SIGNATURE)	SAMPLE(S) YES / NO SEALED
On, Subsel	SAMPLEPOTAME (PRINT)	CORRECT YES / NO CONTAINER(S)
	Lachung Missey	TEMPERATURE (° C)
2,1 Termina 1 Sque	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	N son
NO. OF SAMPLING SAMPLE # - LOCATION CONTAINERS DATE TIME		
1011264-01A SG 2 11/22/16 0850 MW-22 2-3'		
56 2 11/2x/00205	×	
115-WN 85010/2011 C	X	
018 SG 2 Wallouss MW-20, 3-4.5'	X	
	X	
1,7-12,14-1808 808-4,41-7	X	
56 2 Wash 1430	X	
3	X	
COMMENTS/INSTRUCTIONS * Apulyice Son TCE, OCE, CIS-1, a-dicherchelle, Juna 1,	Juny (, A . Samples must be on ICE	Щ.
		FOR BESI ITS:
MATRIX S=SOIL; W=WATER; SL=SLUDGE; A=AIR; M=MISCELLANEOUS STANDARD BY STANDARD BY TYPE G=GRAB; C=COMPOSITE	STAT [] BY / /	o swalpong @ blansolder com
PELINQUISHED BY (SIGNATURE) DATE PRINTED NAME RECEIVE THAT TIME THAT AS A STORY RECEIVED	RECEIVED BY LAB (SIGNATURE) DATE 3/10 PRIN	PRÎNTED NAME (LELE RALL
PRINTED NAME		PRINTED NAME
LIME	I IME	en e

### Sample Receipt Checklist

Client Name KLEINFELDER			Date and Tim	e Receive	11/23/2010	3:31:03 PM	
Work Order Numbe 1011264	RcptNo: 1		Received by	СВ			
COC_ID:  Checklist completed by Signature  CoolerID:	) ([ c	93/10	Reviewed by	La Initials	B	///23/10 Date	
Matrix:	Carrier name <u>C</u>	<u>Courier</u>					
Shipping container/cooler in good condition?	Y	∕es <b>⊻</b>	No 🗌	Not Presen			
Custody seals intact on shippping container/coo	ler? Y	∕es □	No 🗔	Not Presen	~		
Custody seals intact on sample bottles?	Y	∕es □	No 🗌	Not Presen	~		
Chain of custody present?	Υ	∕es ✓	No 🗌				
Chain of custody signed when relinquished and	received? Y	∕es ✓	No 🗌				
Chain of custody agrees with sample labels?	Υ	∕es 🗹	No 🗌				
Samples in proper container/bottle?	Υ	∕es ✓	No 🗌				
Sample containers intact?	Ý	res 🗹	No 🗌				
Sufficient sample volume for indicated test?	Υ	∕es ✔	No 🗌				
All samples received within holding time?	Υ	res 🗹	No 🗌				
Container/Temp Blank temperature in compliance	ce? Y	∕es ✓	No 🗌				
Water - VOA vials have zero headspace?	No VOA vials submitt	ted 🗌	Yes 🗸	No			
Water - pH acceptable upon receipt?	Υ	res 🗸	No 🗌	N/A			
	Adjusted?	Chec	cked b				
Any No and/or NA (not applicable) response mu	st be detailed in the con	nments section b	oe				
Client contacted	Date contacted:	4.40-5177	Pers	on contacted			
Contacted by:	Regarding:		Polit po	MAN AMERICAN SERVICE STREET, S			
Comments: Cooler with ice @ 1.6C  Corrective Action							-

**Date:** 06-Dec-10

ELAP ID: 11418

CLIENT:

Kleinfelder

Client Sample ID: MW-22, 2-3'

Lab Order:

1011264

Collection Date: 11/22/2010 8:50:00 AM

Project:

Commander Oil Terminal, Oyster Bay

Matrix: SOIL

Lab ID:

1011264-01A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: <b>CB</b>
Percent Moisture	8.34	0	0		wt%	1	11/24/2010
VOLATILE SW-846 METHOD 8	260		SW8	3260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.33	5.5		μg/Kg-dry	1	11/30/2010 2:56:00 AM
cis-1,2-Dichloroethene	22	0.33	5.5		μg/Kg-dry	1	11/30/2010 2:56:00 AM
trans-1,2-Dichloroethene	U	0.44	5.5		μg/Kg-dry	1	11/30/2010 2:56:00 AM
Trichloroethene	18	0.33	5.5		μg/Kg-dry	1	11/30/2010 2:56:00 AM
Vinyl chloride	1.5	0.33	5.5	J	μg/Kg-dry	1	11/30/2010 2:56:00 AM
Surr: 4-Bromofluorobenzene	90.5	0	61-135		%REC	1	11/30/2010 2:56:00 AM
Surr: Dibromofluoromethane	84.2	0	63-131		%REC	1	11/30/2010 2:56:00 AM
Surr: Toluene-d8	96.4	0	61-131		%REC	1	11/30/2010 2:56:00 AM
VOLATILE BTEX/MTBE BY 820	60		SW	8260			Analyst: <b>LA</b>
Benzene	U	0.32	5.3		µg/Kg-dry	1	11/30/2010 2:56:00 AM
Ethylbenzene	1.9	0.32	5.3	J	μg/Kg-dry	1	11/30/2010 2:56:00 AM
m,p-Xylene	2.8	0.32	11	J	μg/Kg-dry	1	11/30/2010 2:56:00 AM
Methyl tert-butyl ether	U	0.32	5.3		μg/Kg-dry	1	11/30/2010 2:56:00 AM
o-Xylene	2.4	0.32	5.3	J	μg/Kg-dry	1	11/30/2010 2:56:00 AM
Toluene	U	0.32	5.3		μg/Kg-dry	1	11/30/2010 2:56:00 AM
Surr: 4-Bromofluorobenzene	90.5	0	63-127		%REC	1	11/30/2010 2:56:00 AM
Surr: Toluene-d8	96.4	0	62-128		%REC	1	11/30/2010 2:56:00 AM

American Analytical Laboratories, LLC., 56 Toledo Street, Farmingdale, NY, Zip - 11735

Tel - 6314546100 Fax - 6314548027 www.American-Analytical.com



- B Analyte detected in the associated Method Blank
  - Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 06-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: MW-22, 6-7'

Lab Order:

1011264

Collection Date: 11/22/2010 9:25:00 AM

Project:

Commander Oil Terminal, Oyster Bay

Matrix: SOIL

Lab ID:

1011264-02A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2216			Analyst: CB
Percent Moisture	17.6	0	0	wt%	1	11/24/2010
VOLATILE SW-846 METHOD 8	3260		SW8260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.36	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
cis-1,2-Dichloroethene	U	0.36	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Tetrachloroethene	U	0.49	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
trans-1,2-Dichloroethene	U	0.49	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Trichloroethene	U	0.36	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Vinyl chloride	U	0.36	6.1	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Surr: 4-Bromofluorobenzene	93.9	0	61-135	%REC	1	11/30/2010 3:19:00 AM
Surr: Dibromofluoromethane	91.6	0	63-131	%REC	1	11/30/2010 3:19:00 AM
Surr: Toluene-d8	99.9	0	61-131	%REC	1	11/30/2010 3:19:00 AM
VOLATILE BTEX/MTBE BY 82	60		SW8260			Analyst: <b>LA</b>
Benzene	U	0.36	6.0	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Ethylbenzene	U	0.36	6.0	μg/Kg-dry	1	11/30/2010 3:19:00 AM
m,p-Xylene	U	0.36	12	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Methyl tert-butyl ether	U	0.36	6.0	μg/Kg-dry	1	11/30/2010 3:19:00 AM
o-Xylene	U	0.36	6.0	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Toluene	U	0.36	6.0	μg/Kg-dry	1	11/30/2010 3:19:00 AM
Surr: 4-Bromofluorobenzene	93.9	0	63-127	%REC	1	11/30/2010 3:19:00 AM
Surr: Toluene-d8	99.9	0	62-128	%REC	1	11/30/2010 3:19:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 06-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: MW-21, 5.5-6.5'

Lab Order:

1011264

Collection Date: 11/22/2010 10:38:00 AM

Project:

Commander Oil Terminal, Oyster Bay

Matrix: SOIL

Lab ID:

1011264-03A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: <b>CB</b>
Percent Moisture	40.8	0	0		wt%	1	11/24/2010
VOLATILE SW-846 METHOD 8	3260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
cis-1,2-Dichloroethene	24000	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
trans-1,2-Dichloroethene	U	84.5	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Trichloroethene	U	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Vinyl chloride	36000	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Surr: 4-Bromofluorobenzene	111	0	61-135		%REC	125	11/30/2010 3:44:00 AM
Surr: Dibromofluoromethane	105	0	63-131		%REC	125	11/30/2010 3:44:00 AM
Surr: Toluene-d8	103	0	61-131		%REC	125	11/30/2010 3:44:00 AM
VOLATILE BTEX/MTBE BY 82	60		sw	8260			Analyst: <b>LA</b>
Benzene	830	63.4	1100	J	μg/Kg-dry	125	11/30/2010 3:44:00 AM
Ethylbenzene	3400	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
m,p-Xylene	5500	63.4	2100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Methyl tert-butyl ether	310	63.4	1100	J	μg/Kg-dry	125	11/30/2010 3:44:00 AM
o-Xylene	3600	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Toluene	6000	63.4	1100		μg/Kg-dry	125	11/30/2010 3:44:00 AM
Surr: 4-Bromofluorobenzene	111	0	63-127		%REC	125	11/30/2010 3:44:00 AM
Surr: Toluene-d8	103	0	62-128		%REC	125	11/30/2010 3:44:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 06-Dec-10

