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By Alameda County Environmental Health 8:40 am, Dec 12, 2017

December 05, 2017

Mark Detterman
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Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502

Email: mark.detterman@acgov.org

Subject: 500 Grand Remedial Action Completion Report
Alameda County Environmental Health Case Number RO0003175
Geotracker Global ID Number T10000007707
500 Grand Ave, Oakland, CA

Dear Mr. Detterman:

Cardno, Inc. (Cardno) has completed the planned remedial actions as per our September 20, 2017 that amended the 500 Grand Site Management Plan (SMP) dated July 17, 2016 (SMP). The remedial actions included:

Excavation Plan:

Innovative Construction Solutions (ICS) completed all site excavations in accordance with the SMP and subsequent modification noted above. The asphalt cap remained in place across the Site which minimized generation of dust and odors. A total soil volume of approximately 88 cubic yards (in place) excavated and disposed off-site at a permitted facility. Open excavations were secured with temporary exclusion fencing and ¾" plywood.

City of Oakland Grading/Excavation Permit

A City of Oakland grading/excavation permit was obtained and is included as an attachment to the Remedial Action Completion Report (RACR).

East Excavation

As shown in the RACR, ICS utilized an auger drill to excavate the impacted soil. The auger drill sequentially removed soil to estimated total depth of 12-feet below ground surface. Field screening data collected during excavation activities using a photo-ionization detector (PID) corroborated prior soil samples collected in the area. Confirmation soil samples collected from the sidewalls and bottom of the excavation indicated that residual petroleum hydrocarbon concentrations were less than Residential Environmental Screening Levels (ESLs).

Two (2) discrete bottom samples were collected from the East Excavation and one (1) discrete sample per East Excavation wall were collected and submitted for analysis using EPA Method 8260 and 8015 modified on a 24 hour turn-around-time.

South Excavation

The South Excavation was completed using slot trenching and hydraulic shores. The South Excavation was expanded to the west in order to accommodate removal of impacted soil. Field screening data collected during excavation activities using a PID corroborated prior soil samples collected in the area. Confirmation soil samples collected from the sidewalls and bottom of the excavation indicated that residual petroleum hydrocarbon concentrations were less than Residential ESLs.

Three (3) discrete bottom samples were collected from the South Excavation, two (2) discrete samples were collected from the northern and southern walls, and one (1) discrete sample were collected from the eastern and western walls. All soil samples were submitted for analysis using EPA Method 8260 and 8015 modified on a 24 hour turn-around-time.

I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris Brawer", with a stylized flourish at the end.

Chris Brawer
Principal
Anchor Valley Partners

Remedial Action Completion Report

500 Grand Avenue, Oakland, California

Cardno E317602000.R01

December 5, 2017

Remedial Action Completion Report

500 Grand Avenue, Oakland, California

Cardno E317602000.R01

December 5, 2017

Prepared for
Anchor Valley Partners, LLC.

Prepared By
Cardno, Inc.



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1 Introduction

At the request of Anchor Valley Partners, LLC doing business as 500 Grand LLC, Cardno prepared this report detailing excavation activities conducted at 500 Grand Avenue in Oakland, California. The site, located on the northeast corner of Euclid Avenue and Grand Avenue, has operated as a commercial parking lot since 1992 and is currently undergoing redevelopment. Additional information regarding the site's history and conditions are included in the *Site Management Plan*, dated July 15, 2016 (SGI, 2016b).

2 Excavation Activities

Excavation activities were conducted at the site to remove soil containing residual petroleum hydrocarbon concentrations exceeding commercial screening levels from the footprint of the proposed redevelopment area. The locations of the excavated areas are illustrated on Figure 1. The work was conducted in accordance with the procedures detailed in the *Site Management Plan*, dated July 15, 2016 (SGI, 2016b), and the *500 Grand Site Management Plan Amendment Summary*, dated September 20, 2017 (AVP, 2017).

2.1 Pre-Excavation Activities

Prior to conducting field work, a grading/excavation permit was obtained from the City of Oakland Planning Department (Appendix A) and an Underground Service Alert (USA) One Call was initiated to request to a utilities mark-out.

On October 30, 2017, Cardno set up an exclusion zone for the planned work area with delineators and caution tape. In addition, Cardno collected a waste profile sample from the drums on site containing soil from previous borings drilled in the planned excavation areas.

On October 31, 2017, Cardno observed Innovative Construction Solutions (ICS), the excavation subcontractor, set up a bermed containment area in the northwest corner of the site to stockpile the soil cuttings. In addition, Cardno marked out the proposed areas of excavation and observed Ground Penetrating Radar Systems of California (GPRS) search for subsurface utilities using ground penetrating radar and radio frequency technology. Two rain water drain lines were located running through the east excavation area. Cardno elected to cut the drain lines, temporarily plug, and then repair them at the completion of excavation activities. Utilities were not found in the south excavation area.

2.2 Excavation Activities

2.2.1 Asphalt Removal

On October 31, 2017, Cardno observed ICS saw cut the paved parking lot and remove the 4-inch thick surface asphalt. During saw cutting activities, footing for the retaining wall was observed to extend approximately 26 to 28 inches from the wall. The planned extent of the east excavation area was adjusted to accommodate the footing.

2.2.2 East Excavation

From October 31 to November 7, 2017, Cardno observed soil removal from the east area by auger drilling. During the excavation, soil samples were field screened with an organic vapor monitor (OVM) equipped with a 10.9 eV bulb. If OVM readings indicated the presence of petroleum hydrocarbons above 50 ppm, the excavation was expanded. A total of 16 boreholes were advanced using an excavator equipped with a 36-inch diameter screw auger attachment. The final extent of the east area excavation was 12 feet long, 12 feet wide, and 12 feet deep. Figure 2 depicts soil sample locations, the 16 auger locations, and the relative location of the excavation to the former USTs.

2.2.3 South Excavation

From November 7 to 8, 2017, Cardno observed soil being removed from the south excavation with an excavator. During the excavation, soil samples were field screened with an OVM. If OVM readings exceeded 50 ppm, the excavation was expanded. Field screening and analytical data from confirmation sample S-3-EX2S indicated that the western end of the south excavation area exceeded residential ESLs. The data was reviewed with Anchor Valley Partners, LLC and a determination was made to expand the excavation to the west, continuing until confirmation samples yielded results less than residential ESLs. The dimensions of the initial south area excavation were 50 feet long, 4 feet wide, and 6 feet deep.

On November 16, 2017, Cardno observed the south excavation being expanded westward to remove additional soil containing petroleum hydrocarbons greater than residential ESLs. The final extent of the south excavation extension was 5 feet long, 5 feet wide, and 7 feet deep. Figure 2 depicts soil sample locations and the relative location of the excavation to the former dispenser island.

2.2.4 Laboratory Analysis

Confirmation soil samples were collected from the walls and bottom of the excavations. Additionally, soil and water waste profiling samples were collected. The samples were submitted to a California-state certified laboratory under COC protocol. The following analyses were performed on the samples:

- **EPA Method 8015B:** TPHd and TPHg.
- **EPA Method 8260B:** Full scan VOCs.
- **EPA Method 8270C:** Full scan SVOCs (profile samples only).
- **EPA Method 6010B/7471A:** Total metals (profile samples only).

Soil sample analytical results are summarized in Table 1. Laboratory analytical reports are included in Appendix B.

2.2.5 Excavation Backfill

The excavation areas were backfilled with CDF/2-Sack Slurry with approximately 4 inches left at the top. The use of CDF eliminated the need for backfill compaction and testing and provided a low permeable barrier. The top 4 inches of the excavation were backfilled to grade with hot mix asphalt and compacted.

2.3 Investigation-Derived Waste Management

Approximately 220 tons of soil and eight drums of water were transported for disposal to the Keller Canyon Landfill in Pittsburg, California. Waste documentation is included in Appendix C.

3 Results

Approximately 220 tons of soil with petroleum hydrocarbon concentrations were removed from the site during excavation activities. This is consistent with the extent of soil removal anticipated in the *500 Grand Site Management Plan Amendment Summary*, dated September 20, 2017 (AVP, 2017). A table illustrating which previous sampling locations have been removed from the site and which remain is included in Appendix D.

To confirm that excavation activities successfully removed petroleum hydrocarbons exceeding applicable screening levels at the site, Cardno compared the analytical results of the confirmation bottom and wall samples collected during the excavations to commercial and residential direct exposure human health risk ESLs, established by the California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFB, 2016). Petroleum hydrocarbon concentrations were below the residential ESLs in the bottom and wall samples collected from both excavations, with the exception of a wall sample (S-3-EX2E) collected from the south excavation area bordering the sidewalk. The wall sample contained concentrations of TPHd and naphthalene exceeding residential ESLs (880 mg/kg and 4.7 mg/kg, respectively); however, these concentrations were below the commercial ESLs. Moreover, excavation beyond the southern property line was not part of the approved

500 Grand Site Management Plan Amendment Summary, dated September 20, 2017 (AVP, 2017), and is not required to achieve closure of the site.

4 Recommendations

In 2016, an investigation was conducted to establish baseline conditions for the site. Details of these activities were reported in the *2016 Supplemental Investigation Findings and Conclusions* (SGI, 2016a). The results of the investigation indicated that:

- Direct exposure pathways were not available for commercial and residential receptors.
- MTBE was the only compound detectable in subsurface soils and groundwater underlying the elevator and stair well shaft planned for the west side of the building. MTBE concentrations were below ESLs for shallow groundwater.
- The low porosity of the silt and clay soils underlying the site were likely to inhibit migration of residual petroleum hydrocarbons.
- Natural attenuation was demonstrated to be occurring and was expected to continue.
- Concentrations in off-site groundwater monitoring wells were below aquatic habitat goal ESLs for protection of freshwater and saltwater aquatic habitats and were decreasing over time, suggesting that groundwater concentrations were not migrating off-site towards Lake Merritt and did not pose an ecological risk to potential off-site aquatic receptors in Lake Merritt.
- Residual petroleum hydrocarbon concentrations above commercial/industrial ESLs were identified and delineated in groundwater at the site and in native soils adjacent to the southern boundary parallel to Grand Avenue and near the southeast corner of the property.

The purpose of the 2017 excavation activities was to remove on-site residual petroleum hydrocarbon concentrations identified in the *2016 Supplemental Investigation Findings and Conclusions* (SGI, 2016a). Results of the excavation activities indicate that on-site residual petroleum concentrations are now below residential ESLs. The TPH and VOC concentrations above residential ESLs in native soils adjacent to the southern boundary parallel to Grand Avenue and near the southeast corner of the property were successfully removed during excavation activities. Residual petroleum hydrocarbon encountered in on-site soils were excavated and are now below residential ESLs. Off-site excavation samples collected from the southern wall of the south excavation below the sidewalk are below commercial ESLs.

Based on the currently encountered residual petroleum hydrocarbon concentrations and distribution, in conjunction with the proposed development, no further remediation of soils or groundwater is considered necessary. No observations made during the excavation activities indicate contradicting conditions that are inconsistent with prior findings. Furthermore, the specific mixed-use development can occur without any remedial actions or restrictions and a certificate of completion can be issued. Any minor residual concentrations that may be encountered during development can be dealt with in accordance with a soils management plan.

5 Limitations

For any documents cited that were not generated by Cardno, Cardno does not guarantee the accuracy of this data and makes no warranties for the referenced work performed nor the inferences or conclusions stated in these documents.

This document was prepared in accordance with generally accepted standards of environmental, geological, and engineering practices in California at the time of investigation. No soil engineering or geotechnical references are implied or should be inferred. The evaluation of the geologic conditions at the site for this investigation is made from a limited number of data points. Subsurface conditions may vary away from these data points.

6 References

Anchor Valley Partners (AVP). September 20, 2017. *500 Grand Site Management Plan Amendment Summary, Alameda County Environmental Health Case Number RO0003175, Geotracker Global ID Number T10000007707, 500 Grand Ave, Oakland, CA.*

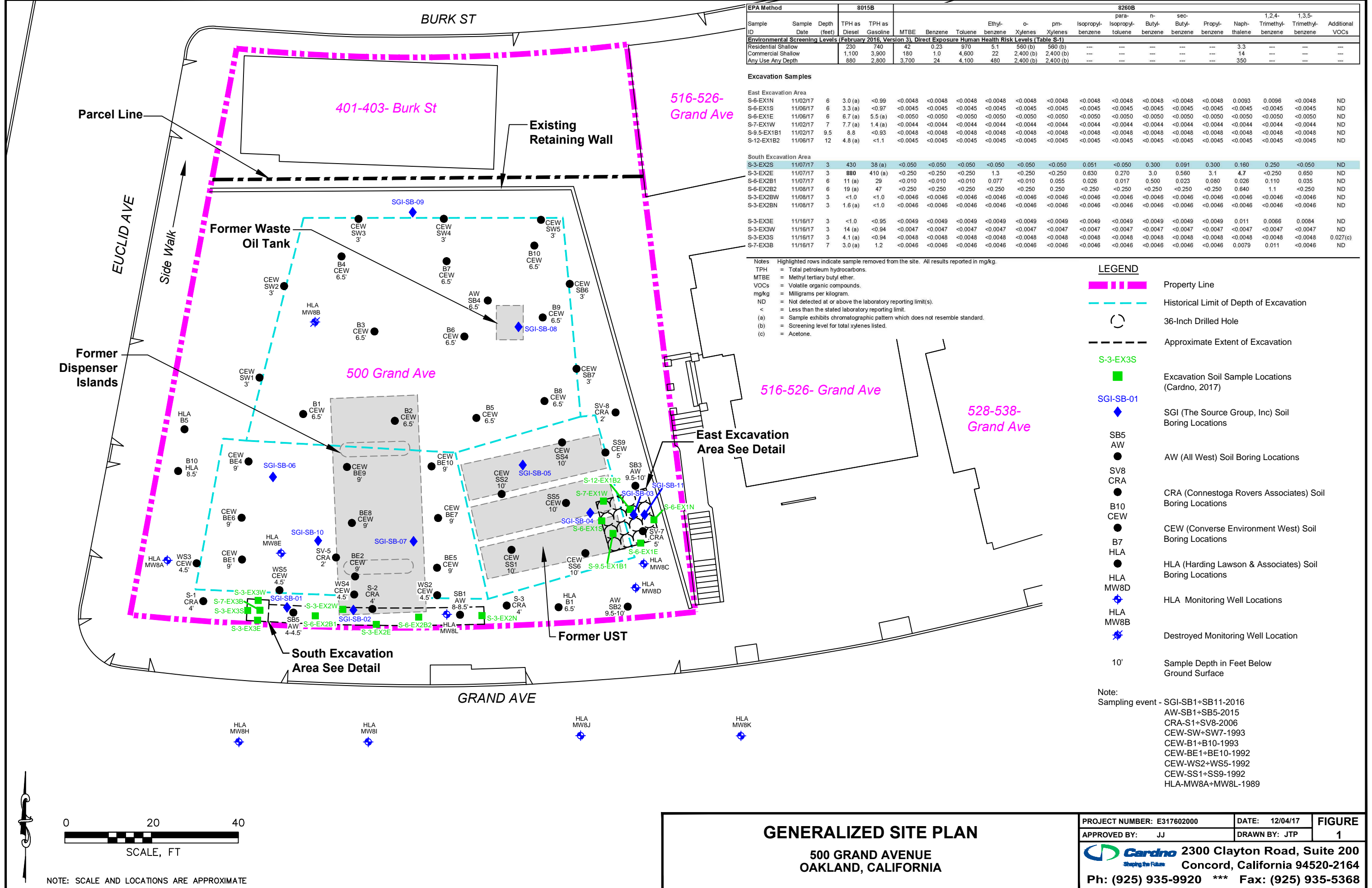
California Regional Water Quality Control Board, San Francisco Bay Region (CRWQCB-SFB). February 2016. *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater.*

The Source Group, Inc. (SGI). May 17, 2016a. *2016 Supplemental Investigation Findings and Conclusions (Including HHRA, ERA, and Current CSM), Ellwood Development, 500 Grand Avenue, Oakland, California.*

The Source Group, Inc. (SGI). July 15, 2016b. *Site Management Plan, 500 Grand Avenue, Oakland, California 94610.*

7 Acronym List

µg/L	Micrograms per liter	NAPL	Non-aqueous phase liquid
µg/m ³	Micrograms per cubic meter	NEPA	National Environmental Policy Act
µs	Microsiemens	NGVD	National Geodetic Vertical Datum
1,2-DCA	1,2-dichloroethane	NPDES	National Pollutant Discharge Elimination System
acfm	Actual cubic feet per minute	O&M	Operations and Maintenance
AS	Air sparge	ORP	Oxidation-reduction potential
AST	Aboveground storage tank	OSHA	Occupational Safety and Health Administration
bgs	Below ground surface	OVA	Organic vapor analyzer
BTEX	Benzene, toluene, ethylbenzene, and total xylenes	P&ID	Process and Instrumentation Diagram
cfm	Cubic feet per minute	PAH	Polycyclic aromatic (or polyaromatic) hydrocarbon
COC	Chain-of-Custody	PCB	Polychlorinated biphenyl
CPT	Cone Penetration (Penetrometer) Test	PCE	Tetrachloroethene or perchloroethylene
DIPE	Di-isopropyl ether	PID	Photo-ionization detector
DO	Dissolved oxygen	PLC	Programmable logic control
DOT	Department of Transportation	POTW	Publicly-owned treatment works
DPE	Dual-phase extraction	ppmv	Parts per million by volume
DTW	Depth to water	PQL	Practical quantitation limit
EDB	1,2-dibromoethane	psi	Pounds per square inch
EPA	Environmental Protection Agency	PVC	Polyvinyl chloride
ESL	Environmental screening level	QA/QC	Quality assurance/quality control
ETBE	Ethyl tertiary butyl ether	RBSL	Risk-based screening levels
FID	Flame-ionization detector	RCRA	Resource Conservation and Recovery Act
fpm	Feet per minute	RL	Reporting limit
GAC	Granular activated carbon	scfm	Standard cubic feet per minute
gpd	Gallons per day	SSTL	Site-specific target level
gpm	Gallons per minute	STLC	Soluble threshold limit concentration
GWPTS	Groundwater pump and treat system	SVE	Soil vapor extraction
HIT	High-intensity targeted	SVOC	Semi-volatile organic compound
HVOC	Halogenated volatile organic compound	TAME	Tertiary amyl methyl ether
J	Estimated value between MDL and PQL (RL)	TBA	Tertiary butyl alcohol
LEL	Lower explosive limit	TCE	Trichloroethene
LPC	Liquid-phase carbon	TOC	Top of well casing elevation; datum is msl
LRP	Liquid-ring pump	TOG	Total oil and grease
LUFT	Leaking underground fuel tank	TPH	Total petroleum hydrocarbons
LUST	Leaking underground storage tank	TPHd	Total petroleum hydrocarbons as diesel
MCL	Maximum contaminant level	TPHg	Total petroleum hydrocarbons as gasoline
MDL	Method detection limit	TPHmo	Total petroleum hydrocarbons as motor oil
mg/kg	Milligrams per kilogram	TPHs	Total petroleum hydrocarbons as stoddard solvent
mg/L	Milligrams per liter	TRPH	Total recoverable petroleum hydrocarbons
mg/m ³	Milligrams per cubic meter	UCL	Upper confidence level
MPE	Multi-phase extraction	USCS	Unified Soil Classification System
MRL	Method reporting limit	USGS	United States Geologic Survey
msl	Mean sea level	UST	Underground storage tank
MTBE	Methyl tertiary butyl ether	VCP	Voluntary Cleanup Program
MTCA	Model Toxics Control Act	VOC	Volatile organic compound
NAI	Natural attenuation indicators	VPC	Vapor-phase carbon



EPA Method	8015B										8260B									
	Sample ID	Sample Date	Depth (feet)	TPH as Diesel	TPH as Gasoline	MTBE	Benzene	Toluene	Ethyl-benzene	o-Xylenes	pm-Xylenes	Isopropyl-benzene	para-Isopropyl-toluene	n-Butyl-benzene	sec-Butyl-benzene	Propyl-benzene	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Additional VOCs
Environmental Screening Levels (February 2016, Version 3), Direct Exposure Human Health Risk Levels (Table S-1)																				
Residential Shallow			230	740	42	0.23	970	5.1	560 (b)	560 (b)	---	---	---	---	---	---	3.3	---	---	---
Commercial Shallow			1,100	3,900	180	1.0	4,600	22	2,400 (b)	2,400 (b)	---	---	---	---	---	---	14	---	---	---
Any Use Any Depth			880	2,800	3,700	24	4,100	480	2,400 (b)	2,400 (b)	---	---	---	---	---	---	350	---	---	---

Excavation Samples																				
East Excavation Area																				
S-6-EX1N	11/02/17	6	3.0 (a)	<0.99	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0093	0.0096	<0.0048	ND
S-6-EX1S	11/06/17	6	3.3 (a)	<0.97	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
S-6-EX1E	11/06/17	6	6.7 (a)	5.5 (a)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
S-7-EX1W	11/02/17	7	7.7 (a)	1.4 (a)	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044
S-9-5-EX1B1	11/02/17	9.5	8.8	<0.93	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
S-12-EX1B2	11/06/17	12	4.8 (a)	<1.1	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
South Excavation Area																				
S-3-EX2S	11/07/17	3	430	38 (a)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	0.300	0.091	0.300	0.160	0.250	<0.050	ND	
S-3-EX2E	11/07/17	3	880	410 (a)	<0.250	<0.250	<0.250	1.3	<0.250	<0.250	0.630	0.270	3.0	0.560	3.1	4.7	<0.250	0.650	ND	
S-6-EX2B1	11/07/17	6	11 (a)	29	<0.010	<0.010	<0.010	0.077	<0.010	0.055	0.026	0.017	0.500	0.023	0.080	0.026	0.110	0.035	ND	
S-6-EX2B2	11/08/17	6	19 (a)	47	<0.250	<0.250	<0.250	<0.250	<0.250	0.250	<0.250	<0.250	<0.250	<0.250	<0.250	<0.250	0.640	1.1	<0.250	
S-3-EX2BW	11/08/17	3	<1.0	<1.0	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	
S-3-EX2BN	11/08/17	3	1.6 (a)	<1.0	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	
S-3-EX3E	11/16/17	3	<1.0	<0.95	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	0.011	0.0066	0.0084	
S-3-EX3W	11/16/17	3	14 (a)	<0.94	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	
S-3-EX3S	11/16/17	3	4.1 (a)	<0.94	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	
S-7-EX3B	11/16/17	7	3.0 (a)	1.2	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	0.0079	0.011	<0.0046	

Notes: Highlighted rows indicate sample removed from the site. All results reported in mg/kg.
 TPH = Total petroleum hydrocarbons.
 MTBE = Methyl tertiary butyl ether.
 VOCs = Volatile organic compounds.
 mg/kg = Milligrams per kilogram.
 ND = Not detected at or above the laboratory reporting limit(s).
 < = Less than the stated laboratory reporting limit.
 (a) = Sample exhibits chromatographic pattern which does not resemble standard.
 (b) = Screening level for total xylenes listed.
 (c) = Acetone.

LEGEND

- Property Line
- Historical Limit of Depth of Excavation
- 36-Inch Drilled Hole
- Approximate Extent of Excavation
- S-3-EX3S Excavation Soil Sample Locations (Cardno, 2017)
- SGI-SB-01 SGI (The Source Group, Inc) Soil Boring Locations
- SB5 AW AW (All West) Soil Boring Locations
- SV8 CRA CRA (Connestoga Rovers Associates) Soil Boring Locations
- B10 CEW CEW (Converse Environment West) Soil Boring Locations
- B7 HLA HLA (Harding Lawson & Associates) Soil Boring Locations
- HLA MW8D HLA Monitoring Well Locations
- HLA MW8B Destroyed Monitoring Well Location
- 10' Sample Depth in Feet Below Ground Surface

Note:
 Sampling event - SGI-SB1+SB11-2016
 AW-SB1+SB5-2015
 CRA-S1+SV8-2006
 CEW-SW+SW7-1993
 CEW-B1+B10-1993
 CEW-BE1+BE10-1992
 CEW-WS2+WS5-1992
 CEW-SS1+SS9-1992
 HLA-MW8A+MW8L-1989



NOTE: SCALE AND LOCATIONS ARE APPROXIMATE

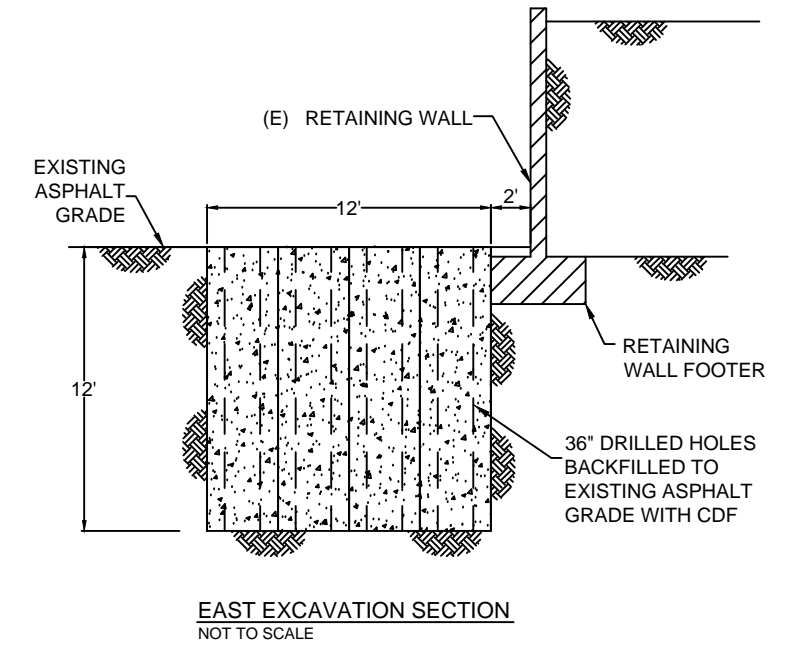
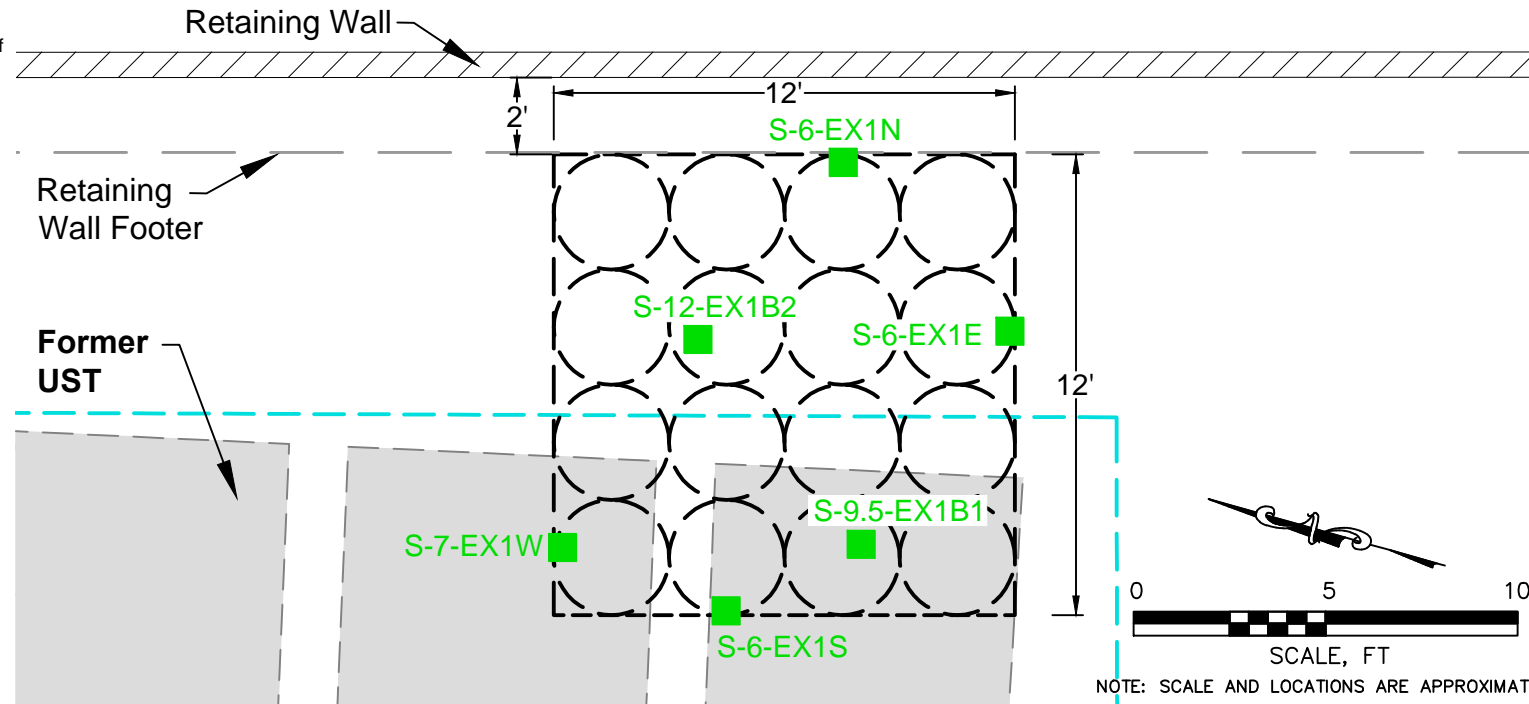
GENERALIZED SITE PLAN
500 GRAND AVENUE
OAKLAND, CALIFORNIA

PROJECT NUMBER: E317602000	DATE: 12/04/17	FIGURE
APPROVED BY: JJ	DRAWN BY: JTP	1
Cardno 2300 Clayton Road, Suite 200 Concord, California 94520-2164 Ph: (925) 935-9920 *** Fax: (925) 935-5368		

EAST EXCAVATION AREA & BACKFILL

LEGEND

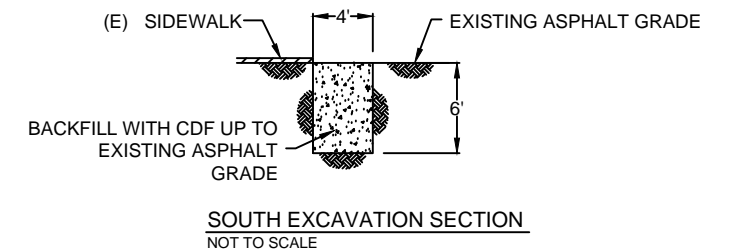
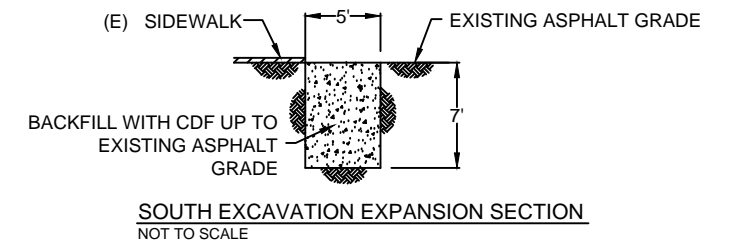
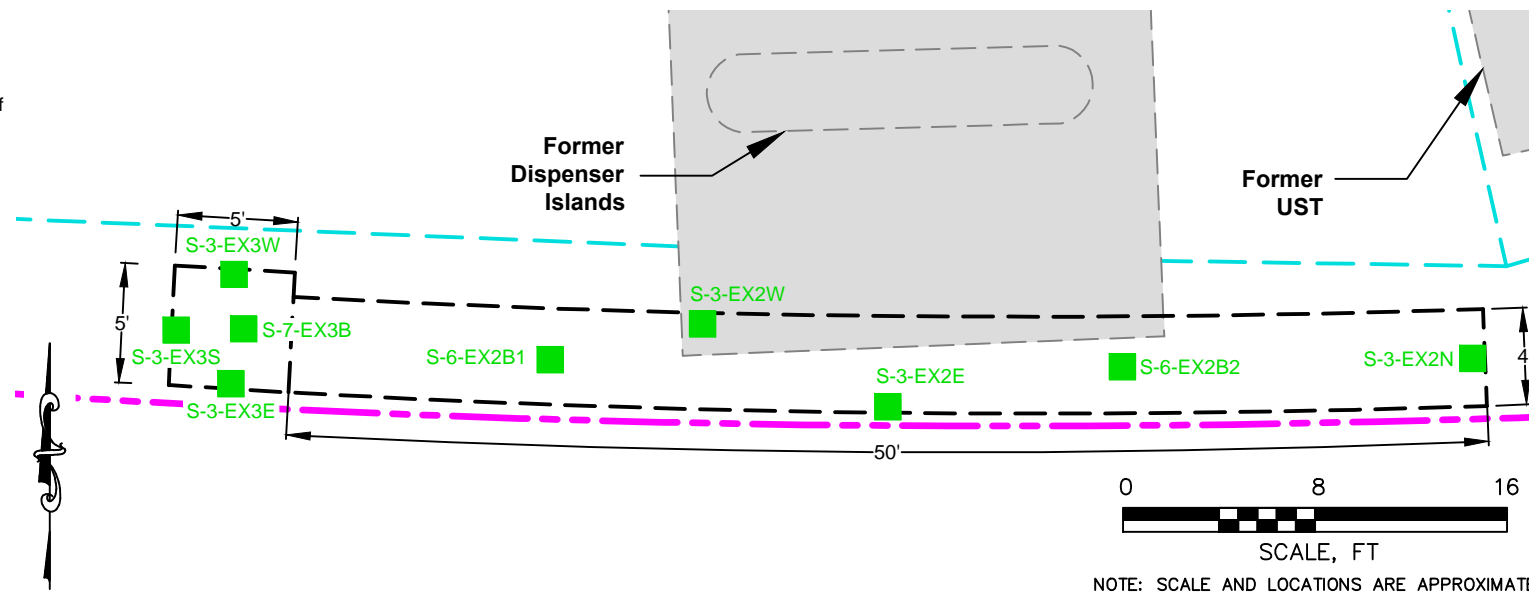
- - - - - Historical Limit of Depth of Excavation
- 36-Inch Drilled Hole
- Approximate Extent of Excavation
- Excavation Soil Sample Locations



SOUTH EXCAVATION AREA & BACKFILL

LEGEND

- - - - - Property Line
- - - - - Historical Limit of Depth of Excavation
- Approximate Extent of Excavation
- Excavation Soil Sample Locations



**DETAIL OF EXCAVATED AREAS
AND SAMPLING LOCATIONS**
500 GRAND AVENUE
OAKLAND, CALIFORNIA

PROJECT NUMBER: E317602000	DATE: 12/04/17	FIGURE
APPROVED BY: JJ	DRAWN BY: JTP	2
Cardno 2300 Clayton Road, Suite 200 Shipping the Future Concord, California 94520-2164 Ph: (925) 935-9920 *** Fax: (925) 935-5368		

**TABLE 1
SOIL ANALYTICAL RESULTS**

500 Grand Avenue
Oakland, California

EPA Method			8015B		8260B														
Sample ID	Sample Date	Depth (feet)	TPH as Diesel	TPH as Gasoline	MTBE	Benzene	Toluene	Ethyl-benzene	o-Xylenes	pm-Xylenes	Isopropyl-benzene	para-Isopropyl-toluene	n-Butyl-benzene	sec-Butyl-benzene	Propyl-benzene	Naphthalene	1,2,4-Trimethyl-benzene	1,3,5-Trimethyl-benzene	Additional VOCs
Environmental Screening Levels (February 2016, Version 3), Direct Exposure Human Health Risk Levels (Table S-1)																			
Residential Shallow			230	740	42	0.23	970	5.1	560 (b)	560 (b)	---	---	---	---	---	3.3	---	---	---
Commercial Shallow			1,100	3,900	180	1.0	4,600	22	2,400 (b)	2,400 (b)	---	---	---	---	---	14	---	---	---
Any Use Any Depth			880	2,800	3,700	24	4,100	480	2,400 (b)	2,400 (b)	---	---	---	---	---	350	---	---	---

Excavation Samples

East Excavation Area

S-6-EX1N	11/02/17	6	3.0 (a)	<0.99	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.0093	0.0096	<0.0048	ND	
S-6-EX1S	11/06/17	6	3.3 (a)	<0.97	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	ND
S-6-EX1E	11/06/17	6	6.7 (a)	5.5 (a)	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND
S-7-EX1W	11/02/17	7	7.7 (a)	1.4 (a)	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	<0.0044	ND
S-9.5-EX1B1	11/02/17	9.5	8.8	<0.93	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	ND
S-12-EX1B2	11/06/17	12	4.8 (a)	<1.1	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	ND

South Excavation Area

S-3-EX2S	11/07/17	3	430	38 (a)	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.051	<0.050	0.300	0.091	0.300	0.160	0.250	<0.050	ND	
S-3-EX2E	11/07/17	3	880	410 (a)	<0.250	<0.250	<0.250	1.3	<0.250	<0.250	0.630	0.270	3.0	0.560	3.1	4.7	<0.250	0.650	ND	
S-6-EX2B1	11/07/17	6	11 (a)	29	<0.010	<0.010	<0.010	0.077	<0.010	0.055	0.026	0.017	0.500	0.023	0.080	0.026	0.110	0.035	ND	
S-6-EX2B2	11/08/17	6	19 (a)	47	<0.250	<0.250	<0.250	<0.250	<0.250	0.250	<0.250	<0.250	<0.250	<0.250	<0.250	0.640	1.1	<0.250	ND	
S-3-EX2BW	11/08/17	3	<1.0	<1.0	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	ND
S-3-EX2BN	11/08/17	3	1.6 (a)	<1.0	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	ND
S-3-EX3E	11/16/17	3	<1.0	<0.95	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	0.011	0.0066	0.0084	ND	
S-3-EX3W	11/16/17	3	14 (a)	<0.94	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	<0.0047	ND
S-3-EX3S	11/16/17	3	4.1 (a)	<0.94	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	0.027(c)
S-7-EX3B	11/16/17	7	3.0 (a)	1.2	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	0.0079	0.011	<0.0046	ND	

Notes Highlighted rows indicate sample removed from the site. All results reported in mg/kg.

TPH = Total petroleum hydrocarbons.

MTBE = Methyl tertiary butyl ether.

VOCs = Volatile organic compounds.

mg/kg = Milligrams per kilogram.

ND = Not detected at or above the laboratory reporting limit(s).

< = Less than the stated laboratory reporting limit.

(a) = Sample exhibits chromatographic pattern which does not resemble standard.

(b) = Screening level for total xylenes listed.

(c) = Acetone.

APPENDIX A

PERMIT

Permits for which no major inspection has been approved within 180 days shall expire by limitation. No refund more than 180 days after expiration or final.

500 GRAND AVE



CITY OF OAKLAND
250 FRANK H. OGAWA PLAZA ▪ 2ND FLOOR ▪ OAKLAND, CA 94612

500 GRAND AVE

Planning and Building Department
www.oaklandnet.com

PH: 510-238-3891
FAX: 510-238-2263
TDD: 510-238-3254

Permit No: GR1700141 Grading (Private) Filed Date: 9/20/2017
Job Site: 500 GRAND AVE Schedule Inspection by calling: 510-238-3444
Parcel No: 010 078001508
District:
Project Description: Soil remediation at two former underground storage tank locations
Related Permits: AMR1700183

	<u>Name</u>	<u>Applicant</u>	<u>Address</u>	<u>Phone</u>	<u>License #</u>
Owner:	HOWARD BRADFORD R INDIV ETAL		516 GRAND AVE OAKLAND, CA		
Contractor- Employee:	Ashley Bell	X	4011 W CHANDLER AVENUE SANTA ANA, CA	925-574-2603	
Contractor:	INNOVATIVE CONSTRUCTION SOLUTIONS		4011 W CHANDLER AVENUE SANTA ANA, CA	(714) 893-6366	764815

PERMIT DETAILS: Building/Private Infrastructure/Grading/NA

General Information

Engineer's Cost Estimate:	\$53960	Soils Report:	0	Performance Bond:	No
Statement of Engineer(s):	Yes	Grading Plans:	3	Landscape Addendum:	No
Engineer's Proposed Work Schedule:	No	Shoring Plans/Calculations:	No		
Storm Water Pollution Prevention Plan (SWPPP):	No				
Winter Work Authorization Requested?:	No				

Work Information

Requested Start Date:	10/02/2017	Fill (Cubic Yards):	88
Estimated Completion Date:	10/13/2017	Excavation (Cubic Yards):	88
		Total Grading (Cubic Yards):	176

TOTAL FEES TO BE PAID AT FILING: \$0.00

Plans Checked By _____ Date _____ Permit Issued By M. Early Date 10/30/17
Finalized By _____ Date _____

APPENDIX B

LABORATORY ANALYTICAL REPORTS



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 293875
ANALYTICAL REPORT

Cardno Entrix 2300 Clayton Rd Concord, CA 94520	Project : E317602000 Location : Ellwood Commercial Real Estate Level : II
---	---

Sample ID
S-PROFILE

Lab ID
293875-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 10/31/2017

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 293875
Client: Cardno Entrix
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 10/30/17
Samples Received: 10/30/17

This data package contains sample and QC results for one soil sample, requested for the above referenced project on 10/30/17. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):

Low surrogate recovery was observed for 2-fluorophenol in S-PROFILE (lab # 293875-001). Low surrogate recovery was observed for nitrobenzene-d5 in S-PROFILE (lab # 293875-001). Low surrogate recovery was observed for 2-fluorobiphenyl in S-PROFILE (lab # 293875-001). No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7471A):

No analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Page 1 of 1

Chain of Custody # : _____

C&T LOGIN # 293875



Project No: E317602000
Project Name: Ellwood Commercial Real Estate
EDD Format: EDF Rpt Level: II III IV
Turnaround Time: RUSH 24-hour Standard

Sampler: CARL MIKLIICH
Report To: Glen Smith
Company : Cardno
Telephone: 510.362.2170
Email: glen.smith@cardno.com

Analytical Request

Lab No.	Sample ID.	Sampling		Matrix		# of Containers	Chemical Preservative				
		Date	Time	Water	Soil		HCl	H ₂ SO ₄	HNO ₃	NaOH	None
	<u> 5-PROFILE </u>	<u> 10-30-17 </u>	<u> 18 55 </u>	<input checked="" type="checkbox"/>		<u> 2 </u>					

TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B	SVOC EPA 8270	Metals EPA 6010
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Notes: Geotracker Global ID T10000007707 <u> start - </u> <u> STLP + TCLP extraction. </u> <u> On hold pending Metals results </u> Call Patrick McCarthy to schedule currior 510.204.2236	SAMPLE RECEIPT <input type="checkbox"/> Intact <input checked="" type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:  <u> 10-30-17 </u>	RECEIVED BY:  <u> 10/30/17 </u>
		<u> 1527 </u> DATE/TIME	<u> 1527 </u> DATE/TIME
		DATE/TIME	DATE/TIME
		DATE/TIME	DATE/TIME

COOLER RECEIPT CHECKLIST



Login # 293875 Date Received 10/30/17 Number of coolers -
 Client Cardno Project Elwood Commercial Real Estate Berkeley

Date Opened 10/30/17 By (print) EH (sign) [Signature]
 Date Logged in ↓ By (print) _____ (sign) _____
 Date Labelled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) _____

Temperature blank(s) included? Thermometer# _____ IR Gun# _____

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 293875

Results for any subcontracted analyses are not included in this summary.

