# APPENDIX D

# FIELD LOGS AND SAMPLING DETAILS

# FIELD LOGS

# GROUNDWATER SAMPLING DATA SHEETS

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-1

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-1-20141215

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: | °F 45 . °C |
|---|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 17:47 | 16.91 | --- | 8.45 | --- | 8.46 | X 1 | 1.38 |
| / / | : | . | --- | . | --- | . | X 3 | 4.14 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 18:31 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/15/14 | 18:31 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/15/14 | 18:31 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/15/14 | 18:31 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/15/14 | 18:31 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 18:31 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 18:31 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/15/14 | 18:31 | | 2 | 1 L | None | YES | NO | | ✓ |
| Total Bottles (include duplicate count): | | | | 14 | | | | | | |

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 18:05 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:11 | 1.8 | 8.62 | 6.91 | 43.2 | 7.848 | 11.45 | 8.13 | -97.5 | ~~clear~~ cloudy, |
| 2 | 18:14 | 2.7 | 8.78 | 6.78 | 25.0 | 7.871 | 11.50 | 8.05 | -96.5 | yellowish |
| 3 | 18:17 | 3.6 | 8.67 | 6.67 | 20.1 | 7.891 | 11.51 | 7.70 | -97.1 | brown |
| 4 | 18:20 | 4.5 | 8.67 | 6.67 | 13.7 | 7.908 | 11.50 | 7.91 | -98.7 | |
| 5 | 18:23 | 5.4 | 8.67 | 6.56 | 8.89 | 7.931 | 11.52 | 8.71 | -99.6 | |
| 6 | 18:25 | 6.3 | 8.67 | 6.46 | 8.17 | 7.950 | 11.55 | 8.16 | -99.3 | |
| 7 | 18:28 | 7.2 | 8.67 | 6.61 | 7.9 | 7.967 | 11.58 | 7.86 | -99.5 | ✓ |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | NK | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):** 0.53

Comments: soft bottom

**SAMPLER:** NORA KOCTILE
(PRINTED NAME)

(SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-2

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-2-121514

**DUP ID:** —

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: °F 44 °C |
|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 17:46 | 18.0 | --- | 11.02 | --- | . | X 1 | . |
| / / | : | . | --- | . | --- | . | X 3 | . |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 15'

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 18:30 | B | 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | √ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 17:54 Depth of tubing (ft btoc): 15'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 58 1 | ~~18:00~~ | 1.2 l | 11.42 | 7.12 | 7.27 | 3690 | 9.9 | 9.39 | 51.4 | clear, colorless |
| 2 | 18:02 | 2.4 l | 11.48 | 7.30 | 8.29 | 3984 | 9.8 | 9.03 | 43.7 | " " |
| 3 | 18:06 | 3.6 l | 11.48 | 7.46 | 7.25 | 3974 | 9.8 | 8.95 | 41.5 | " " |
| 4 | 18:10 | 4.8 l | 11.49 | 7.57 | 4.25 | 4052 | 9.7 | 8.96 | 40.7 | " " |
| 5 | 18:14 | 6.0 l | 11.48 | 7.61 | 3.89 | 4101 | 9.7 | 8.77 | 41.1 | " " |
| 6 | 18:18 | 7.2 l | 11.48 | 7.63 | 4.14 | 4109 | 9.8 | 8.68 | 41.2 | " " |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 4.14 **Turbidity after sample collection (NTU):** 1.99 [Clarity, Color]

Comments:

**SAMPLER:** Doug Laffoon (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** ~~SLR-T~~ CMW-3

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-3-20141218

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: | °F 48 . | °C |
|---|---|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 19:40 | 17.0 | --- | 12.6 | --- | 4.4 | X 1 | 0.72 |
| / / | : | Soft | --- | . | --- | . | X 3 | 2.15 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | [√ if used] √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 20:20 | B | 1 | 500 mL | HNO3 | YES | NO | | — |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | — |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | — |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | — |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | — |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | — |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | — |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | — |
| Total Bottles (include duplicate count): | | | | 14 | | | | | | |