Client Sample ID: MW-20, 3-4.5'

**ELAP ID: 11418** 

CLIENT: Kleinfelder

Lab Order: 1011264 Collection Date: 11/22/2010 11:35:00 AM

Project: Commander Oil Terminal, Oyster Bay Matrix: SOIL

Lab ID: 1011264-04A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: <b>CB</b>
Percent Moisture	20.6	0	0		wt%	1	11/24/2010
VOLATILE SW-846 METHOD 8	3260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
cis-1,2-Dichloroethene	350	47.3	790	J	μg/Kg-dry	125	11/30/2010 4:08:00 AM
Tetrachloroethene	U	63.0	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
trans-1,2-Dichloroethene	U	63.0	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Trichloroethene	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Vinyl chloride	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Surr: 4-Bromofluorobenzene	115	0	61-135		%REC	125	11/30/2010 4:08:00 AM
Surr: Dibromofluoromethane	99.3	0	63-131		%REC	125	11/30/2010 4:08:00 AM
Surr: Toluene-d8	101	0	61-131		%REC	125	11/30/2010 4:08:00 AM
VOLATILE BTEX/MTBE BY 82	60		sw	8260			Analyst: <b>LA</b>
Benzene	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Ethylbenzene	60	47.3	790	J	µg/Kg-dry	125	11/30/2010 4:08:00 AM
m,p-Xylene	U	47.3	1600		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Methyl tert-butyl ether	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
o-Xylene	130	47.3	790	J	μg/Kg-dry	125	11/30/2010 4:08:00 AM
Toluene	U	47.3	790		μg/Kg-dry	125	11/30/2010 4:08:00 AM
Surr: 4-Bromofluorobenzene	115	0	63-127		%REC	125	11/30/2010 4:08:00 AM
Surr: Toluene-d8	101	0	62-128		%REC	125	11/30/2010 4:08:00 AM

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- 3 Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

ELAP ID: 11418

CLIENT: Kleinfelder

leinfelder Client Sample ID: MW-20, 4.5-6.5'

Date: 06-Dec-10

Lab Order: 1011264 Collection Date: 11/22/2010 11:42:00 AM

Project: Commander Oil Terminal, Oyster Bay Matrix: SOIL

**Lab ID:** 1011264-05A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: CB
Percent Moisture	20.9	0	0		wt%	1	11/24/2010
VOLATILE SW-846 METHOD 8	260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
cis-1,2-Dichloroethene	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
trans-1,2-Dichloroethene	U	63.2	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
Trichloroethene	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
Vinyl chloride	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
Surr: 4-Bromofluorobenzene	107	0	61-135		%REC	125	11/30/2010 4:30:00 AM
Surr: Dibromofluoromethane	96.7	0	63-131		%REC	125	11/30/2010 4:30:00 AM
Surr: Toluene-d8	98.4	0	61-131		%REC	125	11/30/2010 4:30:00 AM
VOLATILE BTEX/MTBE BY 826	30		sw	8260			Analyst: <b>LA</b>
Benzene	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
Ethylbenzene	240	47.4	790	J	μg/Kg-dry	125	11/30/2010 4:30:00 AM
m,p-Xylene	460	47.4	1600	J	μg/Kg-dry	125	11/30/2010 4:30:00 AM
Methyl tert-butyl ether	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
o-Xylene	330	47.4	790	J	μg/Kg-dry	125	11/30/2010 4:30:00 AM
Toluene	U	47.4	790		μg/Kg-dry	125	11/30/2010 4:30:00 AM
Surr: 4-Bromofluorobenzene	107	0	63-127		%REC	125	11/30/2010 4:30:00 AM
Surr: Toluene-d8	98.4	0	62-128		%REC	125	11/30/2010 4:30:00 AM

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nelac

- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Commander Oil Terminal, Oyster Bay

Date: 06-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: SB-4, 4-7'

Lab Order:

1011264

Collection Date: 11/22/2010 1:08:00 PM

Project:

Lab ID:

1011264-06A

Matrix: SOIL

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE			D2	216			Analyst: <b>CB</b>
Percent Moisture	40.9	0	0		wt%	1	11/24/2010
VOLATILE SW-846 METHOD	3260		SW8	3260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
cis-1,2-Dichloroethene	41000	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
trans-1,2-Dichloroethene	U	425	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
Trichloroethene	1600000	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
Vinyl chloride	U	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
Surr: 4-Bromofluorobenzene	98.4	0	61-135		%REC	625	12/3/2010 4:05:00 AM
Surr: Dibromofluoromethane	104	0	63-131		%REC	625	12/3/2010 4:05:00 AM
Surr: Toluene-d8	101	0	61-131		%REC	625	12/3/2010 4:05:00 AM
VOLATILE BTEX/MTBE BY 82	260		sw	8260			Analyst: LA
Benzene	U	319	5300		µg/Kg-dry	625	12/3/2010 4:05:00 AM
Ethylbenzene	990	319	5300	J	µg/Kg-dry	625	12/3/2010 4:05:00 AM
m,p-Xylene	1500	319	11000	J	μg/Kg-dry	625	12/3/2010 4:05:00 AM
Methyl tert-butyl ether	U	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
o-Xylene	U	319	5300		µg/Kg-dry	625	12/3/2010 4:05:00 AM
Toluene	U	319	5300		μg/Kg-dry	625	12/3/2010 4:05:00 AM
Surr: 4-Bromofluorobenzene	98.4	0	63-127		%REC	625	12/3/2010 4:05:00 AM
Surr: Toluene-d8	101	0	62-128		%REC	625	12/3/2010 4:05:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- Analyte detected below quantitation limits J
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes C
- Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

**Date:** 06-Dec-10

ELAP ID: 11418

CLIENT: Kleinfelder

Client Sample ID: SB-3, 3-5'

Lab Order:

1011264

Collection Date: 11/22/2010 2:30:00 PM

Project:

Commander Oil Terminal, Oyster Bay

Matrix: SOIL

Lab ID:

1011264-07A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
PERCENT MOISTURE Percent Moisture	25.2	0	<b>D2</b> 0	216	wt%	1	Analyst: <b>CB</b> 11/24/2010
VOLATILE SW-846 METHOD 8	3260		SW8	260B			Analyst: <b>LA</b>
1.2-Dichloroethane	U	50.1	840		µg/Kg-dry	125	11/30/2010 5:20:00 AM
cis-1.2-Dichloroethene	160000	251	4200		µg/Kg-dry	625	12/3/2010 4:30:00 AM
trans-1,2-Dichloroethene	590	66.9	840	J	μg/Kg-dry	125	11/30/2010 5:20:00 AM
Trichloroethene	6100000	251	4200		μg/Kg-dry	625	12/3/2010 4:30:00 AM
Vinyl chloride	1500	50.1	840		μg/Kg-dry	125	11/30/2010 5:20:00 AM
Surr: 4-Bromofluorobenzene	101	0	61-135		%REC	125	11/30/2010 5:20:00 AM
Surr: 4-Bromofluorobenzene	103	0	61-135		%REC	625	12/3/2010 4:30:00 AM
Surr: Dibromofluoromethane	99.1	0	63-131		%REC	125	11/30/2010 5:20:00 AM
Surr: Dibromofluoromethane	101	0	63-131		%REC	625	12/3/2010 4:30:00 AM
Surr: Toluene-d8	596	0	61-131	S	%REC	125	11/30/2010 5:20:00 AM
Surr: Toluene-d8	74.1	0	61-131		%REC	625	12/3/2010 4:30:00 AM
VOLATILE BTEX/MTBE BY 82	60		sw	8260			Analyst: <b>LA</b>
Benzene	4800	50.1	840		µg/Kg-dry	125	11/30/2010 5:20:00 AM
Ethylbenzene	15000	50.1	840		µg/Kg-dry	125	11/30/2010 5:20:00 AM
m,p-Xylene	47000	50.1	1700		μg/Kg-dry	125	11/30/2010 5:20:00 AM
Methyl tert-butyl ether	U	50.1	840		μg/Kg-dry	125	11/30/2010 5:20:00 AM
o-Xylene	16000	50.1	840		μg/Kg-dry	125	11/30/2010 5:20:00 AM
Toluene	37000	251	4200		μg/Kg-dry	625	12/3/2010 4:30:00 AM
Surr: 4-Bromofluorobenzene	103	0	63-127		%REC	625	12/3/2010 4:30:00 AM
Surr: 4-Bromofluorobenzene	101	0	63-127		%REC	125	11/30/2010 5:20:00 AM
Surr: Toluene-d8	596	0	62-128	S	%REC	125	11/30/2010 5:20:00 AM
Surr: Toluene-d8	74.1	0	62-128		%REC	625	12/3/2010 4:30:00 AM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Date: 06-Dec-10

ELAP ID: 11418

CLIENT:

Kleinfelder

Client Sample ID: Trip Blank

Lab Order:

1011264

Collection Date: 11/22/2010

Project:

Commander Oil Terminal, Oyster Bay

Lab ID:

1011264-08A

Matrix: LIQUID

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ	Qual	Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	46 8260		SW8	260B			Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
cis-1,2-Dichloroethene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
trans-1,2-Dichloroethene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Trichloroethene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Vinyl chloride	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Surr: 4-Bromofluorobenzene	94.1	0	65-130		%REC	1	11/24/2010 7:30:00 PM
Surr: Dibromofluoromethane	122	0	63-127		%REC	1	11/24/2010 7:30:00 PM
Surr: Toluene-d8	102	0	61-128		%REC	1	11/24/2010 7:30:00 PM
VOLATILE BTEX/MTBE BY 82	60		sw	8260			Analyst: <b>LA</b>
Benzene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Ethylbenzene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
m,p-Xylene	U	0.3	2.0	С	μg/L	1	11/24/2010 7:30:00 PM
Methyl tert-butyl ether	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
o-Xylene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Toluene	U	0.3	1.0		μg/L	1	11/24/2010 7:30:00 PM
Surr: 4-Bromofluorobenzene	94.1	0	60-130		%REC	1	11/24/2010 7:30:00 PM
Surr: Toluene-d8	102	0	61-128		%REC	1	11/24/2010 7:30:00 PM