Client : Cardno Entrix
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-PROFILE Laboratory Sample ID : 293875-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Arsenic	4.6		1.5	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Barium	130		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Beryllium	0.27		0.10	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Chromium	25		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Cobalt	6.6		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Copper	13		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Lead	3.4		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Mercury	0.078		0.016	mg/Kg	As Recd	1.000	EPA 7471A	METHOD
Molybdenum	0.91		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Nickel	27		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Silver	0.39		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Vanadium	30		0.26	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B
Zinc	29		1.0	mg/Kg	As Recd	1.000	EPA 6010B	EPA 3050B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B
Field ID:	S-PROFILE	Batch#: 253170
Matrix:	Soil	Sampled: 10/30/17
Units:	mg/Kg	Received: 10/30/17
Basis:	as received	Analyzed: 10/30/17
Diln Fac:	1.000	

Type: SAMPLE Lab ID: 293875-001

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Type: BLANK Lab ID: QC906861

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	65-136

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	293875	Location:	Ellwood Commercial Real Estate	
Client:	Cardno Entrix	Prep:	EPA 5030B	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC906858	Batch#:	253170	
Matrix:	Soil	Analyzed:	10/30/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	1.013	101	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	82	65-136

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	293875	Location: Ellwood Commercial Real Estate	
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B	
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	293823-001	Batch#:	253170
Matrix:	Soil	Sampled:	10/26/17
Units:	mg/Kg	Received:	10/27/17
Basis:	as received	Analyzed:	10/30/17

Type: MS Lab ID: QC906859

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	3.736	9.804	12.86	93	52-120

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	112	65-136

Type: MSD Lab ID: QC906860

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.20	12.76	88	52-120	4	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	119	65-136

RPD= Relative Percent Difference

Total Extractable Hydrocarbons			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	S-PROFILE	Batch#:	253168
Matrix:	Soil	Sampled:	10/30/17
Units:	mg/Kg	Received:	10/30/17
Basis:	as received	Prepared:	10/30/17
Diln Fac:	1.000	Analyzed:	10/31/17

Type: SAMPLE Lab ID: 293875-001

Analyte	Result	RL
Diesel C10-C24	4.4 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	82	55-133

Type: BLANK Lab ID: QC906849

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	102	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	293875	Location:	Ellwood Commercial Real Estate	
Client:	Cardno Entrix	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC906850	Batch#:	253168	
Matrix:	Soil	Prepared:	10/30/17	
Units:	mg/Kg	Analyzed:	10/31/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.83	49.90	100	51-137

Surrogate	%REC	Limits
o-Terphenyl	103	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	S-PROFILE	Batch#:	253168
MSS Lab ID:	293875-001	Sampled:	10/30/17
Matrix:	Soil	Received:	10/30/17
Units:	mg/Kg	Prepared:	10/30/17
Basis:	as received	Analyzed:	10/31/17
Diln Fac:	1.000		

Type: MS Lab ID: QC906851

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	4.353	50.18	46.82	85	36-143

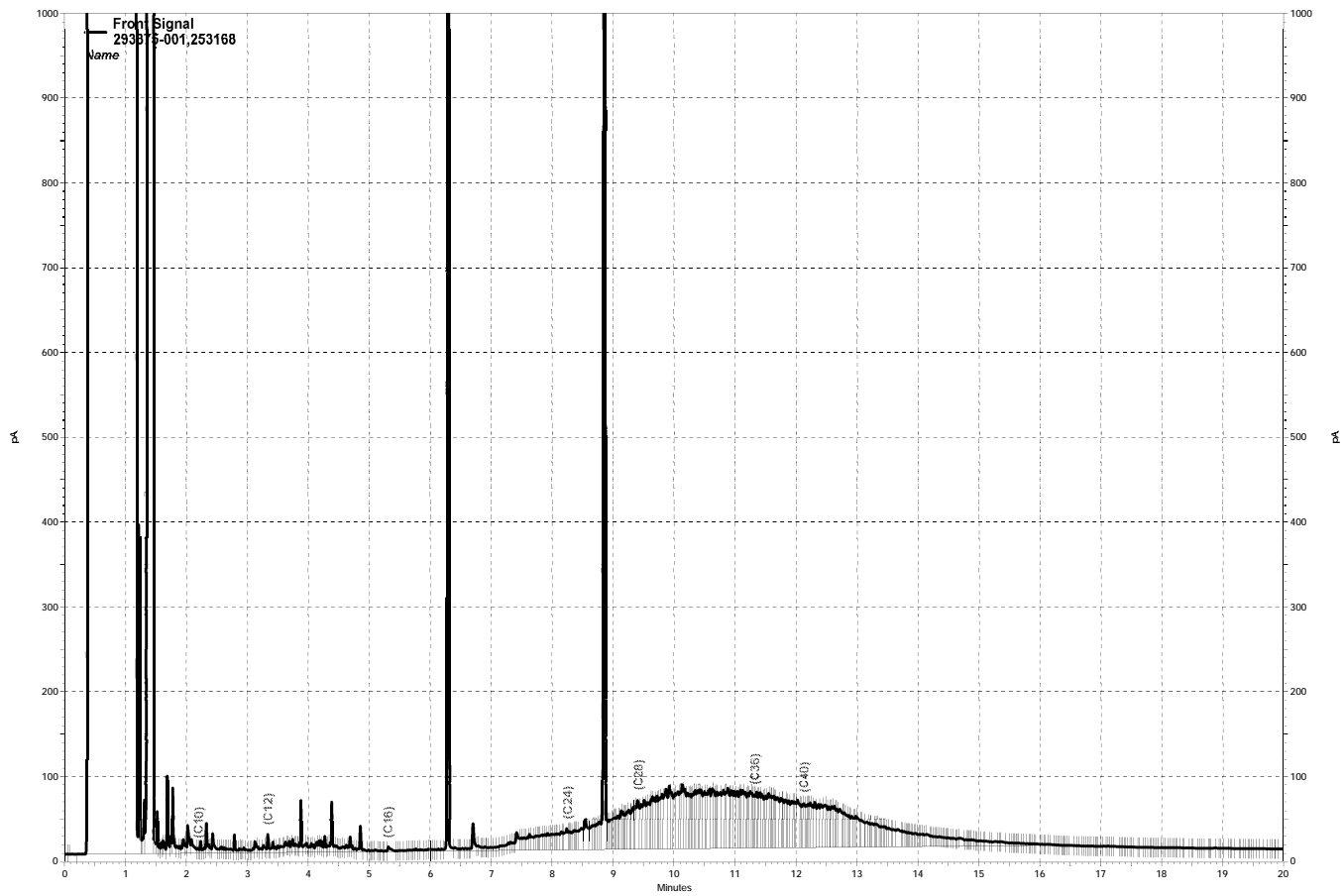
Surrogate	%REC	Limits
o-Terphenyl	90	55-133

Type: MSD Lab ID: QC906852

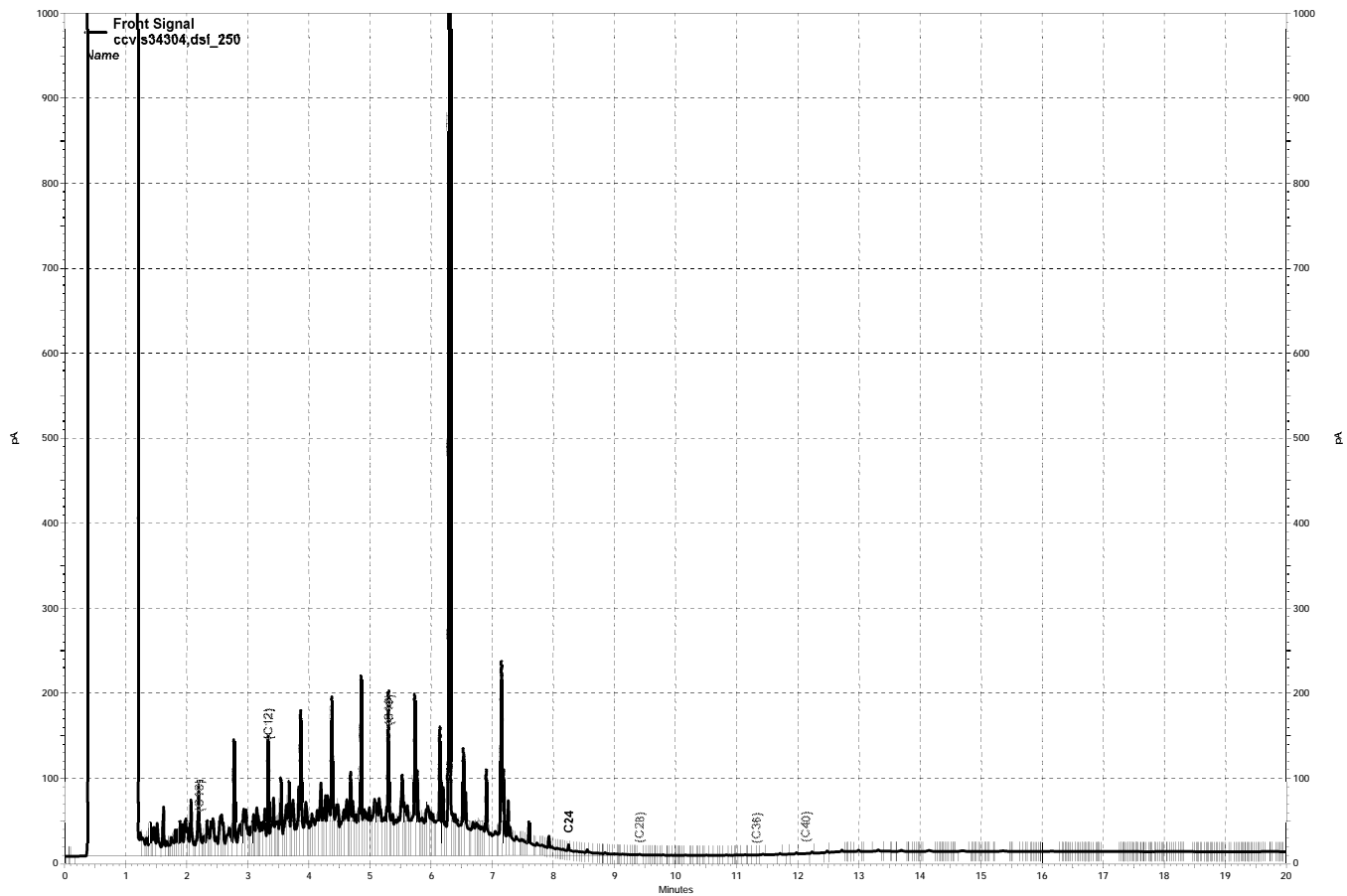
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.78	42.13	76	36-143	10	55

Surrogate	%REC	Limits
o-Terphenyl	82	55-133

RPD= Relative Percent Difference



— \\kraken\gdrive\ezchrom\Projects\GC27\Data\2017\303a029.dat, Front Signal



— \\kraken\gdrive\ezchrom\Projects\GC27\Data\2017\303a019.dat, Front Signal

Purgeable Organics by GC/MS

Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-PROFILE	Diln Fac:	0.9506
Lab ID:	293875-001	Batch#:	253172
Matrix:	Soil	Sampled:	10/30/17
Units:	ug/Kg	Received:	10/30/17
Basis:	as received	Analyzed:	10/30/17

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-PROFILE	Diln Fac:	0.9506
Lab ID:	293875-001	Batch#:	253172
Matrix:	Soil	Sampled:	10/30/17
Units:	ug/Kg	Received:	10/30/17
Basis:	as received	Analyzed:	10/30/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	76	76-132
1,2-Dichloroethane-d4	99	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	105	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 253172
Units:	ug/Kg	Analyzed: 10/30/17
Diln Fac:	1.000	

Type: BS Lab ID: QC906869

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	31.25	29.26	94	68-132
Benzene	31.25	30.15	96	75-123
Trichloroethene	31.25	27.57	88	75-120
Toluene	31.25	28.12	90	76-120
Chlorobenzene	31.25	28.49	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	97	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	101	78-134

Type: BSD Lab ID: QC906870

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	31.25	25.74	82	68-132	13	28
Benzene	31.25	26.98	86	75-123	11	25
Trichloroethene	31.25	24.82	79	75-120	11	23
Toluene	31.25	25.04	80	76-120	12	24
Chlorobenzene	31.25	25.84	83	80-120	10	21

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	93	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	100	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC906871	Batch#: 253172
Matrix:	Soil	Analyzed: 10/30/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC906871	Batch#: 253172
Matrix:	Soil	Analyzed: 10/30/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-132
1,2-Dichloroethane-d4	96	74-149
Toluene-d8	100	80-120
Bromofluorobenzene	106	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	293875	Location: Ellwood Commercial Real Estate	
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	253172
MSS Lab ID:	293870-001	Sampled:	10/30/17
Matrix:	Soil	Received:	10/30/17
Units:	ug/Kg	Analyzed:	10/30/17
Basis:	as received		

Type: MS Diln Fac: 0.8576
 Lab ID: QC906884

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5353	42.88	44.50	104	64-131
Benzene	<0.4777	42.88	41.06	96	66-122
Trichloroethene	<0.5773	42.88	39.12	91	57-133
Toluene	<0.5134	42.88	36.87	86	61-120
Chlorobenzene	<0.3221	42.88	35.04	82	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	105	76-132
1,2-Dichloroethane-d4	97	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	102	78-134

Type: MSD Diln Fac: 0.9363
 Lab ID: QC906885

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	46.82	53.82	115	64-131	10	32
Benzene	46.82	51.17	109	66-122	13	32
Trichloroethene	46.82	49.16	105	57-133	14	34
Toluene	46.82	46.47	99	61-120	14	32
Chlorobenzene	46.82	45.46	97	56-120	17	33

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	97	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	101	78-134

RPD= Relative Percent Difference

Semivolatile Organics by GC/MS

Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8270C
Field ID:	S-PROFILE	Batch#:	253164
Lab ID:	293875-001	Sampled:	10/30/17
Matrix:	Soil	Received:	10/30/17
Units:	ug/Kg	Prepared:	10/30/17
Basis:	as received	Analyzed:	10/31/17
Diln Fac:	1.000		

Analyte	Result	RL
N-Nitrosodimethylamine	ND	330
Phenol	ND	330
bis(2-Chloroethyl)ether	ND	330
2-Chlorophenol	ND	330
1,3-Dichlorobenzene	ND	330
1,4-Dichlorobenzene	ND	330
Benzyl alcohol	ND	330
1,2-Dichlorobenzene	ND	330
2-Methylphenol	ND	330
bis(2-Chloroisopropyl) ether	ND	330
4-Methylphenol	ND	330
N-Nitroso-di-n-propylamine	ND	330
Hexachloroethane	ND	330
Nitrobenzene	ND	330
Isophorone	ND	330
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	330
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	330
2,4-Dichlorophenol	ND	330
1,2,4-Trichlorobenzene	ND	330
Naphthalene	ND	67
4-Chloroaniline	ND	330
Hexachlorobutadiene	ND	330
4-Chloro-3-methylphenol	ND	330
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	330
2,4,5-Trichlorophenol	ND	330
2-Chloronaphthalene	ND	330
2-Nitroaniline	ND	670
Dimethylphthalate	ND	330
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	330
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	330
2,4-Dinitrotoluene	ND	330
Diethylphthalate	ND	330
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	330
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	330
Azobenzene	ND	330
4-Bromophenyl-phenylether	ND	330
Hexachlorobenzene	ND	330
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67

*= Value outside of QC limits; see narrative

ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3550C
Project#:	E317602000	Analysis: EPA 8270C
Field ID:	S-PROFILE	Batch#: 253164
Lab ID:	293875-001	Sampled: 10/30/17
Matrix:	Soil	Received: 10/30/17
Units:	ug/Kg	Prepared: 10/30/17
Basis:	as received	Analyzed: 10/31/17
Diln Fac:	1.000	

Analyte	Result	RL
Di-n-butylphthalate	ND	330
Fluoranthene	ND	67
Pyrene	ND	67
Butylbenzylphthalate	ND	330
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	330
Di-n-octylphthalate	ND	330
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	27 *	31-121
Phenol-d5	41	31-120
2,4,6-Tribromophenol	38	24-120
Nitrobenzene-d5	30 *	43-120
2-Fluorobiphenyl	22 *	44-120
Terphenyl-d14	61	44-120

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8270C
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC906863	Batch#:	253164
Matrix:	Soil	Prepared:	10/30/17
Units:	ug/Kg	Analyzed:	10/31/17

Analyte	Result	RL
N-Nitrosodimethylamine	ND	340
Phenol	ND	340
bis(2-Chloroethyl)ether	ND	340
2-Chlorophenol	ND	340
1,3-Dichlorobenzene	ND	340
1,4-Dichlorobenzene	ND	340
Benzyl alcohol	ND	340
1,2-Dichlorobenzene	ND	340
2-Methylphenol	ND	340
bis(2-Chloroisopropyl) ether	ND	340
4-Methylphenol	ND	340
N-Nitroso-di-n-propylamine	ND	340
Hexachloroethane	ND	340
Nitrobenzene	ND	340
Isophorone	ND	340
2-Nitrophenol	ND	670
2,4-Dimethylphenol	ND	340
Benzoic acid	ND	1,700
bis(2-Chloroethoxy)methane	ND	340
2,4-Dichlorophenol	ND	340
1,2,4-Trichlorobenzene	ND	340
Naphthalene	ND	67
4-Chloroaniline	ND	340
Hexachlorobutadiene	ND	340
4-Chloro-3-methylphenol	ND	340
2-Methylnaphthalene	ND	67
Hexachlorocyclopentadiene	ND	670
2,4,6-Trichlorophenol	ND	340
2,4,5-Trichlorophenol	ND	340
2-Chloronaphthalene	ND	340
2-Nitroaniline	ND	670
Dimethylphthalate	ND	340
Acenaphthylene	ND	67
2,6-Dinitrotoluene	ND	340
3-Nitroaniline	ND	670
Acenaphthene	ND	67
2,4-Dinitrophenol	ND	670
4-Nitrophenol	ND	670
Dibenzofuran	ND	340
2,4-Dinitrotoluene	ND	340
Diethylphthalate	ND	340
Fluorene	ND	67
4-Chlorophenyl-phenylether	ND	340
4-Nitroaniline	ND	670
4,6-Dinitro-2-methylphenol	ND	670
N-Nitrosodiphenylamine	ND	340
Azobenzene	ND	340
4-Bromophenyl-phenylether	ND	340
Hexachlorobenzene	ND	340
Pentachlorophenol	ND	670
Phenanthrene	ND	67
Anthracene	ND	67
Di-n-butylphthalate	ND	340
Fluoranthene	ND	67

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3550C
Project#:	E317602000	Analysis: EPA 8270C
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC906863	Batch#: 253164
Matrix:	Soil	Prepared: 10/30/17
Units:	ug/Kg	Analyzed: 10/31/17

Analyte	Result	RL
Pyrene	ND	67
Butylbenzylphthalate	ND	340
3,3'-Dichlorobenzidine	ND	670
Benzo(a)anthracene	ND	67
Chrysene	ND	67
bis(2-Ethylhexyl)phthalate	ND	340
Di-n-octylphthalate	ND	340
Benzo(b)fluoranthene	ND	67
Benzo(k)fluoranthene	ND	67
Benzo(a)pyrene	ND	67
Indeno(1,2,3-cd)pyrene	ND	67
Dibenz(a,h)anthracene	ND	67
Benzo(g,h,i)perylene	ND	67

Surrogate	%REC	Limits
2-Fluorophenol	69	31-121
Phenol-d5	66	31-120
2,4,6-Tribromophenol	43	24-120
Nitrobenzene-d5	56	43-120
2-Fluorobiphenyl	66	44-120
Terphenyl-d14	64	44-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3550C
Project#:	E317602000	Analysis: EPA 8270C
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC906864	Batch#: 253164
Matrix:	Soil	Prepared: 10/30/17
Units:	ug/Kg	Analyzed: 10/31/17

Analyte	Spiked	Result	%REC	Limits
Phenol	2,658	1,248	47	40-120
2-Chlorophenol	2,658	1,615	61	51-120
1,4-Dichlorobenzene	2,658	1,736	65	55-120
N-Nitroso-di-n-propylamine	2,658	1,324	50	27-122
1,2,4-Trichlorobenzene	2,658	1,912	72	58-120
4-Chloro-3-methylphenol	2,658	2,147	81	55-136
Acenaphthene	996.7	605.2	61	53-120
4-Nitrophenol	2,658	2,201	83	46-121
2,4-Dinitrotoluene	2,658	1,879	71	56-120
Pentachlorophenol	2,658	1,427	54	18-120
Pyrene	996.7	749.2	75	53-124

Surrogate	%REC	Limits
2-Fluorophenol	44	31-121
Phenol-d5	34	31-120
2,4,6-Tribromophenol	43	24-120
Nitrobenzene-d5	44	43-120
2-Fluorobiphenyl	47	44-120
Terphenyl-d14	51	44-120

California Title 22 Metals

Lab #:	293875	Project#:	E317602000
Client:	Cardno Entrix	Location:	Ellwood Commercial Real Estate
Field ID:	S-PROFILE	Diln Fac:	1.000
Lab ID:	293875-001	Sampled:	10/30/17
Matrix:	Soil	Received:	10/30/17
Units:	mg/Kg	Analyzed:	10/31/17
Basis:	as received		

Analyte	Result	RL	Batch#	Prepared	Prep	Analysis
Antimony	ND	2.0	253178	10/30/17	EPA 3050B	EPA 6010B
Arsenic	4.6	1.5	253178	10/30/17	EPA 3050B	EPA 6010B
Barium	130	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Beryllium	0.27	0.10	253178	10/30/17	EPA 3050B	EPA 6010B
Cadmium	ND	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Chromium	25	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Cobalt	6.6	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Copper	13	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Lead	3.4	1.0	253178	10/30/17	EPA 3050B	EPA 6010B
Mercury	0.078	0.016	253188	10/31/17	METHOD	EPA 7471A
Molybdenum	0.91	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Nickel	27	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Selenium	ND	2.0	253178	10/30/17	EPA 3050B	EPA 6010B
Silver	0.39	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Thallium	ND	0.51	253178	10/30/17	EPA 3050B	EPA 6010B
Vanadium	30	0.26	253178	10/30/17	EPA 3050B	EPA 6010B
Zinc	29	1.0	253178	10/30/17	EPA 3050B	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3050B
Project#:	E317602000	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC906892	Batch#: 253178
Matrix:	Soil	Prepared: 10/30/17
Units:	mg/Kg	Analyzed: 10/31/17

Analyte	Result	RL
Antimony	ND	1.9
Arsenic	ND	1.4
Barium	ND	0.24
Beryllium	ND	0.094
Cadmium	ND	0.24
Chromium	ND	0.24
Cobalt	ND	0.24
Copper	ND	0.24
Lead	ND	0.94
Molybdenum	ND	0.24
Nickel	ND	0.24
Selenium	ND	1.9
Silver	ND	0.24
Thallium	ND	0.47
Vanadium	ND	0.24
Zinc	ND	0.94

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3050B
Project#:	E317602000	Analysis:	EPA 6010B
Matrix:	Soil	Batch#:	253178
Units:	mg/Kg	Prepared:	10/30/17
Diln Fac:	1.000	Analyzed:	10/31/17

Type: BS Lab ID: QC906893

Analyte	Spiked	Result	%REC	Limits
Antimony	47.17	50.26	107	80-120
Arsenic	47.17	47.78	101	80-120
Barium	47.17	48.08	102	80-120
Beryllium	23.58	23.03	98	80-120
Cadmium	47.17	47.57	101	80-120
Chromium	47.17	49.07	104	80-120
Cobalt	47.17	46.90	99	80-120
Copper	47.17	48.30	102	80-120
Lead	47.17	45.01	95	80-120
Molybdenum	47.17	45.53	97	80-120
Nickel	47.17	43.84	93	80-120
Selenium	47.17	45.67	97	80-120
Silver	4.717	4.344	92	80-120
Thallium	47.17	48.66	103	80-120
Vanadium	47.17	50.02	106	80-120
Zinc	47.17	46.53	99	80-120

Type: BSD Lab ID: QC906894

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	48.54	51.59	106	80-120	0	20
Arsenic	48.54	48.96	101	80-120	0	20
Barium	48.54	49.18	101	80-120	1	20
Beryllium	24.27	23.46	97	80-120	1	20
Cadmium	48.54	48.68	100	80-120	1	20
Chromium	48.54	50.17	103	80-120	1	20
Cobalt	48.54	48.03	99	80-120	0	20
Copper	48.54	48.90	101	80-120	2	20
Lead	48.54	46.14	95	80-120	0	20
Molybdenum	48.54	46.65	96	80-120	0	20
Nickel	48.54	44.89	92	80-120	0	20
Selenium	48.54	46.98	97	80-120	0	20
Silver	4.854	4.395	91	80-120	2	22
Thallium	48.54	49.89	103	80-120	0	20
Vanadium	48.54	50.90	105	80-120	1	20
Zinc	48.54	47.73	98	80-120	0	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3050B
Project#:	E317602000	Analysis: EPA 6010B
Field ID:	S-PROFILE	Batch#: 253178
MSS Lab ID:	293875-001	Sampled: 10/30/17
Matrix:	Soil	Received: 10/30/17
Units:	mg/Kg	Prepared: 10/30/17
Basis:	as received	Analyzed: 10/31/17
Diln Fac:	1.000	

Type: MS Lab ID: QC906895

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	<0.1344	53.76	26.46	49	1-120
Arsenic	4.617	53.76	57.88	99	71-123
Barium	128.8	53.76	178.7	93	48-155
Beryllium	0.2702	26.88	25.21	93	80-120
Cadmium	0.2446	53.76	53.96	100	78-120
Chromium	24.77	53.76	78.86	101	64-135
Cobalt	6.560	53.76	53.04	86	65-120
Copper	12.71	53.76	69.26	105	75-132
Lead	3.439	53.76	51.22	89	53-128
Molybdenum	0.9124	53.76	47.47	87	68-120
Nickel	27.40	53.76	72.38	84	56-128
Selenium	<0.2293	53.76	51.10	95	59-120
Silver	0.3883	5.376	5.397	93	36-123
Thallium	<0.1537	53.76	45.42	84	55-120
Vanadium	29.62	53.76	85.49	104	73-129
Zinc	28.59	53.76	77.60	91	49-138

Type: MSD Lab ID: QC906896

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	49.50	22.17	45	1-120	9	50
Arsenic	49.50	55.04	102	71-123	3	27
Barium	49.50	183.2	110	48-155	5	41
Beryllium	24.75	23.72	95	80-120	2	20
Cadmium	49.50	50.13	101	78-120	1	21
Chromium	49.50	77.12	106	64-135	3	37
Cobalt	49.50	49.88	87	65-120	1	32
Copper	49.50	66.22	108	75-132	2	33
Lead	49.50	48.64	91	53-128	3	48
Molybdenum	49.50	44.00	87	68-120	1	23
Nickel	49.50	70.13	86	56-128	2	38
Selenium	49.50	47.73	96	59-120	1	30
Silver	4.950	5.023	94	36-123	0	47
Thallium	49.50	42.45	86	55-120	1	22
Vanadium	49.50	83.64	109	73-129	3	27
Zinc	49.50	75.90	96	49-138	3	39

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	METHOD
Project#:	E317602000	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	253188
Lab ID:	QC906925	Prepared:	10/31/17
Matrix:	Soil	Analyzed:	10/31/17
Units:	mg/Kg		

Result	RL
ND	0.017

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	293875	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: METHOD
Project#:	E317602000	Analysis: EPA 7471A
Analyte:	Mercury	Batch#: 253188
Matrix:	Soil	Prepared: 10/31/17
Units:	mg/Kg	Analyzed: 10/31/17
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC906926	0.1695	0.1753	103	80-126		
BSD	QC906927	0.1695	0.1753	103	80-126	0	45

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	293875	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	METHOD
Project#:	E317602000	Analysis:	EPA 7471A
Analyte:	Mercury	Diln Fac:	1.000
Field ID:	ZZZZZZZZZZ	Batch#:	253188
MSS Lab ID:	293808-001	Sampled:	10/25/17
Matrix:	Soil	Received:	10/26/17
Units:	mg/Kg	Prepared:	10/31/17
Basis:	as received	Analyzed:	10/31/17

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC906928	0.01114	0.1667	0.1900	107	61-157		
MSD	QC906929		0.1639	0.1959	113	61-157	5	57

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294022
ANALYTICAL REPORT

Cardno Entrix
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
S-7-EX1W	294022-001
S-6-EX1N	294022-002
S-9.5-EX1B1	294022-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

Date: 11/03/2017

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294022
Client: Cardno Entrix
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/02/17
Samples Received: 11/02/17

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 11/02/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

CHAIN OF CUSTODY

Page _____ of _____
 Chain of Custody #: _____

C&T LOGIN # 294022

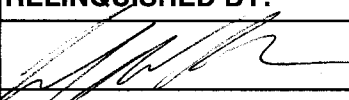
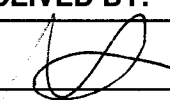
Project No: E317602000
 Project Name: Ellwood Commercial Real Estate
 EDD Format: EDF Rpt Level: I II III IV
 Turnaround Time: RUSH 24-hour Standard

Sampler: CARL MIKULIC
 Report To: Glen Smith
 Company: Cardno
 Telephone: 510.362.2170
 Email: glen.smith@cardno.com

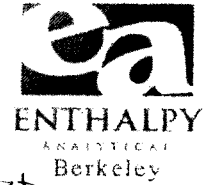
Analytical Request

TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B																		
X	X	X																		
X	X	X																		
X	X	X																		

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative						
		Date	Time	Water	Soil			# of Containers	HCl	H ₂ SO ₄	HNO ₃	NaOH	None	
	<u>S-7-EX 1 W</u>	<u>11-2-17</u>	<u>805</u>	<input checked="" type="checkbox"/>				<u>1</u>						<input checked="" type="checkbox"/>
	<u>S-6-EX 1 N</u>	<u>11-2-17</u>	<u>905</u>	<input checked="" type="checkbox"/>				<u>1</u>						<input checked="" type="checkbox"/>
	<u>S-9.5-EX 1 B 1</u>	<u>11-2-17</u>	<u>1035</u>	<input checked="" type="checkbox"/>				<u>1</u>						<input checked="" type="checkbox"/>

Notes: Geotracker Global ID T10000007707 Call Patrick McCarthy to schedule currior 510.204.2236	SAMPLE RECEIPT <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Cold <input checked="" type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:  DATE/TIME: <u>11/2/17 1514</u>	RECEIVED BY:  DATE/TIME: <u>11/2/17 1514</u>
		DATE/TIME: _____	DATE/TIME: <u>11/2/17 1514</u>
		DATE/TIME: _____	DATE/TIME: _____

COOLER RECEIPT CHECKLIST



Login # 294022 Date Received 11/2/17 Number of coolers 0
 Client Carino Project Elwood Commercial Real Estate

Date Opened 11/2/17 By (print) TY (sign) [Signature]
 Date Logged in ↓ By (print) TY (sign) [Signature]
 Date Labelled ↓ By (print) TY (sign) [Signature]

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.5

Temperature blank(s) included? Thermometer# _____ IR Gun# B

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 294022

Results for any subcontracted analyses are not included in this summary.

Client : Cardno Entrix
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-7-EX1W Laboratory Sample ID : 294022-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1.4	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	7.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : S-6-EX1N Laboratory Sample ID : 294022-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.0	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
1,2,4-Trimethylbenzene	9.6		4.8	ug/Kg	As Recd	0.9690	EPA 8260B	EPA 5030B
Naphthalene	9.3		4.8	ug/Kg	As Recd	0.9690	EPA 8260B	EPA 5030B

Client Sample ID : S-9.5-EX1B1 Laboratory Sample ID : 294022-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	8.8		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253293
Units:	mg/Kg	Sampled:	11/02/17
Basis:	as received	Received:	11/02/17
Diln Fac:	1.000		

Field ID: S-7-EX1W Lab ID: 294022-001
 Type: SAMPLE Analyzed: 11/03/17

Analyte	Result	RL
Gasoline C7-C12	1.4 Y	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Field ID: S-6-EX1N Lab ID: 294022-002
 Type: SAMPLE Analyzed: 11/03/17

Analyte	Result	RL
Gasoline C7-C12	ND	0.99

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

Field ID: S-9.5-EX1B1 Lab ID: 294022-003
 Type: SAMPLE Analyzed: 11/03/17

Analyte	Result	RL
Gasoline C7-C12	ND	0.93

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

Type: BLANK Analyzed: 11/02/17
 Lab ID: QC907352

Analyte	Result	RL
Gasoline C7-C12	ND	0.20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	88	65-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	294022	Location:	Ellwood Commercial Real Estate	
Client:	Cardno Entrix	Prep:	EPA 5030B	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907349	Batch#:	253293	
Matrix:	Soil	Analyzed:	11/02/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.8956	90	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	81	65-136

Batch QC Report

Total Volatile Hydrocarbons		
Lab #:	294022	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	293934-022	Batch#: 253293
Matrix:	Soil	Sampled: 10/31/17
Units:	mg/Kg	Received: 10/31/17
Basis:	as received	Analyzed: 11/02/17

Type: MS Lab ID: QC907350

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.05931	10.42	6.842	65	52-120

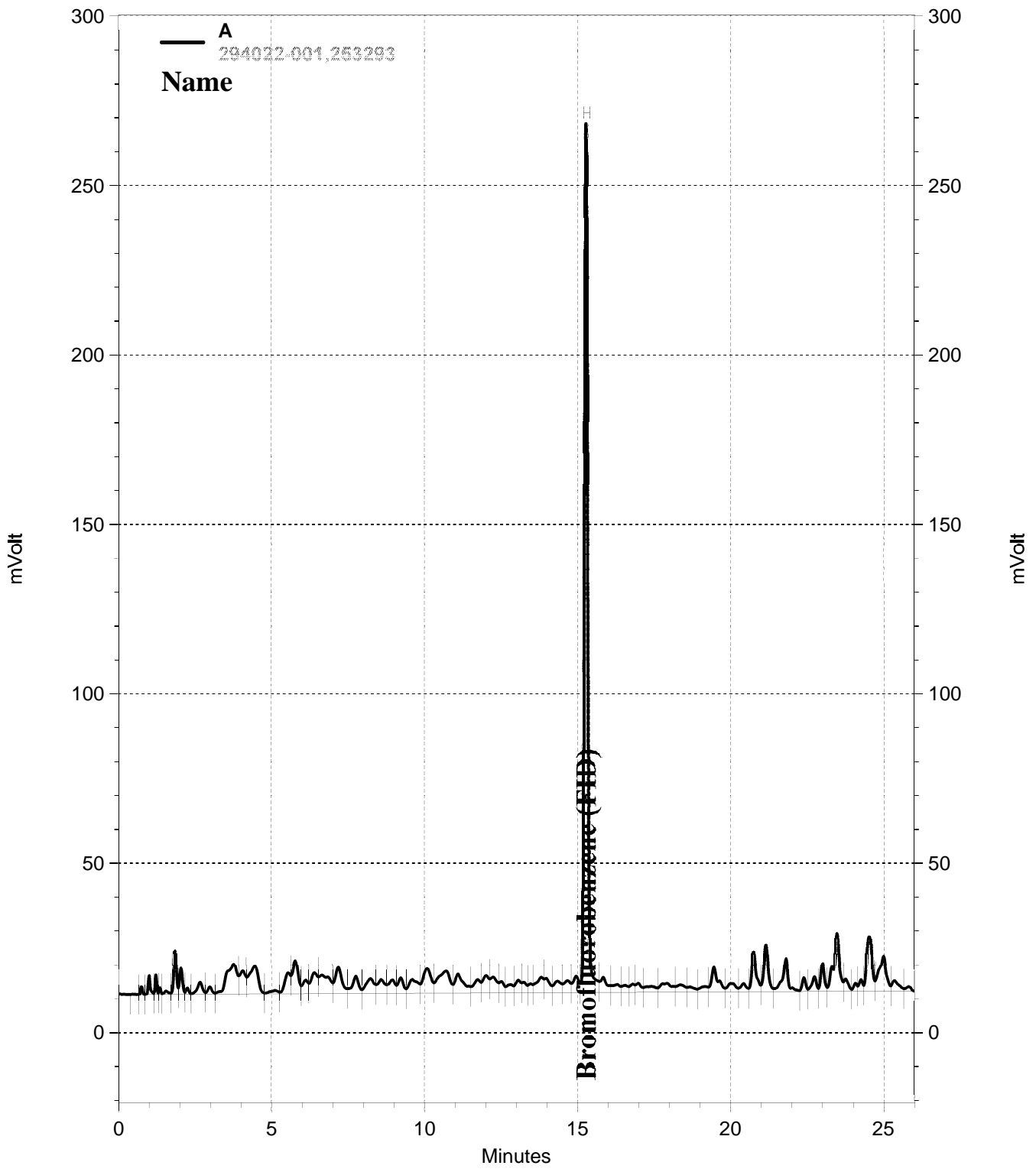
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Type: MSD Lab ID: QC907351

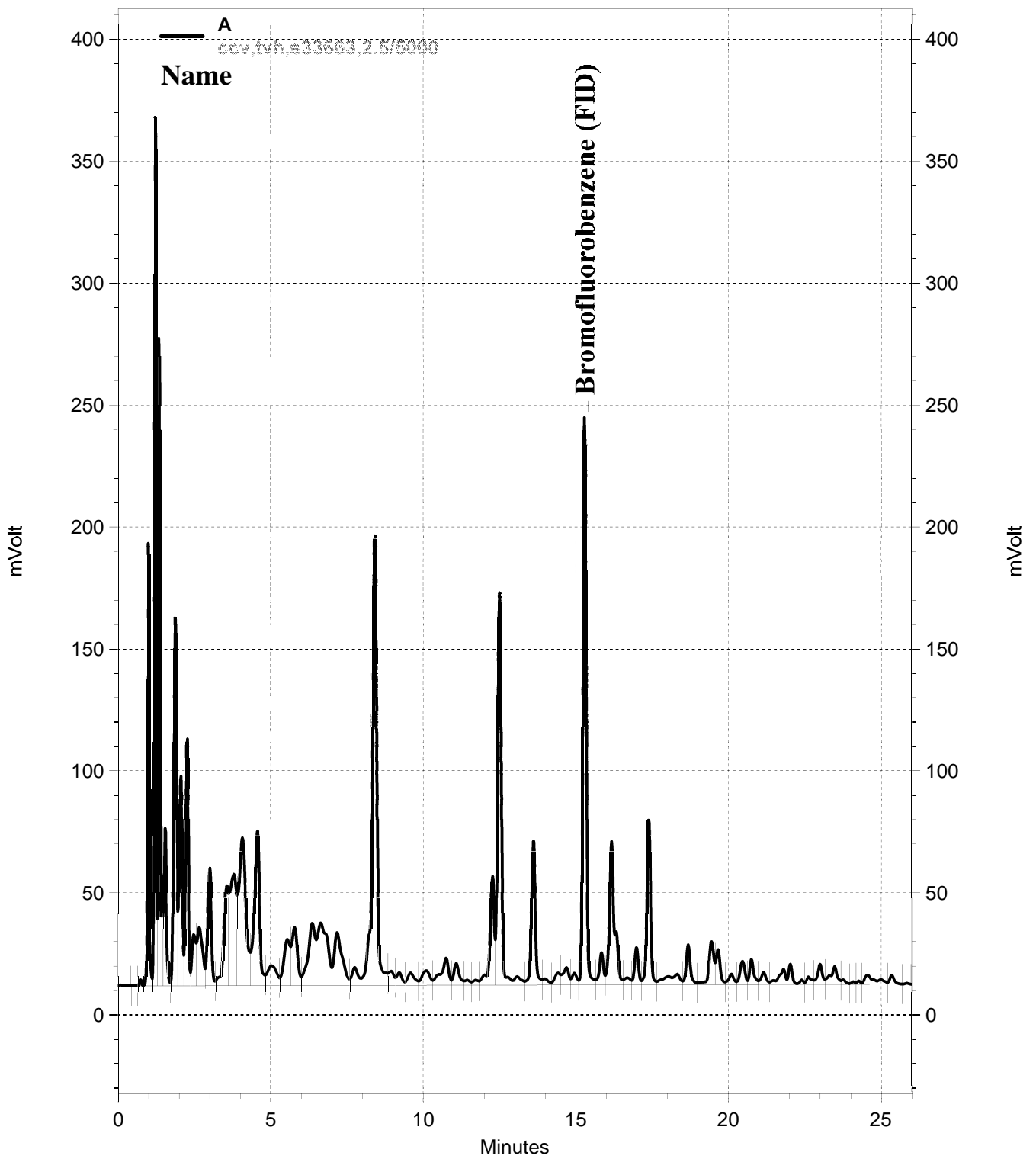
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.20	6.784	66	52-120	1	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