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 19:40 0.3L/min Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume (L) | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) mS | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19:45 | 1.5 | 12.9 | 7.20 | 52.2 | 4.134 | 12.98 | 9.01 | -52.9 | slightly whitish cloudy |
| 2 | 19:50 | 3.0 | 12.1 | 7.25 | 22.6 | 4.206 | 13.16 | 8.57 | -82.3 | " |
| 3 | 19:54 | 4.2 | 12.0 | 7.20 | 7.87 | 4.203 | 13.23 | 8.30 | -88.7 | mostly clear |
| 4 | 19:58 | 5.4 | 12.1 | 7.19 | 4.40 | 4.146 | 13.30 | 7.86 | -98.2 | " |
| 5 | 20:02 | 6.6 | 12.1 | 7.18 | 2.41 | 4.064 | 13.31 | 7.70 | -99.9 | " |
| 6 | 20:06 | 7.8 | 12.1 | 7.18 | 1.35 | 3.986 | 13.33 | 8.07 | -101.7 | " |
| 7 | 20:10 | 9.0 | 12.1 | 7.17 | 1.07 | 3.941 | 13.32 | 6.96 | -104.0 | " |
| 8 | 20:13 | 9.9 | 12.1 | 7.15 | 1.00 | 3.913 | 13.34 | 7.02 | -100.1 | " |
| 9 | 20:16 | 10.8 | 12.1 | 7.14 | 0.80 | 3.889 | 13.35 | 6.95 | -101.0 | " |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 0.80 **Turbidity after sample collection (NTU):** 0.39

Comments: 2.34 gal/10.8 L pumped before sample
Well mount lid has no bolts

**SAMPLER:** Evan Merkzyk (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-4

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-4-121814

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: °F 48 . | | °C |

(Circle appropriate units)

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 20:20 | 18.4 | --- | 12.48 | --- | 5.92 | X 1 | 0.96 |
| / / | : | . | --- | . | --- | . | X 3 | 2.89 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = | 0.041 | 2" = | 0.163 | 3" = | 0.367 | 4" = | 0.653 | 6" = | 1.469 | 10" = | 4.080 | 12" = | 5.875 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 21:10 | B1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | / / | : | | 500 mL | None | YES | NO | | |
| 40 mL vial | / / | : | | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | / / | : | | 500 mL | None | YES | NO | | |
| 250mL polys | / / | : | | 250 mL | None | YES | NO | | |
| 250mL polys | / / | : | | 250 mL | None | YES | Yes | | |
| 1L AG | / / | : | | 1 L | None | YES | NO | | |
| Total Bottles (include duplicate count): | | | | | | | | | |

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) ~~(TPH-D)~~ |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 20:20 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20:23 | 1.35 | 12.81 | 7.40 | 11.12 | 13222 | 11.9 | 6.06 | 16.4 | Clear, colorless |
| 2 | 20:26 | 2.7 | 12.74 | 7.39 | 10.94 | 13538 | 11.9 | 5.32 | 21.2 | |
| 3 | 20:29 | 4.05 | 12.85 | 7.40 | 8.31 | 13510 | 12.0 | 5.28 | 21.9 | |
| 4 | 20:32 | 5.40 | 12.86 | 7.40 | 11.16 | 13585 | 11.9 | 4.89 | 23.1 | |
| 5 | 20:35 | 6.75 | 12.82 | 7.40 | 11.04 | 13585 | 12.0 | 4.59 | 24.1 | |
| 6 | 20:38 | 8.10 | 12.85 | 7.41 | 15.24 | 13577 | 12.0 | 4.55 | 25.2 | |
| 7 | 20:41 | 9.45 | 12.87 | 7.41 | 17.90 | 13523 | 12.0 | 4.51 | 26.7 | |
| 8 | 20:44 | 10.80 | 12.92 | 7.41 | 9.47 | 13528 | 12.0 | 4.41 | 27.3 | |
| 9 | 20:47 | 12.15 | 12.92 | 7.41 | 8.73 | 13499 | 12.1 | 4.37 | 28.3 | |
| 10 | 20:50 | | 12.94 | 7.42 | 4.88 | 13501 | 12.1 | 4.34 | 29.0 | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 4.58 **Turbidity after sample collection (NTU):** 2.38