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- B Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits .]
- LOQ Limit of Quantitation
  - Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- I-I Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

Kleinfelder 1011264 CLIENT: Work Order:

Commander Oil Terminal, Oyster Bay

Project:

### ANALYTICAL QC SUMMARY REPORT

Date: 06-Dec-10

TestCode: 8260breakdown\_Soil

Sample ID: V624LCS-112910aY	-112910aY	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:		dan da la casa da maja majama da majama majama majama da majama majama da majama da majama da majama da majama	RunNo: 54696	
Client ID: LCSS		Batch ID: <b>R54696</b>	Test	TestNo: SW8260B			Analysis Date:	9: 11/29/2010	010	SeqNo: <b>768564</b>	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	t Qual
1,2-Dichloroethane		33	5.0	50.00	0	65.1	30	130			
Tetrachloroethene		33	5.0	50.00	0	65.6	20	120			
trans-1,2-Dichloroethene	ine	34	5.0	50.00	0	68.4	20	120			
Trichloroethene		36	5.0	50.00	0	71.5	23	121			
Vinyl chloride		92	5.0	50.00	0	111	30	130			
Surr: 4-Bromofluorobenzene	penzene	49		50.00		97.2	61	135			
Surr: Dibromofluoromethane	methane	51		50.00		102	63	131			
Surr: Toluene-d8		50		20.00		8.66	61	131			
Sample ID: VBLK-112910aYS	2910aYS	SampType: MBLK	TestCoo	TestCode: 8260breakdo	to Units: µg/Kg		Prep Date			RunNo: 54696	
Client ID: PBS		Batch ID: R54696	Test	TestNo: SW8260B			Analysis Date:	3: 11/30/2010	010	SeqNo: <b>768565</b>	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	t Qual
1,2-Dichloroethane		ח	5.0								
cis-1,2-Dichloroethene	ø.	)	5.0								
Tetrachloroethene		n	5.0								
trans-1,2-Dichloroethene	ane	)	5.0								
Trichloroethene		n	5.0								
Vinyl chloride		n	5.0								
Surr: 4-Bromofluorobenzene	penzene	47		20.00		94.8	61	135			
Surr: Dibromofluoromethane	methane	49		20.00		98.4	63	131			
Surr: Toluene-d8		49		20.00		98.8	61	131			
Sample ID: V624LCS-112910aY	-112910aY	SampType: LCS	TestCor	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date	.:	TOTAL AND THE TO	RunNo: 54696	
Client ID: LCSS		Batch ID: R54696b	Test	TestNo: SW8260B			Analysis Date:	9: 11/29/2010	010	SeqNo: <b>768576</b>	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit	t Qual
1,2-Dichloroethane		34	5.0	50.00	0	68.8	30	130			
Tetrachloroethene		35	5.0	50.00	0	71.0	20	120			
Qualifiers: B A	Analyte detec	Analyte detected in the associated Method Blank	Slank	C Calibrat	Calibration %RSD/%D exceeded for non-CCC analytes	ded for nor	n-CCC analyte	ш	Value above quantitation range	itation range	and the man object to the contract of the cont
	lolding time	Holding times for preparation or analysis exceeded	ceeded		Analyte detected below quantitation limits	itation limi	its	COD	Limit of Detection		
T 007	Limit of Quantitation	ntitation		P >40% d	>40% diff for detected conc between the two GC column	etween the	two GC colur	×	PD outside accep	RPD outside accepted recovery limits	

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Project: Commander Oil Terminal, Oyster Bay

Kleinfelder 1011264

CLIENT: Work Order:

Sample ID: V624LCS-112910aY	Y SampType: LCS	TestCoc	TestCode: 8260breakdo	lo Units: µa/Ka		Prep Date:		de la companya de la	RunNo: 54696		
Client ID: LCSS	Batch ID: <b>R54696b</b>	Test	TestNo: SW8260B			Analysis Date:	3: 11/29/2010	010			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	ුතු	RPD Ref Val	%RPD RP[	RPDLimit Qual	77
4.0 Diship and	CC		0000								
uans-1,z-Dicholoethene	32	0.0	50.00	<b>o</b> (	0.4.0	20	120				
i richioroethene	339	9.0	20.00	<b>\( \)</b>	(1.5	23	121				
Vinyl chloride	52	5.0	20.00	0	104	30	130				
Surr: 4-Bromofluorobenzene	49		50.00		98.0	61	135				
Surr: Dibromofluoromethane	49		50.00		98.6	63	131				
Surr: Toluene-d8	49		50.00		98.2	61	131				
Sample ID: VBLK-112910aYS	SampType: MBLK	TestCod	TestCode: 8260breakdo	lo Units: µg/Kg		Prep Date:			RunNo: 54696		
Client ID: PBS	Batch ID: <b>R54696b</b>	TestN	TestNo: SW8260B			Analysis Date:	: 11/30/2010	010	SeqNo: 768577		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD	RPDLimit Qual	<u></u>
1,2-Dichloroethane	ח	5.0		Andreas de la companya del la companya de la compan							
cis-1,2-Dichloroethene	n	5.0									
Tetrachloroethene	D	5.0									
trans-1,2-Dichloroethene	D	5.0									
Trichloroethene	D	5.0									
Vinyl chloride	n	5.0									
Surr: 4-Bromofluorobenzene	49		50.00		98.1	61	135				
Surr: Dibromofluoromethane	50		50.00		99.3	63	131				
Surr: Toluene-d8	48		20.00		95.3	61	131				
Sample ID: V624LCS-120210aY	Y SampType: LCS	TestCod	TestCode: 8260breakdo	o Units: µg/Kg		Prep Date:			RunNo: 54696		
Client ID: LCSS	Batch ID: R54696d	TestN	TestNo: SW8260B	-		Analysis Date:	12/3/2010	0	SeqNo: 769653		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD	RPDLimit Qual	775
1,2-Dichloroethane	39	5.0	50.00	0	78.8	30	130				
Tetrachloroethene	30	5.0	50.00	0	59.4	20	120				
trans-1,2-Dichloroethene	38	5.0	50.00	0	75.4	20	120				
Trichloroethene	40	5.0	50.00	0	79.9	23	121				
Vinyl chloride	51	5.0	50.00	0	102	30	130				
Surr: 4-Bromofluorobenzene	48		20.00		8.96	61	135				
Qualifiers: B Analyte dete	Analyte detected in the associated Method Blank	lank	C Calibrati	Calibration %RSD/%D exceeded for non-CCC analytes	ded for non	-CCC analyte	Э	Value above quantitation range	tation range		
H Holding time	Holding times for preparation or analysis exceeded	pepea	J Analyte	Analyte detected below quantitation limits	itation limi	s)	TOD T	Limit of Detection			
LOQ Limit of Quantitation	antitation		P >40% di	>40% diff for detected conc between the two GC column	etween the	two GC colun	~	PD outside accep	RPD outside accepted recovery limits		

### CLIENT:

Kleinfelder 1011264 Work Order: Project:

Commander Oil Terminal, Oyster Bay

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Sample ID: V624LCS-120210aY	SampType: LCS	TestCo	TestCode: 8260breakdo	cdo Units: µg/Kg		Prep Date:		RunNo: 54696	
Client ID: LCSS	Batch ID: R54696d	Test	TestNo: SW8260B		•	Analysis Date:	12/3/2010	SeqNo: <b>769653</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Surr: Dibromofluoromethane Surr: Toluene-d8	53 51		50.00		105	63	131		
Sample ID: VBLK-120210aYS	SampType: MBLK	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:		RunNo: 54696	
Client ID: PBS	Batch ID: R54696d	Test	TestNo: SW8260B		•	Analysis Date:	12/3/2010	SeqNo: <b>769654</b>	
Analyte	Result	PaL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	n	5.0	***************************************					THE PROPERTY OF THE PROPERTY O	
cis-1,2-Dichloroethene	⊃	5.0							
Tetrachloroethene	n	5.0							
trans-1,2-Dichloroethene	)	5.0							
Trichloroethene	D	5.0							
Vinyl chloride	n	5.0							
Surr: 4-Bromofluorobenzene	48		50.00		96.1	61	135		
Surr: Dibromofluoromethane	58		20.00		115	63	131		
Surr: Toluene-d8	51		20.00		101	61	131		
Sample ID: V624LCS-120210aY	SampType: LCS	TestCo	TestCode: 8260breakdo	do Units: µg/Kg		Prep Date:		RunNo: 54696	
Client ID: LCSS	Batch ID: <b>R54696f</b>	Test	TestNo: SW8260B		•	Analysis Date:	12/3/2010	SeqNo: <b>769659</b>	***************************************
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
1,2-Dichloroethane	35	5.0	20.00	0	70.4	30	130	are interfacemental designations and the contract of the contr	
Tetrachloroethene	31	5.0	50.00	0	62.1	20	120		
trans-1,2-Dichloroethene	38	5.0	50.00	0	76.3	20	120		
Trichloroethene	40	2.0	50.00	0	80.4	23	121		
Vinyl chloride	49	5.0	50.00	0	8.76	30	130		
Surr: 4-Bromofluorobenzene	48		50.00		95.7	61	135		
Surr: Dibromofluoromethane	20		50.00		100	63	131		
Surr: Toluene-d8	52		50.00		105	61	131		