RPD= Relative Percent Difference



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Total Extractable Hydrocarbons			
Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/02/17
Units:	mg/Kg	Received:	11/02/17
Basis:	as received	Prepared:	11/02/17
Diln Fac:	1.000	Analyzed:	11/02/17
Batch#:	253290		

Field ID: S-7-EX1W Lab ID: 294022-001
 Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	7.7 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	97	55-133

Field ID: S-6-EX1N Lab ID: 294022-002
 Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	3.0 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: S-9.5-EX1B1 Lab ID: 294022-003
 Type: SAMPLE

Analyte	Result	RL
Diesel C10-C24	8.8	1.0

Surrogate	%REC	Limits
o-Terphenyl	111	55-133

Type: BLANK Lab ID: QC907366

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	294022	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 3550C
Project#:	E317602000	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC907367	Batch#: 253290
Matrix:	Soil	Prepared: 11/02/17
Units:	mg/Kg	Analyzed: 11/02/17

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.91	52.36	105	51-137

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	253290
MSS Lab ID:	293981-001	Sampled:	11/01/17
Matrix:	Soil	Received:	11/02/17
Units:	mg/Kg	Prepared:	11/02/17
Basis:	as received	Analyzed:	11/02/17
Diln Fac:	1.000		

Type: MS Lab ID: QC907368

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.4103	50.40	44.88	88	36-143

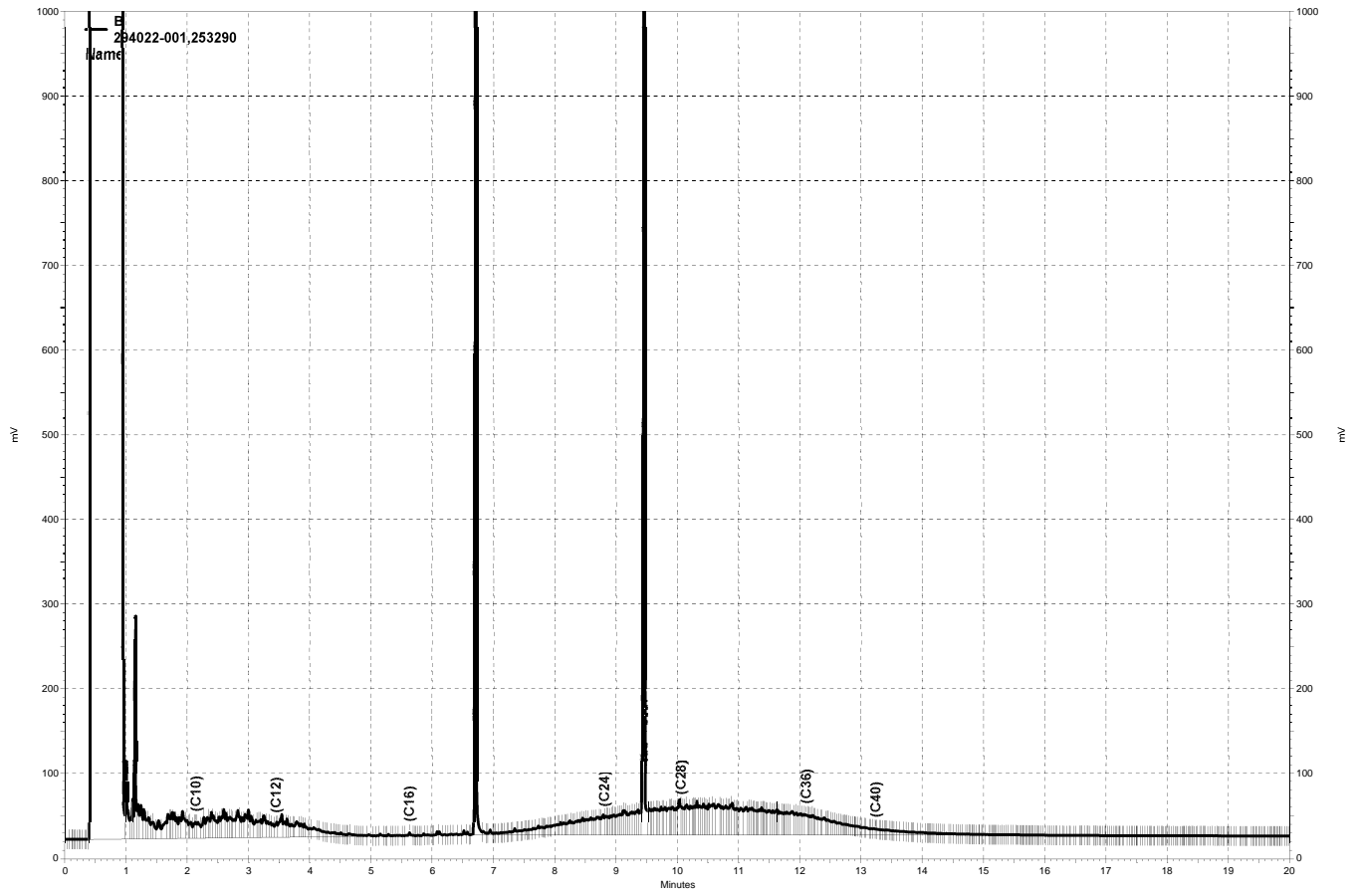
Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Type: MSD Lab ID: QC907369

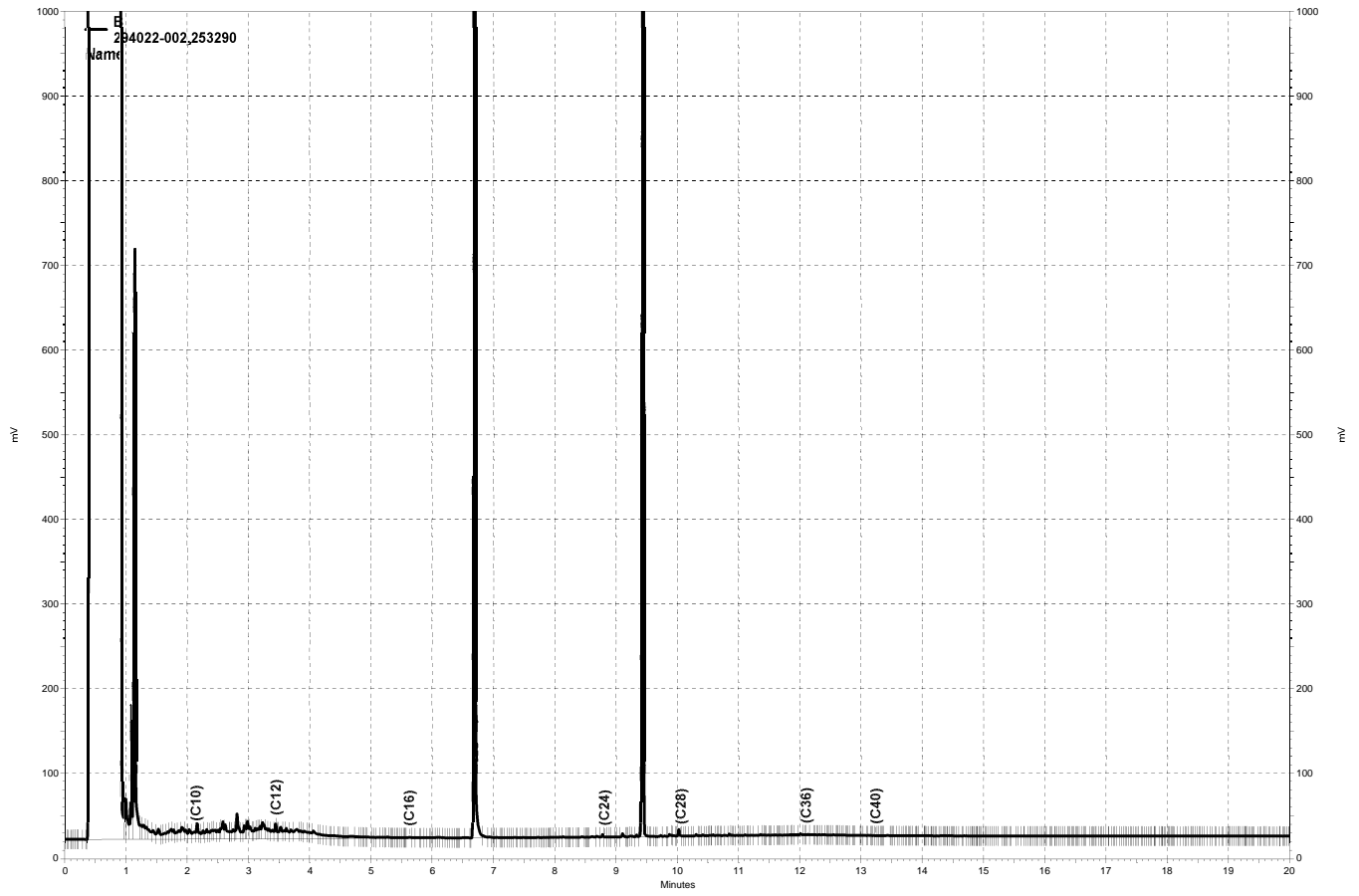
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.32	41.57	82	36-143	8	55

Surrogate	%REC	Limits
o-Terphenyl	92	55-133

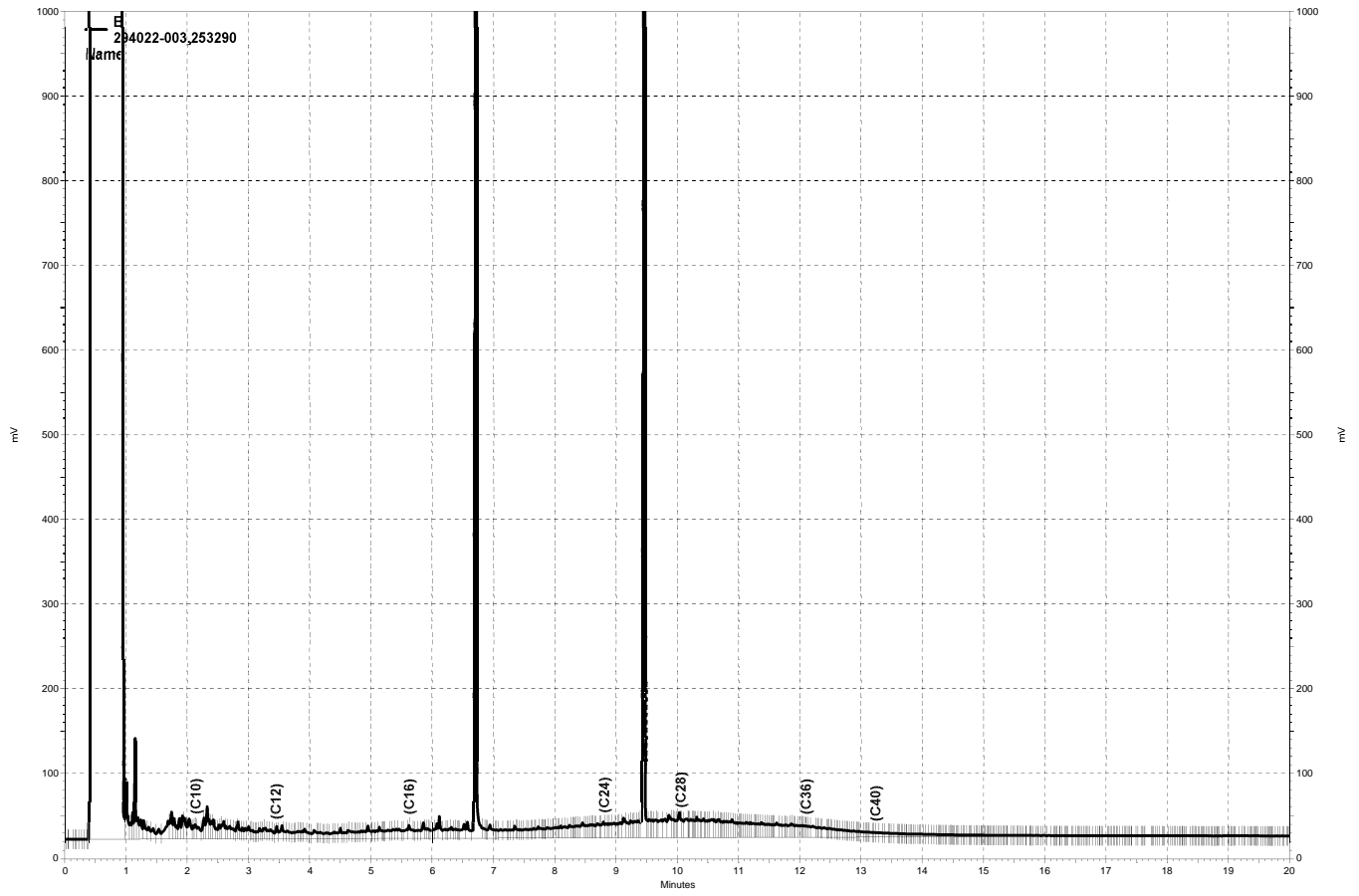
RPD= Relative Percent Difference



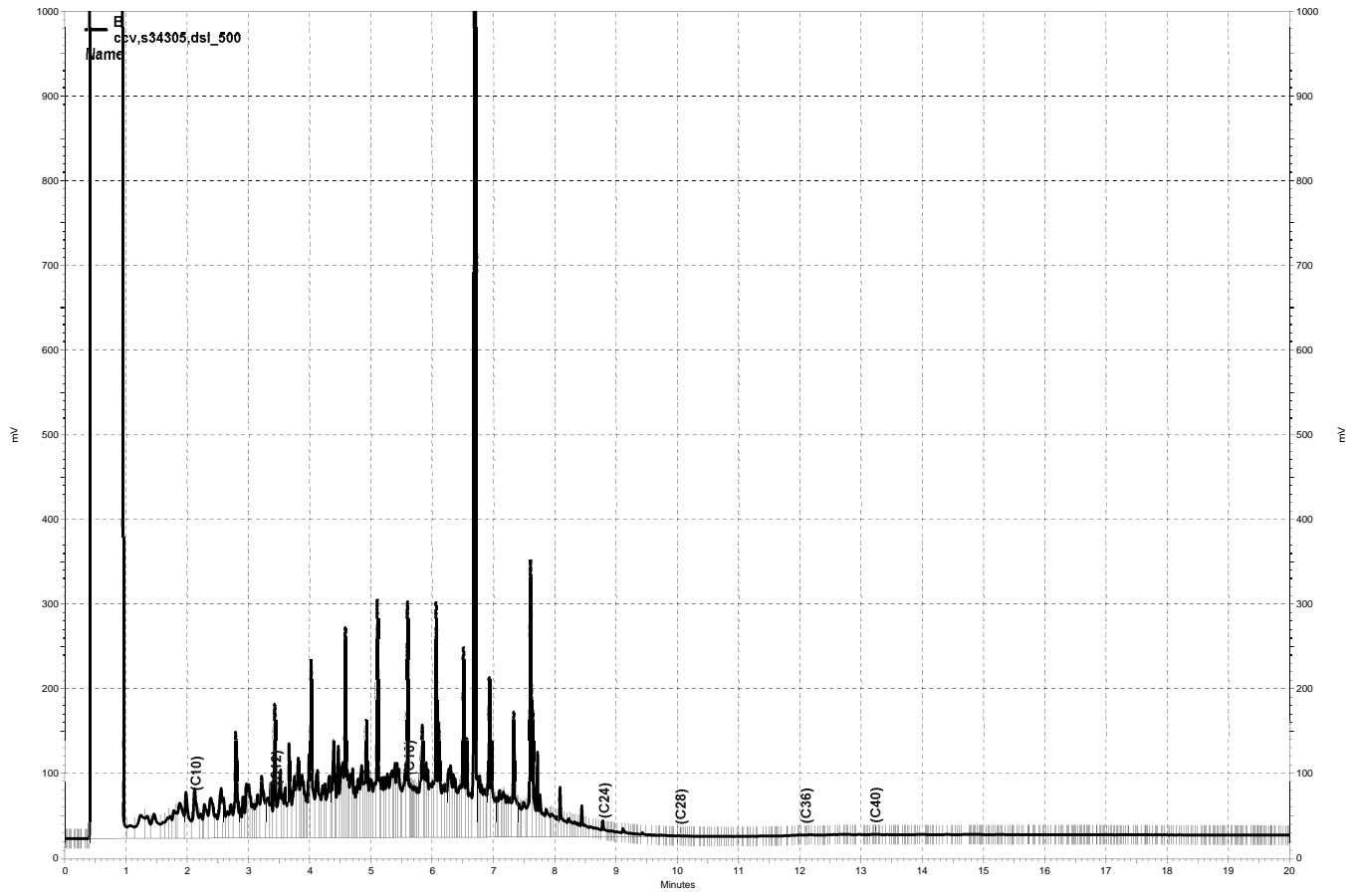
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Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-7-EX1W	Diln Fac:	0.8726
Lab ID:	294022-001	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Freon 12	ND	8.7
Chloromethane	ND	8.7
Vinyl Chloride	ND	8.7
Bromomethane	ND	8.7
Chloroethane	ND	8.7
Trichlorofluoromethane	ND	4.4
Acetone	ND	17
Freon 113	ND	4.4
1,1-Dichloroethene	ND	4.4
Methylene Chloride	ND	17
Carbon Disulfide	ND	4.4
MTBE	ND	4.4
trans-1,2-Dichloroethene	ND	4.4
Vinyl Acetate	ND	44
1,1-Dichloroethane	ND	4.4
2-Butanone	ND	8.7
cis-1,2-Dichloroethene	ND	4.4
2,2-Dichloropropane	ND	4.4
Chloroform	ND	4.4
Bromochloromethane	ND	4.4
1,1,1-Trichloroethane	ND	4.4
1,1-Dichloropropene	ND	4.4
Carbon Tetrachloride	ND	4.4
1,2-Dichloroethane	ND	4.4
Benzene	ND	4.4
Trichloroethene	ND	4.4
1,2-Dichloropropane	ND	4.4
Bromodichloromethane	ND	4.4
Dibromomethane	ND	4.4
4-Methyl-2-Pentanone	ND	8.7
cis-1,3-Dichloropropene	ND	4.4
Toluene	ND	4.4
trans-1,3-Dichloropropene	ND	4.4
1,1,2-Trichloroethane	ND	4.4
2-Hexanone	ND	8.7
1,3-Dichloropropane	ND	4.4
Tetrachloroethene	ND	4.4

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-7-EX1W	Diln Fac:	0.8726
Lab ID:	294022-001	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Dibromochloromethane	ND	4.4
1,2-Dibromoethane	ND	4.4
Chlorobenzene	ND	4.4
1,1,1,2-Tetrachloroethane	ND	4.4
Ethylbenzene	ND	4.4
m,p-Xylenes	ND	4.4
o-Xylene	ND	4.4
Styrene	ND	4.4
Bromoform	ND	4.4
Isopropylbenzene	ND	4.4
1,1,2,2-Tetrachloroethane	ND	4.4
1,2,3-Trichloropropane	ND	4.4
Propylbenzene	ND	4.4
Bromobenzene	ND	4.4
1,3,5-Trimethylbenzene	ND	4.4
2-Chlorotoluene	ND	4.4
4-Chlorotoluene	ND	4.4
tert-Butylbenzene	ND	4.4
1,2,4-Trimethylbenzene	ND	4.4
sec-Butylbenzene	ND	4.4
para-Isopropyl Toluene	ND	4.4
1,3-Dichlorobenzene	ND	4.4
1,4-Dichlorobenzene	ND	4.4
n-Butylbenzene	ND	4.4
1,2-Dichlorobenzene	ND	4.4
1,2-Dibromo-3-Chloropropane	ND	4.4
1,2,4-Trichlorobenzene	ND	4.4
Hexachlorobutadiene	ND	4.4
Naphthalene	ND	4.4
1,2,3-Trichlorobenzene	ND	4.4

Surrogate	%REC	Limits
Dibromofluoromethane	108	76-132
1,2-Dichloroethane-d4	108	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	107	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1N	Diln Fac:	0.9690
Lab ID:	294022-002	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1N	Diln Fac:	0.9690
Lab ID:	294022-002	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	9.6	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	9.3	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	105	74-149
Toluene-d8	100	80-120
Bromofluorobenzene	101	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-9.5-EX1B1	Diln Fac:	0.9560
Lab ID:	294022-003	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Freon 12	ND	9.6
Chloromethane	ND	9.6
Vinyl Chloride	ND	9.6
Bromomethane	ND	9.6
Chloroethane	ND	9.6
Trichlorofluoromethane	ND	4.8
Acetone	ND	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.6
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.6
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.6
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294022	Location:	Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-9.5-EX1B1	Diln Fac:	0.9560
Lab ID:	294022-003	Batch#:	253303
Matrix:	Soil	Sampled:	11/02/17
Units:	ug/Kg	Received:	11/02/17
Basis:	as received	Analyzed:	11/02/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	105	76-132
1,2-Dichloroethane-d4	106	74-149
Toluene-d8	100	80-120
Bromofluorobenzene	105	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294022	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 253303
Units:	ug/Kg	Analyzed: 11/02/17
Diln Fac:	1.000	

Type: BS Lab ID: QC907383

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.23	101	68-132
Benzene	25.00	24.43	98	75-123
Trichloroethene	25.00	22.07	88	75-120
Toluene	25.00	22.66	91	76-120
Chlorobenzene	25.00	22.61	90	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-132
1,2-Dichloroethane-d4	104	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	104	78-134

Type: BSD Lab ID: QC907384

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	24.47	98	68-132	3	28
Benzene	25.00	23.91	96	75-123	2	25
Trichloroethene	25.00	21.98	88	75-120	0	23
Toluene	25.00	22.26	89	76-120	2	24
Chlorobenzene	25.00	22.44	90	80-120	1	21

Surrogate	%REC	Limits
Dibromofluoromethane	107	76-132
1,2-Dichloroethane-d4	101	74-149
Toluene-d8	102	80-120
Bromofluorobenzene	104	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294022	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907385	Batch#: 253303
Matrix:	Soil	Analyzed: 11/02/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294022	Location: Ellwood Commercial Real Estate
Client:	Cardno Entrix	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907385	Batch#: 253303
Matrix:	Soil	Analyzed: 11/02/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	108	76-132
1,2-Dichloroethane-d4	103	74-149
Toluene-d8	103	80-120
Bromofluorobenzene	112	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS					
Lab #:	294022	Location: Ellwood Commercial Real Estate			
Client:	Cardno Entrix	Prep:	EPA 5030B		
Project#:	E317602000	Analysis:	EPA 8260B		
Field ID:	S-6-EX1N	Batch#:	253303		
MSS Lab ID:	294022-002	Sampled:	11/02/17		
Matrix:	Soil	Received:	11/02/17		
Units:	ug/Kg	Analyzed:	11/02/17		
Basis:	as received				

Type: MS Diln Fac: 0.9940
 Lab ID: QC907413

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5675	49.70	50.28	101	64-131
Benzene	0.9024	49.70	46.30	91	66-122
Trichloroethene	<0.6119	49.70	53.16	107	57-133
Toluene	<0.5442	49.70	42.59	86	61-120
Chlorobenzene	<0.3415	49.70	41.83	84	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-132
1,2-Dichloroethane-d4	107	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	101	78-134

Type: MSD Diln Fac: 0.9823
 Lab ID: QC907414

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	49.12	50.15	102	64-131	1	32
Benzene	49.12	47.76	95	66-122	4	32
Trichloroethene	49.12	61.60	125	57-133	16	34
Toluene	49.12	44.24	90	61-120	5	32
Chlorobenzene	49.12	44.03	90	56-120	6	33

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	105	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	103	78-134

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294116
ANALYTICAL REPORT

Cardno, Inc.
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
S-6-EX1S	294116-001
S-6-EX1E	294116-002
S-12-EX1B2	294116-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

Date: 11/07/2017

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294116
Client: Cardno, Inc.
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/06/17
Samples Received: 11/06/17

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 11/06/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Matrix spikes QC907793, QC907794 (batch 253401) were not reported because the parent sample was reanalyzed in another batch. No other analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

CHAIN OF CUSTODY

Page ____ of ____
 Chain of Custody # : _____

C&T LOGIN # 294116

Project No: E317602000
 Project Name: Ellwood Commercial Real Estate
 EDD Format: EDF Rpt Level: I III IV
 Turnaround Time: RUSH 24-hour Standard


Sampler: CARL MICKLETT
 Report To: Glen Smith
 Company: Cardno
 Telephone: 510.362.2170
 Email: glen.smith@cardno.com

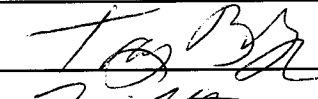
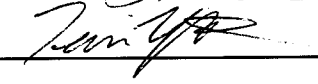
Analytical Request

TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B																		
X	X	X																		
X	X	X																		
X	X	X																		

Lab No.	Sample ID.	Sampling		Matrix			# of Containers	Chemical Preservative												
		Date	Time	Water	Soil			HCl	H ₂ SO ₄	HNO ₃	NaOH	None								
	<u>S-6-QX1S</u>	<u>11-6-17</u>	<u>915</u>	<input checked="" type="checkbox"/>			<u>1</u>													
	<u>S-6-QX1E</u>	<u>11-6-17</u>	<u>945</u>	<input checked="" type="checkbox"/>			<u>1</u>													
	<u>S-12-QX1B2</u>	<u>11-6-17</u>	<u>1145</u>	<input checked="" type="checkbox"/>			<u>1</u>													

Notes: Geotracker Global ID T10000007707
 SAMPLE RECEIPT
 Intact Cold
 On Ice Ambient
 Call Patrick McCarthy to schedule currior 510.204.2236

RELINQUISHED BY:

 DATE/TIME: 11/6/17 1608
 DATE/TIME: _____
 DATE/TIME: _____

RECEIVED BY:

 DATE/TIME: 11/6/17 14:00

 DATE/TIME: 11/6/17 1619
 DATE/TIME: _____

COOLER RECEIPT CHECKLIST



Login # 294110 Date Received 11/6/17 Number of coolers 1
Client Cardno Project Ellwood Commercial Real Estate

Date Opened 11/6/17 By (print) TJ (sign) TJ
Date Logged in 1 By (print) TJ (sign) TJ
Date Labelled 1 By (print) TJ (sign) TJ

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 5.1

Temperature blank(s) included? Thermometer# _____ IR Gun# A

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 294116

Results for any subcontracted analyses are not included in this summary.

Client : Cardno, Inc.
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-6-EX1S Laboratory Sample ID : 294116-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	3.3	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : S-6-EX1E Laboratory Sample ID : 294116-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	5.5	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	6.7	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : S-12-EX1B2 Laboratory Sample ID : 294116-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.8	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253382
Units:	mg/Kg	Sampled:	11/06/17
Basis:	as received	Received:	11/06/17
Diln Fac:	1.000		

Field ID: S-6-EX1S Lab ID: 294116-001
Type: SAMPLE Analyzed: 11/07/17

Analyte	Result	RL
Gasoline C7-C12	ND	0.97
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	90	65-136

Field ID: S-6-EX1E Lab ID: 294116-002
Type: SAMPLE Analyzed: 11/07/17

Analyte	Result	RL
Gasoline C7-C12	5.5 Y	1.0
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	65-136

Field ID: S-12-EX1B2 Lab ID: 294116-003
Type: SAMPLE Analyzed: 11/07/17

Analyte	Result	RL
Gasoline C7-C12	ND	1.1
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	69	65-136

Type: BLANK Analyzed: 11/06/17
Lab ID: QC907669

Analyte	Result	RL
Gasoline C7-C12	ND	1.0
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	85	65-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit
 Page 1 of 1

Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	294116	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907664	Batch#:	253382	
Matrix:	Soil	Analyzed:	11/06/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9042	90	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	85	65-136

Batch QC Report

Total Volatile Hydrocarbons		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Diln Fac: 1.000
MSS Lab ID:	294056-001	Batch#: 253382
Matrix:	Soil	Sampled: 11/03/17
Units:	mg/Kg	Received: 11/03/17
Basis:	as received	Analyzed: 11/06/17

Type: MS Lab ID: QC907667

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1563	9.709	7.510	76	52-120

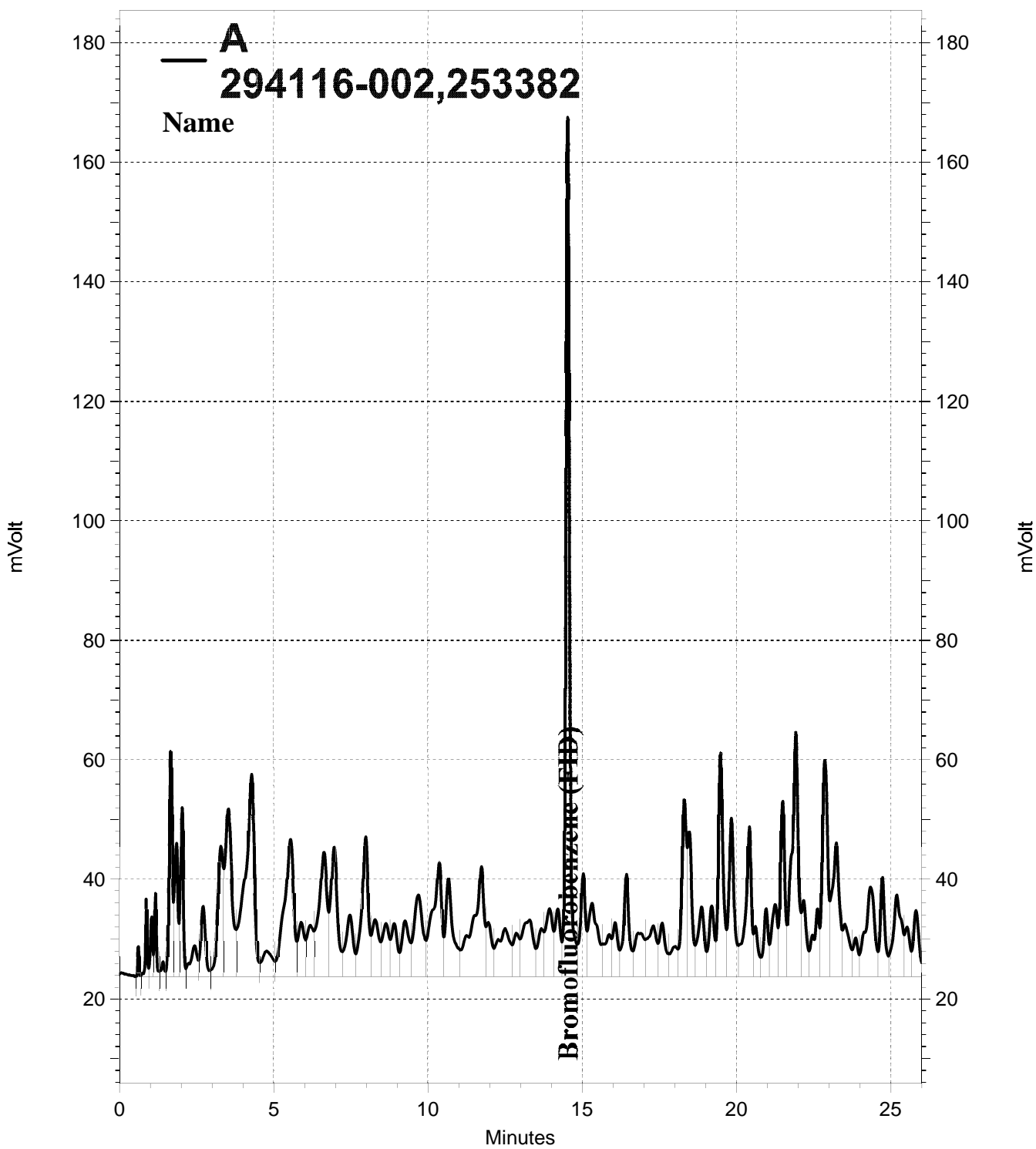
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	99	65-136

Type: MSD Lab ID: QC907668

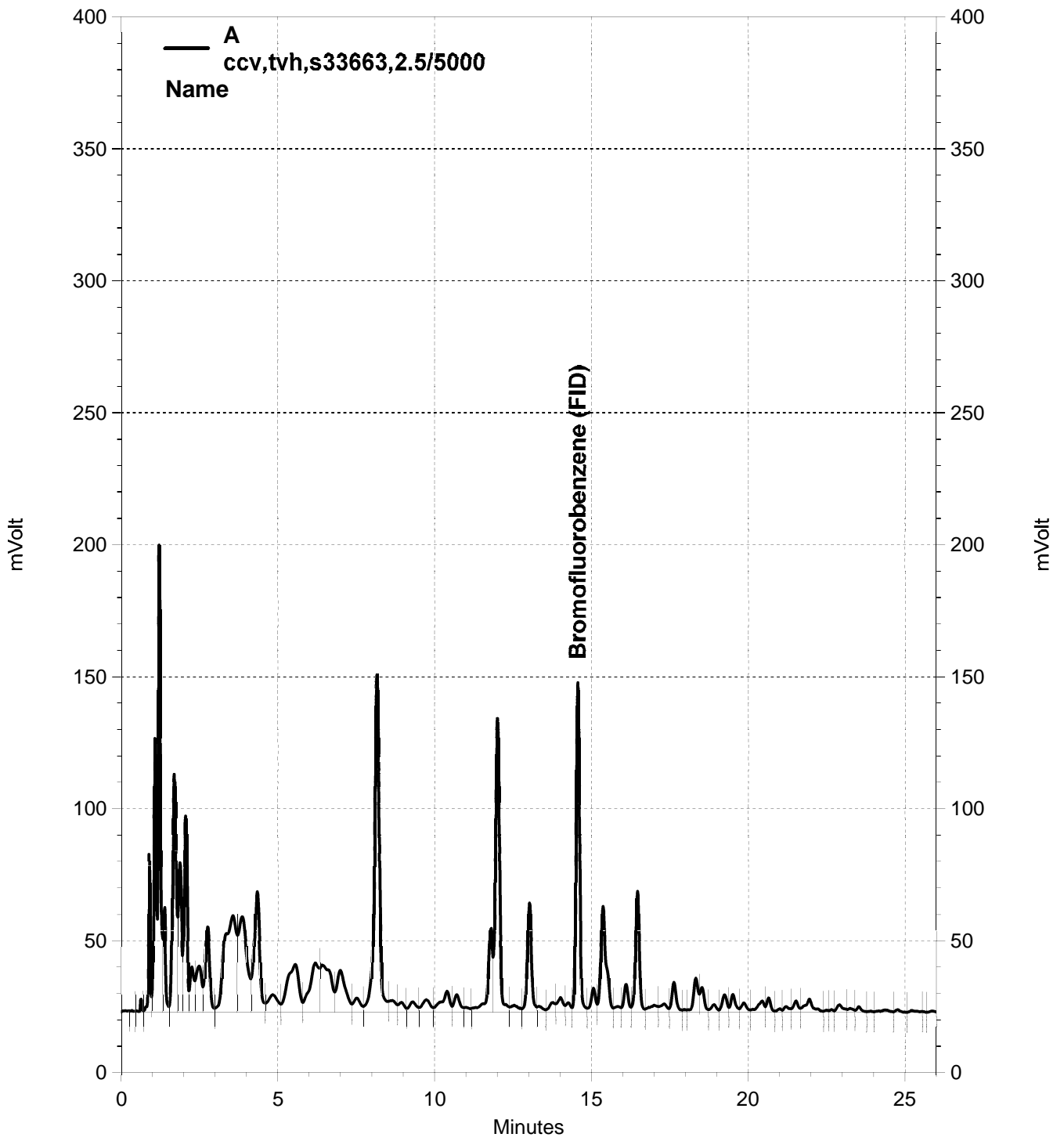
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	8.116	81	52-120	7	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	81	65-136

RPD= Relative Percent Difference



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— \\Lims\gdrive\ezchrom\Projects\GC19\Data\310-003, A

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294116	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907815	Batch#:	253410	
Matrix:	Soil	Prepared:	11/07/17	
Units:	mg/Kg	Analyzed:	11/07/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.32	48.80	97	51-137

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	S-12-EX1B2	Batch#:	253410
MSS Lab ID:	294116-003	Sampled:	11/06/17
Matrix:	Soil	Received:	11/06/17
Units:	mg/Kg	Prepared:	11/07/17
Basis:	as received	Analyzed:	11/07/17
Diln Fac:	1.000		

Type: MS Lab ID: QC907816

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	4.820	49.68	50.41	92	36-143

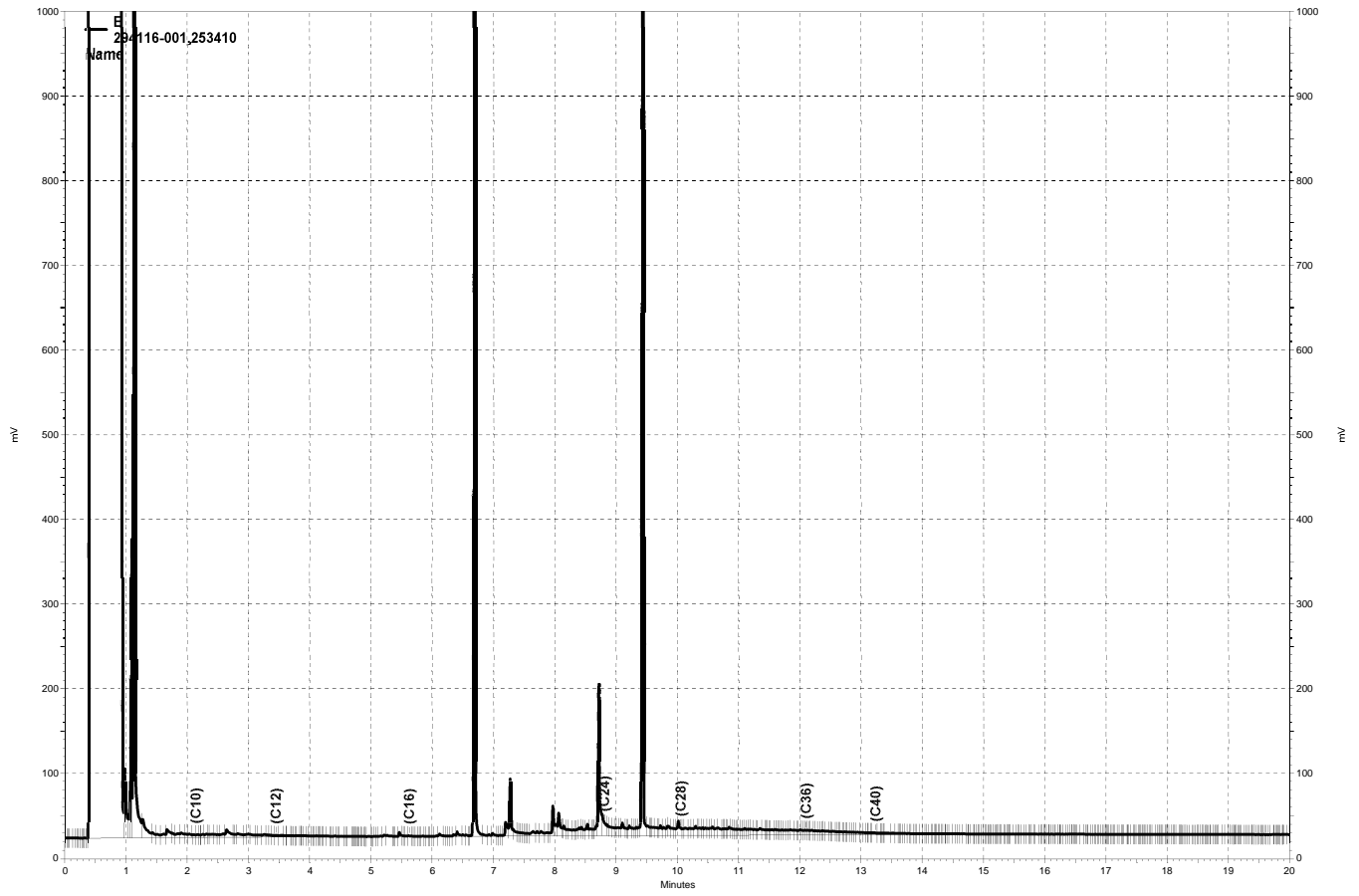
Surrogate	%REC	Limits
o-Terphenyl	99	55-133