.s:	B Analyte detected in the associated Method Blar	k C	Calibration %RSD/%D exceeded for non-CCC analytes	E Value above quantitation range
	H Holding times for preparation or analysis excee	ded J	Analyte detected below quantitation limits	LOD Limit of Detection
1	LOQ Limit of Quantitation	α,	>40% diff for detected conc between the two GC column	R RPD outside accented recover

CLIENT: Kleinfelder

Work Order: 1011264

Project: Commander Oil Terminal, Oyster Bay

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_Soil

Sample ID: VBLK-120210aYS	SampType: MBLK	TestCod	le: 8260break	TestCode: 8260breakdo Units: µg/Kg		Prep Date:	.;;		RunNo: 54696	969	
Client ID: PBS	Batch ID: R54696f	TestN	TestNo: SW8260B		∢	nalysis Date	Analysis Date: 12/3/2010		SeqNo: <b>769660</b>	0996	
Analyte	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	tef Val	%RPD	%RPD RPDLimit Qual	Qual
1,2-Dichloroethane	n	5.0									
cis-1,2-Dichloroethene	Ο	5.0									
Tetrachloroethene	D	5.0									
trans-1,2-Dichloroethene	n	5.0									
Trichloroethene	n	5.0									
Vinyl chloride	$\Box$	5.0									
Surr: 4-Bromofluorobenzene	47		50.00		94.4	61	135				
Surr: Dibromofluoromethane	51		50.00		103	63	131				
Surr: Toluene-d8	53		50.00		106	61	131				

ALCAL LYPIL BUTTERS THE THE THEORY OF THE CONCENTRATION OF THE AMERICA	A PERSONAL PROPERTY OF A					
Qualifiers:	В	Analyte detected in the associated Method Blank	C	Calibration %RSD/%D exceeded for non-CCC analytes	E Value above quantitation range	
	I	Holding times for preparation or analysis exceeded	-	Analyte detected below quantitation limits	LOD Limit of Detection	
	L00 I	Limit of Quantitation	d	>40% diff for detected conc between the two GC column	R RPD outside accepted recovery limits	

### CLIENT:

Kleinfelder 1011264 Work Order:

Commander Oil Terminal, Oyster Bay

Project:

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_W

Client ID: LCSW         Batch ID: R54620         TestNo: SI           Analyte         Result         PQL SPI           1,2-Dichloroethane         48         1.0           Trichloroethene         36         1.0           Trichloroethene         47         1.0           Vinyl chloride         53         1.0           Surr: 4-Bromofluoromethane         46         1.0           Surr: Toluene-d8         51         TestCode: 82           Client ID: PBW         SampType: MBLK         TestCode: 82           Client ID: PBW         Batch ID: R54620         TestNo: SI           Analyte         Result         PQL SPI           1,2-Dichloroethene         U         1.0           trans-1,2-Dichloroethene         U         1.0           trans-1,2-Dichloroethene         U         1.0           trans-1,2-Dichloroethene         U         1.0           Vinyl chloride         U         1.0           Surr: 4-Bromofluorobenzene         48           Surr. Dichloroethene         U         1.0           Surr. Dichloroethene         U         1.0           Surr. Dichloroethene         U         1.0           Surr. Dichloroethene         U	TestCode: 8260breakdo Units: µg/L	kdo Units: µg/L		Prep Date:	Prep Date: 11/24/2010	RunNo: 54620	
## Result	TestNo: <b>SW8260B</b>			Analysis Date: 11/24/2010	11/24/2010	SeqNo: <b>767503</b>	
55 48 36 47 53 60 61 61 61 61 61 61 61 61 61 61 61 61 61	PQL SPK value	SPK Ref Val	%REC	LowLimit High	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
48 36 47 53 nzene 50 thane 51 OHW SampType: MBLK Batch ID: R54620 U U U U U U U U U U U U U U U U U U U	1.0 50.00	0	111	36	141		
36 47 53 nzene	1.0 50.00	0	95.1	45	136		
nofluorobenzene 553 mofluoromethane 560 mofluoromethane 560 mofluorobenzene 560 mofluorobenzene 571 BLK-112410HW SampType: MBLK BW Batch ID: R54620 Result hane U roethene U loroethene U mofluorobenzene 48	1.0 50.00	0	71.8	42	135		
53  mofluorobenzene 50  mofluoromethane 50  mofluorobenzene 50  46  mofluorobenzene 50  MBLK  BM SampType: MBLK  BW Batch ID: R54620  Result  Result  noethene U  noethene U  nomofluorobenzene U  mofluorobenzene 48  mofluoromethane 59	1.0 50.00	0	93.5	43	140		
mofluorobenzene 50  nofluoromethane 46  ne-d8 51  BLK-112410HW SampType: MBLK BW Batch ID: R54620  Result hane U roethene U loroethene U loroethene U nofluorobenzene U mofluorobenzene C mofluoromethane 59	1.0 50.00	0	106	35	142		
## 46  ## 51  ## 51  ## 51  ## 51  ## 51  ## 51  ## 54620  ## 620  ##	50.00		9.66	09	130		
BLK-112410HW         SampType: MBLK           BW         Batch ID: R54620           Result         U           roethene         U           loroethene         U           le         U           mofluorobenzene         48           mofluoromethane         59	50.00		91.3	63	127		
BLK-112410HW SampType: MBLK BW Batch ID: R54620 Result hane U roethene U loroethene	20.00		102	61	128		
Batch ID: R54620  Result P  hane U  roethene U  loroethene U  loroethene U  mofluorobenzene 48  mofluoromethane 59	TestCode: 8260breakdo	kdo Units: µg/L		Prep Date:	11/24/2010	RunNo: <b>54620</b>	
hane         U         1.0           roethene         U         1.0           loroethene         U         1.0           le         U         1.0           ne         U         1.0           ne         U         1.0           mofluorobenzene         48           mofluoromethane         59	TestNo: SW8260B			Analysis Date: 11/24/2010	11/24/2010	SeqNo: <b>767504</b>	
hane Uroethene Uloroethene U Ioroethene U Ioroethene U Ioroethene U Iorofluorobenzene A8	PQL SPK value	SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
roethene U loroethene U loroethene U nofluorobenzene 48	1.0						
loroethene U  Ioroethene U  In U  In Mofluorobenzene 48	1.0						
loroethene U  le U  mofluorobenzene 48	1.0						
u U U U U U U U U U U U U U U U U U U U	1.0						
U mofluorobenzene 48	1.0						
	1.0						
	20.00	,	8.96	09	130		
	50.00		118	63	127		
Surr: Toluene-d8 52	50.00		105	61	128		

	B Analyte detected in the associated Method Blank C Calibration %RSD/%D exceeded for non-CCC analytes E Value above quantitation range	H Holding times for preparation or analysis exceeded J Analyte detected below quantitation limits LOD Limit of Detection	LOQ Limit of Quantitation P >40% diff for detected cone between the two GC column R RPD outside accepted recovery limits
REPORT A LIVER WE RELEASE LAND WHEN A PRINCE PARTY OF THE PRINCE OF THE PRINCE PARTY OF THE	Analy	بسلسو	LOQ Limit or
When the Color have the or the proposition of the balance of the desired	Qualifiers:		1

CLIENT:

Kleinfelder 1011264 Work Order:

Commander Oil Terminal, Oyster Bay Project:

## ANALYTICAL QC SUMMARY REPORT

TestCode: BTEXMTBE\_W

Sample ID: V624LCS-112410HW SampType: LCS	/ SampType: LCS	TestCo	TestCode: BTEXMTBE_	Units: µg/L		Prep Date:	11/24/2010	RunNo: <b>54620</b>	
Client ID: LCSW	Batch ID: <b>R54620A</b>	Test	TestNo: SW8260			Analysis Date:	11/24/2010	SeqNo: 767506	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	lighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	37	1.0	50.00	0	74.3	45	144		
Ethylbenzene	52	1.0	50.00	0	110	45	146		
Toluene	20	1.0	50.00	0	8.66	43	134		
Surr: 4-Bromofluorobenzene	20		50.00		9.66	09	130		
Surr: Toluene-d8	51		20.00		102	61	128		
Sample ID: VBLK-112410HW	SampType: MBLK	TestCo	TestCode: BTEXMTBE_	Units: µg/L		Prep Date:	Prep Date: 11/24/2010	RunNo: <b>54620</b>	
Client ID: PBW	Batch ID: R54620A	Test	TestNo: SW8260			Analysis Date: 11/24/2010	11/24/2010	SeqNo: <b>767507</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	ighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	n	1.0						antisticani manana m	***************************************
Ethylbenzene	D	1.0							
m,p-Xylene	n	2.0							O
Methyl tert-butyl ether	D	1.0							
o-Xylene	n	1.0							
Toluene	n	1.0							
Surr: 4-Bromofluorobenzene	48		50.00		8.96	09	130		
Surr: Toluene-d8	52		50.00		105	61	128		

					And had been a few and the same of the sam		
Qualifiers:	Ω	Analyte detected in the associated Method Blank C	ر د	Calibration %RSD/%D exceeded for non-CCC analytes	ш	Value above quantitation range	
	I	Holding times for preparation or analysis exceeded	1	Analyte detected below quantitation limits	LOD	LOD Limit of Detection	
	ГОО ТОО	Limit of Quantitation	Λ Δ	>40% diff for detected conc between the two GC column	×	R RPD outside accepted recovery limits	

# ANALYTICAL QC SUMMARY REPORT

TestCode: DryBTEXMTBE

Kleinfelder	CLIENT:
1011264	Work Order:
Commander Oil Terminal,	Project:
	Kleinfelder 1011264 Commander Oil Terminal, Oyster Bay

Sample ID: V624LCS-112910aY SampType: LCS	SampType: LCS	TestCo	de: DryBTEXI	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	Prep Date: 11/29/2010		RunNo: 54696	
Client ID: LCSS	Batch ID: R54696a	Test	TestNo: SW8260			Analysis Date:	Analysis Date: 11/29/2010		SeqNo: <b>768570</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimít RPD Ref Val	tef Val	%RPD RPDLimit	Qual
Benzene	35	5.0	50.00	0	69.5	30	130			
Ethylbenzene	36	5.0	50.00	0	71.6	15	130			
Toluene	36	5.0	50.00	0	71.5	20	119			
Surr: 4-Bromofluorobenzene	49		50.00		97.2	61	133			
Surr: Toluene-d8	90		20.00		8.66	22	131			
Sample ID: VBLK-112910aYS	SampType: MBLK	TestCo	ide: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	Prep Date: 11/29/2010		RunNo: <b>54696</b>	
Client ID: PBS	Batch ID: R54696a	Test	TestNo: SW8260			Analysis Date:	11/30/2010		SeqNo: <b>768571</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	ef Val	%RPD RPDLimit	Qual
Benzene		5.0								
Ethylbenzene	D	5.0								
m,p-Xylene	)	10								
Methyl tert-butyl ether	D	5.0								
o-Xylene	⊃	5.0								
Toluene	O	5.0								
Surr: 4-Bromofluorobenzene	47		50.00		94.8	63	127			
Surr: Toluene-d8	49		20.00		98.8	62	128			
Sample ID: V624LCS-112910aY SampType: LCS	SampType: LCS	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	11/29/2010		RunNo: 54696	-
Client ID: LCSS	Batch ID: R54696c	Test	TestNo: SW8260			Analysis Date:	11/29/2010		SeqNo: 768580	
						,			_	

Batch ID:         R54696c         TestNo:         SW8260         Analysis Date:         11/29/2010         Seq           Result         PQL         SPK value         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           35         5.0         50.00         0         77.9         13         130           38         5.0         50.00         0         75.6         20         119           49         50.00         50.00         61         133         131	Sample ID: V624LCS-112910aY SampType: LCS	SampType: LCS	TestCoo	de: DryBTEXI	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date	Prep Date: 11/29/2010	RunNo: 54696	
Result         PQL         SPK Nature         SPK Ref Val         %REC         LowLimit         HighLimit         RPD Ref Val           sene         39         5.0         50.00         0         77.9         15         130           Bromofluorobenzene         49         50.00         60.00         0         75.6         20         119           Annolise         49         50.00         60.00         61         133         134	Client ID: LCSS	Batch ID: R54696c	Test	Vo: SW8260		,	Analysis Date	»: 11/29/2010	SeqNo: <b>768580</b>	
Sene 39 5.0 50.00 0 77.9 30 30 30 30 30 30 30 30 30 30 30 30 30	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual	Qual
39 5.0 50.00 0 77.9 15 15 nofluorobenzene 49 50.00 61 61 62 63 648	Benzene	35	5.0	50.00	0	70.9	30	130		
38 5.0 50.00 0 75.6 20Bromofluorobenzene 49 50.00 98.0 61	Ethylbenzene	39	5.0	50.00	0	6.77	15	130		
49 50.00 98.0 61	Toluene	38	5.0	50.00	0	75.6	20	119		
40 F0 NO 682 F7 1	Surr: 4-Bromofluorobenzene	49		50.00		98.0	61	133		
50.00	Surr: Toluene-d8	49		50.00		98.2	24	131		

Qualifiers:	В	Analyte detected in the associated Method Blank	ပ	Calibration %RSD/%D exceeded for non-CCC analytes	凹	Value above quantitation range
	I	Holding times for preparation or analysis exceeded	ŗ	Analyte detected below quantitation limits	COD	LOD Limit of Detection
	007	LOQ Limit of Quantitation	۵	>40% diff for detected conc between the two GC column	~	RPD outside accepted recovery limit

## ANALYTICAL QC SUMMARY REPORT

TestCode: DryBTEXMTBE

Qual

%RPD RPDLimit

SeqNo: 768581 RunNo: 54696

Sample ID: VBLK-112910aYS	SampType: MBLK	TestCode: DryBTEXMTB Units: µg/Kg	9	Prep Date	Prep Date: 11/29/2010
Client ID: PBS	Batch ID: <b>R54696c</b>	TestNo: SW8260		Analysis Date	Analysis Date: 11/30/2010
Analyte	Result	PQL SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val
Benzene	n	5.0		Market Programme and Commence of the Commence	inder in order etweet er
Ethylbenzene	D	5.0			
m,p-Xylene	D	10			
Methyl tert-butyl ether	D	5.0			
o-Xylene	n	5.0			
Toluene	n	5.0			
Surr: 4-Bromofluorobenzene	49	50.00	98.1	63	127
Surr: Toluene-d8	48	50.00	95.3	62	128

Commander Oil Terminal, Oyster Bay

Kleinfelder

CLIENT:

1011264

Work Order:

Project:

Sample ID: V624LCS-120210aY SampType: LCS	SampType: LCS	TestCoc	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date	Prep Date: 12/2/2010	RunNo: 54696	96	
Client ID: LCSS	Batch ID: <b>R54696e</b>	Test	TestNo: SW8260			Analysis Date	Analysis Date: 12/3/2010	SeqNo: <b>769656</b>	656	
Analyte	Result	PQL	SPK value	SPK value SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
Benzene	39	5.0	50.00	0	77.3	30	130	A PROFESSIONAL STATEMENT OF THE STATEMEN		
Ethylbenzene	38	5.0	50.00	0	75.7	15	130			
Toluene	39	5.0	50.00	0	78.5	20	119			
Surr: 4-Bromofluorobenzene	48		50.00		8.96	61	133			
Surr: Toluene-d8	51		20.00		102	22	131			
Sample ID: VBLK-120210aYS	SampType: MBLK	TestCoc	le: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date	Prep Date: 12/2/2010	RunNo: 54696	96	
Client ID: PBS	Batch ID: R54696e	Test	TestNo: SW8260			Analysis Date	Analysis Date: 12/3/2010	SeaNo: 769657	657	

_	SampType: MBLK	TestCode: D	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date: 12/2/2010	12/2/2010	RunNo: 54696	
Client ID: PBS	Batch ID: R54696e	TestNo: SW8260	W8260	An	Analysis Date: 12/3/2010	12/3/2010	SeqNo: <b>769657</b>	
Analyte	Result	PQL SP	SPK value SPK Ref Val	%REC L	owLimit Hi	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual	Qual
Benzene	ח	5.0						
Ethylbenzene	n	5.0						
m,p-Xylene	D	10	٠					
Methyl tert-butyl ether	D	5.0						
o-Xylene	n	5.0						
Toluene	⊃	5.0						
Surr: 4-Bromofluorobenzene	48		50.00	96.1	63	127		
Surr: Toluene-d8	51		50.00	101	62	128		
Qualifiers: B Analyte detected in th H Holding times for pre LOQ Limit of Quantitation	B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded OQ Limit of Quantitation	ank C eeded J P	Calibration %RSD/%D exceeded for non-CCC analytes Analyte detected below quantitation limits >40% diff for detected conc between the two GC column	ded for non-C itation limits between the tw	CCC analytes	E Value above quantitation range LOD Limit of Detection R RPD outside accepted recovery limits	itation range ted recovery limits	company of the property of the

### CLIENT:

Kleinfelder 1011264 Work Order:

Commander Oil Terminal, Oyster Bay Project:

## ANALYTICAL QC SUMMARY REPORT

TestCode: DryBTEXMTBE

Sample ID: V624LCS-120210aY	SampType: LCS	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg	***************************************	Prep Date:	Prep Date: 12/2/2010	RunNo: 54696	
Client ID: LCSS	Batch ID: R54696g	Test	TestNo: SW8260		•	Analysis Date: 12/3/2010	12/3/2010	SeqNo: <b>769662</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	t Qual
Benzene	37	5.0	50.00	0	74.6	30	130		
Ethylbenzene	38	5.0	50.00	0	75.8	15	130		
Toluene	39	5.0	50.00	0	77.8	20	119		
Surr: 4-Bromofluorobenzene	48		50.00		95.7	61	133		
Surr: Toluene-d8	52		20.00		105	22	131		
Sample ID: VBLK-120210aYS	SampType: MBLK	TestCo	de: DryBTEXN	TestCode: DryBTEXMTB Units: µg/Kg		Prep Date:	Prep Date: 12/2/2010	RunNo: <b>54696</b>	
Client ID: PBS	Batch ID: R54696g	Test	TestNo: SW8260		•	Analysis Date: 12/3/2010	12/3/2010	SeqNo: <b>769663</b>	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	n	5.0						ANALYSIS MANANAN MANAN	
Ethylbenzene	⊃	5.0							
m,p-Xylene	Π	10							
Methyl tert-butyl ether	>	5.0							
o-Xylene	<b>ɔ</b>	5.0							
Toluene	⊃	5.0							
Surr: 4-Bromofluorobenzene	47		50.00		94.4	63	127		
Surr: Toluene-d8	53		20.00		106	62	128		

					And the second s	
Qualifiers:	B	Analyte detected in the associated Method Blank	C	Calibration %RSD/%D exceeded for non-CCC analytes	Ш	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	_	Analyte detected below quantitation limits	LOD I	Limit of Detection
	T00	LOQ Limit of Quantitation	۵	>40% diff for detected conc between the two GC column	æ	RPD outside accepted recovery limits



Thursday, December 16, 2010

Richard Swedborg Kleinfelder 1 Corporate Dr., Suite 201 Bohemia, NY 11716

TEL: (631) 218-0612 FAX (631) 218-0787

RE: Commander Oil Terminal, One Commander

Dear Richard Swedborg:

Order No.: 1012074

American Analytical Laboratories, LLC. received 4 sample(s) on 12/7/2010 for the analyses presented in the following report.