Type: MSD Lab ID: QC907817

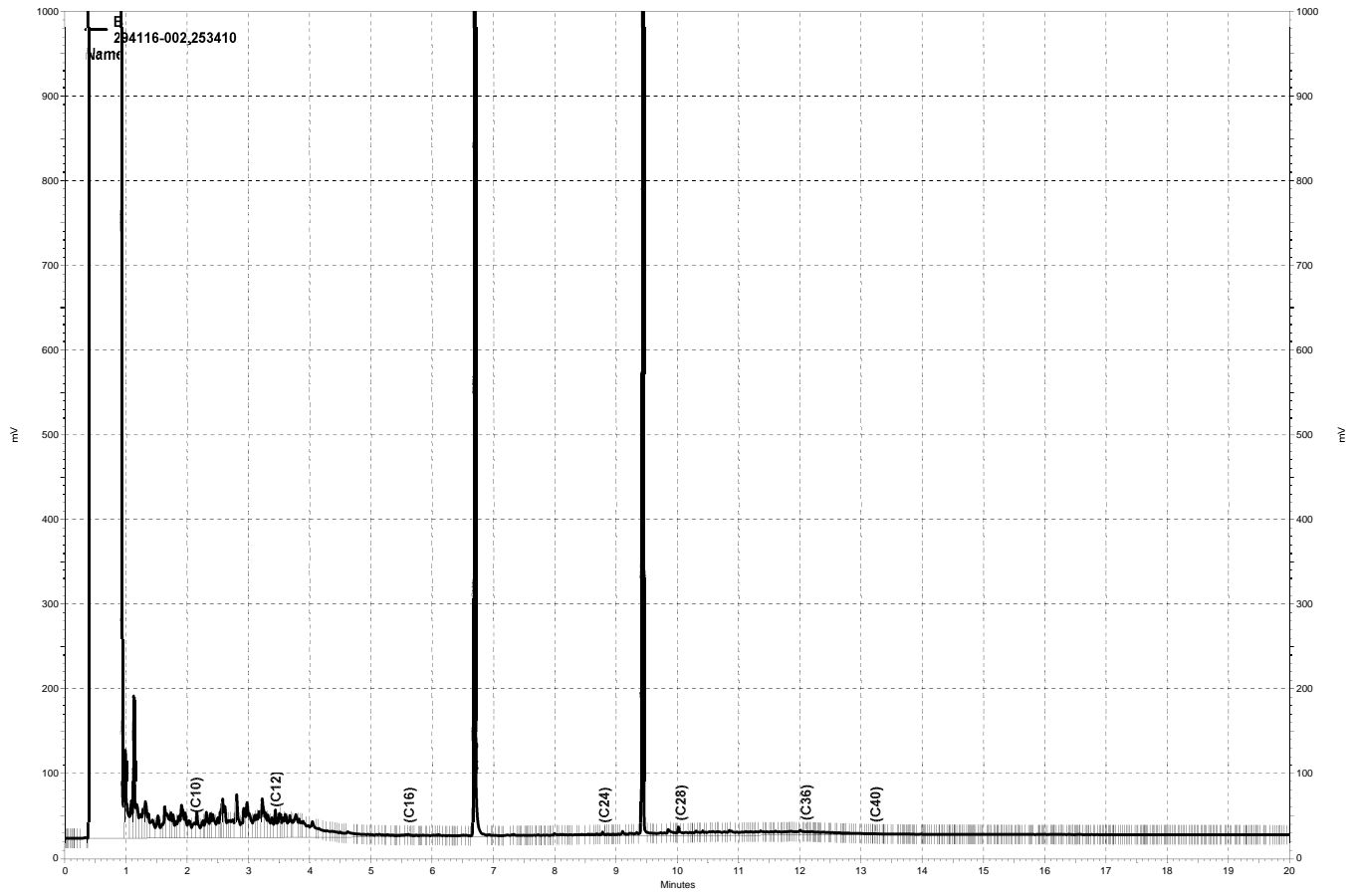
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.66	52.04	95	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	95	55-133

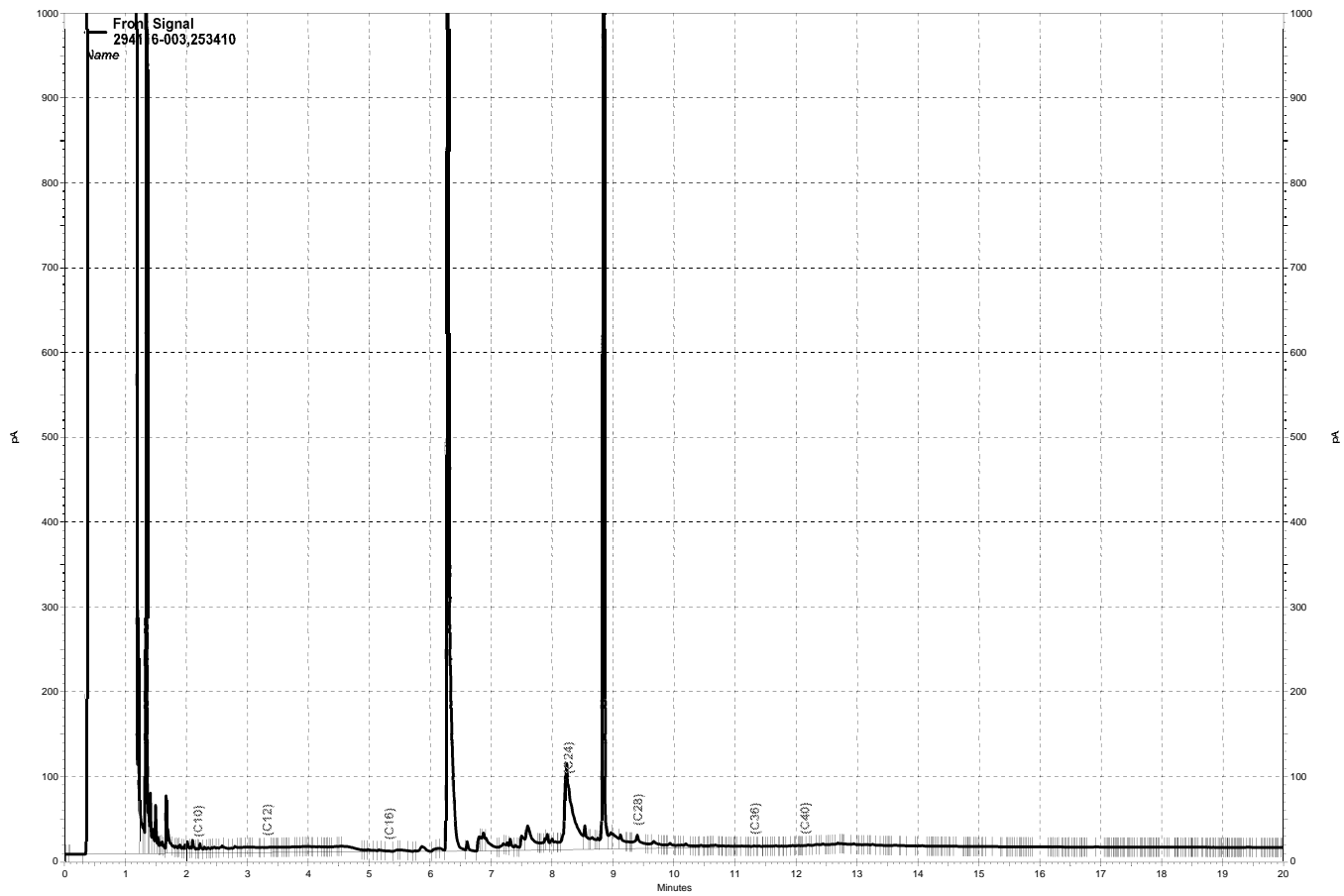
RPD= Relative Percent Difference



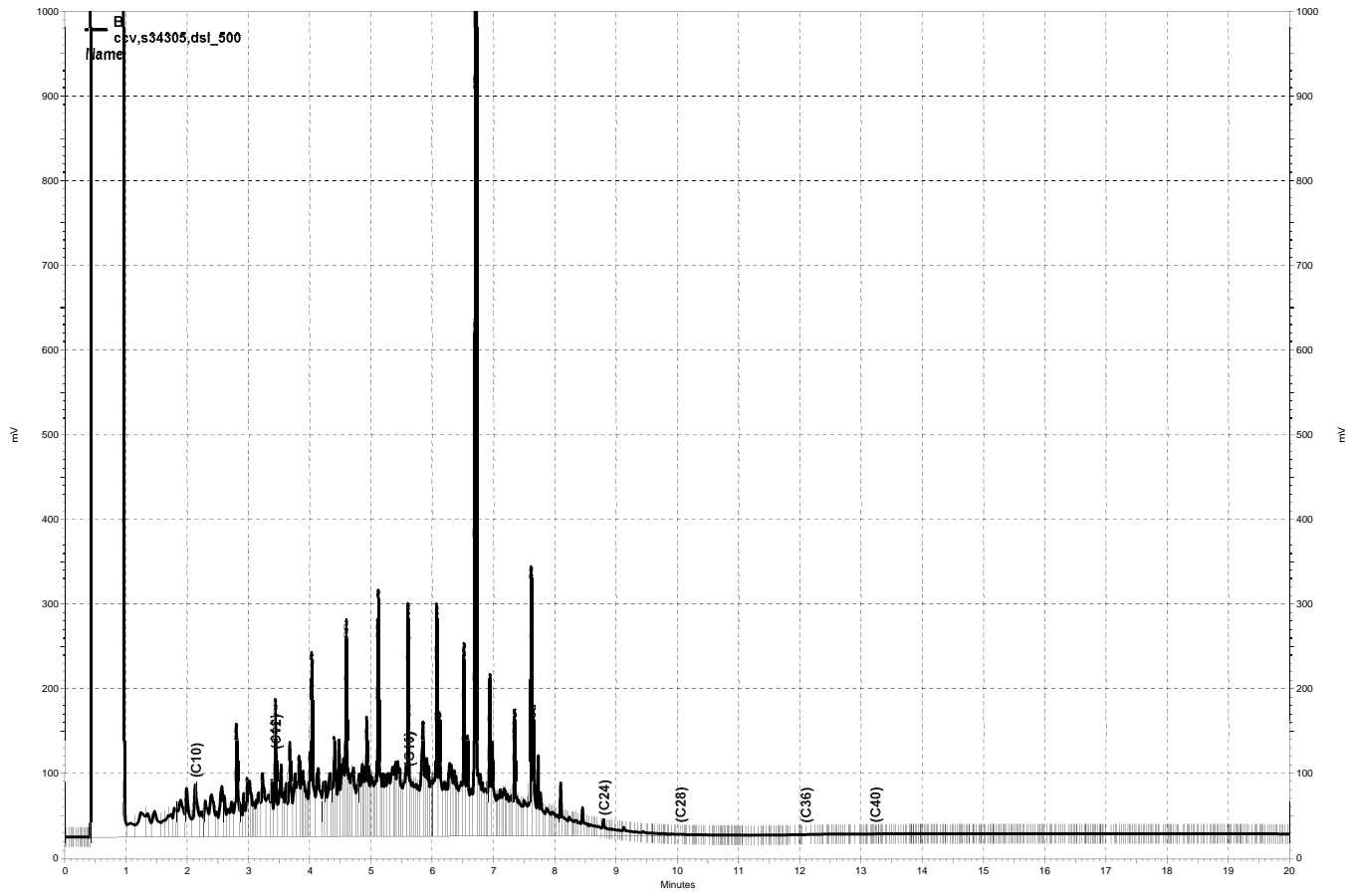
\\kraken\gdrive\ezchrom\Projects\GC14B\Data\2017\311b007, B



— \\kraken\gdrive\ezchrom\Projects\GC14B\Data\2017\311b008, B



— \\kraken\gdrive\ezchrom\Projects\GC27\Data\2017\311a007.dat, Front Signal



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Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1S	Diln Fac:	0.8913
Lab ID:	294116-001	Batch#:	253401
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/06/17

Analyte	Result	RL
Freon 12	ND	8.9
Chloromethane	ND	8.9
Vinyl Chloride	ND	8.9
Bromomethane	ND	8.9
Chloroethane	ND	8.9
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	8.9
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	8.9
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	8.9
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1S	Diln Fac:	0.8913
Lab ID:	294116-001	Batch#:	253401
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/06/17

Analyte	Result	RL
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	86	76-132
1,2-Dichloroethane-d4	110	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	106	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1E	Diln Fac:	0.9921
Lab ID:	294116-002	Batch#:	253411
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/07/17

Analyte	Result	RL
Freon 12	ND	9.9
Chloromethane	ND	9.9
Vinyl Chloride	ND	9.9
Bromomethane	ND	9.9
Chloroethane	ND	9.9
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	9.9
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	9.9
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	9.9
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX1E	Diln Fac:	0.9921
Lab ID:	294116-002	Batch#:	253411
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/07/17

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-132
1,2-Dichloroethane-d4	94	74-149
Toluene-d8	96	80-120
Bromofluorobenzene	101	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-12-EX1B2	Diln Fac:	0.8913
Lab ID:	294116-003	Batch#:	253401
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/06/17

Analyte	Result	RL
Freon 12	ND	8.9
Chloromethane	ND	8.9
Vinyl Chloride	ND	8.9
Bromomethane	ND	8.9
Chloroethane	ND	8.9
Trichlorofluoromethane	ND	4.5
Acetone	ND	18
Freon 113	ND	4.5
1,1-Dichloroethene	ND	4.5
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.5
MTBE	ND	4.5
trans-1,2-Dichloroethene	ND	4.5
Vinyl Acetate	ND	45
1,1-Dichloroethane	ND	4.5
2-Butanone	ND	8.9
cis-1,2-Dichloroethene	ND	4.5
2,2-Dichloropropane	ND	4.5
Chloroform	ND	4.5
Bromochloromethane	ND	4.5
1,1,1-Trichloroethane	ND	4.5
1,1-Dichloropropene	ND	4.5
Carbon Tetrachloride	ND	4.5
1,2-Dichloroethane	ND	4.5
Benzene	ND	4.5
Trichloroethene	ND	4.5
1,2-Dichloropropane	ND	4.5
Bromodichloromethane	ND	4.5
Dibromomethane	ND	4.5
4-Methyl-2-Pentanone	ND	8.9
cis-1,3-Dichloropropene	ND	4.5
Toluene	ND	4.5
trans-1,3-Dichloropropene	ND	4.5
1,1,2-Trichloroethane	ND	4.5
2-Hexanone	ND	8.9
1,3-Dichloropropane	ND	4.5
Tetrachloroethene	ND	4.5

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294116	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-12-EX1B2	Diln Fac:	0.8913
Lab ID:	294116-003	Batch#:	253401
Matrix:	Soil	Sampled:	11/06/17
Units:	ug/Kg	Received:	11/06/17
Basis:	as received	Analyzed:	11/06/17

Analyte	Result	RL
Dibromochloromethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Chlorobenzene	ND	4.5
1,1,1,2-Tetrachloroethane	ND	4.5
Ethylbenzene	ND	4.5
m,p-Xylenes	ND	4.5
o-Xylene	ND	4.5
Styrene	ND	4.5
Bromoform	ND	4.5
Isopropylbenzene	ND	4.5
1,1,2,2-Tetrachloroethane	ND	4.5
1,2,3-Trichloropropane	ND	4.5
Propylbenzene	ND	4.5
Bromobenzene	ND	4.5
1,3,5-Trimethylbenzene	ND	4.5
2-Chlorotoluene	ND	4.5
4-Chlorotoluene	ND	4.5
tert-Butylbenzene	ND	4.5
1,2,4-Trimethylbenzene	ND	4.5
sec-Butylbenzene	ND	4.5
para-Isopropyl Toluene	ND	4.5
1,3-Dichlorobenzene	ND	4.5
1,4-Dichlorobenzene	ND	4.5
n-Butylbenzene	ND	4.5
1,2-Dichlorobenzene	ND	4.5
1,2-Dibromo-3-Chloropropane	ND	4.5
1,2,4-Trichlorobenzene	ND	4.5
Hexachlorobutadiene	ND	4.5
Naphthalene	ND	4.5
1,2,3-Trichlorobenzene	ND	4.5

Surrogate	%REC	Limits
Dibromofluoromethane	87	76-132
1,2-Dichloroethane-d4	100	74-149
Toluene-d8	103	80-120
Bromofluorobenzene	103	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907762	Batch#: 253401
Matrix:	Soil	Analyzed: 11/06/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907762	Batch#: 253401
Matrix:	Soil	Analyzed: 11/06/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-132
1,2-Dichloroethane-d4	87	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	104	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC907792	Batch#: 253401
Matrix:	Soil	Analyzed: 11/06/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	21.99	88	68-132
Benzene	25.00	20.89	84	75-123
Trichloroethene	25.00	20.24	81	75-120
Toluene	25.00	20.69	83	76-120
Chlorobenzene	25.00	20.65	83	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	100	78-134

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907820	Batch#: 253411
Matrix:	Soil	Analyzed: 11/07/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907820	Batch#: 253411
Matrix:	Soil	Analyzed: 11/07/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	106	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	105	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294116	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC907821	Batch#: 253411
Matrix:	Soil	Analyzed: 11/07/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.89	104	68-132
Benzene	25.00	23.90	96	75-123
Trichloroethene	25.00	24.46	98	75-120
Toluene	25.00	22.71	91	76-120
Chlorobenzene	25.00	22.96	92	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-132
1,2-Dichloroethane-d4	99	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	104	78-134



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294174
ANALYTICAL REPORT

Cardno, Inc.
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
S-3-EX25	294174-001
S-6-EX2B1	294174-002
S-3-EX2E	294174-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Mike Dahlquist
Project Manager
mike.dahlquist@enthalpy.com
(510) 204-2225 Ext 13101

Date: 11/08/2017

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294174
Client: Cardno, Inc.
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/07/17
Samples Received: 11/07/17

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 11/07/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

S-3-EX2E (lab # 294174-003) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

High surrogate recovery was observed for bromofluorobenzene in S-6-EX2B1 (lab # 294174-002). S-3-EX25 (lab # 294174-001), S-6-EX2B1 (lab # 294174-002), and S-3-EX2E (lab # 294174-003) were diluted due to high hydrocarbons. No other analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

CHAIN OF CUSTODY

Page 1 of 1
 Chain of Custody # : _____

C&T LOGIN # 294174

Project No: E317602000
 Project Name: Ellwood Commercial Real Estate
 EDD Format: EDF Rpt Level: II III IV
 Turnaround Time: RUSH 24-hour Standard

Sampler: CARL MICKLEH
 Report To: Glen Smith
 Company: Cardno
 Telephone: 510.362.2170
 Email: glen.smith@cardno.com

Analytical Request

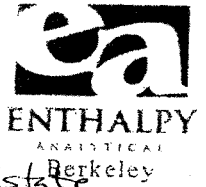
Lab No.	Sample ID.	Sampling		Matrix			# of Containers	Chemical Preservative												
		Date	Time	Water	Soil			HCl	H ₂ SO ₄	HNO ₃	NaOH	None								
	<u>S-3-EX25</u>	<u>11-7-17</u>	<u>1205</u>	<input checked="" type="checkbox"/>			<u>1</u>													
	<u>S-6-EX2B1</u>	<u>11-7-17</u>	<u>1405</u>	<input checked="" type="checkbox"/>			<u>1</u>													
	<u>S-3-EX2B</u>	<u>11-7-17</u>	<u>1425</u>	<input checked="" type="checkbox"/>			<u>1</u>													

TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B																		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																		

Notes: Geotracker Global ID T10000007707 <input type="checkbox"/> Intact <input checked="" type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	SAMPLE RECEIPT RELINQUISHED BY: <u>[Signature]</u> DATE/TIME: _____	RECEIVED BY: <u>[Signature]</u> DATE/TIME: <u>11/7/17</u> <u>1621</u>
	DATE/TIME: _____	DATE/TIME: _____
	DATE/TIME: _____	DATE/TIME: _____

Call Patrick McCarthy to schedule currior 510.204.2236

COOLER RECEIPT CHECKLIST



Login # 294174 Date Received 11/7/17 Number of coolers 1
 Client Cardno Project Ellwood Commercial Real Estate

Date Opened 11/7/17 By (print) TY (sign) TY
 Date Logged in 1 By (print) TY (sign) TY
 Date Labelled 1 By (print) TY (sign) TY

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap
- Cloth material
- Foam blocks
- Cardboard
- Bags
- Styrofoam
- None
- Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.9

Temperature blank(s) included? Thermometer# _____ IR Gun# B

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO
 If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 294174

Results for any subcontracted analyses are not included in this summary.

Client : Cardno, Inc.
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-3-EX25 Laboratory Sample ID : 294174-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	38	Y	1.9	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	430		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Isopropylbenzene	51		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
Propylbenzene	300		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	250		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
sec-Butylbenzene	91		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
n-Butylbenzene	300		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B
Naphthalene	160		50	ug/Kg	As Recd	10.00	EPA 8260B	EPA 5030B

Client Sample ID : S-6-EX2B1 Laboratory Sample ID : 294174-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	29		1.1	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	11	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Ethylbenzene	77		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
m,p-Xylenes	55		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
Isopropylbenzene	26		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
Propylbenzene	80		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
1,3,5-Trimethylbenzene	35		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	110		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
sec-Butylbenzene	23		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	17		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
n-Butylbenzene	50		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B
Naphthalene	26		10	ug/Kg	As Recd	2.016	EPA 8260B	EPA 5030B

Client Sample ID : S-3-EX2E Laboratory Sample ID : 294174-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	410	Y	40	mg/Kg	As Recd	200.0	EPA 8015B	EPA 5030B
Diesel C10-C24	880		10	mg/Kg	As Recd	10.00	EPA 8015B	EPA 3550C
Ethylbenzene	1,300		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
Isopropylbenzene	630		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
Propylbenzene	3,100		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
1,3,5-Trimethylbenzene	650		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
sec-Butylbenzene	560		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	270		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
n-Butylbenzene	3,000		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
Naphthalene	4,700		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253420
Units:	mg/Kg	Sampled:	11/07/17
Basis:	as received	Received:	11/07/17

Field ID: S-3-EX25 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 11/08/17
 Lab ID: 294174-001

Analyte	Result	RL
Gasoline C7-C12	38 Y	1.9

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	109	65-136

Field ID: S-6-EX2B1 Diln Fac: 1.000
 Type: SAMPLE Analyzed: 11/08/17
 Lab ID: 294174-002

Analyte	Result	RL
Gasoline C7-C12	29	1.1

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	125	65-136

Field ID: S-3-EX2E Diln Fac: 200.0
 Type: SAMPLE Analyzed: 11/08/17
 Lab ID: 294174-003

Analyte	Result	RL
Gasoline C7-C12	410 Y	40

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	106	65-136

Type: BLANK Diln Fac: 1.000
 Lab ID: QC907861 Analyzed: 11/07/17

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	91	65-136

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	294174	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907856	Batch#:	253420	
Matrix:	Soil	Analyzed:	11/07/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9517	95	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

Batch QC Report

Total Volatile Hydrocarbons					
Lab #:	294174	Location:	Ellwood Commercial Real Estate		
Client:	Cardno, Inc.	Prep:	EPA 5030B		
Project#:	E317602000	Analysis:	EPA 8015B		
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000		
MSS Lab ID:	294108-001	Batch#:	253420		
Matrix:	Soil	Sampled:	11/06/17		
Units:	mg/Kg	Received:	11/06/17		
Basis:	as received	Analyzed:	11/08/17		

Type: MS Lab ID: QC907859

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.05655	9.901	6.962	70	52-120

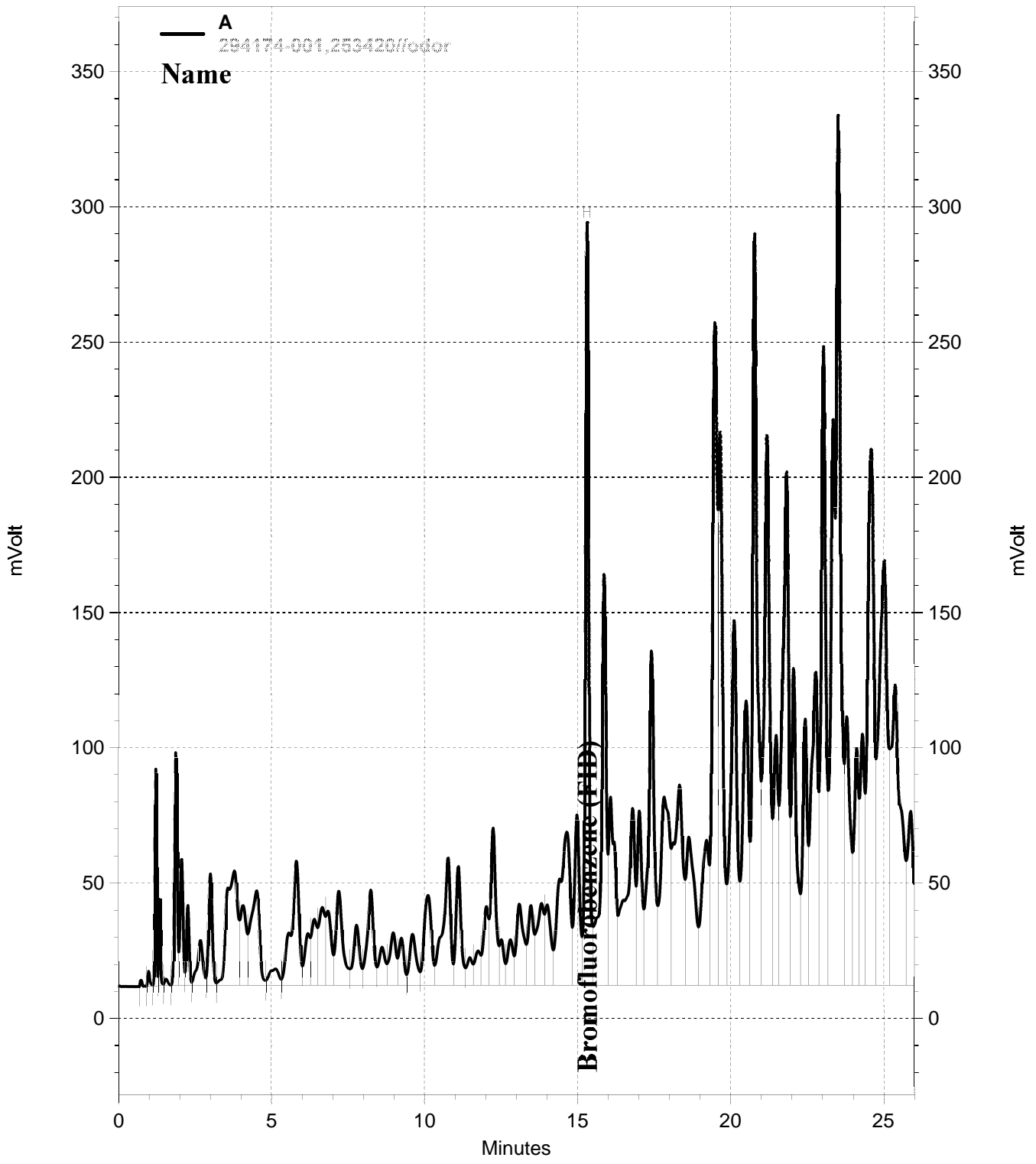
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

Type: MSD Lab ID: QC907860

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	6.879	70	52-120	0	25

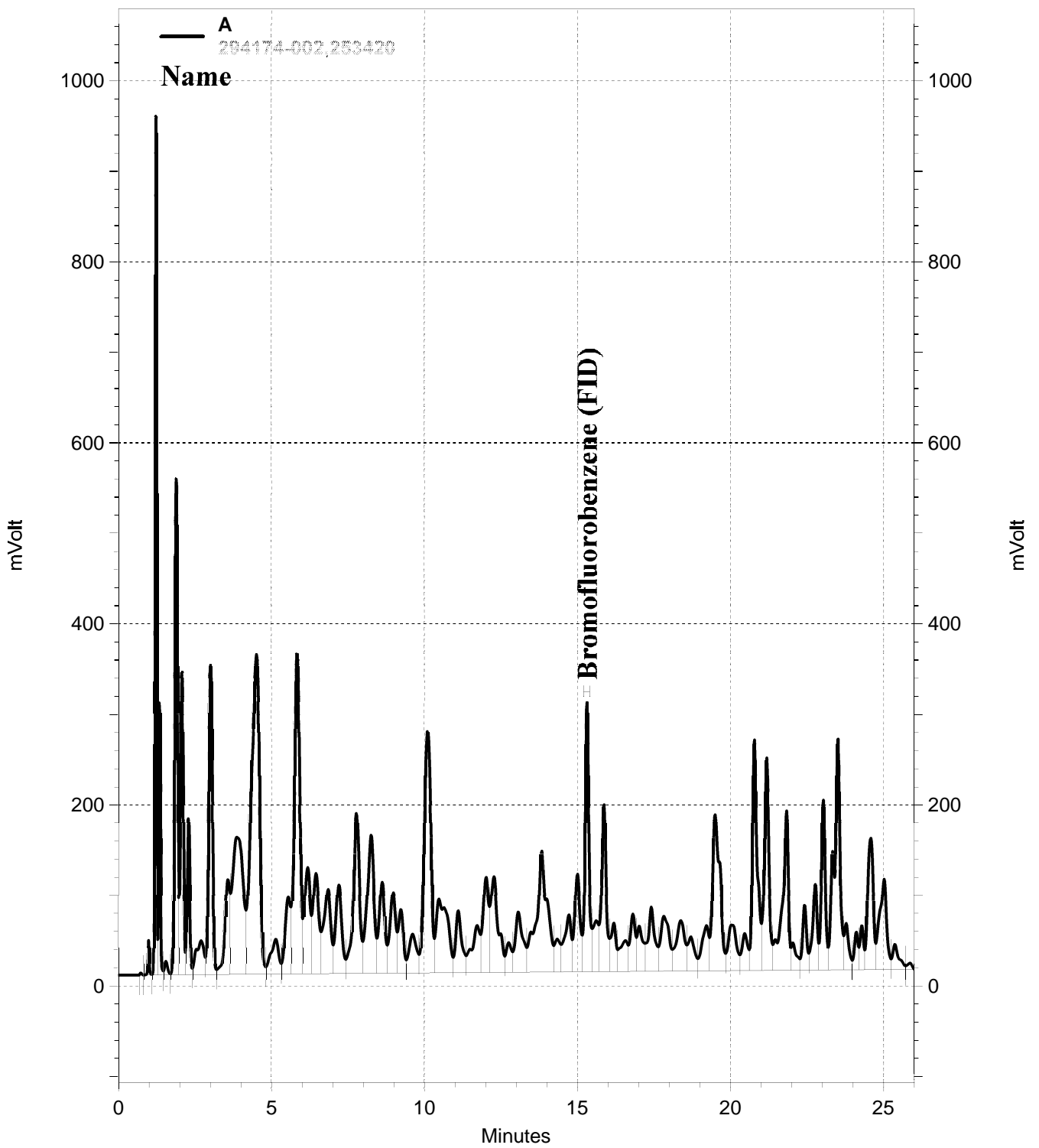
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

RPD= Relative Percent Difference

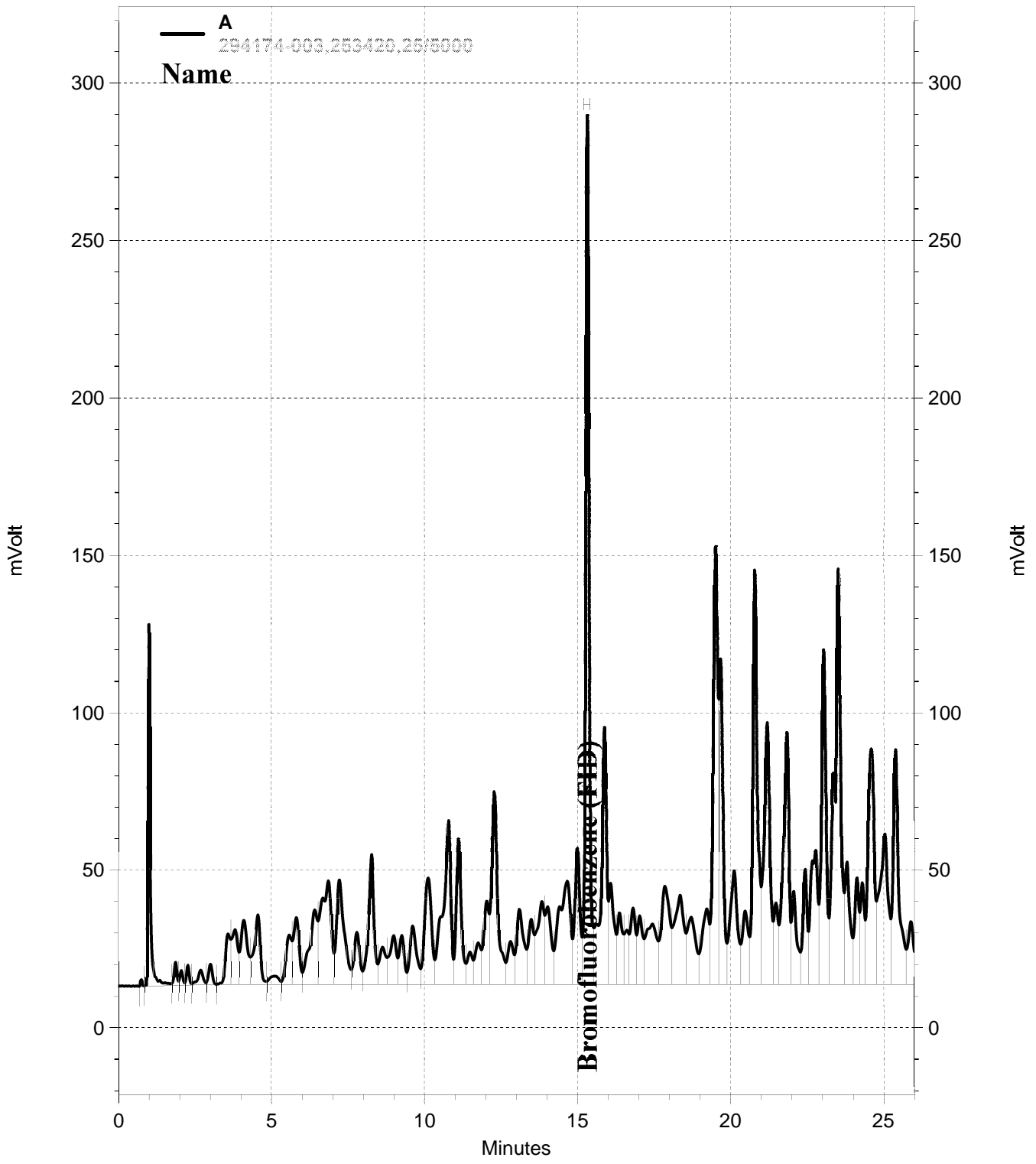


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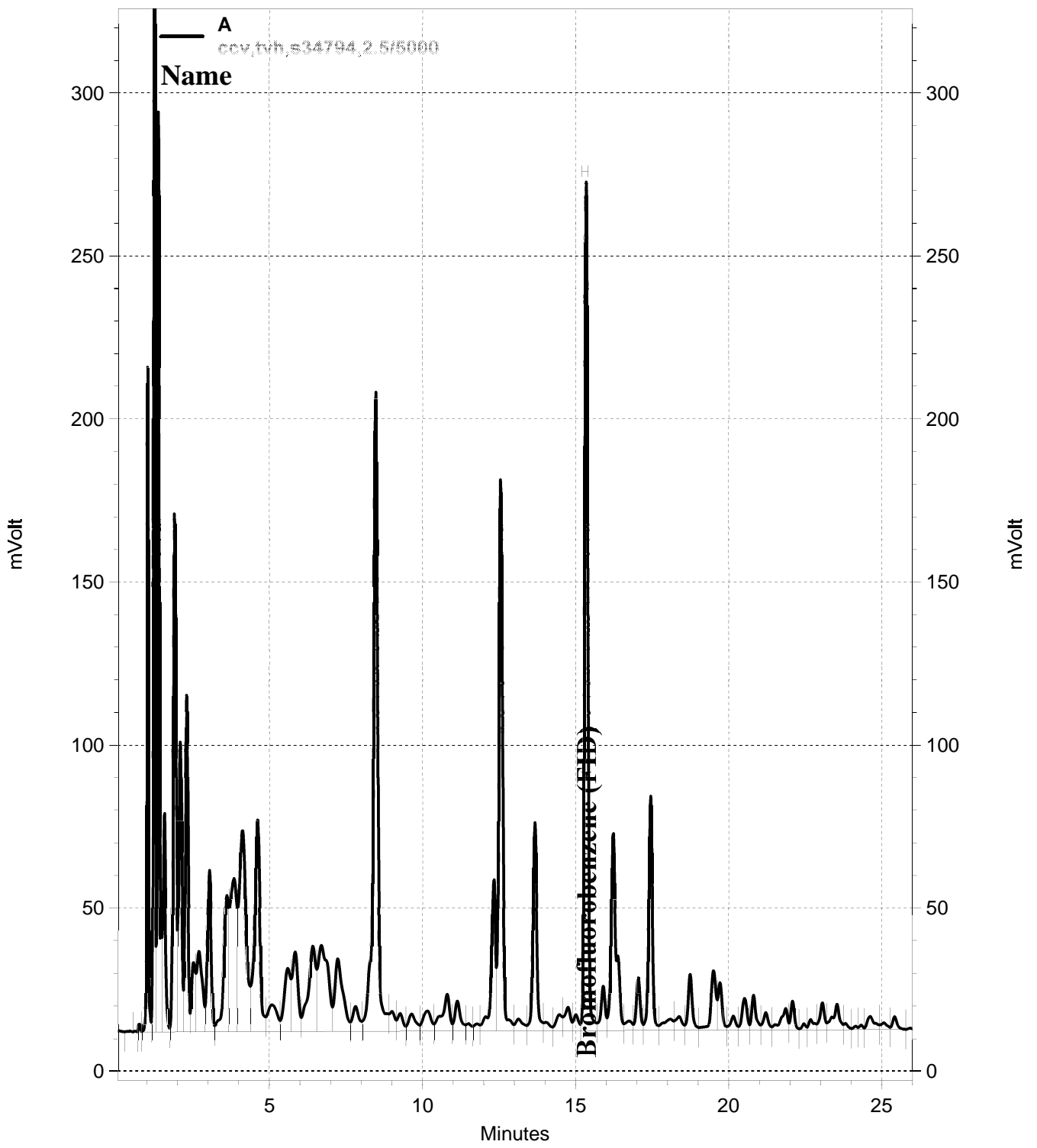


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Total Extractable Hydrocarbons			
Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/07/17
Units:	mg/Kg	Received:	11/07/17
Basis:	as received	Prepared:	11/07/17

Field ID: S-3-EX25 Diln Fac: 1.000
 Type: SAMPLE Batch#: 253410
 Lab ID: 294174-001 Analyzed: 11/08/17

Analyte	Result	RL
Diesel C10-C24	430	1.0

Surrogate	%REC	Limits
o-Terphenyl	115	55-133

Field ID: S-6-EX2B1 Diln Fac: 1.000
 Type: SAMPLE Batch#: 253433
 Lab ID: 294174-002 Analyzed: 11/08/17

Analyte	Result	RL
Diesel C10-C24	11 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	90	55-133

Field ID: S-3-EX2E Diln Fac: 10.00
 Type: SAMPLE Batch#: 253433
 Lab ID: 294174-003 Analyzed: 11/08/17

Analyte	Result	RL
Diesel C10-C24	880	10

Surrogate	%REC	Limits
o-Terphenyl	DO	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294174	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907815	Batch#:	253410	
Matrix:	Soil	Prepared:	11/07/17	
Units:	mg/Kg	Analyzed:	11/07/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.32	48.80	97	51-137

Surrogate	%REC	Limits
o-Terphenyl	106	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	S-12-EX1B2	Batch#:	253410
MSS Lab ID:	294116-003	Sampled:	11/06/17
Matrix:	Soil	Received:	11/06/17
Units:	mg/Kg	Prepared:	11/07/17
Basis:	as received	Analyzed:	11/07/17
Diln Fac:	1.000		

Type: MS Lab ID: QC907816

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	4.820	49.68	50.41	92	36-143

Surrogate	%REC	Limits
o-Terphenyl	99	55-133

Type: MSD Lab ID: QC907817

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.66	52.04	95	36-143	3	55

Surrogate	%REC	Limits
o-Terphenyl	95	55-133

RPD= Relative Percent Difference

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294174	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907902	Batch#:	253433	
Matrix:	Soil	Prepared:	11/07/17	
Units:	mg/Kg	Analyzed:	11/08/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	49.80	52.47	105	51-137

Surrogate	%REC	Limits
o-Terphenyl	119	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	253433
MSS Lab ID:	294093-001	Sampled:	11/02/17
Matrix:	Soil	Received:	11/06/17
Units:	mg/Kg	Prepared:	11/07/17
Basis:	as received	Analyzed:	11/08/17
Diln Fac:	1.000		

Type: MS Lab ID: QC907903

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	0.3664	49.89	52.54	105	36-143

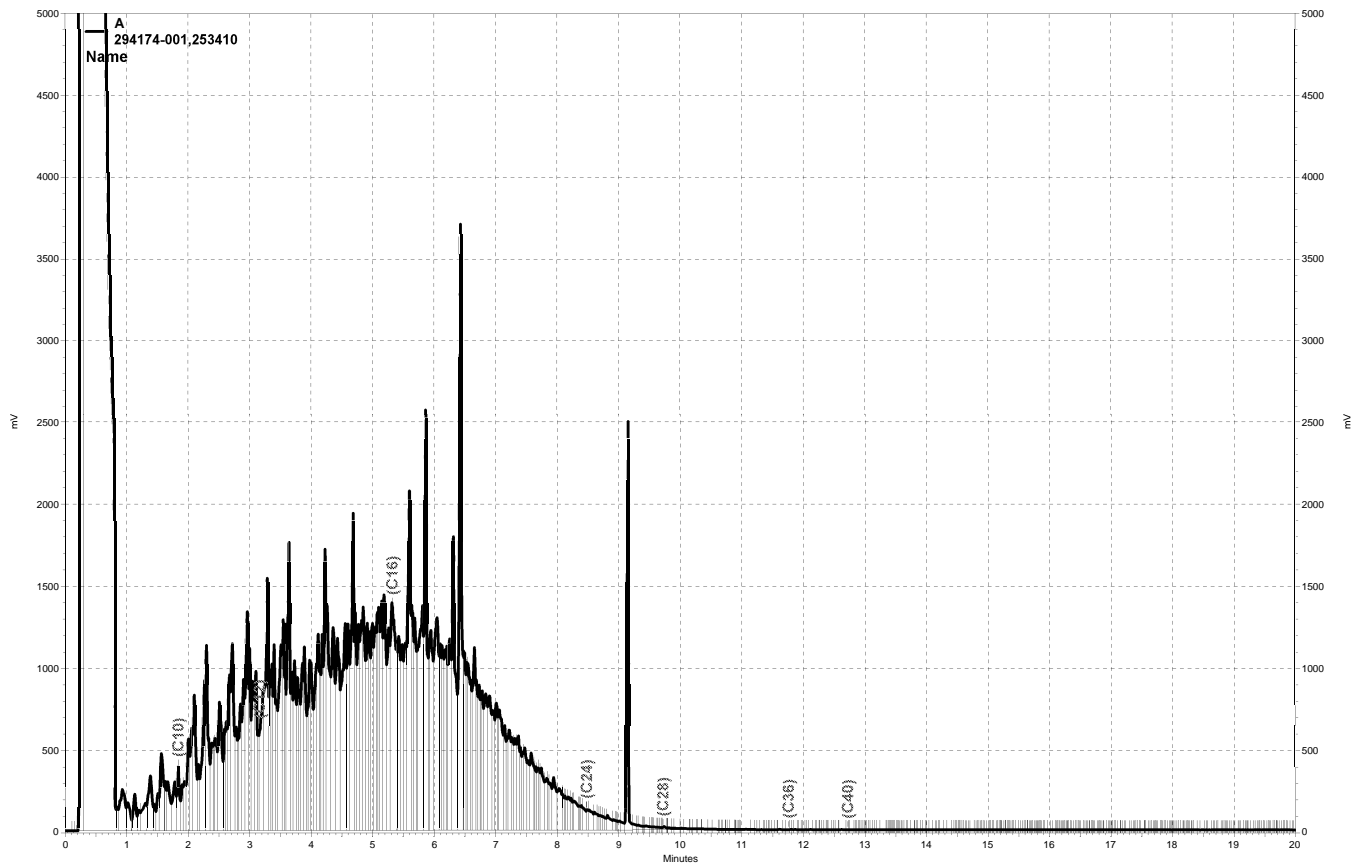
Surrogate	%REC	Limits
o-Terphenyl	116	55-133

Type: MSD Lab ID: QC907904

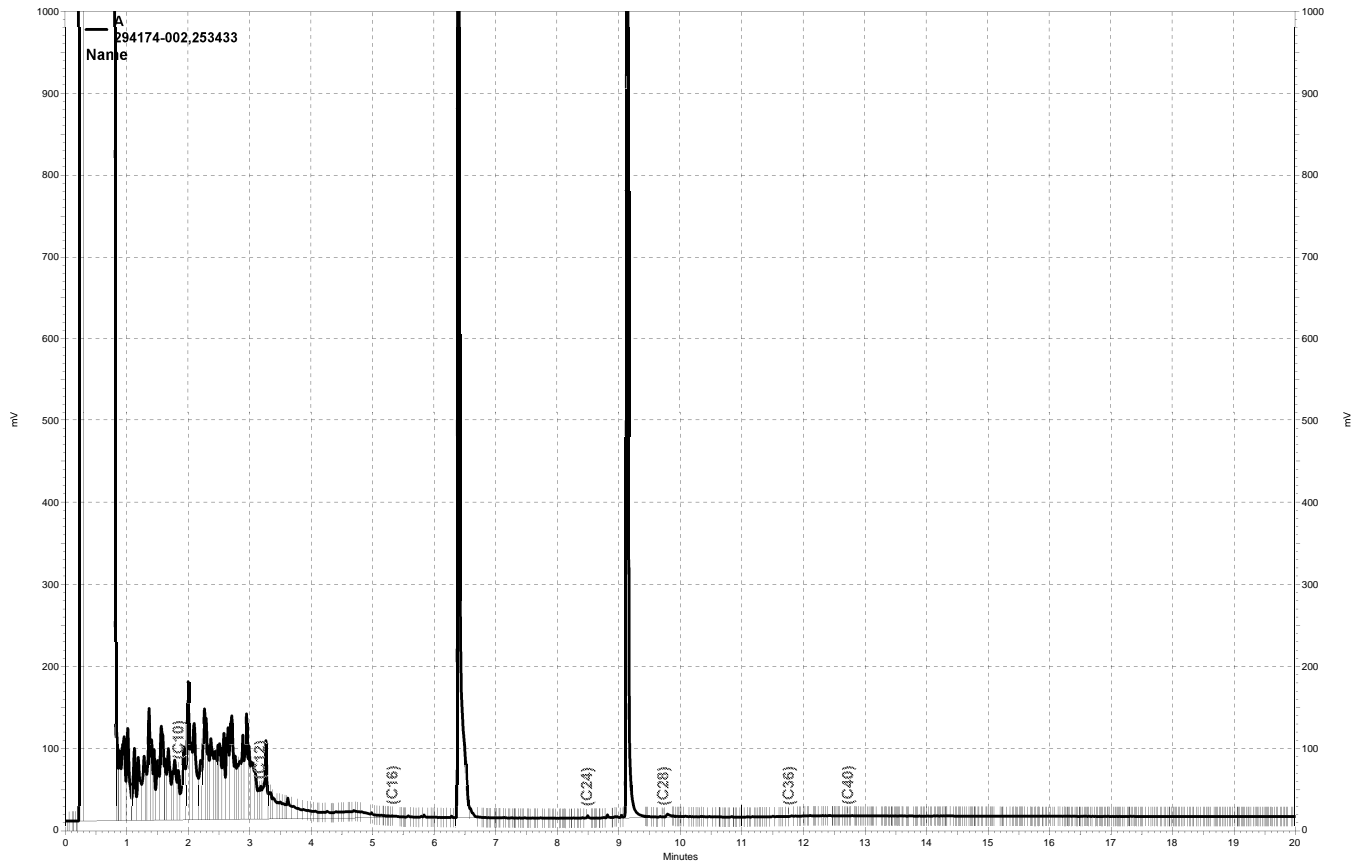
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	50.01	48.84	97	36-143	8	55

Surrogate	%REC	Limits
o-Terphenyl	105	55-133

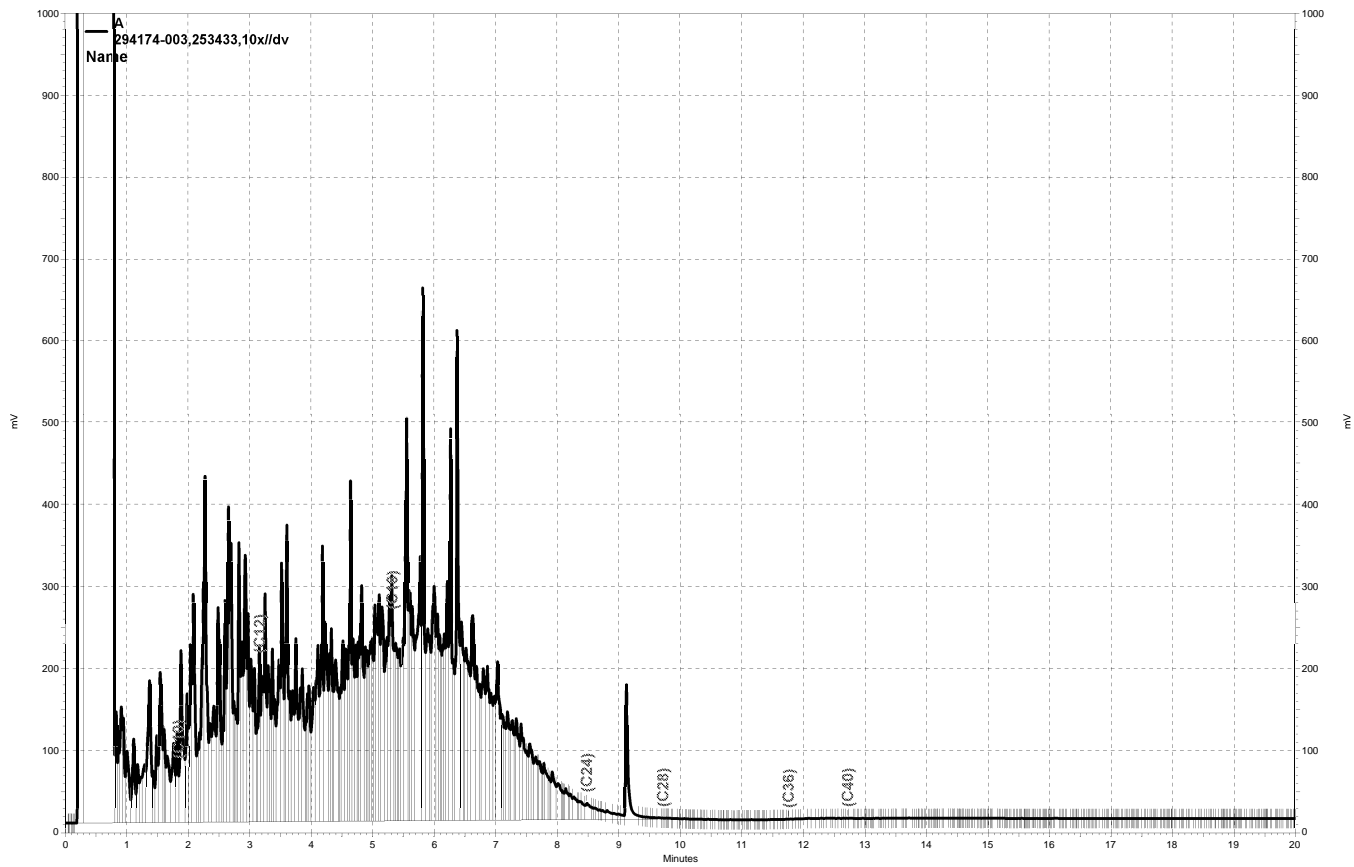
RPD= Relative Percent Difference



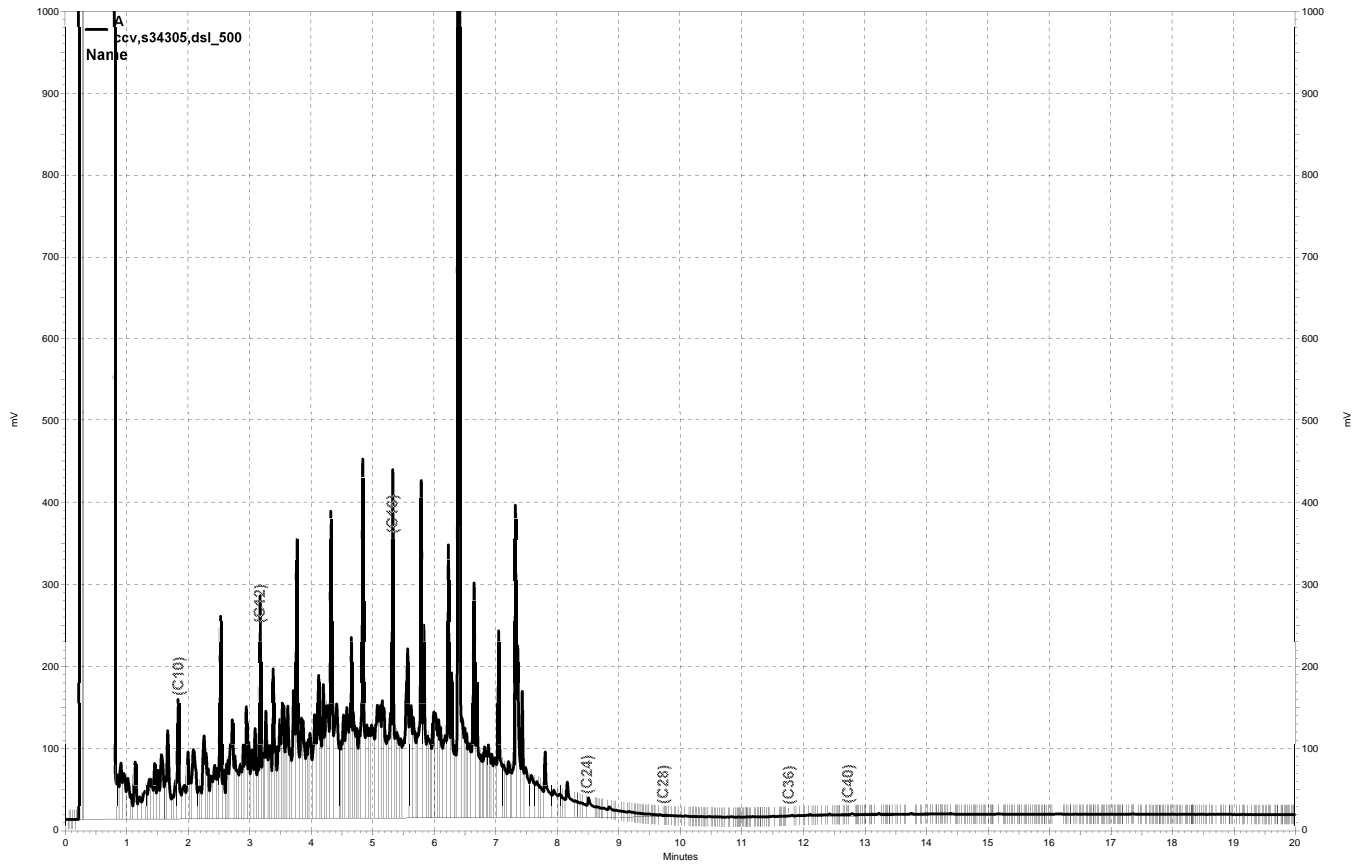
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Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX25	Diln Fac:	10.00
Lab ID:	294174-001	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	100
Chloromethane	ND	100
Vinyl Chloride	ND	100
Bromomethane	ND	100
Chloroethane	ND	100
Trichlorofluoromethane	ND	50
Acetone	ND	200
Freon 113	ND	50
1,1-Dichloroethene	ND	50
Methylene Chloride	ND	200
Carbon Disulfide	ND	50
MTBE	ND	50
trans-1,2-Dichloroethene	ND	50
Vinyl Acetate	ND	500
1,1-Dichloroethane	ND	50
2-Butanone	ND	100
cis-1,2-Dichloroethene	ND	50
2,2-Dichloropropane	ND	50
Chloroform	ND	50
Bromochloromethane	ND	50
1,1,1-Trichloroethane	ND	50
1,1-Dichloropropene	ND	50
Carbon Tetrachloride	ND	50
1,2-Dichloroethane	ND	50
Benzene	ND	50
Trichloroethene	ND	50
1,2-Dichloropropane	ND	50
Bromodichloromethane	ND	50
Dibromomethane	ND	50
4-Methyl-2-Pentanone	ND	100
cis-1,3-Dichloropropene	ND	50
Toluene	ND	50
trans-1,3-Dichloropropene	ND	50
1,1,2-Trichloroethane	ND	50
2-Hexanone	ND	100
1,3-Dichloropropane	ND	50
Tetrachloroethene	ND	50

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX25	Diln Fac:	10.00
Lab ID:	294174-001	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Dibromochloromethane	ND	50
1,2-Dibromoethane	ND	50
Chlorobenzene	ND	50
1,1,1,2-Tetrachloroethane	ND	50
Ethylbenzene	ND	50
m,p-Xylenes	ND	50
o-Xylene	ND	50
Styrene	ND	50
Bromoform	ND	50
Isopropylbenzene	51	50
1,1,2,2-Tetrachloroethane	ND	50
1,2,3-Trichloropropane	ND	50
Propylbenzene	300	50
Bromobenzene	ND	50
1,3,5-Trimethylbenzene	ND	50
2-Chlorotoluene	ND	50
4-Chlorotoluene	ND	50
tert-Butylbenzene	ND	50
1,2,4-Trimethylbenzene	250	50
sec-Butylbenzene	91	50
para-Isopropyl Toluene	ND	50
1,3-Dichlorobenzene	ND	50
1,4-Dichlorobenzene	ND	50
n-Butylbenzene	300	50
1,2-Dichlorobenzene	ND	50
1,2-Dibromo-3-Chloropropane	ND	50
1,2,4-Trichlorobenzene	ND	50
Hexachlorobutadiene	ND	50
Naphthalene	160	50
1,2,3-Trichlorobenzene	ND	50

Surrogate	%REC	Limits
Dibromofluoromethane	94	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	107	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX2B1	Diln Fac:	2.016
Lab ID:	294174-002	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	20
Chloromethane	ND	20
Vinyl Chloride	ND	20
Bromomethane	ND	20
Chloroethane	ND	20
Trichlorofluoromethane	ND	10
Acetone	ND	40
Freon 113	ND	10
1,1-Dichloroethene	ND	10
Methylene Chloride	ND	40
Carbon Disulfide	ND	10
MTBE	ND	10
trans-1,2-Dichloroethene	ND	10
Vinyl Acetate	ND	100
1,1-Dichloroethane	ND	10
2-Butanone	ND	20
cis-1,2-Dichloroethene	ND	10
2,2-Dichloropropane	ND	10
Chloroform	ND	10
Bromochloromethane	ND	10
1,1,1-Trichloroethane	ND	10
1,1-Dichloropropene	ND	10
Carbon Tetrachloride	ND	10
1,2-Dichloroethane	ND	10
Benzene	ND	10
Trichloroethene	ND	10
1,2-Dichloropropane	ND	10
Bromodichloromethane	ND	10
Dibromomethane	ND	10
4-Methyl-2-Pentanone	ND	20
cis-1,3-Dichloropropene	ND	10
Toluene	ND	10
trans-1,3-Dichloropropene	ND	10
1,1,2-Trichloroethane	ND	10
2-Hexanone	ND	20
1,3-Dichloropropane	ND	10
Tetrachloroethene	ND	10
Dibromochloromethane	ND	10
1,2-Dibromoethane	ND	10
Chlorobenzene	ND	10
1,1,1,2-Tetrachloroethane	ND	10
Ethylbenzene	77	10
m,p-Xylenes	55	10
o-Xylene	ND	10
Styrene	ND	10
Bromoform	ND	10
Isopropylbenzene	26	10
1,1,2,2-Tetrachloroethane	ND	10
1,2,3-Trichloropropane	ND	10
Propylbenzene	80	10
Bromobenzene	ND	10
1,3,5-Trimethylbenzene	35	10
2-Chlorotoluene	ND	10

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX2B1	Diln Fac:	2.016
Lab ID:	294174-002	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
4-Chlorotoluene	ND	10
tert-Butylbenzene	ND	10
1,2,4-Trimethylbenzene	110	10
sec-Butylbenzene	23	10
para-Isopropyl Toluene	17	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
n-Butylbenzene	50	10
1,2-Dichlorobenzene	ND	10
1,2-Dibromo-3-Chloropropane	ND	10
1,2,4-Trichlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Naphthalene	26	10
1,2,3-Trichlorobenzene	ND	10

Surrogate	%REC	Limits
Dibromofluoromethane	90	76-132
1,2-Dichloroethane-d4	93	74-149
Toluene-d8	103	80-120
Bromofluorobenzene	138 *	78-134

*= Value outside of QC limits; see narrative
 ND= Not Detected
 RL= Reporting Limit
 Page 2 of 2

Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2E	Diln Fac:	50.00
Lab ID:	294174-003	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	500
Chloromethane	ND	500
Vinyl Chloride	ND	500
Bromomethane	ND	500
Chloroethane	ND	500
Trichlorofluoromethane	ND	250
Acetone	ND	1,000
Freon 113	ND	250
1,1-Dichloroethene	ND	250
Methylene Chloride	ND	1,000
Carbon Disulfide	ND	250
MTBE	ND	250
trans-1,2-Dichloroethene	ND	250
Vinyl Acetate	ND	2,500
1,1-Dichloroethane	ND	250
2-Butanone	ND	500
cis-1,2-Dichloroethene	ND	250
2,2-Dichloropropane	ND	250
Chloroform	ND	250
Bromochloromethane	ND	250
1,1,1-Trichloroethane	ND	250
1,1-Dichloropropene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Trichloroethene	ND	250
1,2-Dichloropropane	ND	250
Bromodichloromethane	ND	250
Dibromomethane	ND	250
4-Methyl-2-Pentanone	ND	500
cis-1,3-Dichloropropene	ND	250
Toluene	ND	250
trans-1,3-Dichloropropene	ND	250
1,1,2-Trichloroethane	ND	250
2-Hexanone	ND	500
1,3-Dichloropropane	ND	250
Tetrachloroethene	ND	250

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294174	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2E	Diln Fac:	50.00
Lab ID:	294174-003	Batch#:	253446
Matrix:	Soil	Sampled:	11/07/17
Units:	ug/Kg	Received:	11/07/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Dibromochloromethane	ND	250
1,2-Dibromoethane	ND	250
Chlorobenzene	ND	250
1,1,1,2-Tetrachloroethane	ND	250
Ethylbenzene	1,300	250
m,p-Xylenes	ND	250
o-Xylene	ND	250
Styrene	ND	250
Bromoform	ND	250
Isopropylbenzene	630	250
1,1,2,2-Tetrachloroethane	ND	250
1,2,3-Trichloropropane	ND	250
Propylbenzene	3,100	250
Bromobenzene	ND	250
1,3,5-Trimethylbenzene	650	250
2-Chlorotoluene	ND	250
4-Chlorotoluene	ND	250
tert-Butylbenzene	ND	250
1,2,4-Trimethylbenzene	ND	250
sec-Butylbenzene	560	250
para-Isopropyl Toluene	270	250
1,3-Dichlorobenzene	ND	250
1,4-Dichlorobenzene	ND	250
n-Butylbenzene	3,000	250
1,2-Dichlorobenzene	ND	250
1,2-Dibromo-3-Chloropropane	ND	250
1,2,4-Trichlorobenzene	ND	250
Hexachlorobutadiene	ND	250
Naphthalene	4,700	250
1,2,3-Trichlorobenzene	ND	250

Surrogate	%REC	Limits
Dibromofluoromethane	94	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	115	78-134
Trifluorotoluene (MeOH)	92	54-131

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294174	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907954	Batch#: 253446
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294174	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907954	Batch#: 253446
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	106	76-132
1,2-Dichloroethane-d4	100	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	106	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294174	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC907955	Batch#: 253446
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	29.36	117	68-132
Benzene	25.00	26.08	104	75-123
Trichloroethene	25.00	25.71	103	75-120
Toluene	25.00	23.88	96	76-120
Chlorobenzene	25.00	24.30	97	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	98	76-132
1,2-Dichloroethane-d4	102	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	109	78-134



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294203
ANALYTICAL REPORT

Cardno, Inc.
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
S-6-EX2B2	294203-001
S-3-EX2BW	294203-002
S-3-EX2BN	294203-003

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

Date: 11/09/2017

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294203
Client: Cardno, Inc.
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/08/17
Samples Received: 11/08/17

This data package contains sample and QC results for three soil samples, requested for the above referenced project on 11/08/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

High recovery was observed for diesel C10-C24 in the MSD for batch 253426; the parent sample was not a project sample, and the LCS was within limits. High RPD was also observed for diesel C10-C24 in the MS/MSD for batch 253426. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

Matrix spikes were not performed for this analysis in batch 253451 due to insufficient sample amount. S-6-EX2B2 (lab # 294203-001) was diluted due to high hydrocarbons. No other analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

CHAIN OF CUSTODY

Chain of Custody # : _____

C&T LOGIN # 294703

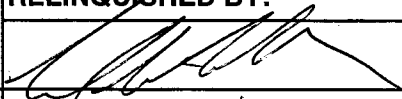

Project No: E317602000
 Project Name: Ellwood Commercial Real Estate
 EDD Format: EDF Rpt Level: II III IV
 Turnaround Time: RUSH 24-hour Standard

Sampler: CARL MIKLICH
 Report To: Glen Smith
 Company: Cardno
 Telephone: 510.362.2170
 Email: glen.smith@cardno.com

Analytical Request

	TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B																	
	X	X	X																	
	X	X	X																	
	X	X	X																	

Lab No.	Sample ID.	Sampling		Matrix				Chemical Preservative					
		Date	Time	Water	Soil			# of Containers	HCl	H ₂ SO ₄	HNO ₃	NaOH	None
	<u>S-6-EX2B2</u>	<u>11-8-17</u>	<u>835</u>	X				1					X
	<u>S-3-EX2W</u>	<u>11-8-17</u>	<u>1005</u>	X				1					X
	<u>S-3-EX2Y</u>	<u>11-8-17</u>	<u>1020</u>	X				1					X

Notes: Geotracker Global ID T1000007707	SAMPLE RECEIPT <input type="checkbox"/> Intact <input type="checkbox"/> Cold <input type="checkbox"/> On Ice <input type="checkbox"/> Ambient	RELINQUISHED BY:  DATE/TIME: <u>11/8 @ 17:30</u>	RECEIVED BY:  DATE/TIME: <u>11/8 @ 11:08</u>
		DATE/TIME: _____	DATE/TIME: <u>11/8/17 @ 17:30</u>
		DATE/TIME: _____	DATE/TIME: _____

Call Patrick McCarthy to schedule currior 510.204.2236

COOLER RECEIPT CHECKLIST



Login # 294 203 Date Received 11/08/17 Number of coolers 1
Client CARDNO Project E317602000

Date Opened 11/07/17 By (print) EHS (sign)
Date Logged in By (print) EHS (sign)
Date Labelled By (print) EHS (sign)

1. Did cooler come with a shipping slip (airbill, etc) YES NO
Shipping info

2A. Were custody seals present? ... YES (circle) on cooler on samples NO
How many Name Date

2B. Were custody seals intact upon arrival? YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe)

- Bubble Wrap, Foam blocks, Bags, None, Cloth material, Cardboard, Styrofoam, Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.4

Temperature blank(s) included? Thermometer# IR Gun# B

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? YES NO

If YES, what time were they transferred to freezer?

9. Did all bottles arrive unbroken/unopened? YES NO

10. Are there any missing / extra samples? YES NO

11. Are samples in the appropriate containers for indicated tests? YES NO

12. Are sample labels present, in good condition and complete? YES NO

13. Do the sample labels agree with custody papers? YES NO

14. Was sufficient amount of sample sent for tests requested? YES NO

15. Are the samples appropriately preserved? YES NO N/A

16. Did you check preservatives for all bottles for each sample? YES NO N/A

17. Did you document your preservative check? (pH strip lot#) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? YES NO N/A

21. Was the client contacted concerning this sample delivery? YES NO

If YES, Who was called? By Date:

COMMENTS

Detections Summary for 294203

Results for any subcontracted analyses are not included in this summary.

Client : Cardno, Inc.
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-6-EX2B2 Laboratory Sample ID : 294203-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	47		1.9	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	19	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
m,p-Xylenes	250		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	1,100		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B
Naphthalene	640		250	ug/Kg	As Recd	50.00	EPA 8260B	EPA 5030B

Client Sample ID : S-3-EX2BW Laboratory Sample ID : 294203-002

No Detections

Client Sample ID : S-3-EX2BN Laboratory Sample ID : 294203-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	1.6	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253483
Units:	mg/Kg	Sampled:	11/08/17
Basis:	as received	Received:	11/08/17
Diln Fac:	1.000		

Field ID: S-6-EX2B2 Lab ID: 294203-001
 Type: SAMPLE Analyzed: 11/09/17

Analyte	Result	RL
Gasoline C7-C12	47	1.9

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	130	65-136

Field ID: S-3-EX2BW Lab ID: 294203-002
 Type: SAMPLE Analyzed: 11/09/17

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	102	65-136

Field ID: S-3-EX2BN Lab ID: 294203-003
 Type: SAMPLE Analyzed: 11/09/17

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Type: BLANK Analyzed: 11/08/17
 Lab ID: QC908091

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	65-136

Batch QC Report

Total Volatile Hydrocarbons				
Lab #:	294203	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC908086	Batch#:	253483	
Matrix:	Soil	Analyzed:	11/08/17	
Units:	mg/Kg			

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9351	94	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	87	65-136

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	294203	Location: Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B	
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	294216-001	Batch#:	253483
Matrix:	Soil	Sampled:	11/08/17
Units:	mg/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/09/17

Type: MS Lab ID: QC908089

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.1527	9.091	7.440	80	52-120

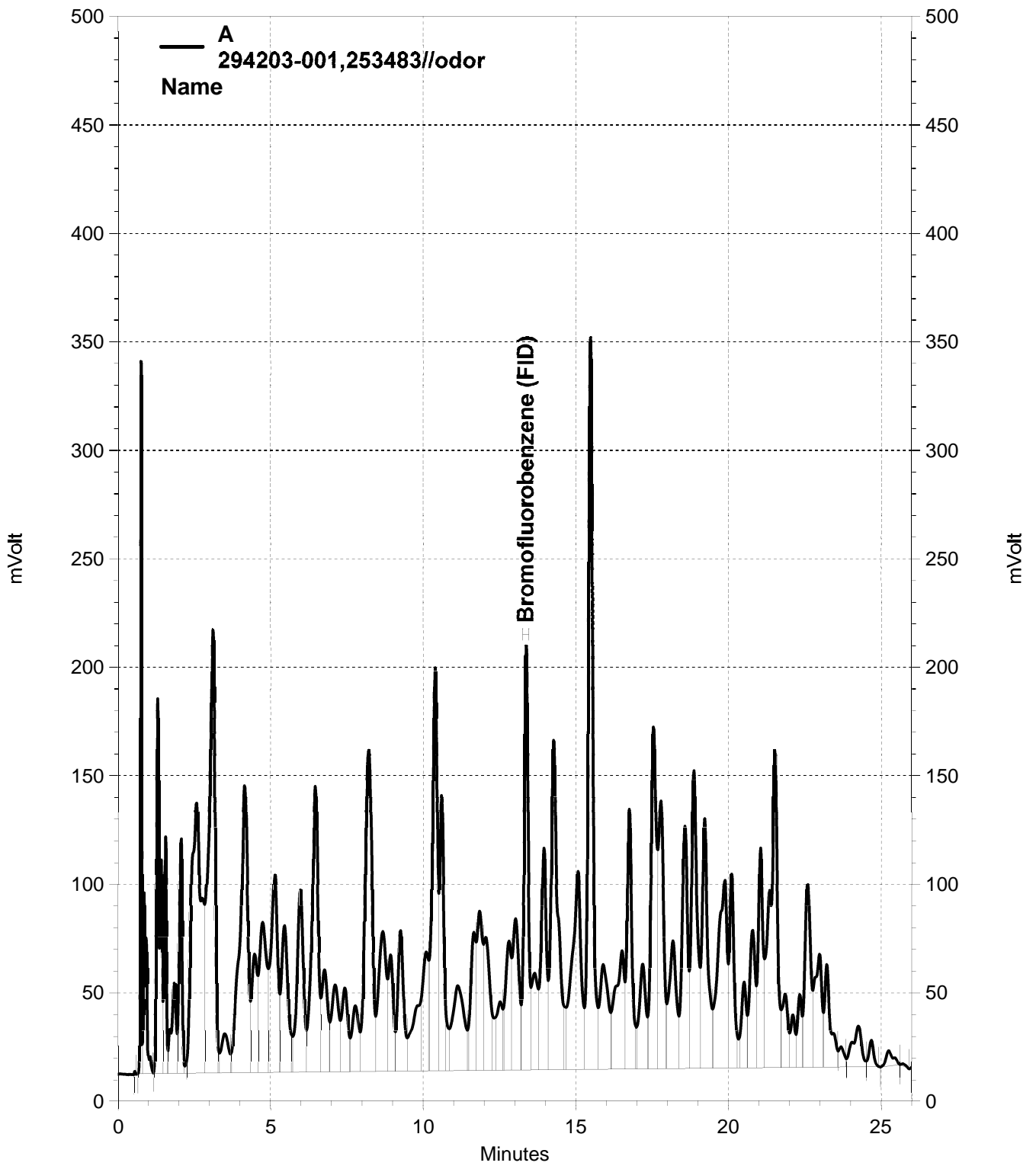
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	107	65-136

Type: MSD Lab ID: QC908090

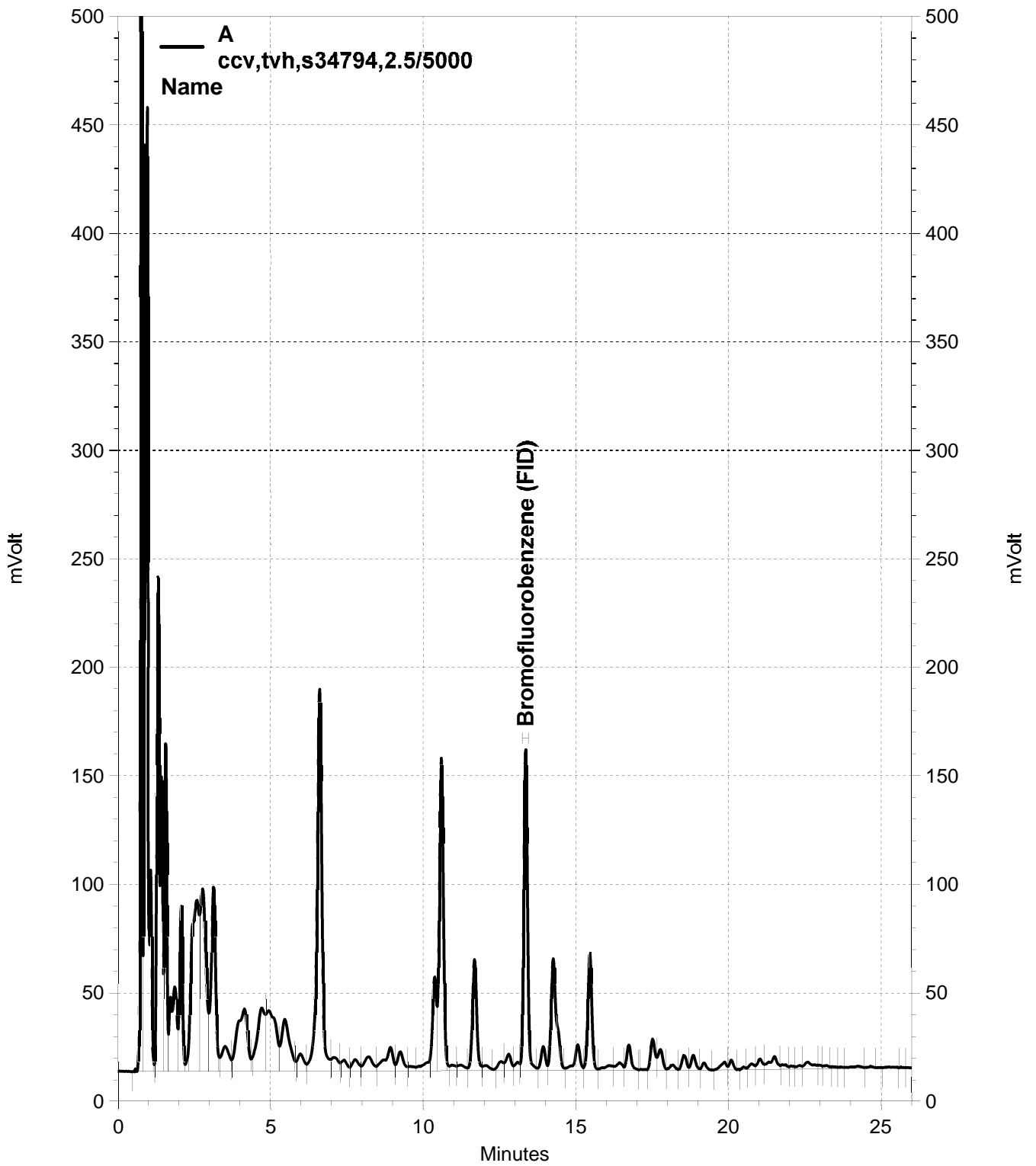
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	9.804	7.888	79	52-120	2	25

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	65-136

RPD= Relative Percent Difference



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— \\Lims\gdrive\ezchrom\Projects\GC05\Data\2017\312-003, A

Total Extractable Hydrocarbons			
Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253426
Units:	mg/Kg	Sampled:	11/08/17
Basis:	as received	Received:	11/08/17
Diln Fac:	1.000		

Field ID: S-6-EX2B2 Prepared: 11/08/17
 Type: SAMPLE Analyzed: 11/09/17
 Lab ID: 294203-001

Analyte	Result	RL
Diesel C10-C24	19 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	108	55-133

Field ID: S-3-EX2BW Prepared: 11/08/17
 Type: SAMPLE Analyzed: 11/09/17
 Lab ID: 294203-002

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	102	55-133

Field ID: S-3-EX2BN Prepared: 11/08/17
 Type: SAMPLE Analyzed: 11/09/17
 Lab ID: 294203-003

Analyte	Result	RL
Diesel C10-C24	1.6 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	103	55-133

Type: BLANK Prepared: 11/07/17
 Lab ID: QC907881 Analyzed: 11/08/17

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	91	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294203	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC907882	Batch#:	253426	
Matrix:	Soil	Prepared:	11/07/17	
Units:	mg/Kg	Analyzed:	11/08/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	47.89	96	51-137

Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Batch QC Report

Total Extractable Hydrocarbons		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 3550C
Project#:	E317602000	Analysis: EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#: 253426
MSS Lab ID:	294061-044	Sampled: 07/31/17
Matrix:	Soil	Received: 07/31/17
Units:	mg/Kg	Prepared: 11/07/17
Basis:	as received	Analyzed: 11/08/17
Diln Fac:	1.000	

Type: MS Cleanup Method: EPA 3630C
 Lab ID: QC907883

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	8.746	50.42	58.88	99	36-143

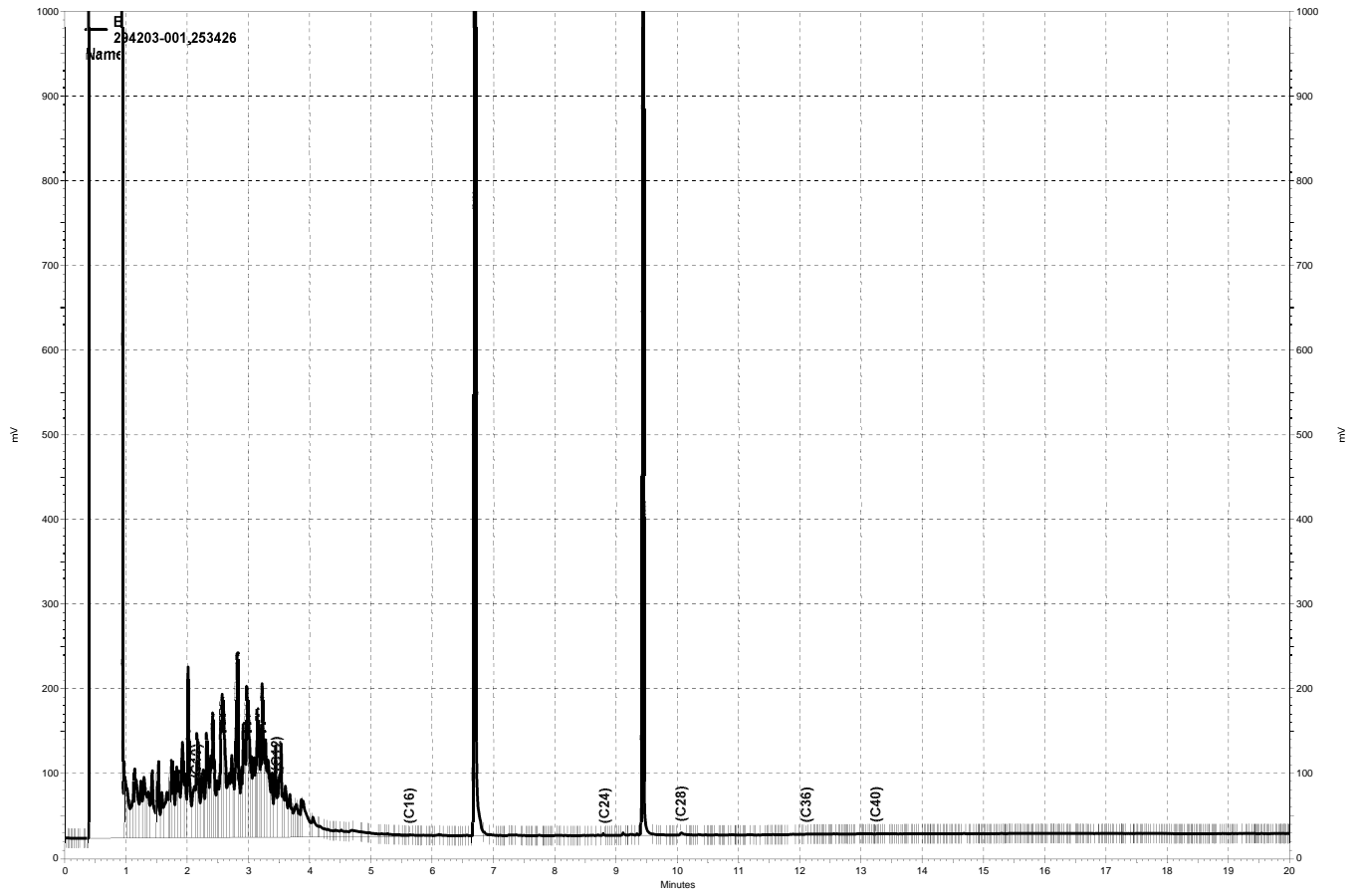
Surrogate	%REC	Limits
o-Terphenyl	71	55-133