Samples were analyzed in accordance with the test procedures documented on the chain of custody and detailed throughout the text of this report.

The results reported herein relate only to the items tested or to the samples as received by the laboratory. This report may not be reproduced, except in full, without the approval of American Analytical Laboratories, LLC and is not considered complete without a cover page and chain of custody documentation. The limits (LOQ) provided in the data package are analytical reporting limits and not Federal or Local mandated values to which the sample results should be compared.

There were no problems with the analyses and all data for associated QC met laboratory specifications. If there are any exceptions a Case Narrative is provided in the report or the data is qualified. This package has been reviewed by American Analytical Laboratories' QA Department/Laboratory Director to comply with NELAC standards prior to report submittal. This report consists of  $\sqrt{Q}$  pages.

If you have any questions regarding these tests results, please do not hesitate to call (631) 454-6100 or email me directly at lbeyer@american-analytical.com.

Sincerely.

Lori Beyer
Lab Director

Date: 16-Dec-10

CLIENT:

Kleinfelder

Project:

Commander Oil Terminal, One Commander Squ

**Work Order Sample Summary** 

Lab Order:

1012074

Lab Sample ID	Client Sample ID	Date Collected	Date Received
1012074-01A	MW-20	12/7/2010 12:18:00 PM	12/7/2010
1012074-02A	MW-21	12/7/2010 12:40:00 PM	12/7/2010
1012074-03A	MW-22	12/7/2010 12:54:00 PM	12/7/2010
1012074-04A	Trip Blank	12/7/2010	12/7/2010

56 TOLEDO STREET • FARMINGDALE, NEW YORK 11735 (631) 454-6100 • FAX (631) 454-8027

www.american-analytical.com

CHAIN OF CUSTODY / REQUEST FOR ANALYSIS DOCUMENT

11418 PH-0205 NY050 68-573

NYSDOH CTDOH NJDEP PADEP

N. A. S.	100 FGF 444 AND 144 AND					
CLIENT NAME/ADDRESS			CONTACT	CONTACT:		SAMPLE(S) KES NO SEALED
One Corporate Dr., Surkaoi	Dr. 54. k	OO	9	700-3/6 (189)	3 SAMPLEP MAME (PRINT)	CORRECT YES)/ NO CONTAINER(S)
13chows, NY 11716	275		e de la constante de la consta			TEMPERATURE (° C)
PROJECT LOCATION: C	Commender Oil	Conversely	- 32 W. S.		Ses of the	
		35.55	707, 30		The state of the s	
LABORATORY ID# MATRIX/ LAB USE ONLY TYPE	IIX NO. OF TE CONTAINERS	SAM	SAMPLING	SAMPLE # - LOCATION		
PUSCHOIN WG	(A)	01/4/10	1218	20 - Wh	×	
SA ACO	(A	12/1/10	1240	/ダーダイ	×	
SA NO		0//4/81	1284	ムシーなが	×	
3 45	es .	d.	формализмай.	Tip Blenk	>>	
				<b>1</b>		
		TO THE PARTY OF TH				
COMMENTS / INSTRUCTIONS	1	10 M	1.0k-1	TCE, DCE, cts-1,2-dichlorochae, trans-1,2-	Samples	be on ICE
dichlusesbow and VC	ひつう	аңышаға қазадалдаға қазадарда қазадарда қазада			(2,92)	9
MATRIX S=SOIL; W=WATER; SL=SLUDGE; A=AIR; M=MISCELLANEOUS	ATER; SL=SL	UDGE; A=AI	R; M=MISCI		MEQUIRED	E-MAIL ADDRESS FOR RESULTS:
TYPE G=GRAB; C=COMPOSITE	SOMPOSITE				STANDARD STAL BY / /	V-Swedburg @ Kleinselder.com
RELINQUISMED BY (SIGNATURE)		数別の	PRINTED NAME	WAME ///	NATURE) DAT	PRINTED NAME
A SALL		ZWE .	Lach	hy Nah		
RELINQUISHED BY (SIGNATURE)	AMPURE)	DATE	PRINTED MAME	MAME	RECEIVED BY LAB (SIGNATURE) DATE	PRINTED NAME
		TIME			TIME	

### Sample Receipt Checklist

Client Name KLEINFELDER	•	•	Date and Tim	e Receive	12/7/2010 2:17:25 PM
Work Order Numbe 1012074	RcptNo: 1		Received by	СВ	
COC_ID:  Checklist completed by Signature  CoolerID:	) 12/07/ <sub>1</sub>	7	Reviewed by	La	\$ 1247/10 Date
Matrix:	Carrier name	Courier			
Shipping container/cooler in good condition?		Yes 🗸	No 🗔	Not Presen	
Custody seals intact on shippping container/coo	ler?	Yes 🗌	No 🗌	Not Presen	Ý
Custody seals intact on sample bottles?		Yes 🗌	No 🗌	Not Presen	<b>Z</b>
Chain of custody present?		Yes 🗸	No 🗔		
Chain of custody signed when relinquished and	received?	Yes 🗸	No []		
Chain of custody agrees with sample labels?		Yes 🗸	No		
Samples in proper container/bottle?		Yes 🗸	No i		
Sample containers intact?		Yes 🗹	No 🗔		
Sufficient sample volume for indicated test?		Yes 🗸	No		
All samples received within holding time?		Yes 🗸	No 🗔		
Container/Temp Blank temperature in compliane	ce?	Yes 🗸	No 🗌		
Water - VOA vials have zero headspace?	No VOA vials subm	nitted 🗌	Yes 🗹	No	
Water - pH acceptable upon receipt?		Yes 🗸	No 🗌	N/A	
	Adjusted?	Cl	hecked b		
Any No and/or NA (not applicable) response mu	ist be detailed in the c	omments section	on be	PROFESSION OF THE PROFESSION O	
Client contacted	Date contacted:		Perso	on contacted	
Contacted by:	Regarding:				
Comments: Cooler with ice @ 1.1C  Corrective Action					

Date: 16-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: MW-20

Lab Order:

1012074

Collection Date: 12/7/2010 12:18:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1012074-01A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	12/13/2010 7:00:00 PM
cis-1,2-Dichloroethene	6.9	0.3	1.0	μg/L	1	12/13/2010 7:00:00 PM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	12/13/2010 7:00:00 PM
Trichloroethene	U	0.3	1.0	μg/L	1	12/13/2010 7:00:00 PM
Vinyl chloride	8.0	0.3	1.0	μg/L	1	12/13/2010 7:00:00 PM
Surr: 4-Bromofluorobenzene	104	0	65-130	%REC	1	12/13/2010 7:00:00 PM
Surr: Dibromofluoromethane	109	0	63-127	%REC	1	12/13/2010 7:00:00 PM
Surr: Toluene-d8	102	0	61-128	%REC	1	12/13/2010 7:00:00 PM

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Tel - 6314546100 Fax - 6314548027 www.American-Analytical.com



- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
- S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

**Date:** 16-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: MW-21

Lab Order:

1012074

Collection Date: 12/7/2010 12:40:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1012074-02A

### **Certificate of Results**

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	)B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	12/13/2010 7:25:00 PM
cis-1,2-Dichloroethene	2800	15	50	µg/L	50	12/15/2010 9:54:00 AM
trans-1,2-Dichloroethene	32	0.3	1.0	µg/L	1	12/13/2010 7:25:00 PM
Trichloroethene	U	0.3	1.0	μg/L	1	12/13/2010 7:25:00 PM
Vinyl chloride	6400	15	50	μg/L	50	12/15/2010 9:54:00 AM
Surr: 4-Bromofluorobenzene	99.9	0	65-130	%REC	50	12/15/2010 9:54:00 AM
Surr: 4-Bromofluorobenzene	114	0	65-130	%REC	1	12/13/2010 7:25:00 PM
Surr: Dibromofluoromethane	97.5	0	63-127	%REC	50	12/15/2010 9:54:00 AM
Surr: Dibromofluoromethane	96.6	0	63-127	%REC	1	12/13/2010 7:25:00 PM
Surr: Toluene-d8	104	0	61-128	%REC	50	12/15/2010 9:54:00 AM
Surr: Toluene-d8	107	0	61-128	%REC	1	12/13/2010 7:25:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection

  - U Indicates the compound was analyzed but not detected.

**Date:** 16-Dec-10

ELAP ID: 11418

CLIENT:

Kleinfelder

Client Sample ID: MW-22

Lab Order:

1012074

Collection Date: 12/7/2010 12:54:00 PM

Project:

Commander Oil Terminal, One Commander Squ

Matrix: LIQUID

Lab ID:

1012074-03A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	46 8260		SW8260	)B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	12/13/2010 7:51:00 PM
cis-1,2-Dichloroethene	110	0.3	1.0	μg/L	1	12/13/2010 7:51:00 PM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	12/13/2010 7:51:00 PM
Trichloroethene	U	0.3	1.0	μg/L	1	12/13/2010 7:51:00 PM
Vinyl chloride	730	6	20	μg/L	20	12/15/2010 9:29:00 AM
Surr: 4-Bromofluorobenzene	111	0	65-130	%REC	20	12/15/2010 9:29:00 AM
Surr: 4-Bromofluorobenzene	108	0	65-130	%REC	1	12/13/2010 7:51:00 PM
Surr: Dibromofluoromethane	97.8	0	63-127	%REC	20	12/15/2010 9:29:00 AM
Surr: Dibromofluoromethane	90.1	0	63-127	%REC	1	12/13/2010 7:51:00 PM
Surr: Toluene-d8	98.5	0	61-128	%REC	20	12/15/2010 9:29:00 AM
Surr: Toluene-d8	96.8	0	61-128	%REC	1	12/13/2010 7:51:00 PM

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- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- LOQ Limit of Quantitation
  - S Spike Recovery outside accepted recovery limits
- C Calibration %RSD/%D exceeded for non-CCC analytes
- H Holding times for preparation or analysis exceeded
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - U Indicates the compound was analyzed but not detected.