Type: MSD Cleanup Method: EPA 3630C
 Lab ID: QC907884

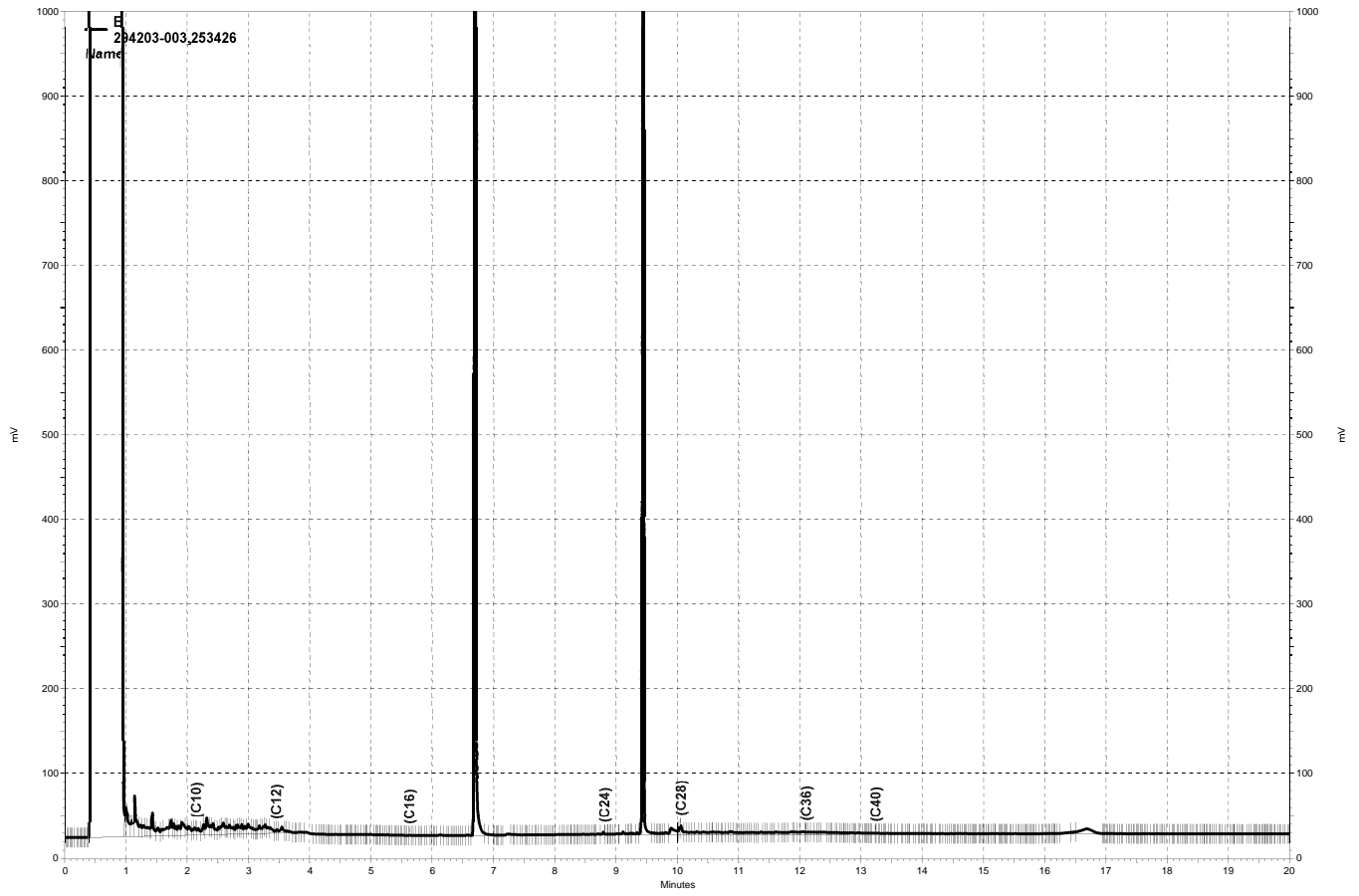
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.85	182.2	348 *	36-143	103 *	55

Surrogate	%REC	Limits
o-Terphenyl	77	55-133

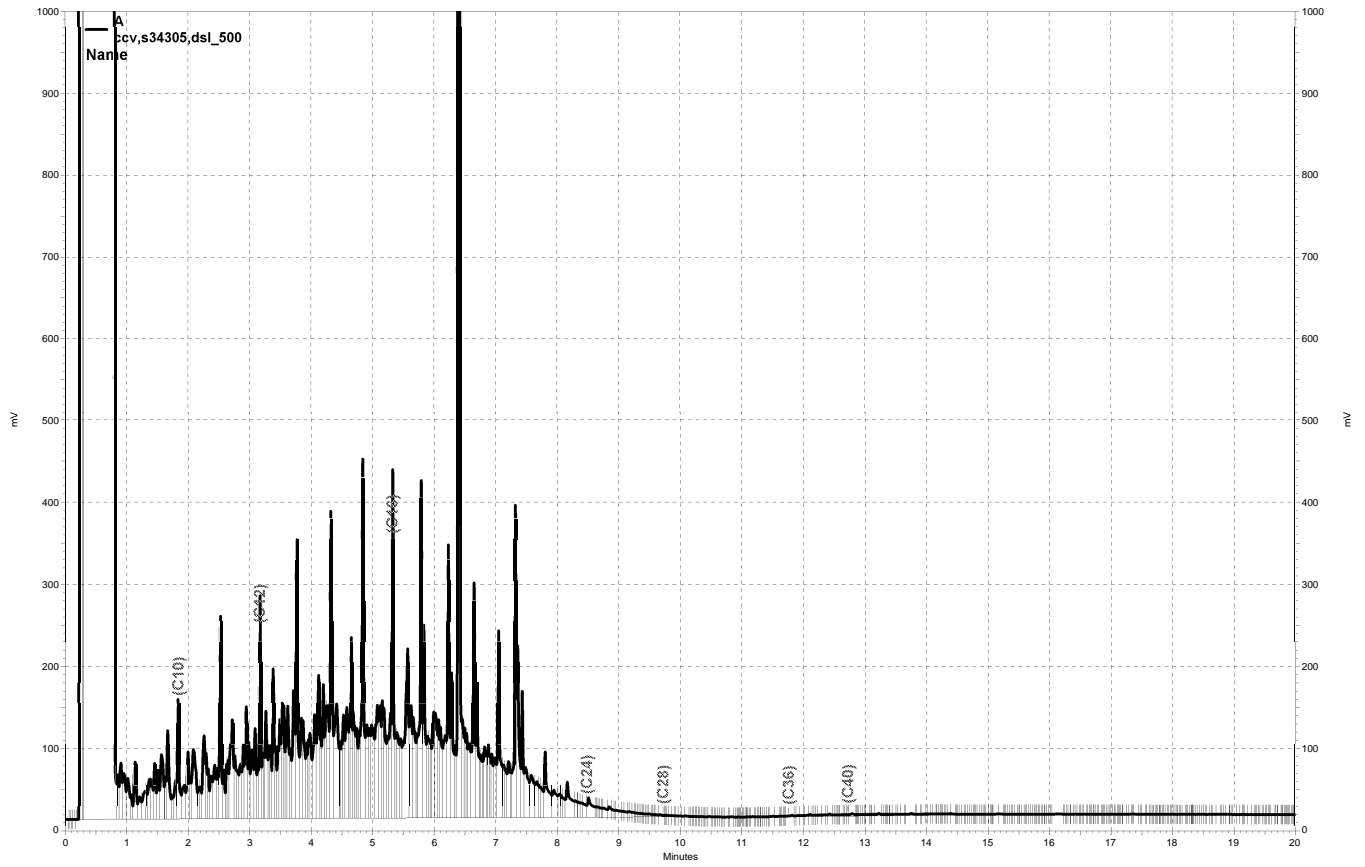
*= Value outside of QC limits; see narrative
 RPD= Relative Percent Difference



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\\kraken\gdrive\ezchrom\Projects\GC14B\Data\2017\313b007, B



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Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX2B2	Diln Fac:	50.00
Lab ID:	294203-001	Batch#:	253451
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	500
Chloromethane	ND	500
Vinyl Chloride	ND	500
Bromomethane	ND	500
Chloroethane	ND	500
Trichlorofluoromethane	ND	250
Acetone	ND	1,000
Freon 113	ND	250
1,1-Dichloroethene	ND	250
Methylene Chloride	ND	1,000
Carbon Disulfide	ND	250
MTBE	ND	250
trans-1,2-Dichloroethene	ND	250
Vinyl Acetate	ND	2,500
1,1-Dichloroethane	ND	250
2-Butanone	ND	500
cis-1,2-Dichloroethene	ND	250
2,2-Dichloropropane	ND	250
Chloroform	ND	250
Bromochloromethane	ND	250
1,1,1-Trichloroethane	ND	250
1,1-Dichloropropene	ND	250
Carbon Tetrachloride	ND	250
1,2-Dichloroethane	ND	250
Benzene	ND	250
Trichloroethene	ND	250
1,2-Dichloropropane	ND	250
Bromodichloromethane	ND	250
Dibromomethane	ND	250
4-Methyl-2-Pentanone	ND	500
cis-1,3-Dichloropropene	ND	250
Toluene	ND	250
trans-1,3-Dichloropropene	ND	250
1,1,2-Trichloroethane	ND	250
2-Hexanone	ND	500
1,3-Dichloropropane	ND	250
Tetrachloroethene	ND	250

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-6-EX2B2	Diln Fac:	50.00
Lab ID:	294203-001	Batch#:	253451
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Dibromochloromethane	ND	250
1,2-Dibromoethane	ND	250
Chlorobenzene	ND	250
1,1,1,2-Tetrachloroethane	ND	250
Ethylbenzene	ND	250
m,p-Xylenes	250	250
o-Xylene	ND	250
Styrene	ND	250
Bromoform	ND	250
Isopropylbenzene	ND	250
1,1,2,2-Tetrachloroethane	ND	250
1,2,3-Trichloropropane	ND	250
Propylbenzene	ND	250
Bromobenzene	ND	250
1,3,5-Trimethylbenzene	ND	250
2-Chlorotoluene	ND	250
4-Chlorotoluene	ND	250
tert-Butylbenzene	ND	250
1,2,4-Trimethylbenzene	1,100	250
sec-Butylbenzene	ND	250
para-Isopropyl Toluene	ND	250
1,3-Dichlorobenzene	ND	250
1,4-Dichlorobenzene	ND	250
n-Butylbenzene	ND	250
1,2-Dichlorobenzene	ND	250
1,2-Dibromo-3-Chloropropane	ND	250
1,2,4-Trichlorobenzene	ND	250
Hexachlorobutadiene	ND	250
Naphthalene	640	250
1,2,3-Trichlorobenzene	ND	250

Surrogate	%REC	Limits
Dibromofluoromethane	91	76-132
1,2-Dichloroethane-d4	95	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	102	78-134
Trifluorotoluene (MeOH)	104	54-131

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2BW	Diln Fac:	0.9259
Lab ID:	294203-002	Batch#:	253423
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2BW	Diln Fac:	0.9259
Lab ID:	294203-002	Batch#:	253423
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-132
1,2-Dichloroethane-d4	115	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	111	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2BN	Diln Fac:	0.9259
Lab ID:	294203-003	Batch#:	253423
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Freon 12	ND	9.3
Chloromethane	ND	9.3
Vinyl Chloride	ND	9.3
Bromomethane	ND	9.3
Chloroethane	ND	9.3
Trichlorofluoromethane	ND	4.6
Acetone	ND	19
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.3
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.3
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.3
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294203	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX2BN	Diln Fac:	0.9259
Lab ID:	294203-003	Batch#:	253423
Matrix:	Soil	Sampled:	11/08/17
Units:	ug/Kg	Received:	11/08/17
Basis:	as received	Analyzed:	11/08/17

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	ND	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	ND	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	110	76-132
1,2-Dichloroethane-d4	110	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	107	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 253423
Units:	ug/Kg	Analyzed: 11/08/17
Diln Fac:	1.000	

Type: BS Lab ID: QC907870

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.61	98	68-132
Benzene	25.00	23.77	95	75-123
Trichloroethene	25.00	22.98	92	75-120
Toluene	25.00	22.66	91	76-120
Chlorobenzene	25.00	22.65	91	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	76-132
1,2-Dichloroethane-d4	102	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	102	78-134

Type: BSD Lab ID: QC907871

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	21.70	87	68-132	13	28
Benzene	25.00	21.42	86	75-123	10	25
Trichloroethene	25.00	20.65	83	75-120	11	23
Toluene	25.00	20.54	82	76-120	10	24
Chlorobenzene	25.00	20.57	82	80-120	10	21

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-132
1,2-Dichloroethane-d4	100	74-149
Toluene-d8	100	80-120
Bromofluorobenzene	102	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907872	Batch#: 253423
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907872	Batch#: 253423
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-132
1,2-Dichloroethane-d4	100	74-149
Toluene-d8	101	80-120
Bromofluorobenzene	110	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907968	Batch#: 253451
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC907968	Batch#: 253451
Matrix:	Soil	Analyzed: 11/08/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	100	76-132
1,2-Dichloroethane-d4	95	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	99	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294203	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Matrix:	Soil	Batch#: 253451
Units:	ug/Kg	Analyzed: 11/08/17
Diln Fac:	1.000	

Type: BS Lab ID: QC907969

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	24.10	96	68-132
Benzene	25.00	21.75	87	75-123
Trichloroethene	25.00	22.23	89	75-120
Toluene	25.00	21.95	88	76-120
Chlorobenzene	25.00	21.35	85	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-132
1,2-Dichloroethane-d4	90	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	100	78-134

Type: BSD Lab ID: QC907970

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	25.00	22.61	90	68-132	6	28
Benzene	25.00	20.62	82	75-123	5	25
Trichloroethene	25.00	20.32	81	75-120	9	23
Toluene	25.00	20.58	82	76-120	6	24
Chlorobenzene	25.00	20.65	83	80-120	3	21

Surrogate	%REC	Limits
Dibromofluoromethane	96	76-132
1,2-Dichloroethane-d4	92	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	101	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS			
Lab #:	294203	Location: Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Batch#:	253423
MSS Lab ID:	294176-002	Sampled:	11/07/17
Matrix:	Soil	Received:	11/07/17
Units:	ug/Kg	Analyzed:	11/09/17
Basis:	as received		

Type: MS Diln Fac: 0.9785
 Lab ID: QC908102

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5833	48.92	48.99	100	64-131
Benzene	<0.5205	48.92	45.12	92	66-122
Trichloroethene	<0.6290	48.92	42.71	87	57-133
Toluene	<0.5594	48.92	41.66	85	61-120
Chlorobenzene	<0.3510	48.92	39.72	81	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	109	76-132
1,2-Dichloroethane-d4	107	74-149
Toluene-d8	102	80-120
Bromofluorobenzene	105	78-134

Type: MSD Diln Fac: 0.8636
 Lab ID: QC908103

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	43.18	41.53	96	64-131	4	32
Benzene	43.18	36.49	85	66-122	9	32
Trichloroethene	43.18	35.43	82	57-133	6	34
Toluene	43.18	34.20	79	61-120	7	32
Chlorobenzene	43.18	31.42	73	56-120	11	33

Surrogate	%REC	Limits
Dibromofluoromethane	111	76-132
1,2-Dichloroethane-d4	109	74-149
Toluene-d8	102	80-120
Bromofluorobenzene	105	78-134

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294279
ANALYTICAL REPORT

Cardno, Inc.
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

Sample ID
W-PROFILE

Lab ID
294279-001

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Patrick McCarthy
Project Manager
patrick.mccarthy@enthalpy.com
(510) 204-2236

Date: 11/20/2017

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294279
Client: Cardno, Inc.
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/10/17
Samples Received: 11/10/17

This data package contains sample and QC results for one water sample, requested for the above referenced project on 11/10/17. The sample was received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

W-PROFILE (lab # 294279-001) was diluted due to foaming. No other analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

W-PROFILE (lab # 294279-001) was diluted due to the dark and viscous nature of the sample extract. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

W-PROFILE (lab # 294279-001) was diluted due to high non-target analytes. No other analytical problems were encountered.

Semivolatile Organics by GC/MS (EPA 8270C):

W-PROFILE (lab # 294279-001) was diluted due to high non-target analytes. No other analytical problems were encountered.

Metals (EPA 6010B and EPA 7470A):

No analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street
 Berkeley, CA 94710
 (510) 486-0900 Phone
 (510) 486-0532 Fax

CHAIN OF CUSTODY

Page 1 of 1

Chain of Custody #: _____

C&T LOGIN # 294279

Project No: E317602000
 Project Name: Ellwood Commercial Real Estate
 EDD Format: EDF Rpt Level: II III IV
 Turnaround Time: ~~X RUSH 24-hour~~ Standard

Sampler: CARL MICKLICH
 Report To: Glen Smith
 Company: Cardno
 Telephone: 510.362.2170
 Email: glen.smith@cardno.com

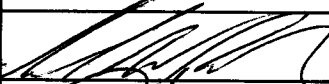

Analytical Request

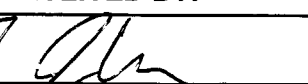

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>																
TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B	5VOCs EPA 8270	METALS EPA 6010																

Lab No.	Sample ID.	Sampling		Matrix			# of Containers	Chemical Preservative														
		Date	Time	Water	Soil			HCl	H ₂ SO ₄	HNO ₃	NaOH	None										
	W-PROFILE	11-10-17	7:30	<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>												

Notes:
 Geotracker Global ID T10000007707
 START
 STLP + TCLP EXTRACTION
 ON HOLD PENDING METALS RESULTS
 Call Patrick McCarthy to schedule currior 510.204.2236

SAMPLE RECEIPT
 Intact Cold
 On Ice Ambient

RELINQUISHED BY:

 11-10-17 8:47
 DATE/TIME

 11-10-1045
 DATE/TIME
 DATE/TIME

RECEIVED BY:

 11-10-17 8:17
 DATE/TIME

 11/10/17 1045
 DATE/TIME
 DATE/TIME

COOLER RECEIPT CHECKLIST



Login # 294279 Date Received 11/10/17 Number of coolers 1
 Client _____ Project _____

Date Opened 11/10/17 By (print) EHS (sign) _____
 Date Logged in ↓ By (print) _____ (sign) _____
 Date Labelled ↓ By (print) ↓ (sign) ↓

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? YES NO

4. Were custody papers filled out properly (ink, signed, etc)? YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.1

Temperature blank(s) included? Thermometer# _____ IR Gun# B

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO

If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# 80BDH1471) _____ YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Enthalpy Sample Preservation for 294279

Sample	pH: <2	>9	>12	Other
-001a	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
b	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
c	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
d	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
e	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
f	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
g	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
h	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
i	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____

Analyst: ELS
Date: 11/10/17

Detections Summary for 294279

Results for any subcontracted analyses are not included in this summary.

Client : Cardno, Inc.
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : W-PROFILE Laboratory Sample ID : 294279-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	5,800	Y	250	ug/L	As Recd	5.000	EPA 8015B	EPA 5030B
Diesel C10-C24	130,000	Y	1,000	ug/L	As Recd	20.00	EPA 8015B	EPA 3520C
Acetone	360		83	ug/L	As Recd	8.333	EPA 8260B	EPA 5030B
Ethylbenzene	6.0		4.2	ug/L	As Recd	8.333	EPA 8260B	EPA 5030B
m,p-Xylenes	11		4.2	ug/L	As Recd	8.333	EPA 8260B	EPA 5030B
1,2,4-Trimethylbenzene	10		4.2	ug/L	As Recd	8.333	EPA 8260B	EPA 5030B
para-Isopropyl Toluene	92		4.2	ug/L	As Recd	8.333	EPA 8260B	EPA 5030B
Arsenic	26		10	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Barium	220		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Chromium	56		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Cobalt	12		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Copper	97		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Lead	13		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Mercury	0.24		0.20	ug/L	TOTAL	1.000	EPA 7470A	METHOD
Molybdenum	56		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Nickel	63		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Selenium	15		10	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Vanadium	150		5.0	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A
Zinc	130		20	ug/L	TOTAL	1.000	EPA 6010B	EPA 3010A

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	W-PROFILE	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Analyzed:	11/13/17
Batch#:	253613		

Type: SAMPLE Diln Fac: 5.000
 Lab ID: 294279-001

Analyte	Result	RL
Gasoline C7-C12	5,800 Y	250

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	110	80-121

Type: BLANK Diln Fac: 1.000
 Lab ID: QC908582

Analyte	Result	RL
Gasoline C7-C12	ND	50

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	80-121

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC908581	Batch#: 253613
Matrix:	Water	Analyzed: 11/13/17
Units:	ug/L	

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1,000	966.7	97	80-122

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	95	80-121

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	253613
MSS Lab ID:	294286-001	Sampled:	11/09/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Analyzed:	11/13/17
Diln Fac:	1.000		

Type: MS Lab ID: QC908620

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	23.85	2,000	1,672	82	78-120

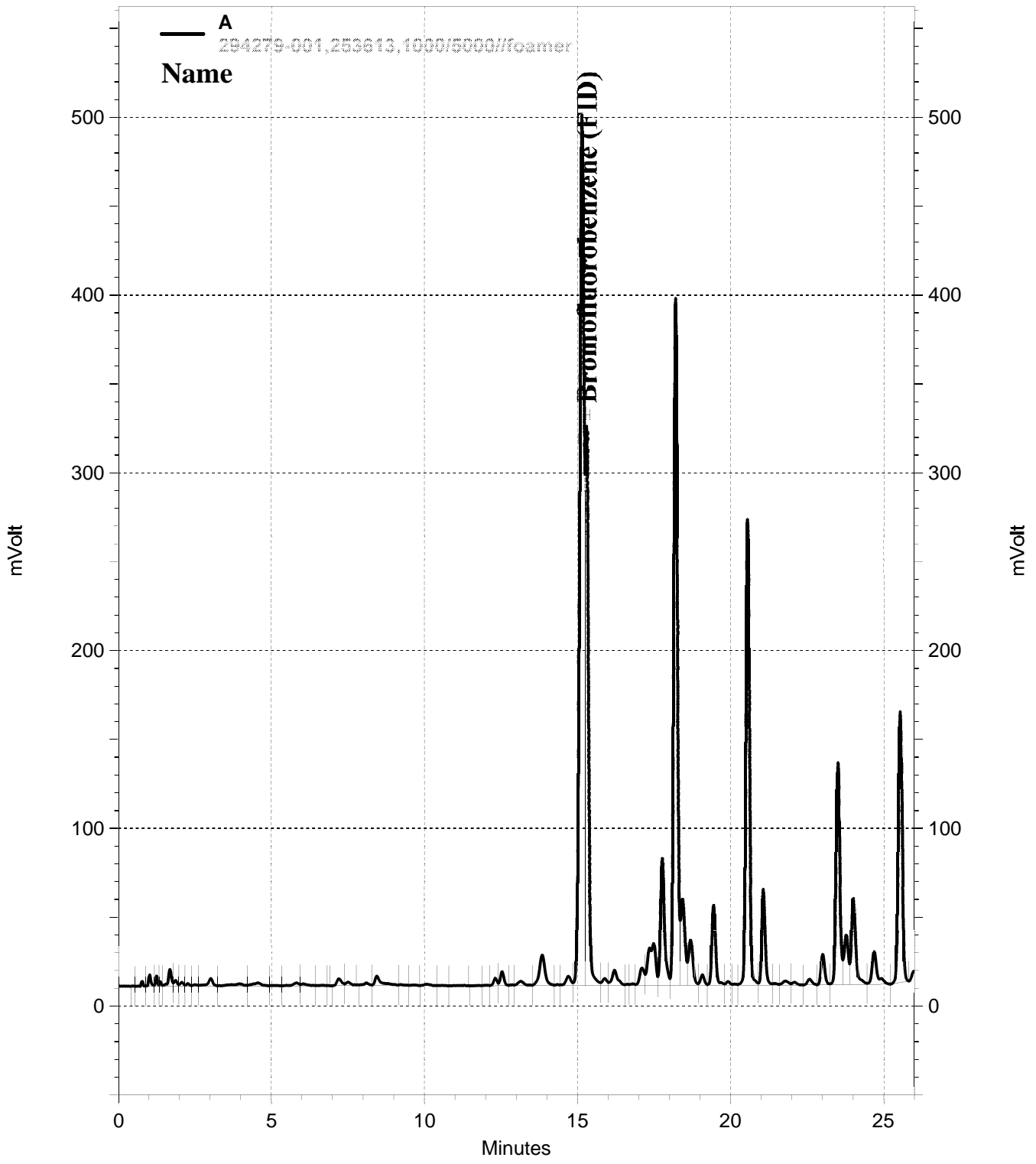
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	97	80-121

Type: MSD Lab ID: QC908621

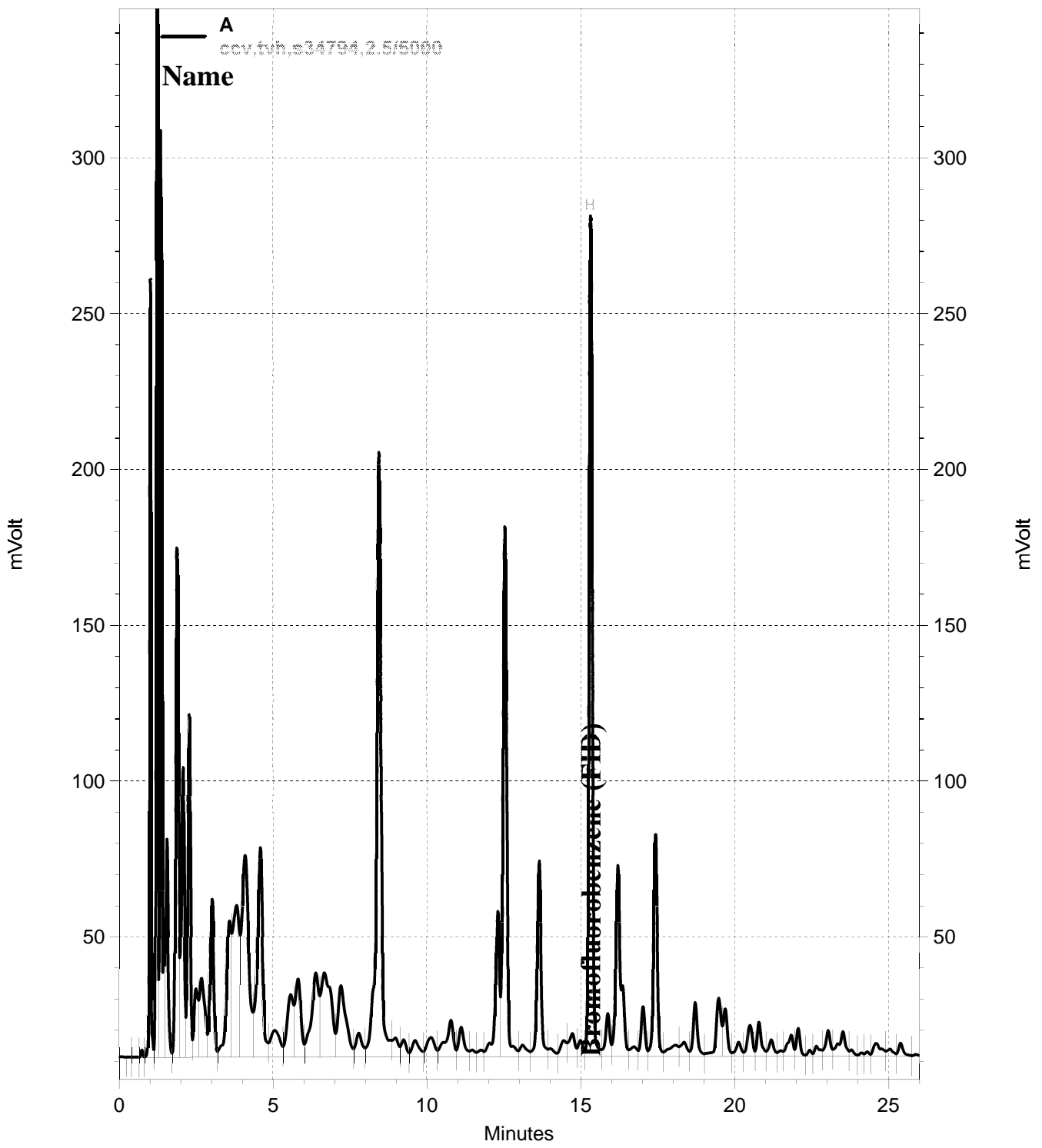
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	1,660	82	78-120	1	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	80-121

RPD= Relative Percent Difference



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Total Extractable Hydrocarbons			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3520C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	W-PROFILE	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Prepared:	11/10/17
Batch#:	253574		

Type: SAMPLE Diln Fac: 20.00
 Lab ID: 294279-001 Analyzed: 11/15/17

Analyte	Result	RL
Diesel C10-C24	130,000 Y	1,000

Surrogate	%REC	Limits
o-Terphenyl	DO	51-134

Type: BLANK Diln Fac: 1.000
 Lab ID: QC908443 Analyzed: 11/13/17

Analyte	Result	RL
Diesel C10-C24	ND	50

Surrogate	%REC	Limits
o-Terphenyl	82	51-134

Y= Sample exhibits chromatographic pattern which does not resemble standard
 DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3520C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Water	Batch#:	253574
Units:	ug/L	Prepared:	11/10/17
Diln Fac:	1.000	Analyzed:	11/13/17

Type: BS Lab ID: QC908444

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	2,500	1,931	77	50-123

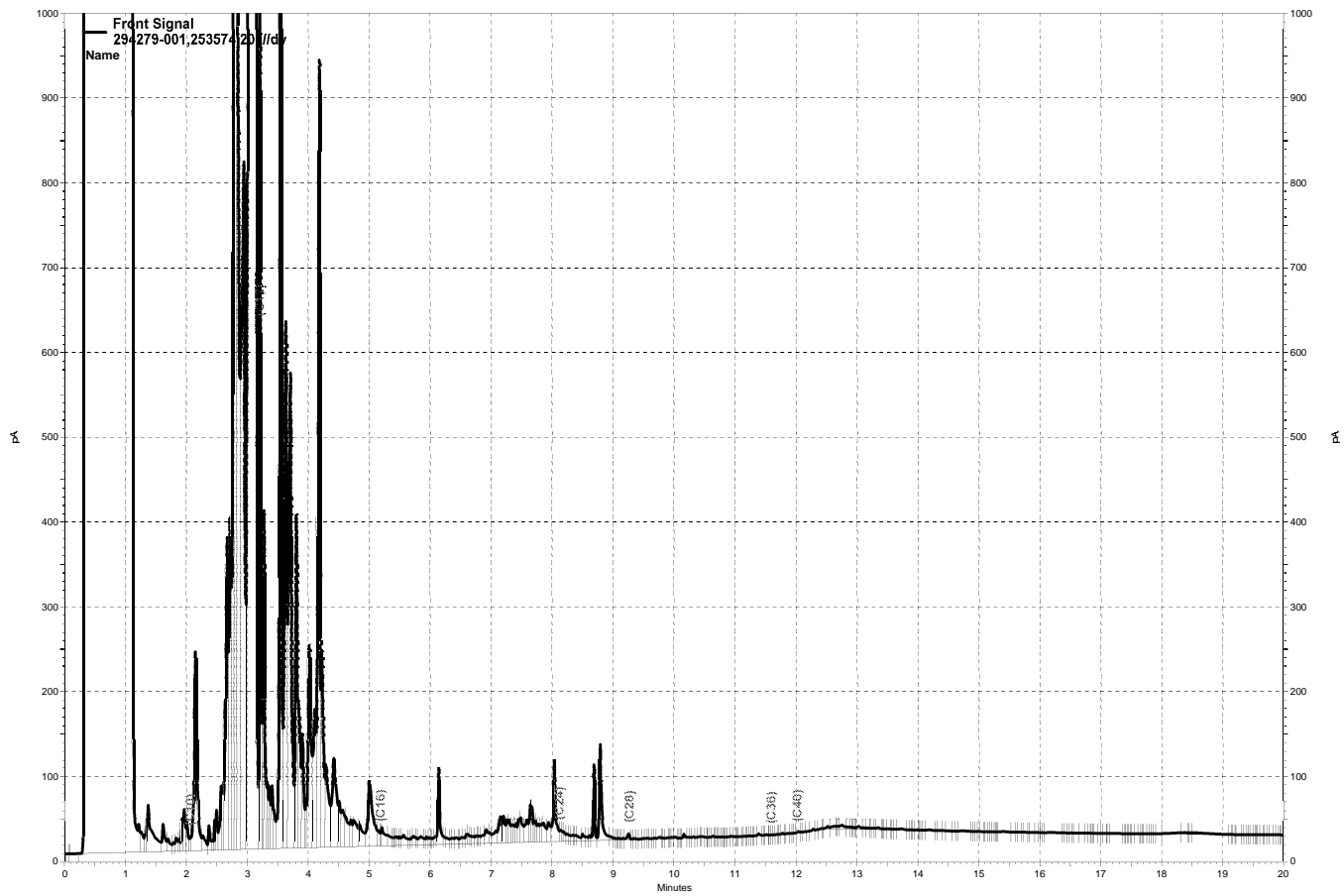
Surrogate	%REC	Limits
o-Terphenyl	80	51-134

Type: BSD Lab ID: QC908445

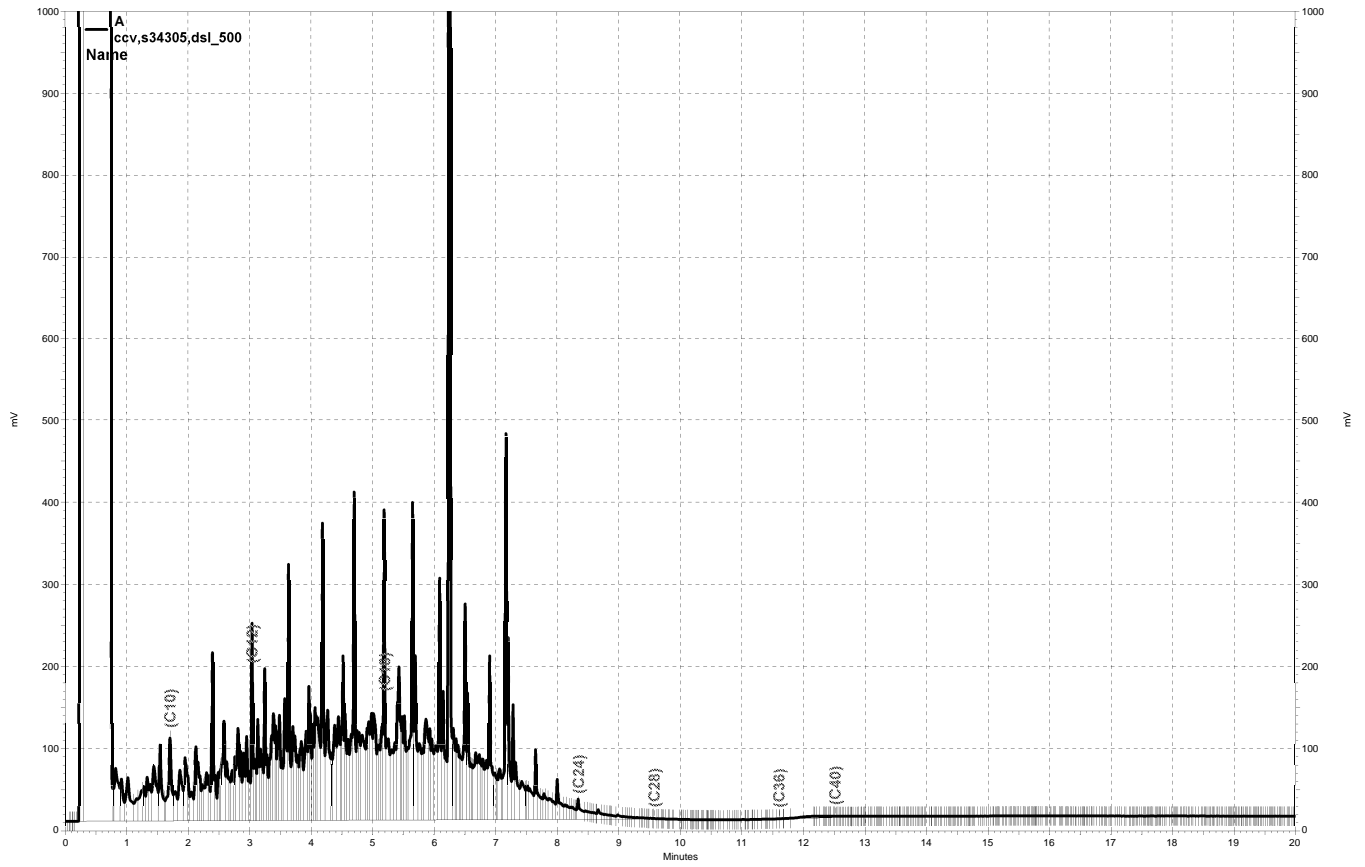
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	2,500	1,805	72	50-123	7	34

Surrogate	%REC	Limits
o-Terphenyl	75	51-134

RPD= Relative Percent Difference



— \\kraken\gdrive\ezchrom\Projects\GC27\Data\2017\318a081.dat, Front Signal



\\kraken\gdrive\ezchrom\Projects\GC17a\Data\2017\317a006, A

Purgeable Organics by GC/MS

Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	W-PROFILE	Batch#:	253624
Lab ID:	294279-001	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Analyzed:	11/14/17
Diln Fac:	8.333		

Analyte	Result	RL
Freon 12	ND	8.3
Chloromethane	ND	8.3
Vinyl Chloride	ND	4.2
Bromomethane	ND	8.3
Chloroethane	ND	8.3
Trichlorofluoromethane	ND	8.3
Acetone	360	83
Freon 113	ND	17
1,1-Dichloroethene	ND	4.2
Methylene Chloride	ND	83
Carbon Disulfide	ND	4.2
MTBE	ND	4.2
trans-1,2-Dichloroethene	ND	4.2
Vinyl Acetate	ND	83
1,1-Dichloroethane	ND	4.2
2-Butanone	ND	83
cis-1,2-Dichloroethene	ND	4.2
2,2-Dichloropropane	ND	4.2
Chloroform	ND	4.2
Bromochloromethane	ND	4.2
1,1,1-Trichloroethane	ND	4.2
1,1-Dichloropropene	ND	4.2
Carbon Tetrachloride	ND	4.2
1,2-Dichloroethane	ND	4.2
Benzene	ND	4.2
Trichloroethene	ND	4.2
1,2-Dichloropropane	ND	4.2
Bromodichloromethane	ND	4.2
Dibromomethane	ND	4.2
4-Methyl-2-Pentanone	ND	83
cis-1,3-Dichloropropene	ND	4.2
Toluene	ND	4.2
trans-1,3-Dichloropropene	ND	4.2
1,1,2-Trichloroethane	ND	4.2
2-Hexanone	ND	83
1,3-Dichloropropane	ND	4.2
Tetrachloroethene	ND	4.2

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	W-PROFILE	Batch#:	253624
Lab ID:	294279-001	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Analyzed:	11/14/17
Diln Fac:	8.333		

Analyte	Result	RL
Dibromochloromethane	ND	4.2
1,2-Dibromoethane	ND	4.2
Chlorobenzene	ND	4.2
1,1,1,2-Tetrachloroethane	ND	4.2
Ethylbenzene	6.0	4.2
m,p-Xylenes	11	4.2
o-Xylene	ND	4.2
Styrene	ND	4.2
Bromoform	ND	8.3
Isopropylbenzene	ND	4.2
1,1,2,2-Tetrachloroethane	ND	4.2
1,2,3-Trichloropropane	ND	4.2
Propylbenzene	ND	4.2
Bromobenzene	ND	4.2
1,3,5-Trimethylbenzene	ND	4.2
2-Chlorotoluene	ND	4.2
4-Chlorotoluene	ND	4.2
tert-Butylbenzene	ND	4.2
1,2,4-Trimethylbenzene	10	4.2
sec-Butylbenzene	ND	4.2
para-Isopropyl Toluene	92	4.2
1,3-Dichlorobenzene	ND	4.2
1,4-Dichlorobenzene	ND	4.2
n-Butylbenzene	ND	4.2
1,2-Dichlorobenzene	ND	4.2
1,2-Dibromo-3-Chloropropane	ND	17
1,2,4-Trichlorobenzene	ND	4.2
Hexachlorobutadiene	ND	17
Naphthalene	ND	17
1,2,3-Trichlorobenzene	ND	4.2

Surrogate	%REC	Limits
Dibromofluoromethane	103	80-120
1,2-Dichloroethane-d4	116	72-135
Toluene-d8	95	80-120
Bromofluorobenzene	86	80-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Matrix:	Water	Batch#: 253624
Units:	ug/L	Analyzed: 11/13/17
Diln Fac:	1.000	

Type: BS Lab ID: QC908632

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	12.50	11.11	89	72-126
Benzene	12.50	11.87	95	80-124
Trichloroethene	12.50	11.97	96	78-120
Toluene	12.50	11.48	92	80-120
Chlorobenzene	12.50	11.63	93	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	104	80-120
1,2-Dichloroethane-d4	110	72-135
Toluene-d8	99	80-120
Bromofluorobenzene	93	80-120

Type: BSD Lab ID: QC908633

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	12.50	11.03	88	72-126	1	20
Benzene	12.50	12.35	99	80-124	4	20
Trichloroethene	12.50	12.34	99	78-120	3	20
Toluene	12.50	11.49	92	80-120	0	20
Chlorobenzene	12.50	11.82	95	80-120	2	20

Surrogate	%REC	Limits
Dibromofluoromethane	100	80-120
1,2-Dichloroethane-d4	113	72-135
Toluene-d8	98	80-120
Bromofluorobenzene	100	80-120

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC908634	Batch#: 253624
Matrix:	Water	Analyzed: 11/13/17
Units:	ug/L	

Analyte	Result	RL
Freon 12	ND	1.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	1.0
Acetone	ND	10
Freon 113	ND	2.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	10
Carbon Disulfide	ND	0.5
MTBE	ND	0.5
trans-1,2-Dichloroethene	ND	0.5
Vinyl Acetate	ND	10
1,1-Dichloroethane	ND	0.5
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	0.5
2,2-Dichloropropane	ND	0.5
Chloroform	ND	0.5
Bromochloromethane	ND	0.5
1,1,1-Trichloroethane	ND	0.5
1,1-Dichloropropene	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Benzene	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
Dibromomethane	ND	0.5
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	0.5
Toluene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
2-Hexanone	ND	10
1,3-Dichloropropane	ND	0.5
Tetrachloroethene	ND	0.5

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC908634	Batch#: 253624
Matrix:	Water	Analyzed: 11/13/17
Units:	ug/L	

Analyte	Result	RL
Dibromochloromethane	ND	0.5
1,2-Dibromoethane	ND	0.5
Chlorobenzene	ND	0.5
1,1,1,2-Tetrachloroethane	ND	0.5
Ethylbenzene	ND	0.5
m,p-Xylenes	ND	0.5
o-Xylene	ND	0.5
Styrene	ND	0.5
Bromoform	ND	1.0
Isopropylbenzene	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,2,3-Trichloropropane	ND	0.5
Propylbenzene	ND	0.5
Bromobenzene	ND	0.5
1,3,5-Trimethylbenzene	ND	0.5
2-Chlorotoluene	ND	0.5
4-Chlorotoluene	ND	0.5
tert-Butylbenzene	ND	0.5
1,2,4-Trimethylbenzene	ND	0.5
sec-Butylbenzene	ND	0.5
para-Isopropyl Toluene	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
n-Butylbenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5
1,2-Dibromo-3-Chloropropane	ND	2.0
1,2,4-Trichlorobenzene	ND	0.5
Hexachlorobutadiene	ND	2.0
Naphthalene	ND	2.0
1,2,3-Trichlorobenzene	ND	0.5

Surrogate	%REC	Limits
Dibromofluoromethane	102	80-120
1,2-Dichloroethane-d4	115	72-135
Toluene-d8	97	80-120
Bromofluorobenzene	110	80-120

ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3520C
Project#:	E317602000	Analysis:	EPA 8270C
Field ID:	W-PROFILE	Batch#:	253552
Lab ID:	294279-001	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Prepared:	11/10/17
Diln Fac:	100.0	Analyzed:	11/16/17

Analyte	Result	RL
N-Nitrosodimethylamine	ND	960
Phenol	ND	960
bis(2-Chloroethyl)ether	ND	960
2-Chlorophenol	ND	960
1,3-Dichlorobenzene	ND	960
1,4-Dichlorobenzene	ND	960
Benzyl alcohol	ND	960
1,2-Dichlorobenzene	ND	960
2-Methylphenol	ND	960
bis(2-Chloroisopropyl) ether	ND	960
4-Methylphenol	ND	960
N-Nitroso-di-n-propylamine	ND	960
Hexachloroethane	ND	960
Nitrobenzene	ND	960
Isophorone	ND	960
2-Nitrophenol	ND	1,900
2,4-Dimethylphenol	ND	960
bis(2-Chloroethoxy)methane	ND	960
2,4-Dichlorophenol	ND	960
1,2,4-Trichlorobenzene	ND	960
Naphthalene	ND	960
4-Chloroaniline	ND	960
Hexachlorobutadiene	ND	960
4-Chloro-3-methylphenol	ND	960
2-Methylnaphthalene	ND	960
Hexachlorocyclopentadiene	ND	1,900
2,4,6-Trichlorophenol	ND	960
2,4,5-Trichlorophenol	ND	960
2-Chloronaphthalene	ND	960
2-Nitroaniline	ND	1,900
Dimethylphthalate	ND	960
Acenaphthylene	ND	960
2,6-Dinitrotoluene	ND	960
3-Nitroaniline	ND	1,900
Acenaphthene	ND	960
2,4-Dinitrophenol	ND	1,900
4-Nitrophenol	ND	1,900
Dibenzofuran	ND	960
2,4-Dinitrotoluene	ND	960
Diethylphthalate	ND	960
Fluorene	ND	960
4-Chlorophenyl-phenylether	ND	960
4-Nitroaniline	ND	1,900
4,6-Dinitro-2-methylphenol	ND	1,900
N-Nitrosodiphenylamine	ND	960
Azobenzene	ND	960
4-Bromophenyl-phenylether	ND	960
Hexachlorobenzene	ND	960
Pentachlorophenol	ND	1,900
Phenanthrene	ND	960
Anthracene	ND	960
Di-n-butylphthalate	ND	960
Fluoranthene	ND	960

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Semivolatile Organics by GC/MS

Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3520C
Project#:	E317602000	Analysis:	EPA 8270C
Field ID:	W-PROFILE	Batch#:	253552
Lab ID:	294279-001	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L	Prepared:	11/10/17
Diln Fac:	100.0	Analyzed:	11/16/17

Analyte	Result	RL
Pyrene	ND	960
Butylbenzylphthalate	ND	960
3,3'-Dichlorobenzidine	ND	1,900
Benzo(a)anthracene	ND	960
Chrysene	ND	960
bis(2-Ethylhexyl)phthalate	ND	960
Di-n-octylphthalate	ND	960
Benzo(b)fluoranthene	ND	960
Benzo(k)fluoranthene	ND	960
Benzo(a)pyrene	ND	960
Indeno(1,2,3-cd)pyrene	ND	960
Dibenz(a,h)anthracene	ND	960
Benzo(g,h,i)perylene	ND	960

Surrogate	%REC	Limits
2-Fluorophenol	DO	35-120
Phenol-d5	DO	33-120
2,4,6-Tribromophenol	DO	36-120
Nitrobenzene-d5	DO	43-120
2-Fluorobiphenyl	DO	45-120
Terphenyl-d14	DO	12-120

DO= Diluted Out
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 3520C
Project#:	E317602000	Analysis: EPA 8270C
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC908350	Batch#: 253552
Matrix:	Water	Prepared: 11/10/17
Units:	ug/L	Analyzed: 11/13/17

Analyte	Result	RL
N-Nitrosodimethylamine	ND	10
Phenol	ND	10
bis(2-Chloroethyl)ether	ND	10
2-Chlorophenol	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
Benzyl alcohol	ND	10
1,2-Dichlorobenzene	ND	10
2-Methylphenol	ND	10
bis(2-Chloroisopropyl) ether	ND	10
4-Methylphenol	ND	10
N-Nitroso-di-n-propylamine	ND	10
Hexachloroethane	ND	10
Nitrobenzene	ND	10
Isophorone	ND	10
2-Nitrophenol	ND	20
2,4-Dimethylphenol	ND	10
bis(2-Chloroethoxy)methane	ND	10
2,4-Dichlorophenol	ND	10
1,2,4-Trichlorobenzene	ND	10
Naphthalene	ND	10
4-Chloroaniline	ND	10
Hexachlorobutadiene	ND	10
4-Chloro-3-methylphenol	ND	10
2-Methylnaphthalene	ND	10
Hexachlorocyclopentadiene	ND	20
2,4,6-Trichlorophenol	ND	10
2,4,5-Trichlorophenol	ND	10
2-Chloronaphthalene	ND	10
2-Nitroaniline	ND	20
Dimethylphthalate	ND	10
Acenaphthylene	ND	10
2,6-Dinitrotoluene	ND	10
3-Nitroaniline	ND	20
Acenaphthene	ND	10
2,4-Dinitrophenol	ND	20
4-Nitrophenol	ND	20

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 3520C
Project#:	E317602000	Analysis: EPA 8270C
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC908350	Batch#: 253552
Matrix:	Water	Prepared: 11/10/17
Units:	ug/L	Analyzed: 11/13/17

Analyte	Result	RL
Dibenzofuran	ND	10
2,4-Dinitrotoluene	ND	10
Diethylphthalate	ND	10
Fluorene	ND	10
4-Chlorophenyl-phenylether	ND	10
4-Nitroaniline	ND	20
4,6-Dinitro-2-methylphenol	ND	20
N-Nitrosodiphenylamine	ND	10
Azobenzene	ND	10
4-Bromophenyl-phenylether	ND	10
Hexachlorobenzene	ND	10
Pentachlorophenol	ND	20
Phenanthrene	ND	10
Anthracene	ND	10
Di-n-butylphthalate	ND	10
Fluoranthene	ND	10
Pyrene	ND	10
Butylbenzylphthalate	ND	10
3,3'-Dichlorobenzidine	ND	20
Benzo(a)anthracene	ND	10
Chrysene	ND	10
bis(2-Ethylhexyl)phthalate	ND	10
Di-n-octylphthalate	ND	10
Benzo(b)fluoranthene	ND	10
Benzo(k)fluoranthene	ND	10
Benzo(a)pyrene	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Dibenz(a,h)anthracene	ND	10
Benzo(g,h,i)perylene	ND	10

Surrogate	%REC	Limits
2-Fluorophenol	68	35-120
Phenol-d5	68	33-120
2,4,6-Tribromophenol	54	36-120
Nitrobenzene-d5	68	43-120
2-Fluorobiphenyl	71	45-120
Terphenyl-d14	62	12-120

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Semivolatile Organics by GC/MS			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3520C
Project#:	E317602000	Analysis:	EPA 8270C
Matrix:	Water	Batch#:	253552
Units:	ug/L	Prepared:	11/10/17
Diln Fac:	1.000	Analyzed:	11/13/17

Type: BS Lab ID: QC908351

Analyte	Spiked	Result	%REC	Limits
Phenol	80.00	58.38	73	56-120
2-Chlorophenol	80.00	56.28	70	60-120
1,4-Dichlorobenzene	80.00	43.82	55	50-120
N-Nitroso-di-n-propylamine	80.00	54.36	68	38-120
1,2,4-Trichlorobenzene	80.00	41.76	52	48-120
4-Chloro-3-methylphenol	80.00	54.11	68	57-120
Acenaphthene	30.00	18.71	62	51-120
4-Nitrophenol	80.00	60.17	75	52-120
2,4-Dinitrotoluene	80.00	56.74	71	61-120
Pentachlorophenol	80.00	48.97	61	46-120
Pyrene	30.00	17.55	58	54-120

Surrogate	%REC	Limits
2-Fluorophenol	60	35-120
Phenol-d5	65	33-120
2,4,6-Tribromophenol	56	36-120
Nitrobenzene-d5	62	43-120
2-Fluorobiphenyl	62	45-120
Terphenyl-d14	56	12-120

Type: BSD Lab ID: QC908352

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Phenol	80.00	58.29	73	56-120	0	35
2-Chlorophenol	80.00	56.26	70	60-120	0	33
1,4-Dichlorobenzene	80.00	44.96	56	50-120	3	39
N-Nitroso-di-n-propylamine	80.00	55.47	69	38-120	2	37
1,2,4-Trichlorobenzene	80.00	43.55	54	48-120	4	36
4-Chloro-3-methylphenol	80.00	54.55	68	57-120	1	31
Acenaphthene	30.00	19.45	65	51-120	4	33
4-Nitrophenol	80.00	60.75	76	52-120	1	35
2,4-Dinitrotoluene	80.00	57.77	72	61-120	2	32
Pentachlorophenol	80.00	51.92	65	46-120	6	41
Pyrene	30.00	18.15	61	54-120	3	33

Surrogate	%REC	Limits
2-Fluorophenol	58	35-120
Phenol-d5	64	33-120
2,4,6-Tribromophenol	59	36-120
Nitrobenzene-d5	60	43-120
2-Fluorobiphenyl	62	45-120
Terphenyl-d14	59	12-120

RPD= Relative Percent Difference

California Title 22 Metals

Lab #:	294279	Project#:	E317602000
Client:	Cardno, Inc.	Location:	Ellwood Commercial Real Estate
Field ID:	W-PROFILE	Diln Fac:	1.000
Lab ID:	294279-001	Sampled:	11/10/17
Matrix:	Water	Received:	11/10/17
Units:	ug/L		

Analyte	Result	RL	Batch#	Prepared	Analyzed	Prep	Analysis
Antimony	ND	10	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Arsenic	26	10	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Barium	220	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Beryllium	ND	2.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Cadmium	ND	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Chromium	56	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Cobalt	12	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Copper	97	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Lead	13	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Mercury	0.24	0.20	253708	11/15/17	11/15/17	METHOD	EPA 7470A
Molybdenum	56	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Nickel	63	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Selenium	15	10	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Silver	ND	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Thallium	ND	10	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Vanadium	150	5.0	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B
Zinc	130	20	253616	11/13/17	11/14/17	EPA 3010A	EPA 6010B

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 3010A
Project#:	E317602000	Analysis: EPA 6010B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC908596	Batch#: 253616
Matrix:	Water	Prepared: 11/13/17
Units:	ug/L	Analyzed: 11/14/17

Analyte	Result	RL
Antimony	ND	10
Arsenic	ND	10
Barium	ND	5.0
Beryllium	ND	2.0
Cadmium	ND	5.0
Chromium	ND	5.0
Cobalt	ND	5.0
Copper	ND	5.0
Lead	ND	5.0
Molybdenum	ND	5.0
Nickel	ND	5.0
Selenium	ND	10
Silver	ND	5.0
Thallium	ND	10
Vanadium	ND	5.0
Zinc	ND	20

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3010A
Project#:	E317602000	Analysis:	EPA 6010B
Matrix:	Water	Batch#:	253616
Units:	ug/L	Prepared:	11/13/17
Diln Fac:	1.000	Analyzed:	11/14/17

Type: BS Lab ID: QC908597

Analyte	Spiked	Result	%REC	Limits
Antimony	100.0	102.6	103	68-120
Arsenic	100.0	100.0	100	76-120
Barium	100.0	98.20	98	80-120
Beryllium	100.0	94.42	94	80-120
Cadmium	100.0	96.78	97	80-120
Chromium	100.0	99.36	99	80-120
Cobalt	100.0	99.08	99	80-120
Copper	100.0	100.2	100	80-120
Lead	100.0	105.3	105	80-120
Molybdenum	100.0	106.0	106	80-120
Nickel	100.0	93.02	93	80-120
Selenium	100.0	103.4	103	76-120
Silver	100.0	90.77	91	80-120
Thallium	50.00	52.80	106	80-127
Vanadium	100.0	108.5	108	80-120
Zinc	100.0	100.0	100	77-120

Type: BSD Lab ID: QC908598

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	101.7	102	68-120	1	20
Arsenic	100.0	99.94	100	76-120	0	20
Barium	100.0	97.11	97	80-120	1	20
Beryllium	100.0	93.66	94	80-120	1	20
Cadmium	100.0	95.91	96	80-120	1	20
Chromium	100.0	97.69	98	80-120	2	20
Cobalt	100.0	97.99	98	80-120	1	20
Copper	100.0	99.73	100	80-120	0	20
Lead	100.0	104.7	105	80-120	1	20
Molybdenum	100.0	105.1	105	80-120	1	20
Nickel	100.0	92.59	93	80-120	0	20
Selenium	100.0	101.4	101	76-120	2	20
Silver	100.0	89.06	89	80-120	2	21
Thallium	50.00	51.67	103	80-127	2	20
Vanadium	100.0	107.7	108	80-120	1	20
Zinc	100.0	97.87	98	77-120	2	23

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 3010A
Project#:	E317602000	Analysis: EPA 6010B
Field ID:	ZZZZZZZZZZ	Batch#: 253616
MSS Lab ID:	294264-001	Sampled: 11/09/17
Matrix:	Water	Received: 11/09/17
Units:	ug/L	Prepared: 11/13/17
Diln Fac:	1.000	Analyzed: 11/14/17

Type: MS Lab ID: QC908599

Analyte	MSS Result	Spiked	Result	%REC	Limits
Antimony	3.883	100.0	107.2	103	42-130
Arsenic	11.23	100.0	119.0	108	53-139
Barium	26.05	100.0	122.1	96	71-123
Beryllium	<0.5336	100.0	96.86	97	80-120
Cadmium	1.461	100.0	103.8	102	80-124
Chromium	4.015	100.0	98.12	94	76-124
Cobalt	<1.000	100.0	102.7	103	75-122
Copper	22.63	100.0	122.8	100	69-125
Lead	1.419	100.0	95.54	94	59-127
Molybdenum	3.970	100.0	103.2	99	78-122
Nickel	7.928	100.0	103.2	95	70-123
Selenium	<2.791	100.0	107.7	108	50-144
Silver	1.965	100.0	96.77	95	66-125
Thallium	<1.934	50.00	42.96	86	65-130
Vanadium	32.24	100.0	131.0	99	77-124
Zinc	273.6	100.0	353.4	80	66-130

Type: MSD Lab ID: QC908600

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Antimony	100.0	108.0	104	42-130	1	58
Arsenic	100.0	121.1	110	53-139	2	48
Barium	100.0	123.8	98	71-123	1	28
Beryllium	100.0	96.96	97	80-120	0	20
Cadmium	100.0	102.7	101	80-124	1	20
Chromium	100.0	97.08	93	76-124	1	25
Cobalt	100.0	101.9	102	75-122	1	20
Copper	100.0	123.0	100	69-125	0	27
Lead	100.0	96.16	95	59-127	1	32
Molybdenum	100.0	104.1	100	78-122	1	24
Nickel	100.0	103.2	95	70-123	0	26
Selenium	100.0	107.4	107	50-144	0	52
Silver	100.0	97.57	96	66-125	1	29
Thallium	50.00	43.16	86	65-130	0	30
Vanadium	100.0	129.7	97	77-124	1	23
Zinc	100.0	357.8	84	66-130	1	22

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	METHOD
Project#:	E317602000	Analysis:	EPA 7470A
Analyte:	Mercury	Diln Fac:	1.000
Type:	BLANK	Batch#:	253708
Lab ID:	QC908939	Prepared:	11/15/17
Matrix:	Water	Analyzed:	11/15/17
Units:	ug/L		

Result	RL
ND	0.20

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

California Title 22 Metals		
Lab #:	294279	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: METHOD
Project#:	E317602000	Analysis: EPA 7470A
Analyte:	Mercury	Batch#: 253708
Matrix:	Water	Prepared: 11/15/17
Units:	ug/L	Analyzed: 11/15/17
Diln Fac:	1.000	

Type	Lab ID	Spiked	Result	%REC	Limits	RPD	Lim
BS	QC908940	2.500	2.591	104	80-120		
BSD	QC908941	2.500	2.538	102	80-120	2	20

RPD= Relative Percent Difference

Batch QC Report

California Title 22 Metals			
Lab #:	294279	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	METHOD
Project#:	E317602000	Analysis:	EPA 7470A
Analyte:	Mercury	Batch#:	253708
Field ID:	W-PROFILE	Sampled:	11/10/17
MSS Lab ID:	294279-001	Received:	11/10/17
Matrix:	Water	Prepared:	11/15/17
Units:	ug/L	Analyzed:	11/15/17
Diln Fac:	1.000		

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC908942	0.2373	2.500	2.746	100	63-120		
MSD	QC908943		2.500	2.574	93	63-120	6	36

RPD= Relative Percent Difference



ENTHALPY

ANALYTICAL



Enthalpy Analytical

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

Laboratory Job Number 294531
ANALYTICAL REPORT

Cardno, Inc.
2300 Clayton Rd
Concord, CA 94520

Project : E317602000
Location : Ellwood Commercial Real Estate
Level : II

<u>Sample ID</u>	<u>Lab ID</u>
S-3-EX3E	294531-001
S-3-EX3W	294531-002
S-3-EX3S	294531-003
S-7-EX3B	294531-004

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. The results contained in this report meet all requirements of NELAP and pertain only to those samples which were submitted for analysis. This report may be reproduced only in its entirety.

Signature: _____

Date: 11/20/2017

Will Rice
Project Manager
will.rice@enthalpy.com
(510) 204-2221 Ext 13102

CA ELAP# 2896, NELAP# 4044-001

CASE NARRATIVE

Laboratory number: 294531
Client: Cardno, Inc.
Project: E317602000
Location: Ellwood Commercial Real Estate
Request Date: 11/16/17
Samples Received: 11/16/17

This data package contains sample and QC results for four soil samples, requested for the above referenced project on 11/16/17. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B):

No analytical problems were encountered.

TPH-Extractables by GC (EPA 8015B):

Matrix spikes QC909388, QC909389 (batch 253821) were not reported because the parent sample required a dilution that would have diluted out the spikes. No other analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

No analytical problems were encountered.

Enthalpy Analytical LLC

2323 Fifth Street

Berkeley, CA 94710

(510) 486-0900 Phone

(510) 486-0532 Fax

CHAIN OF CUSTODY

C&T LOGIN # 294531

Project No: E317602000

Project Name: Ellwood Commercial Real Estate

EDD Format: EDF Rpt Level: II III IV

Turnaround Time: RUSH 24-hour Standard

Sampler: CARL MIKLUCH

Report To: Glen Smith

Company: Cardno

Telephone: 510.362.2170

Email: glen.smith@cardno.com

Analytical Request

Lab No.	Sample ID.	Sampling		Matrix			Chemical Preservative					
		Date	Time	Water	Soil	# of Containers	HCl	H ₂ SO ₄	HNO ₃	NaOH	None	
	<u>S-3-EX3E</u>	<u>11-16-17</u>	<u>1125</u>		<input checked="" type="checkbox"/>	<u>1</u>						<input checked="" type="checkbox"/>
	<u>S-3-EX3W</u>	<u>11-16-17</u>	<u>1130</u>		<input checked="" type="checkbox"/>	<u>1</u>						<input checked="" type="checkbox"/>
	<u>S-3-EX3S</u>	<u>11-16-17</u>	<u>1140</u>		<input checked="" type="checkbox"/>	<u>1</u>						<input checked="" type="checkbox"/>
	<u>S-7-EX3B</u>	<u>11-16-17</u>	<u>1220</u>		<input checked="" type="checkbox"/>	<u>1</u>						<input checked="" type="checkbox"/>

TPHg EPA 8015B	TPHd EPA 8015B	VOCs Full scan 8260B														
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>														

Notes: Geotracker Global ID T10000007707

SAMPLE RECEIPT
 Intact Cold
 On Ice Ambient

RELINQUISHED BY:

[Signature] 11-16-17 1605
DATE/TIME

[Signature] 11-16 1900
DATE/TIME

DATE/TIME

RECEIVED BY:

[Signature] 11-16-17 1605
DATE/TIME

[Signature] 11/16/17 1900
DATE/TIME

DATE/TIME

Call Patrick McCarthy to schedule currior 510.204.2236

COOLER RECEIPT CHECKLIST



Login # 294531 Date Received 11/16/17 Number of coolers 1
 Client Cardno Project _____

Date Opened 11/16/17 By (print) TY (sign) _____
 Date Logged in ↓ By (print) CH (sign) _____
 Date Labelled ↓ By (print) Ell (sign) _____

1. Did cooler come with a shipping slip (airbill, etc) _____ YES NO
 Shipping info _____

2A. Were custody seals present? YES (circle) on cooler on samples NO
 How many _____ Name _____ Date _____

2B. Were custody seals intact upon arrival? _____ YES NO N/A

3. Were custody papers dry and intact when received? _____ YES NO

4. Were custody papers filled out properly (ink, signed, etc)? _____ YES NO

5. Is the project identifiable from custody papers? (If so fill out top of form) _____ YES NO

6. Indicate the packing in cooler: (if other, describe) _____

- Bubble Wrap Foam blocks Bags None
- Cloth material Cardboard Styrofoam Paper towels

7. Temperature documentation: * Notify PM if temperature exceeds 6°C

Type of ice used: Wet Blue/Gel None Temp(°C) 3.2

Temperature blank(s) included? Thermometer# _____ IR Gun# A

Samples received on ice directly from the field. Cooling process had begun

8. Were Method 5035 sampling containers present? _____ YES NO
 If YES, what time were they transferred to freezer? _____

9. Did all bottles arrive unbroken/unopened? _____ YES NO

10. Are there any missing / extra samples? _____ YES NO

11. Are samples in the appropriate containers for indicated tests? _____ YES NO

12. Are sample labels present, in good condition and complete? _____ YES NO

13. Do the sample labels agree with custody papers? _____ YES NO

14. Was sufficient amount of sample sent for tests requested? _____ YES NO

15. Are the samples appropriately preserved? _____ YES NO N/A

16. Did you check preservatives for all bottles for each sample? _____ YES NO N/A

17. Did you document your preservative check? (pH strip lot# _____) YES NO N/A

18. Did you change the hold time in LIMS for unpreserved VOAs? _____ YES NO N/A

19. Did you change the hold time in LIMS for preserved terracores? _____ YES NO N/A

20. Are bubbles > 6mm absent in VOA samples? _____ YES NO N/A

21. Was the client contacted concerning this sample delivery? _____ YES NO

If YES, Who was called? _____ By _____ Date: _____

COMMENTS _____

Detections Summary for 294531

Results for any subcontracted analyses are not included in this summary.

Client : Cardno, Inc.
 Project : E317602000
 Location : Ellwood Commercial Real Estate

Client Sample ID : S-3-EX3E Laboratory Sample ID : 294531-001

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
1,2,4-Trimethylbenzene	6.6		4.9	ug/Kg	As Recd	0.9728	EPA 8260B	EPA 5030B
Naphthalene	11		4.9	ug/Kg	As Recd	0.9728	EPA 8260B	EPA 5030B

Client Sample ID : S-3-EX3W Laboratory Sample ID : 294531-002

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	14	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C

Client Sample ID : S-3-EX3S Laboratory Sample ID : 294531-003

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Diesel C10-C24	4.1	Y	1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
Acetone	27		19	ug/Kg	As Recd	0.9690	EPA 8260B	EPA 5030B

Client Sample ID : S-7-EX3B Laboratory Sample ID : 294531-004

Analyte	Result	Flags	RL	Units	Basis	IDF	Method	Prep Method
Gasoline C7-C12	1.2		1.0	mg/Kg	As Recd	1.000	EPA 8015B	EPA 5030B
Diesel C10-C24	3.0	Y	0.99	mg/Kg	As Recd	1.000	EPA 8015B	EPA 3550C
1,2,4-Trimethylbenzene	11		4.6	ug/Kg	As Recd	0.9174	EPA 8260B	EPA 5030B
Naphthalene	7.9		4.6	ug/Kg	As Recd	0.9174	EPA 8260B	EPA 5030B

Y = Sample exhibits chromatographic pattern which does not resemble standard

Total Volatile Hydrocarbons			
Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/16/17
Units:	mg/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17
Diln Fac:	1.000		

Field ID: S-3-EX3E Lab ID: 294531-001
 Type: SAMPLE Batch#: 253822

Analyte	Result	RL
Gasoline C7-C12	ND	0.95

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Field ID: S-3-EX3W Lab ID: 294531-002
 Type: SAMPLE Batch#: 253822

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	89	65-136

Field ID: S-3-EX3S Lab ID: 294531-003
 Type: SAMPLE Batch#: 253827

Analyte	Result	RL
Gasoline C7-C12	ND	0.94

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

ND= Not Detected
 RL= Reporting Limit

Total Volatile Hydrocarbons			
Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/16/17
Units:	mg/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17
Diln Fac:	1.000		

Field ID: S-7-EX3B Lab ID: 294531-004
 Type: SAMPLE Batch#: 253827

Analyte	Result	RL
Gasoline C7-C12	1.2	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	94	65-136

Type: BLANK Batch#: 253822
 Lab ID: QC909475

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	82	65-136

Type: BLANK Batch#: 253827
 Lab ID: QC909407

Analyte	Result	RL
Gasoline C7-C12	ND	1.0

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	93	65-136

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Volatile Hydrocarbons			
Lab #:	294531	Location: Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Batch#:	253822
Units:	mg/Kg	Analyzed:	11/17/17
Diln Fac:	1.000		

Type: BS Lab ID: QC909392

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9944	99	80-121

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	100	65-136

Type: BSD Lab ID: QC909393

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2.000	1.895	95	80-121	5	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	103	65-136

RPD= Relative Percent Difference

Batch QC Report

Total Volatile Hydrocarbons		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8015B
Matrix:	Soil	Batch#: 253827
Units:	mg/Kg	Analyzed: 11/17/17
Diln Fac:	1.000	

Type: BS Lab ID: QC909405

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	1.000	0.9660	97	80-121

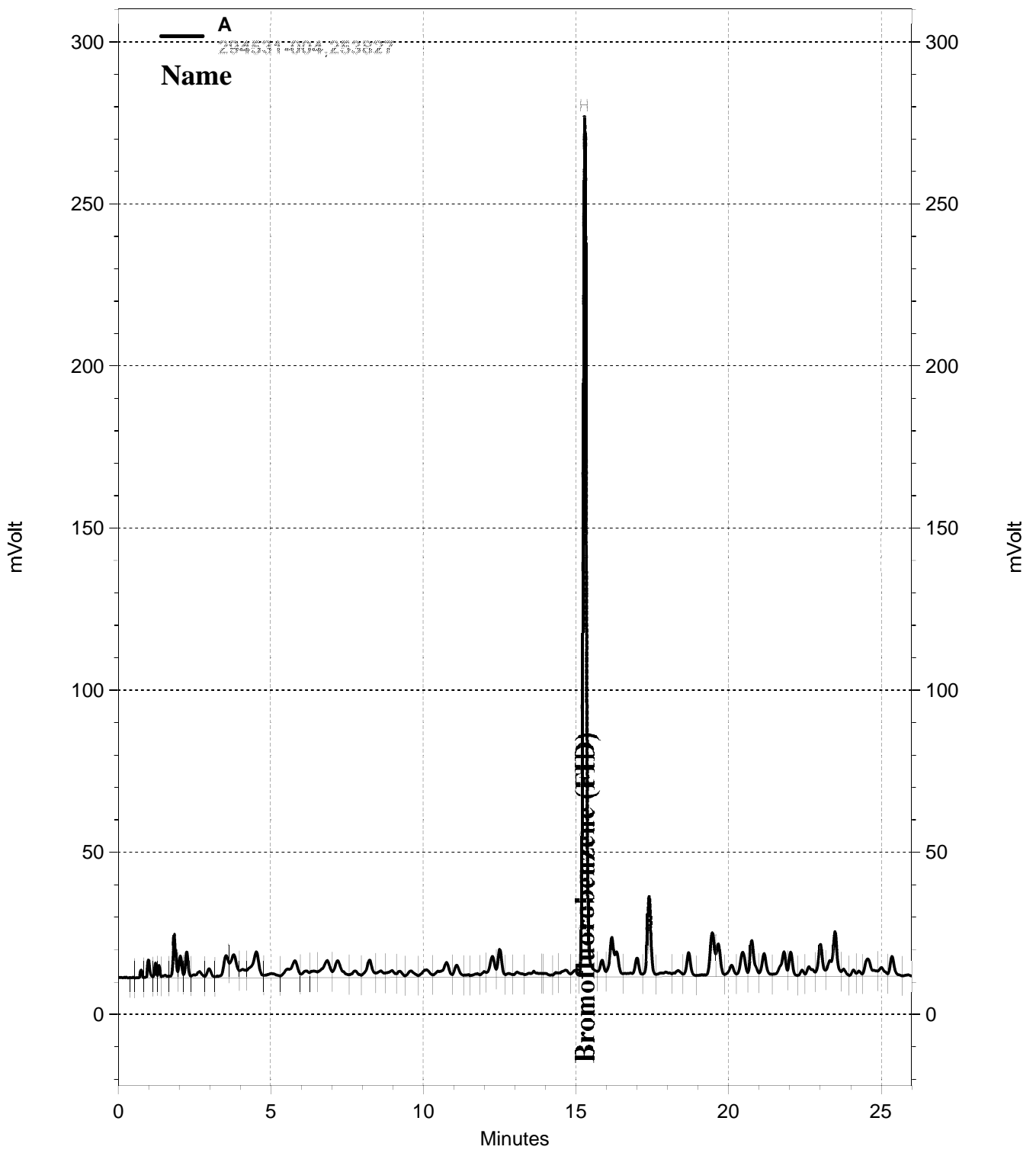
Surrogate	%REC	Limits
Bromofluorobenzene (FID)	92	65-136

Type: BSD Lab ID: QC909406

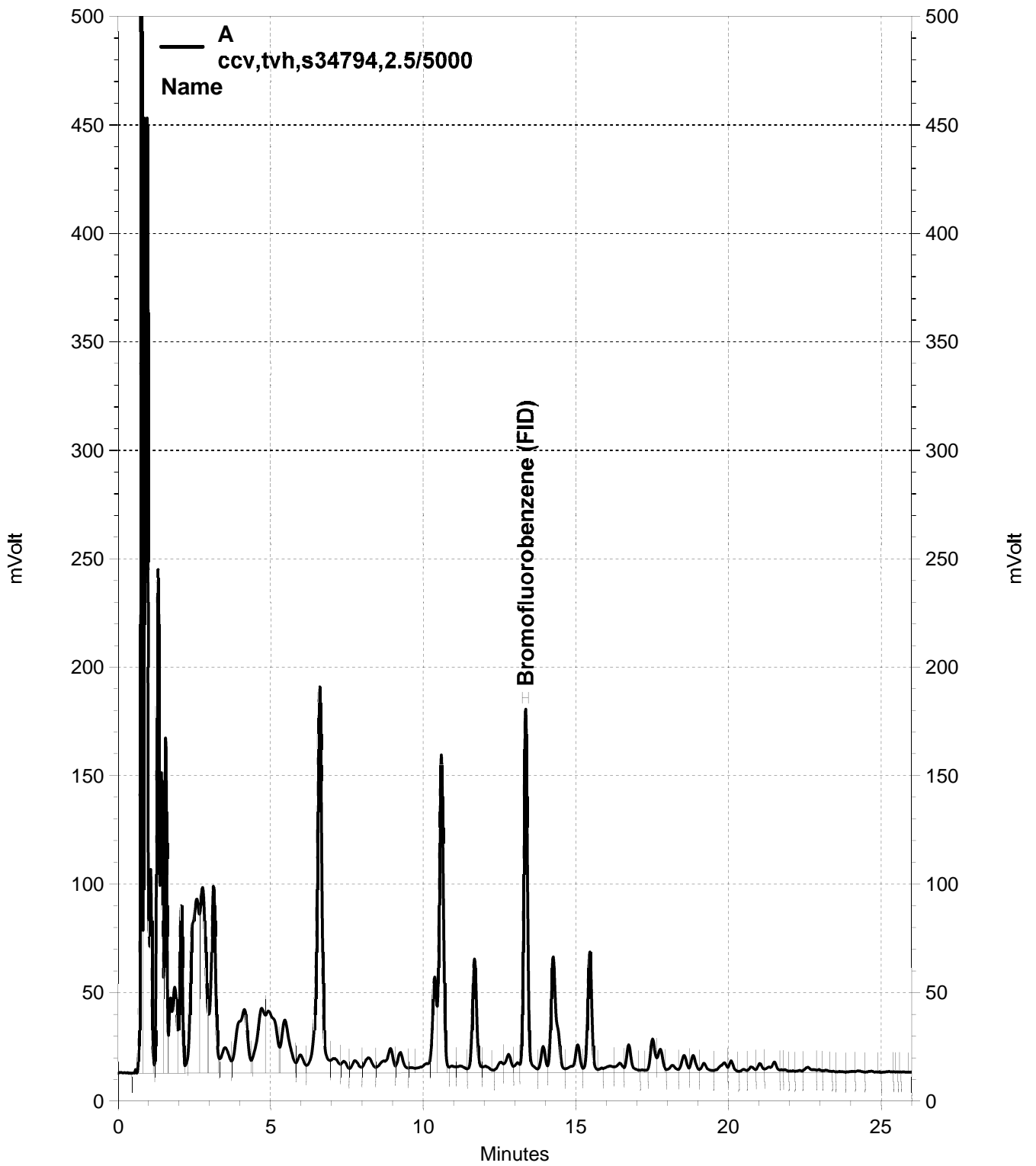
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2.000	2.027	101	80-121	5	20

Surrogate	%REC	Limits
Bromofluorobenzene (FID)	96	65-136

RPD= Relative Percent Difference



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Total Extractable Hydrocarbons			
Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/16/17
Units:	mg/Kg	Received:	11/16/17
Basis:	as received	Prepared:	11/17/17
Diln Fac:	1.000		

Field ID: S-3-EX3E Batch#: 253821
 Type: SAMPLE Analyzed: 11/17/17
 Lab ID: 294531-001

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	76	55-133

Field ID: S-3-EX3W Batch#: 253821
 Type: SAMPLE Analyzed: 11/17/17
 Lab ID: 294531-002

Analyte	Result	RL
Diesel C10-C24	14 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	87	55-133

Field ID: S-3-EX3S Batch#: 253823
 Type: SAMPLE Analyzed: 11/18/17
 Lab ID: 294531-003

Analyte	Result	RL
Diesel C10-C24	4.1 Y	1.0

Surrogate	%REC	Limits
o-Terphenyl	94	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Total Extractable Hydrocarbons

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Matrix:	Soil	Sampled:	11/16/17
Units:	mg/Kg	Received:	11/16/17
Basis:	as received	Prepared:	11/17/17
Diln Fac:	1.000		

Field ID:	S-7-EX3B	Batch#:	253823
Type:	SAMPLE	Analyzed:	11/18/17
Lab ID:	294531-004		

Analyte	Result	RL
Diesel C10-C24	3.0 Y	0.99

Surrogate	%REC	Limits
o-Terphenyl	96	55-133

Type:	BLANK	Batch#:	253821
Lab ID:	QC909386	Analyzed:	11/17/17

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Type:	BLANK	Batch#:	253823
Lab ID:	QC909395	Analyzed:	11/17/17

Analyte	Result	RL
Diesel C10-C24	ND	1.0

Surrogate	%REC	Limits
o-Terphenyl	98	55-133

Y= Sample exhibits chromatographic pattern which does not resemble standard
 ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294531	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC909387	Batch#:	253821	
Matrix:	Soil	Prepared:	11/17/17	
Units:	mg/Kg	Analyzed:	11/17/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.34	43.84	87	51-137

Surrogate	%REC	Limits
o-Terphenyl	90	55-133

Batch QC Report

Total Extractable Hydrocarbons				
Lab #:	294531	Location:	Ellwood Commercial Real Estate	
Client:	Cardno, Inc.	Prep:	EPA 3550C	
Project#:	E317602000	Analysis:	EPA 8015B	
Type:	LCS	Diln Fac:	1.000	
Lab ID:	QC909396	Batch#:	253823	
Matrix:	Soil	Prepared:	11/17/17	
Units:	mg/Kg	Analyzed:	11/17/17	

Analyte	Spiked	Result	%REC	Limits
Diesel C10-C24	50.00	44.31	89	51-137

Surrogate	%REC	Limits
o-Terphenyl	93	55-133

Batch QC Report

Total Extractable Hydrocarbons			
Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 3550C
Project#:	E317602000	Analysis:	EPA 8015B
Field ID:	ZZZZZZZZZZ	Batch#:	253823
MSS Lab ID:	294338-026	Sampled:	11/10/17
Matrix:	Soil	Received:	11/11/17
Units:	mg/Kg	Prepared:	11/17/17
Basis:	as received	Analyzed:	11/17/17
Diln Fac:	3.000		

Type: MS Lab ID: QC909397

Analyte	MSS Result	Spiked	Result	%REC	Limits
Diesel C10-C24	7.945	50.39	56.16	96	36-143