Commander Oil Terminal, One Commander Squ

Date: 16-Dec-10

**ELAP ID: 11418** 

CLIENT:

Kleinfelder

Client Sample ID: Trip Blank

Lab Order:

1012074

Collection Date: 12/7/2010

Project:

Matrix: LIQUID

Lab ID:

1012074-04A

### Certificate of Results

Analyses	Sample Result	LOD	LOQ Q	ual Units	DF	Date/Time Analyzed
VOLATILE BY METHOD SW-8	346 8260		SW826	0B		Analyst: <b>LA</b>
1,2-Dichloroethane	U	0.3	1.0	μg/L	1	12/15/2010 9:06:00 AM
cis-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	12/15/2010 9:06:00 AM
trans-1,2-Dichloroethene	U	0.3	1.0	μg/L	1	12/15/2010 9:06:00 AM
Trichloroethene	U	0.3	1.0	μg/L	1	12/15/2010 9:06:00 AM
Vinyl chloride	U	0.3	1.0	μg/L	1	12/15/2010 9:06:00 AM
Surr: 4-Bromofluorobenzene	96.5	0	65-130	%REC	1	12/15/2010 9:06:00 AM
Surr: Dibromofluoromethane	99.8	0	63-127	%REC	1	12/15/2010 9:06:00 AM
Surr: Toluene-d8	101	0	61-128	%REC	1	12/15/2010 9:06:00 AM

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- Analyte detected in the associated Method Blank
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- LOQ Limit of Quantitation
- Spike Recovery outside accepted recovery limits
- Calibration %RSD/%D exceeded for non-CCC analytes
- Holding times for preparation or analysis exceeded Η
- LOD Limit of Detection
  - P >40% diff for detected conc between the two GC columns
  - Indicates the compound was analyzed but not detected.

CLENT:

Kleinfelder 1012074 Work Order: Commander Oil Terminal, One Commander Squ Project:

ANALYTICAL QC SUMMARY REPORT

Date: 16-Dec-10

TestCode: 8260breakdown\_W

Sample ID: V624LCS-121310aY	SampType: LCS	TestCoo	TestCode: 8260breakdo	o Units: µg/L	-	Prep Date:			RunNo: <b>55065</b>	065	
Client ID: LCSW	Batch ID: <b>R55065</b>	Testh	TestNo: SW8260B			Analysis Date:	12/13/2010	0	SeqNo: 774091	4091	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	53	1.0	50.00	0	106	36	141		***************************************		***************************************
Tetrachloroethene	46	1.0	50.00	0	91.3	45	136				
trans-1,2-Dichloroethene	40	1.0	50.00	0	80.9	42	135				
Trichloroethene	49	1.0	50.00	0	98.0	43	140				
Vinyl chloride	51	1.0	50.00	0	102	35	142				
Surr: 4-Bromofluorobenzene	49		50.00		98.5	09	130				
Surr: Dibromofluoromethane	51		50.00		102	63	127				
Surr: Toluene-d8	51		20.00		103	61	128				
Sample ID: VBLK-121310aYW	SampType: MBLK	TestCoo	TestCode: 8260breakdo	o Units: µg/L		Prep Date:			RunNo: 550	55065	
Client ID: PBW	Batch ID: <b>R55065</b>	Test	TestNo: SW8260B			Analysis Date:	12/13/2010	0	SeqNo: 774092	4092	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	n	1.0		Minister und der errenten der errenten der errenten und errenten der errenten der errenten der errenten der er			***************************************	weathing and the second and the seco			
cis-1,2-Dichloroethene	)	1.0									
Tetrachloroethene	⊃	1.0									
trans-1,2-Dichloroethene	⊃	1.0									
Trichloroethene	J	1.0									
Vinyl chloride	n	1.0									
Surr: 4-Bromofluorobenzene	53		50.00		106	09	130				
Surr: Dibromofluoromethane	53		50.00		106	63	127				
Surr: Toluene-d8	51		20.00		103	61	128				
Sample ID: V624LCS-121310aY	SampType: LCS	TestCoc	TestCode: 8260breakdo	o Units: µg/L		Prep Date:			RunNo: 55(	55065	
Client ID: LCSW	Batch ID: <b>R55065A</b>	Testh	TestNo: SW8260B			Analysis Date:	12/13/2010	0	SeqNo: 774095	4095	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit Ri	RPD Ref Val	%RPD	RPDLimit	Qual
1,2-Dichloroethane	44	1.0	50.00	0	87.1	36	141				
Tetrachloroethene	39	1.0	20.00	0	79.0	45	136				
Qualifiers: B Analyte detec	Analyte detected in the associated Method Blank	Slank	C Calibrati	Calibration %RSD/%D exceeded for non-CCC analytes	eded for non	1-CCC analytes	Щ	Value above quantitation range	itation range	MAN ALIMAN NAMED RAPER NAMED IN A ANNA AMIN'AND ANNA AMIN'AND ANNA AMIN'AND ANNA AMIN'AND AMIN'AND AMIN'AND AM	
	Holding times for preparation or analysis exceeded	ceeded		Analyte detected below quantitation limits	ititation limi	ts	TOD	Limit of Detection			
LOQ Limit of Quantitation	ntitation		P >40% di	>40% diff for detected conc between the two GC column	between the	two GC colum	2	RPD outside accepted recovery limits	ted recovery lin	nits	

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_W

Project: Commander Oil Terminal, One Commander Squ

Kleinfelder 1012074

CLIENT: Work Order:

Sample ID: V624LCS-121310aY	SampType: LCS	TestCod	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	ere ere ere ere ere er er er er er er er	RunNo: 55065	165	
Client ID: LCSW	Batch ID: <b>R55065A</b>	TestN	TestNo: SW8260B			Analysis Date:	12/13/2010	SeqNo: 774095	960	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	/al %RPD	RPDLimit	Qual
trans-1,2-Dichloroethene	37	0.1	50.00	0	73.9	42	135			
Vinvl chloride	49		50.00	) O	98.1	35	142			
Surr: 4-Bromofluorobenzene	52		20.00		103	09	130			
Surr: Dibromofluoromethane	20		20.00		99.4	63	127			
Surr: Toluene-d8	52		50.00		103	61	128			
Sample ID: VBLK-121310aYW	SampType: MBLK	TestCod	TestCode: 8260breakdo	do Units: µg/L		Prep Date:		RunNo: <b>55065</b>	65	
Client ID: PBW	Batch ID: <b>R55065A</b>	TestN	TestNo: SW8260B		•	Analysis Date:	12/13/2010	SeqNo: <b>774096</b>	960	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Val	'al %RPD	RPDLimit	Qual
1,2-Dichloroethane	n	1.0								
cis-1,2-Dichloroethene	D	1.0								
Tetrachloroethene	⊃	1.0								
trans-1,2-Dichloroethene	⊃	1.0								
Trichloroethene	⊃	1.0								
Vinyl chloride	n	1.0								
Surr: 4-Bromofluorobenzene	52		50.00		105	09	130			
Surr: Dibromofluoromethane	20		50.00		98.6	63	127			
Surr: Toluene-d8	53		50.00		107	61	128			
Sample ID: V624LCS-121410aY	SampType: LCS	TestCod	TestCode: 8260breakdo	do Units: µg/L		Prep Date:	12/14/2010	RunNo: <b>55065</b>	65	
Client ID: LCSW	Batch ID: <b>R55065B</b>	TestN	TestNo: SW8260B			Analysis Date:	12/15/2010	SeqNo: 774098	860	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	ʻal %RPD	RPDLimit	Qual
1,2-Dichloroethane	38	1.0	50.00	0	76.2	36	141			
Tetrachloroethene	32	1.0	50.00	0	64.1	45	136			
trans-1,2-Dichloroethene	35	1.0	50.00		70.4	42	135			
Trichloroethene	38	1.0	20.00	0	76.2	43	140			
Vinyl chloride	46	1.0	20.00	0	92.1	35	142			
Surr: 4-Bromofluorobenzene	52		20.00		104	09	130			
Qualifiers: B Analyte detect	Analyte detected in the associated Method Blank	lank	C Calibra	Calibration %RSD/%D exceeded for non-CCC analytes	eded for nor	1-CCC analytes	Щ	Value above quantitation range		
H Holding times	Holding times for preparation or analysis exceeded	pepped	J Analyte	Analyte detected below quantitation limits	ntitation limi	ts	LOD Limit of Detection	ction		
LOQ Limit of Quantitation	ntitation		P >40%	>40% diff for detected conc between the two GC column	between the	two GC colum:	×	RPD outside accepted recovery limits	nits	

Kleinfelder 1012074 CLIENT: Work Order:

Commander Oil Terminal, One Commander Squ Project:

## ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_W

Sample ID: V624LCS-121410aY Client ID: LCSW	SampType: LCS Batch ID: R55065B	TestCod TestN	TestCode: 8260breakdo Units: µg/L TestNo: SW8260B	Units: µg/L		Prep Date: Analysis Date:	: 12/14/2010 : 12/15/2010	RunNo: <b>55065</b> SeqNo: <b>774098</b>	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
Surr: Dibromofluoromethane Surr: Toluene-d8	52 51		50.00 50.00		105 103	63	127 128		
Sample ID: VBLK-121410aYW	SampType: MBLK	TestCod	TestCode: 8260breakdo	Units: µg/L		Prep Date:	: 12/14/2010	RunNo: <b>55065</b>	
Client ID: PBW	Batch ID: <b>R55065B</b>	TestN	TestNo: SW8260B			Analysis Date:	: 12/15/2010	SeqNo: 774099	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	nit Qual
1,2-Dichloroethane	n	1.0							
cis-1,2-Dichloroethene	)	1.0							
Tetrachloroethene	)	1.0							
trans-1,2-Dichloroethene	$\supset$	1.0							
Trichloroethene	Π	1.0							
Vinyl chloride	n	1.0							
Surr: 4-Bromofluorobenzene	53		50.00		105	09	130		
Surr: Dibromofluoromethane	49		50.00		98.4	63	127		
Surr: Toluene-d8	51		20.00		101	61	128		
Sample ID: V624LCS-121410aY	SampType: LCS	TestCod	TestCode: 8260breakdo	Units: µg/L		Prep Date:	12/14/2010	RunNo: <b>55065</b>	
Client ID: LCSW	Batch ID: R55065C	TestN	TestNo: SW8260B			Analysis Date:	: 12/15/2010	SeqNo: 774102	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	mit Qual
1,2-Dichloroethane	37	1.0	50.00	0	73.7	36	141		
Tetrachloroethene	31	1.0	50.00	0	62.9	45	136		
trans-1,2-Dichloroethene	37	1.0	50.00	0	73.5	42	135		
Trichloroethene	36	1.0	50.00	0	71.9	43	140		
Vinyl chloride	45	1.0	50.00	0	200.7	35	142		
Surr: 4-Bromofluorobenzene	53		50.00		106	90	130		
Surr: Dibromofluoromethane	53		50.00		106	63	127		
Cirr. Toliono d8	50		50.00		101	61	128		

Qualifiers:	В	Analyte detected in the associated Method Blank	ပ	Calibration %RSD/%D exceeded for non-CCC analytes	ш	Value above quantitation range
	Ξ	Holding times for preparation or analysis exceeded	_	Analyte detected below quantitation limits	COD	OD Limit of Detection
	007	LOQ Limit of Quantitation	۵.	>40% diff for detected conc between the two GC column	Α.	RPD outside accepted recovery limits

CLIENT:

Kleinfelder 1012074 Work Order:

Project:

Commander Oil Terminal, One Commander Squ

### ANALYTICAL QC SUMMARY REPORT

TestCode: 8260breakdown\_W

Sample ID: VBLK-121410aYW	SampType: MBLK	TestCode:	8260breakdo	TestCode: 8260breakdo Units: µg/L		Prep Date:	Prep Date: 12/14/2010	RunNo: 55065	065	
Client ID: PBW	Batch ID: <b>R55065C</b>	TestNo:	TestNo: SW8260B		∢	Analysis Date: 12/15/2010	12/15/2010	SeqNo: 774103	4103	
Analyte	Result	POLS	SPK value SPK Ref Val	PK Ref Val	%REC	LowLimit Hię	%REC LowLimit HighLimit RPD Ref Val	%RPD	%RPD RPDLimit Qual	Qual
1,2-Dichloroethane	n	1.0					ana androna an		-	
cis-1,2-Dichloroethene	<b>&gt;</b>	1.0								
Tetrachloroethene	⊃	1.0								
trans-1,2-Dichloroethene	n	1.0								
Trichloroethene	$\cap$	1.0								
Vinyl chloride	)	1.0								
Surr: 4-Bromofluorobenzene	53		50.00		105	9	130			
Surr: Dibromofluoromethane	49		50.00		98.4	63	127			
Surr: Toluene-d8	51		20.00		101	61	128			

POSSON TO SESSION OF THE POSSON DESIGNATION	PROTECULAR PROPERTY OF THE PARTY OF THE PART			A STATE OF THE STA	
Qualifiers:	В	Analyte detected in the associated Method Blank	ပ	Calibration %RSD/%D exceeded for non-CCC analytes	E Value above quantitation range
	Ξ	Holding times for preparation or analysis exceeded	_	Analyte detected below quantitation limits	LOD Limit of Detection
	T00	LOQ Limit of Quantitation	Д	>40% diff for detected cone between the two GC column	R RPD outside accepted recovery limits

### APPENDIX C Waste Disposal Documentation

PI	lease print or type. (Form designed for use on elite (12-pitch) typewriter.)						For	rm Approved.	. OMB No	2050-0
1	UNIFORM HAZARDOUS WASTE MANIFEST N Y D 9805 23 / 46  5. Generator's Name and Mailing Address Common Address  Common Address			rgency Respons		4. Manifest	Tracking I	Number		
	5. Generator's Name and Mailing Address					00		6000	<u>U</u>	JK.
	Commander Terminal Holdings Lice	(	enera	iofs Site Addres:	8 (if different t	han mailing addre	ss)			
	I COMMANDER SOUALE, OYSTER BAY NY 1171	//								
	Generator's Phone:	1								
П	6. Transporter 1 Company Name					U.S. EPA ID	Vumber			
	HORWITH TRUCKS, INC 7. Transporter 2 Company Name					DAD	146	714 8	78	
	7. Transporter 2 Company Name					U.S. EPA ID N	lumber	714 8		
П										
	8. Designated Facility Name and Site Address  CWM CHEMICAL SENVICES LLC					U.S. EPA ID I	lumber	· · · · · · · · · · · · · · · · · · ·		
П	1500 RAYMEN DOAD WAS DE									
Ш	1550 BALMER POAD, MODEL CITY NY 14107								. ,	
	Facility's Phone: 716-754-8231	····				NYD	049	7836	679	
	9a. 9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, HM and Packing Group (if any))			10. Contai		11. Total	12. Unit	13 V	Vaste Code	)e
	100 1100 1100		~	No.	Туре	Quantity	Wt./Vol.	ļ	-	, , , , , , , , , , , , , , , , , , ,
ľ	X Q A D	, १०, १०५	3)		\	EST		DOYO	DOYS	
₽	9, NA 3077, RUIT		1	XX1	MI	xx22	T			
GENERATOR	2.		-+			31122				ļ
3	·		- 1							
Ш										
	3.									
		• •	ĺ							
	4									
Į.	[4.		I							
l					-					
	14. Special Handling Instructions and Additional Information									
	and the state of t				150	5432	NO			-
1					wey	5150	.07			
	APPEOVAL NY 30/145 / SR# 940758-1	۶	3 1/4	42079						
	15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this co	nsignment are f	olly an	d accuratoly day	oribad above	by the proper ship	Dino name	ami am dassi	find nacka	ood
	marked and labeled/placarded, and are in all respects in proper condition for transport accord Exporter, I certify that the contents of this consignment conform to the terms of the attached E				nal governme	ntal regulations. If	export ship	pment and I am	n the Prima	уос, гу
П	I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large of	puantity generate	or) or (	) (if I appla small	quantity gene	erator) is true				
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51	18b. Alternate Facility (or Generator)	, , , , , , , , , , , , , , , , , , , ,			UNICOL.	U.S. EPAID Nur	ber			
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<b>、⊢</b>	Facility's Phone:	<del></del>								ļ
<u> </u>	18c. Signature of Alternate Facility (or Generator)							Month	Day	Year
<u>.</u>	10 Harris W. A. G. A. H.	<del></del>								
<u>;</u> [	19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment	1.	recyclin	ng systems)				· · · · · · · · · · · · · · · · · · ·		
Ί΄	H132 12	3.				4.				
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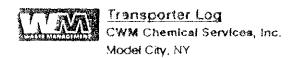
### <u>Transporter Log</u> CWM Chemical Services, Inc. Model City, NY

Cubic Yards

27.16 Tons

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a <del>na ma</del> na ay	Other (apecity)						
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	8. Designated Facility Name and	Site Address - SEKNICES LLC			<del></del>		U.S. EPAID	Number		·	
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		t, and are in all respects in proper condition for transport accordents of this consignment conform to the terms of the attached E						export ship	oment and [	am the Prima	iry
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### HORWITH TRUCKS, INC.

		HORWITI	TRUCKS,	INC.	
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### HORWITH TRUCKS, INC.

ROUTE 329. BOX 7, NORTHAMPTON, PA 18067. 1-800-220-8807

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### HORWITH TRUCKS, INC.

ROUTE 329 BOX 7, NORTHAMPTON, PA 18067 1-800-220-8807

DRIVER Dennis Silvies  PICK UP: 10-12-10 / 7:00  DATE TIME WO#  NAME: AMERICAN EMPLADAMENTAL Aut Corp  ADDRESS: 188 Long Island Ave Wyardanch N)  TIME IN: 7:00 Am TIME OUT: 1:00 any TOTAL TIME: 55 M  DELAY EXPLANATION: Job Not Ready & Working Slass on John.	
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APPENDIX D Photographs

### Commander Oil Terminal One Commander Square Oyster Bay, New York



Photograph No. 1
Area to be excavated, facing east



Photograph No. 2
Beginning of excavation - breakout of asphalt facing west



### Commander Oil Terminal One Commander Square Oyster Bay, New York



Photograph No. 3
Excavation area with Rusmar vapor reduction foam applied, facing west



Photograph No. 4
Excavated area backfilled and compacted with fill material, facing west



### Commander Oil Terminal One Commander Square Oyster Bay, New York



**Photograph No. 5**Discrete Sampling and soil boring locations, facing west