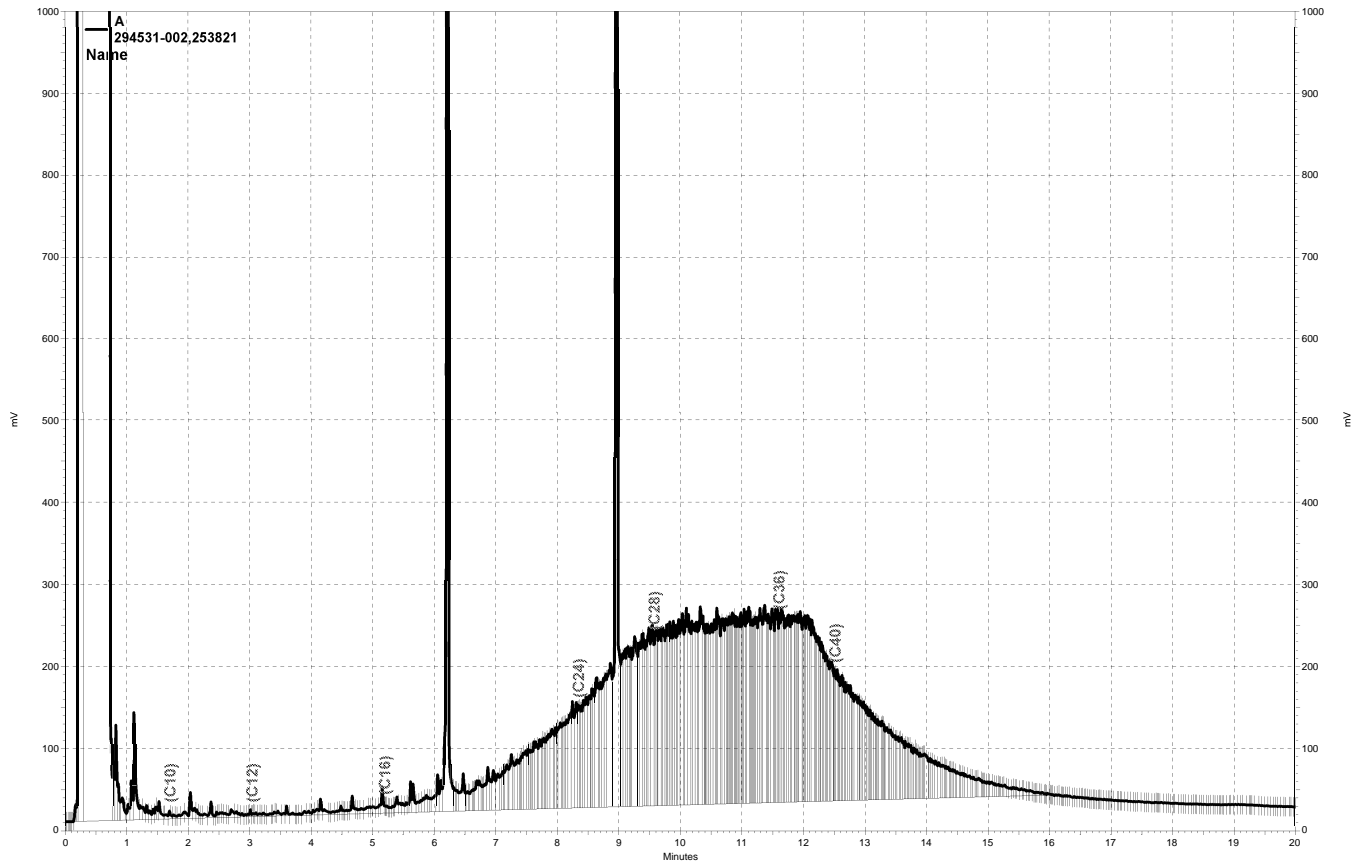
Surrogate	%REC	Limits
o-Terphenyl	91	55-133

Type: MSD Lab ID: QC909398

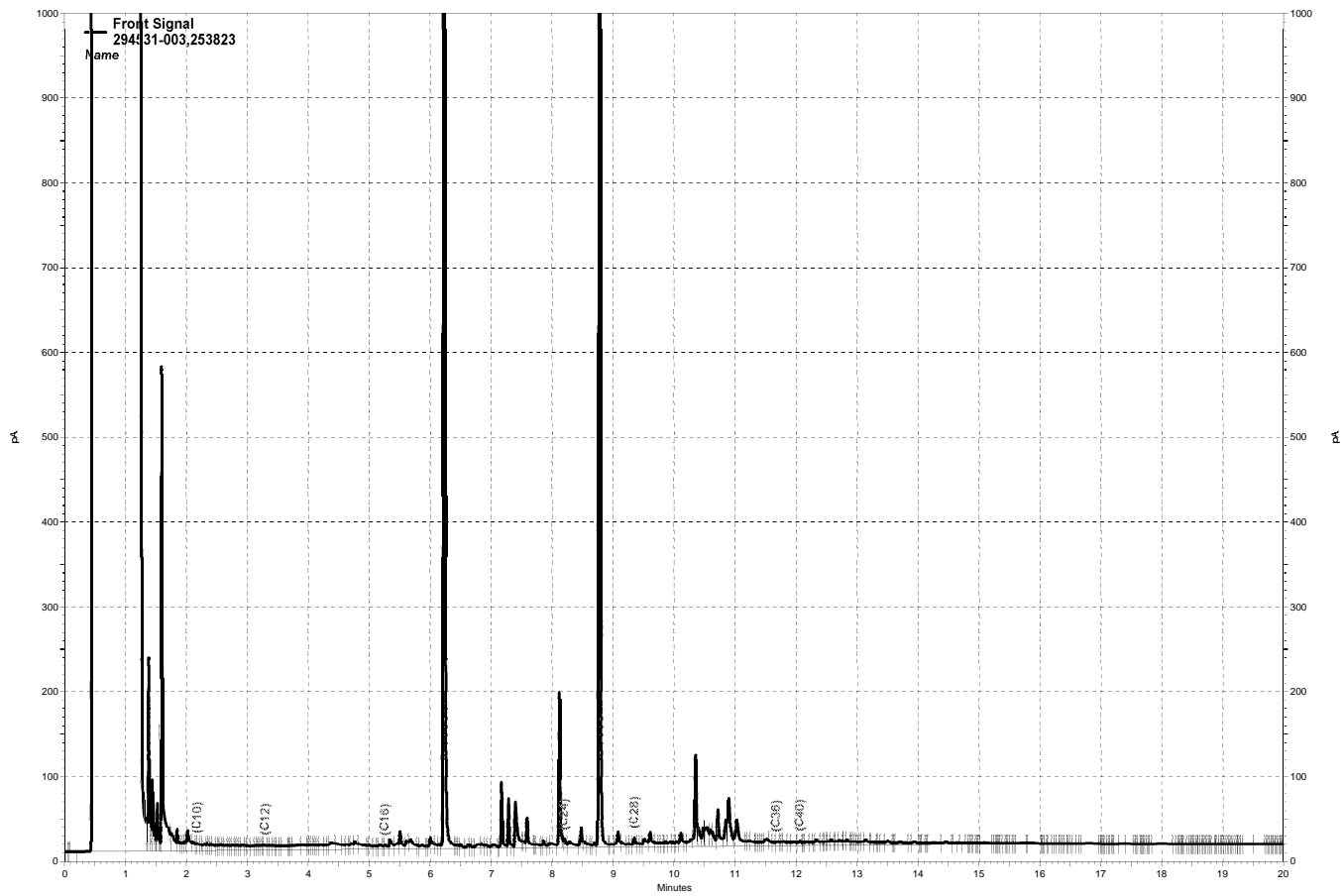
Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Diesel C10-C24	49.94	59.88	104	36-143	7	55

Surrogate	%REC	Limits
o-Terphenyl	95	55-133

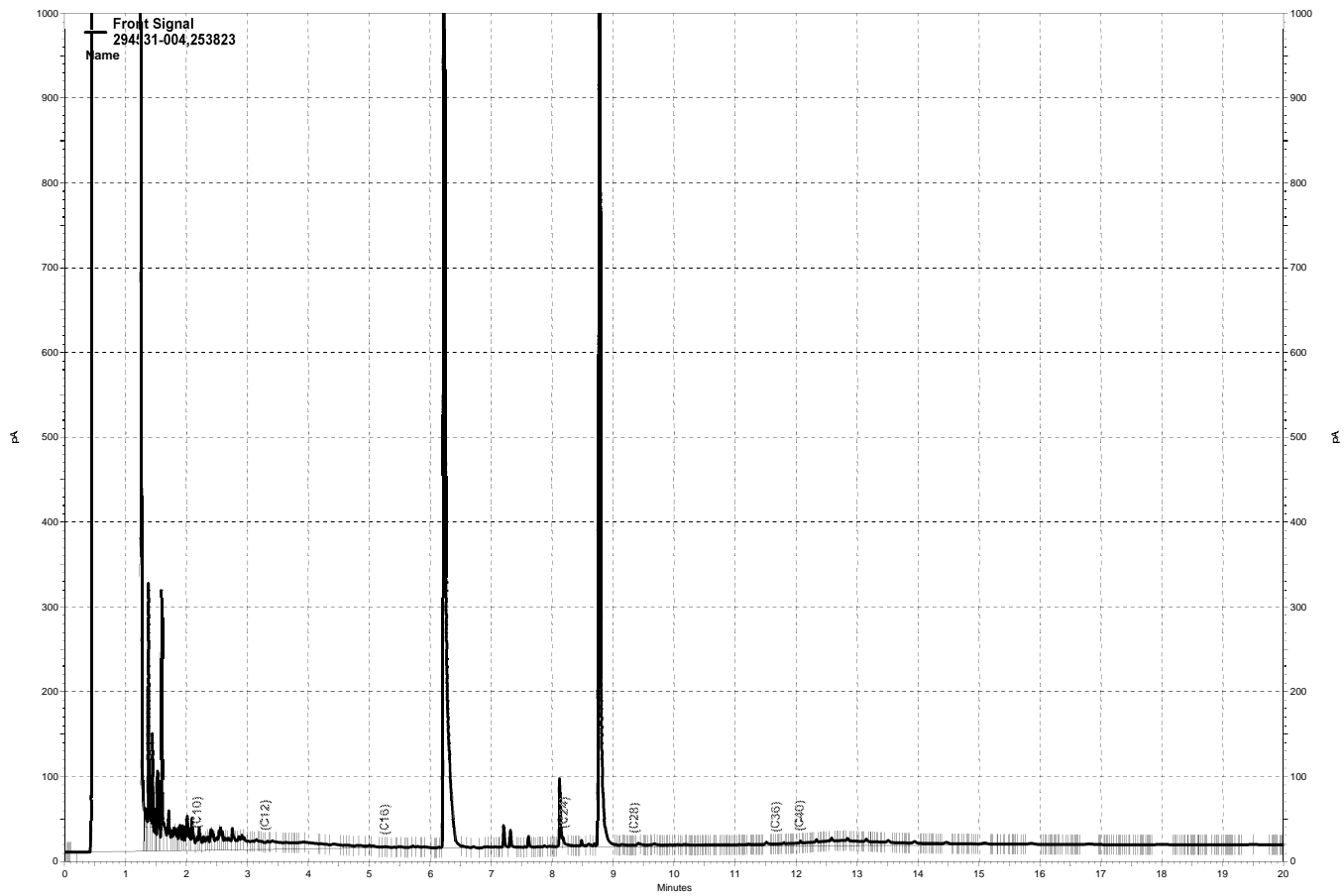
RPD= Relative Percent Difference



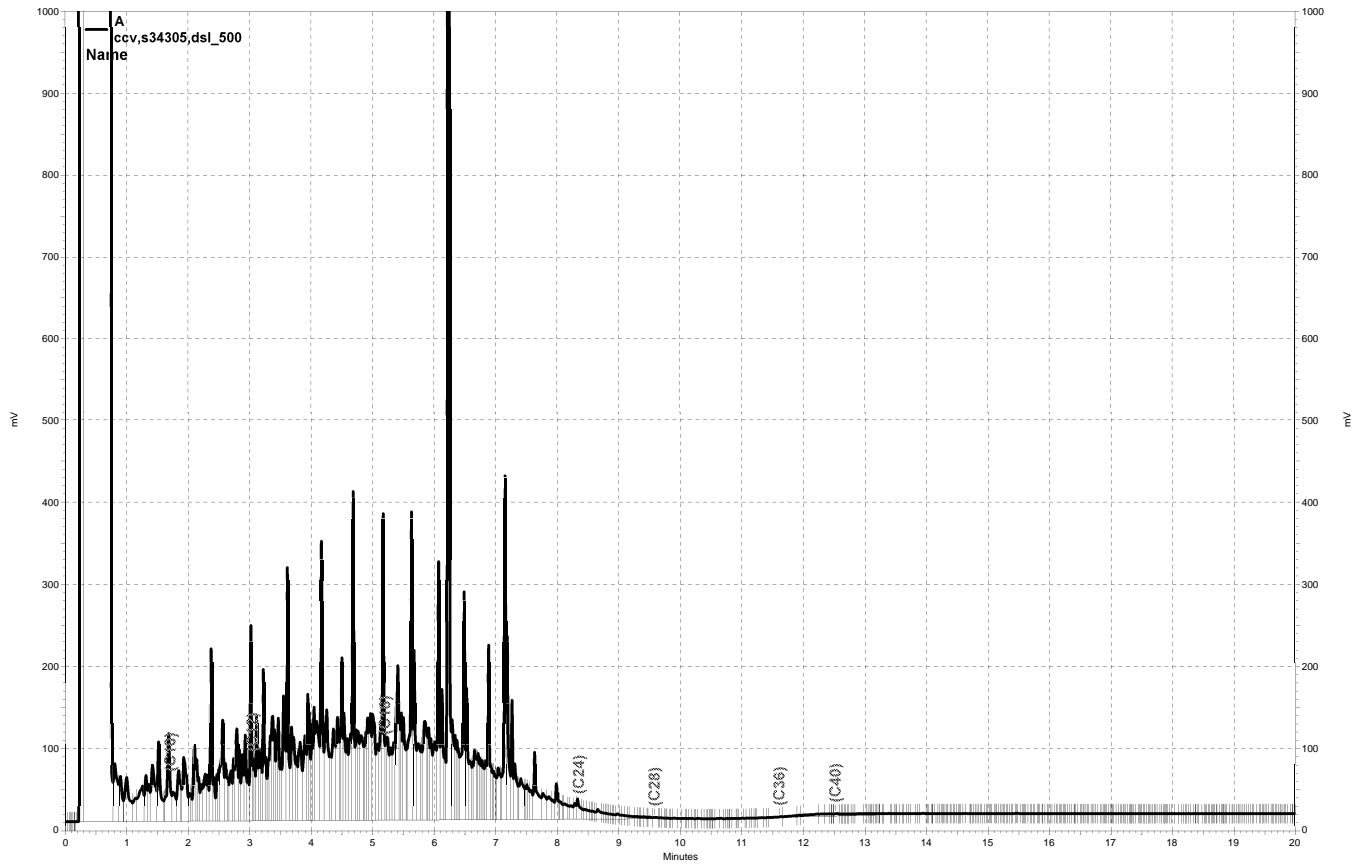
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Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3E	Diln Fac:	0.9728
Lab ID:	294531-001	Batch#:	253870
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/18/17

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.9
Acetone	ND	19
Freon 113	ND	4.9
1,1-Dichloroethene	ND	4.9
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.9
MTBE	ND	4.9
trans-1,2-Dichloroethene	ND	4.9
Vinyl Acetate	ND	49
1,1-Dichloroethane	ND	4.9
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.9
2,2-Dichloropropane	ND	4.9
Chloroform	ND	4.9
Bromochloromethane	ND	4.9
1,1,1-Trichloroethane	ND	4.9
1,1-Dichloropropene	ND	4.9
Carbon Tetrachloride	ND	4.9
1,2-Dichloroethane	ND	4.9
Benzene	ND	4.9
Trichloroethene	ND	4.9
1,2-Dichloropropane	ND	4.9
Bromodichloromethane	ND	4.9
Dibromomethane	ND	4.9
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.9
Toluene	ND	4.9
trans-1,3-Dichloropropene	ND	4.9
1,1,2-Trichloroethane	ND	4.9
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.9
Tetrachloroethene	ND	4.9

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3E	Diln Fac:	0.9728
Lab ID:	294531-001	Batch#:	253870
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/18/17

Analyte	Result	RL
Dibromochloromethane	ND	4.9
1,2-Dibromoethane	ND	4.9
Chlorobenzene	ND	4.9
1,1,1,2-Tetrachloroethane	ND	4.9
Ethylbenzene	ND	4.9
m,p-Xylenes	ND	4.9
o-Xylene	ND	4.9
Styrene	ND	4.9
Bromoform	ND	4.9
Isopropylbenzene	ND	4.9
1,1,2,2-Tetrachloroethane	ND	4.9
1,2,3-Trichloropropane	ND	4.9
Propylbenzene	ND	4.9
Bromobenzene	ND	4.9
1,3,5-Trimethylbenzene	ND	4.9
2-Chlorotoluene	ND	4.9
4-Chlorotoluene	ND	4.9
tert-Butylbenzene	ND	4.9
1,2,4-Trimethylbenzene	6.6	4.9
sec-Butylbenzene	ND	4.9
para-Isopropyl Toluene	ND	4.9
1,3-Dichlorobenzene	ND	4.9
1,4-Dichlorobenzene	ND	4.9
n-Butylbenzene	ND	4.9
1,2-Dichlorobenzene	ND	4.9
1,2-Dibromo-3-Chloropropane	ND	4.9
1,2,4-Trichlorobenzene	ND	4.9
Hexachlorobutadiene	ND	4.9
Naphthalene	11	4.9
1,2,3-Trichlorobenzene	ND	4.9

Surrogate	%REC	Limits
Dibromofluoromethane	103	76-132
1,2-Dichloroethane-d4	96	74-149
Toluene-d8	104	80-120
Bromofluorobenzene	106	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3W	Diln Fac:	0.9470
Lab ID:	294531-002	Batch#:	253816
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17

Analyte	Result	RL
Freon 12	ND	9.5
Chloromethane	ND	9.5
Vinyl Chloride	ND	9.5
Bromomethane	ND	9.5
Chloroethane	ND	9.5
Trichlorofluoromethane	ND	4.7
Acetone	ND	19
Freon 113	ND	4.7
1,1-Dichloroethene	ND	4.7
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.7
MTBE	ND	4.7
trans-1,2-Dichloroethene	ND	4.7
Vinyl Acetate	ND	47
1,1-Dichloroethane	ND	4.7
2-Butanone	ND	9.5
cis-1,2-Dichloroethene	ND	4.7
2,2-Dichloropropane	ND	4.7
Chloroform	ND	4.7
Bromochloromethane	ND	4.7
1,1,1-Trichloroethane	ND	4.7
1,1-Dichloropropene	ND	4.7
Carbon Tetrachloride	ND	4.7
1,2-Dichloroethane	ND	4.7
Benzene	ND	4.7
Trichloroethene	ND	4.7
1,2-Dichloropropane	ND	4.7
Bromodichloromethane	ND	4.7
Dibromomethane	ND	4.7
4-Methyl-2-Pentanone	ND	9.5
cis-1,3-Dichloropropene	ND	4.7
Toluene	ND	4.7
trans-1,3-Dichloropropene	ND	4.7
1,1,2-Trichloroethane	ND	4.7
2-Hexanone	ND	9.5
1,3-Dichloropropane	ND	4.7
Tetrachloroethene	ND	4.7

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3W	Diln Fac:	0.9470
Lab ID:	294531-002	Batch#:	253816
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17

Analyte	Result	RL
Dibromochloromethane	ND	4.7
1,2-Dibromoethane	ND	4.7
Chlorobenzene	ND	4.7
1,1,1,2-Tetrachloroethane	ND	4.7
Ethylbenzene	ND	4.7
m,p-Xylenes	ND	4.7
o-Xylene	ND	4.7
Styrene	ND	4.7
Bromoform	ND	4.7
Isopropylbenzene	ND	4.7
1,1,2,2-Tetrachloroethane	ND	4.7
1,2,3-Trichloropropane	ND	4.7
Propylbenzene	ND	4.7
Bromobenzene	ND	4.7
1,3,5-Trimethylbenzene	ND	4.7
2-Chlorotoluene	ND	4.7
4-Chlorotoluene	ND	4.7
tert-Butylbenzene	ND	4.7
1,2,4-Trimethylbenzene	ND	4.7
sec-Butylbenzene	ND	4.7
para-Isopropyl Toluene	ND	4.7
1,3-Dichlorobenzene	ND	4.7
1,4-Dichlorobenzene	ND	4.7
n-Butylbenzene	ND	4.7
1,2-Dichlorobenzene	ND	4.7
1,2-Dibromo-3-Chloropropane	ND	4.7
1,2,4-Trichlorobenzene	ND	4.7
Hexachlorobutadiene	ND	4.7
Naphthalene	ND	4.7
1,2,3-Trichlorobenzene	ND	4.7

Surrogate	%REC	Limits
Dibromofluoromethane	105	76-132
1,2-Dichloroethane-d4	104	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	109	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3S	Diln Fac:	0.9690
Lab ID:	294531-003	Batch#:	253816
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17

Analyte	Result	RL
Freon 12	ND	9.7
Chloromethane	ND	9.7
Vinyl Chloride	ND	9.7
Bromomethane	ND	9.7
Chloroethane	ND	9.7
Trichlorofluoromethane	ND	4.8
Acetone	27	19
Freon 113	ND	4.8
1,1-Dichloroethene	ND	4.8
Methylene Chloride	ND	19
Carbon Disulfide	ND	4.8
MTBE	ND	4.8
trans-1,2-Dichloroethene	ND	4.8
Vinyl Acetate	ND	48
1,1-Dichloroethane	ND	4.8
2-Butanone	ND	9.7
cis-1,2-Dichloroethene	ND	4.8
2,2-Dichloropropane	ND	4.8
Chloroform	ND	4.8
Bromochloromethane	ND	4.8
1,1,1-Trichloroethane	ND	4.8
1,1-Dichloropropene	ND	4.8
Carbon Tetrachloride	ND	4.8
1,2-Dichloroethane	ND	4.8
Benzene	ND	4.8
Trichloroethene	ND	4.8
1,2-Dichloropropane	ND	4.8
Bromodichloromethane	ND	4.8
Dibromomethane	ND	4.8
4-Methyl-2-Pentanone	ND	9.7
cis-1,3-Dichloropropene	ND	4.8
Toluene	ND	4.8
trans-1,3-Dichloropropene	ND	4.8
1,1,2-Trichloroethane	ND	4.8
2-Hexanone	ND	9.7
1,3-Dichloropropane	ND	4.8
Tetrachloroethene	ND	4.8

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-3-EX3S	Diln Fac:	0.9690
Lab ID:	294531-003	Batch#:	253816
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/17/17

Analyte	Result	RL
Dibromochloromethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Chlorobenzene	ND	4.8
1,1,1,2-Tetrachloroethane	ND	4.8
Ethylbenzene	ND	4.8
m,p-Xylenes	ND	4.8
o-Xylene	ND	4.8
Styrene	ND	4.8
Bromoform	ND	4.8
Isopropylbenzene	ND	4.8
1,1,2,2-Tetrachloroethane	ND	4.8
1,2,3-Trichloropropane	ND	4.8
Propylbenzene	ND	4.8
Bromobenzene	ND	4.8
1,3,5-Trimethylbenzene	ND	4.8
2-Chlorotoluene	ND	4.8
4-Chlorotoluene	ND	4.8
tert-Butylbenzene	ND	4.8
1,2,4-Trimethylbenzene	ND	4.8
sec-Butylbenzene	ND	4.8
para-Isopropyl Toluene	ND	4.8
1,3-Dichlorobenzene	ND	4.8
1,4-Dichlorobenzene	ND	4.8
n-Butylbenzene	ND	4.8
1,2-Dichlorobenzene	ND	4.8
1,2-Dibromo-3-Chloropropane	ND	4.8
1,2,4-Trichlorobenzene	ND	4.8
Hexachlorobutadiene	ND	4.8
Naphthalene	ND	4.8
1,2,3-Trichlorobenzene	ND	4.8

Surrogate	%REC	Limits
Dibromofluoromethane	105	76-132
1,2-Dichloroethane-d4	105	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	107	78-134

ND= Not Detected
 RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-7-EX3B	Diln Fac:	0.9174
Lab ID:	294531-004	Batch#:	253870
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/18/17

Analyte	Result	RL
Freon 12	ND	9.2
Chloromethane	ND	9.2
Vinyl Chloride	ND	9.2
Bromomethane	ND	9.2
Chloroethane	ND	9.2
Trichlorofluoromethane	ND	4.6
Acetone	ND	18
Freon 113	ND	4.6
1,1-Dichloroethene	ND	4.6
Methylene Chloride	ND	18
Carbon Disulfide	ND	4.6
MTBE	ND	4.6
trans-1,2-Dichloroethene	ND	4.6
Vinyl Acetate	ND	46
1,1-Dichloroethane	ND	4.6
2-Butanone	ND	9.2
cis-1,2-Dichloroethene	ND	4.6
2,2-Dichloropropane	ND	4.6
Chloroform	ND	4.6
Bromochloromethane	ND	4.6
1,1,1-Trichloroethane	ND	4.6
1,1-Dichloropropene	ND	4.6
Carbon Tetrachloride	ND	4.6
1,2-Dichloroethane	ND	4.6
Benzene	ND	4.6
Trichloroethene	ND	4.6
1,2-Dichloropropane	ND	4.6
Bromodichloromethane	ND	4.6
Dibromomethane	ND	4.6
4-Methyl-2-Pentanone	ND	9.2
cis-1,3-Dichloropropene	ND	4.6
Toluene	ND	4.6
trans-1,3-Dichloropropene	ND	4.6
1,1,2-Trichloroethane	ND	4.6
2-Hexanone	ND	9.2
1,3-Dichloropropane	ND	4.6
Tetrachloroethene	ND	4.6

ND= Not Detected

RL= Reporting Limit

Purgeable Organics by GC/MS

Lab #:	294531	Location:	Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep:	EPA 5030B
Project#:	E317602000	Analysis:	EPA 8260B
Field ID:	S-7-EX3B	Diln Fac:	0.9174
Lab ID:	294531-004	Batch#:	253870
Matrix:	Soil	Sampled:	11/16/17
Units:	ug/Kg	Received:	11/16/17
Basis:	as received	Analyzed:	11/18/17

Analyte	Result	RL
Dibromochloromethane	ND	4.6
1,2-Dibromoethane	ND	4.6
Chlorobenzene	ND	4.6
1,1,1,2-Tetrachloroethane	ND	4.6
Ethylbenzene	ND	4.6
m,p-Xylenes	ND	4.6
o-Xylene	ND	4.6
Styrene	ND	4.6
Bromoform	ND	4.6
Isopropylbenzene	ND	4.6
1,1,2,2-Tetrachloroethane	ND	4.6
1,2,3-Trichloropropane	ND	4.6
Propylbenzene	ND	4.6
Bromobenzene	ND	4.6
1,3,5-Trimethylbenzene	ND	4.6
2-Chlorotoluene	ND	4.6
4-Chlorotoluene	ND	4.6
tert-Butylbenzene	ND	4.6
1,2,4-Trimethylbenzene	11	4.6
sec-Butylbenzene	ND	4.6
para-Isopropyl Toluene	ND	4.6
1,3-Dichlorobenzene	ND	4.6
1,4-Dichlorobenzene	ND	4.6
n-Butylbenzene	ND	4.6
1,2-Dichlorobenzene	ND	4.6
1,2-Dibromo-3-Chloropropane	ND	4.6
1,2,4-Trichlorobenzene	ND	4.6
Hexachlorobutadiene	ND	4.6
Naphthalene	7.9	4.6
1,2,3-Trichlorobenzene	ND	4.6

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-132
1,2-Dichloroethane-d4	89	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	108	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS					
Lab #:	294531	Location: Ellwood Commercial Real Estate			
Client:	Cardno, Inc.	Prep: EPA 5030B			
Project#:	E317602000	Analysis: EPA 8260B			
Field ID:	S-3-EX3E	Batch#:	253816		
MSS Lab ID:	294531-001	Sampled:	11/16/17		
Matrix:	Soil	Received:	11/16/17		
Units:	ug/Kg	Analyzed:	11/17/17		
Basis:	as received				

Type: MS Diln Fac: 0.9823
 Lab ID: QC909363

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.4272	49.12	47.19	96	64-131
Benzene	<0.4236	49.12	41.27	84	66-122
Trichloroethene	<0.4069	49.12	42.10	86	57-133
Toluene	<0.3077	49.12	39.75	81	61-120
Chlorobenzene	<0.3837	49.12	38.84	79	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-132
1,2-Dichloroethane-d4	104	74-149
Toluene-d8	97	80-120
Bromofluorobenzene	98	78-134

Type: MSD Diln Fac: 0.9671
 Lab ID: QC909364

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	48.36	50.28	104	64-131	8	32
Benzene	48.36	42.85	89	66-122	5	32
Trichloroethene	48.36	43.12	89	57-133	4	34
Toluene	48.36	41.35	86	61-120	5	32
Chlorobenzene	48.36	40.43	84	56-120	6	33

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-132
1,2-Dichloroethane-d4	104	74-149
Toluene-d8	96	80-120
Bromofluorobenzene	99	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC909365	Batch#: 253816
Matrix:	Soil	Analyzed: 11/17/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC909365	Batch#: 253816
Matrix:	Soil	Analyzed: 11/17/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	99	76-132
1,2-Dichloroethane-d4	106	74-149
Toluene-d8	99	80-120
Bromofluorobenzene	118	78-134

ND= Not Detected
 RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC909413	Batch#: 253816
Matrix:	Soil	Analyzed: 11/17/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	19.94	80	68-132
Benzene	25.00	24.27	97	75-123
Trichloroethene	25.00	24.46	98	75-120
Toluene	25.00	24.64	99	76-120
Chlorobenzene	25.00	25.08	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	102	76-132
1,2-Dichloroethane-d4	101	74-149
Toluene-d8	98	80-120
Bromofluorobenzene	97	78-134

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	LCS	Diln Fac: 1.000
Lab ID:	QC909580	Batch#: 253870
Matrix:	Soil	Analyzed: 11/18/17
Units:	ug/Kg	

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	25.00	25.43	102	68-132
Benzene	25.00	23.92	96	75-123
Trichloroethene	25.00	22.97	92	75-120
Toluene	25.00	24.77	99	76-120
Chlorobenzene	25.00	25.07	100	80-120

Surrogate	%REC	Limits
Dibromofluoromethane	101	76-132
1,2-Dichloroethane-d4	94	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	108	78-134

Batch QC Report

Purgeable Organics by GC/MS					
Lab #:	294531	Location:	Ellwood Commercial Real Estate		
Client:	Cardno, Inc.	Prep:	EPA 5030B		
Project#:	E317602000	Analysis:	EPA 8260B		
Field ID:	S-7-EX3B	Batch#:	253870		
MSS Lab ID:	294531-004	Sampled:	11/16/17		
Matrix:	Soil	Received:	11/16/17		
Units:	ug/Kg	Analyzed:	11/20/17		
Basis:	as received				

Type: MS Diln Fac: 0.9328
 Lab ID: QC909610

Analyte	MSS Result	Spiked	Result	%REC	Limits
1,1-Dichloroethene	<0.5492	46.64	44.11	95	64-131
Benzene	<0.6399	46.64	38.53	83	66-122
Trichloroethene	<0.6665	46.64	39.49	85	57-133
Toluene	<0.7009	46.64	38.88	83	61-120
Chlorobenzene	<0.5746	46.64	39.61	85	56-120

Surrogate	%REC	Limits
Dibromofluoromethane	93	76-132
1,2-Dichloroethane-d4	94	74-149
Toluene-d8	104	80-120
Bromofluorobenzene	106	78-134

Type: MSD Diln Fac: 0.9416
 Lab ID: QC909611

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	47.08	43.71	93	64-131	2	32
Benzene	47.08	38.12	81	66-122	2	32
Trichloroethene	47.08	40.00	85	57-133	0	34
Toluene	47.08	40.20	85	61-120	2	32
Chlorobenzene	47.08	39.91	85	56-120	0	33

Surrogate	%REC	Limits
Dibromofluoromethane	94	76-132
1,2-Dichloroethane-d4	92	74-149
Toluene-d8	105	80-120
Bromofluorobenzene	104	78-134

RPD= Relative Percent Difference

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC909612	Batch#: 253870
Matrix:	Soil	Analyzed: 11/18/17
Units:	ug/Kg	

Analyte	Result	RL
Freon 12	ND	10
Chloromethane	ND	10
Vinyl Chloride	ND	10
Bromomethane	ND	10
Chloroethane	ND	10
Trichlorofluoromethane	ND	5.0
Acetone	ND	20
Freon 113	ND	5.0
1,1-Dichloroethene	ND	5.0
Methylene Chloride	ND	20
Carbon Disulfide	ND	5.0
MTBE	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
Vinyl Acetate	ND	50
1,1-Dichloroethane	ND	5.0
2-Butanone	ND	10
cis-1,2-Dichloroethene	ND	5.0
2,2-Dichloropropane	ND	5.0
Chloroform	ND	5.0
Bromochloromethane	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1-Dichloropropene	ND	5.0
Carbon Tetrachloride	ND	5.0
1,2-Dichloroethane	ND	5.0
Benzene	ND	5.0
Trichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Bromodichloromethane	ND	5.0
Dibromomethane	ND	5.0
4-Methyl-2-Pentanone	ND	10
cis-1,3-Dichloropropene	ND	5.0
Toluene	ND	5.0
trans-1,3-Dichloropropene	ND	5.0
1,1,2-Trichloroethane	ND	5.0
2-Hexanone	ND	10
1,3-Dichloropropane	ND	5.0
Tetrachloroethene	ND	5.0

ND= Not Detected

RL= Reporting Limit

Batch QC Report

Purgeable Organics by GC/MS		
Lab #:	294531	Location: Ellwood Commercial Real Estate
Client:	Cardno, Inc.	Prep: EPA 5030B
Project#:	E317602000	Analysis: EPA 8260B
Type:	BLANK	Diln Fac: 1.000
Lab ID:	QC909612	Batch#: 253870
Matrix:	Soil	Analyzed: 11/18/17
Units:	ug/Kg	

Analyte	Result	RL
Dibromochloromethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Chlorobenzene	ND	5.0
1,1,1,2-Tetrachloroethane	ND	5.0
Ethylbenzene	ND	5.0
m,p-Xylenes	ND	5.0
o-Xylene	ND	5.0
Styrene	ND	5.0
Bromoform	ND	5.0
Isopropylbenzene	ND	5.0
1,1,2,2-Tetrachloroethane	ND	5.0
1,2,3-Trichloropropane	ND	5.0
Propylbenzene	ND	5.0
Bromobenzene	ND	5.0
1,3,5-Trimethylbenzene	ND	5.0
2-Chlorotoluene	ND	5.0
4-Chlorotoluene	ND	5.0
tert-Butylbenzene	ND	5.0
1,2,4-Trimethylbenzene	ND	5.0
sec-Butylbenzene	ND	5.0
para-Isopropyl Toluene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0
n-Butylbenzene	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,2-Dibromo-3-Chloropropane	ND	5.0
1,2,4-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	5.0
Naphthalene	ND	5.0
1,2,3-Trichlorobenzene	ND	5.0

Surrogate	%REC	Limits
Dibromofluoromethane	95	76-132
1,2-Dichloroethane-d4	91	74-149
Toluene-d8	106	80-120
Bromofluorobenzene	109	78-134

ND= Not Detected
 RL= Reporting Limit

APPENDIX C
WASTE DISPOSAL DOCUMENTATION

APPENDIX D
HISTORIC SOIL RESULTS

Table 2-1
Summary of Recent Soil Data
 Ellwood Commercial Real Estate
 500 Grand Avenue, Oakland, California

Sample	Total Petroleum Hydrocarbons						Volatile Organic Compounds															Semi-Volatile Organic Compounds							
	TPHg	TPHd	TPHmo	Acetone	MTBE	2-Butanone	1,2-Dichloroethane	Benzene	Toluene	Ethylbenzene	m,p-xylenes	o-xylenes	Total Xylenes	Isopropylbenzene ⁴	Propylbenzene ⁴	1,3,5-Trimethylbenzene ⁴	1,2,4-Trimethylbenzene ⁴	sec-butylbenzene ⁴	para-isopropyl toluene	n-bubylbenzene ⁴	Naphthalene	Naphthalene	2-Methylnaphthalene	Phenanthrene					
	(mg/kg)	(mg/kg)	(mg/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)	(ug/kg)				
CRWQCB Direct Exposure Shallow Soil ESLs ¹ Residential	7.4E+02	2.3E+02	1.1E+04	5.9E+07	4.2E+04	--	3.7E+02	2.3E+02	9.7E+05	5.1E+03	--	--	5.6E+05	1.9E+06	3.8E+06	7.8E+05	5.8E+04	7.8E+06	--	3.9E+06	3.3E+03	3.3E+03	2.4E+05	--					
CRWQCB Direct Exposure Shallow Soil ESLs ² Commercial/Industrial	3.9E+03	1.1E+03	1.4E+05	6.3E+08	1.8E+05	--	1.6E+03	1.0E+03	4.6E+06	2.2E+04	--	--	2.4E+06	9.9E+06	2.4E+07	1.2E+07	2.4E+05	1.2E+08	--	5.8E+07	1.4E+04	1.4E+04	3.0E+06	--					
CRWQCB Direct Exposure Shallow Soil ESLs ³ Construction	7.4E+03	3.8E+03	3.2E+04	3.2E+05	3.7E+03	--	3.7E+01	2.4E+01	2.8E+04	4.8E+02	--	--	6.5+04	--	--	--	--	--	--	--	3.5E+02	3.5E+02	6.7E+02	--					
Sgi-SB-01-3	4/16/2016	3	590	2100	ND<50	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	ND<250	ND<250	660	3600	ND<250	ND<250	980	300	4800	2600	2300	5500	760					
Sgi-SB-01-5.5	4/16/2016	5.5	230	60	ND<50	ND<1000	ND<250	ND<500	ND<250	ND<250	2300	5300	410	5710	290	1300	2300	7500	ND<250	ND<250	810	1800	1500	1200	ND<66				
Sgi-SB-01-8.5	4/16/2016	8.5	1.4	1.1	ND<5.0	36	ND<5.0	ND<9.9	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	6.9	ND<5.0	ND<5.0	ND<5.0	6.6	ND<66	ND<66	ND<66				
Sgi-SB-01-10	4/16/2016	10	ND<0.94	2.0	ND<5.0	ND<18	ND<4.4	ND<8.8	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<4.4	ND<67	ND<67	ND<67			
Sgi-SB-02-2	4/16/2016	2	510	610	77	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	410	310	ND<250	310	520	2400	ND<250	670	ND<250	4200	3600	1100	1300	ND<66				
Sgi-SB-02-5	4/16/2016	5	550	150	ND<5.0	ND<1000	ND<250	ND<500	ND<250	ND<250	ND<250	4300	5900	ND<250	5900	700 J	2000 J	3700	15000	620 J	1100	2100	3900	3200	1300	ND<660			
Sgi-SB-02-8.5	4/16/2016	8.5	3.2	6.1	ND<5.0	31	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<67	ND<67	ND<67		
Sgi-SB-02-11.5	4/16/2016	11.5	ND<0.98	ND<1.0	ND<5.0	ND<20	ND<5.0	ND<10	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<66	ND<66	ND<66		
Sgi-SB-03-5	4/16/2016	5	ND<1.1	2.7	ND<5.0	83	ND<4.7	37	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	ND<4.7	4.8	100	100	ND<66				
Sgi-SB-03-13	4/16/2016	13	ND<0.97	1.8	ND<5.0	ND<19	ND<4.8	ND<9.6	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<4.8	ND<67	ND<67			
Sgi-SB-04-4.5	4/16/2016	4.5	ND<1.0	23	71	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--		
Sgi-SB-04-4.5D	4/16/2016	4.5	ND<1.1	31	100	ND<19	ND<4.6	ND<9.3	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	--	--	--		
Sgi-SB-04-12.5	4/16/2016	12.5	ND<1.1	2.3	ND<5.0	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--	
Sgi-SB-05-4	4/16/2016	4	ND<1.0	16	51	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--	
Sgi-SB-06-4.5	4/16/2016	4.5	ND<0.97	34	91	ND<20	ND<5.0	ND<9.9	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	--	--	--		
Sgi-SB-06-10	4/16/2016	10	ND<0.96	2.3	ND<5.0	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--	
Sgi-SB-07-4.5	4/16/2016	4.5	ND<1.1	24	86	ND<19	ND<4.9	ND<9.7	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--	
Sgi-SB-08-3	4/16/2016	3	ND<0.94	2.7	26	ND<20	ND<4.9	ND<9.8	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<66	ND<66	ND<66	
Sgi-SB-08-7	4/16/2016	7	ND<0.99	31	130	ND<18	ND<4.6	ND<9.2	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<4.6	ND<67	ND<67	ND<67		
Sgi-SB-10-4	4/16/2016	4	ND<1.1	11	88	ND<20	ND<4.9	ND<9.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	ND<4.9	--	--	--	
Sgi-SB-11-2.5	4/22/2016	2.5	27	30	32	ND<41	ND<10	ND<20	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<10	ND<130	230	ND<130	
AW SB-1	11/23/2015	1.5	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-1	11/23/2015	8.5	2.5	16	390	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-2	11/23/2015	1.5	110	30	5.4	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	3700	3700	--	--
AW SB-2	11/23/2015	10	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-3	11/23/2015	1.5	ND<0.25	ND<1.0	11	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-3	11/23/2015	10	ND<0.25	ND<1.0	ND<5.0	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-4	11/23/2015	1.5	ND<0.25	1.1	5.5	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-5	11/23/2015	1.5	ND<0.25	1.5	36	--	--	--	--	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	ND<5	--	--	--	
AW SB-5	11/23/2015	4.5	200	170	230	--	--	--	--	ND<5	ND<5	3000	--	--	6600	--	--	--	--	--	--	--	--	6500	6500	--	--	--	

Notes:

Bold font indicates value exceeds soil ESL for residential land use.

Bold font and shaded cell indicates value exceeds soil ESL for commercial/industrial land use.

J = Estimated Value

"--" = Not analyzed

¹ Shallow Soil Screening Levels (<3m bgs), Residential - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

² Shallow Soil Screening Levels (<3m bgs), Commercial/Industrial - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

³ Shallow Soil Screening Levels (<3m bgs), Construction - groundwater is not a current or potential drinking water resource (CRWQCB, 2016)

⁴ CRWQCB ESL was not available; therefore, the USEPA RSL was used (USEPA, 2015).

Results highlighted in blue indicate samples removed by excavation activities in 2017.