Comments: pumping @ 0.45L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Doug Leifson Kellee C (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-5

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-5-12222014

**DUP ID:**

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHER:** | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | **TEMPERATURE:** | °F 50 | °C |

(Circle appropriate units)

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | [Product Thickness] DTP-DTW | [Water Column] DTB-DTW | | [Water Column x Gal/ft] Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| 12/22/14 | 21 : 20 | ~~13.48~~ | --- | 13.48 | --- | 6.11 | X 1 | 0.99 |
| / / | : | 19.59 | --- | . | --- | . | X 3 | 2.98 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/22/14 | 10 : 05 | B | 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | √ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 21 : 23 0.25 L/min Depth of tubing (ft btoc): ~~0.72~~ 0.72

| Meas. | Time | Cum. Volume (L) | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21:29 | | 13.64 | 7.28 | 3.93 | 0.494 | 15.69 | 2.04 | 61.4 | mostly clear |
| 2 | 21:35 | 3 | 13.73 | 6.17 | 2.58 | 0.493 | 15.89 | 1.16 | 40.8 | " |
| 3 | 21:38 | 3.75 | 13.82 | 6.05 | 2.36 | 0.494 | 16.02 | 0.94 | 20.3 | " |
| 4 | 21:41 | 4.50 | 13.95 | 6.12 | 1.43 | 0.501 | 16.13 | 0.75 | 4.0 | " |
| 5 | 21:45 | 5.50 | 14.02 | 6.21 | 1.58 | 0.503 | 16.15 | 0.74 | -6.0 | " |
| 6 | 21:49 | 5.50 | 14.05 | 6.40 | 1.65 | 0.502 | 16.17 | 0.68 | -13.9 | " |
| 7 | 21:53 | 6.50 | 14.12 | 6.60 | 1.81 | 0.497 | 16.19 | 0.62 | -22.9 | " |
| 8 | 21:57 | 7.50 | 14.23 | 6.73 | 2.37 | 0.488 | 16.16 | 0.58 | -29.0 | " |
| 9 | 10:02 | 8.75 | 14.37 | 6.69 | 2.23 | 0.487 | 16.30 | 0.51 | -33.1 | " |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 2.23 **Turbidity after sample collection (NTU):** 0.72

Comments: very soft bottom

**SAMPLER:** Evan Makezyk (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-6

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-6-121614

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: °F 51 . °C | | |

(Circle appropriate units)

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 18:41 | 20.31 | --- | 12.02 | --- | 8.29 | X1 | 1.35 |
| / / | : | . | --- | . | --- | . | X3 | 4.05 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 19:15 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 18:41 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:50 | 1.8 L | 12.52 | 7.47 | 4.74 | 10893 | 12.47 | 8.54 | -103.3 | clear colorless, no odor |
| 2 | 18:53 | 2.4 L | 12.61 | 7.50 | 3.11 | 11132 | 12.58 | 8.45 | -107.2 | |
| 3 | 18:56 | 3.0 L | 12.74 | 7.50 | 2.29 | ~~11231~~ 11231 | 12.65 | 8.26 | -108.1 | |
| 4 | 19:00 | 3.6 L | 12.81 | 7.50 | 1.48 | 11349 | 12.63 | 8.24 | -108.5 | |
| 5 | : | | . | . | | | . | | | |
| 6 | : | | . | . | | | . | | | |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 1.48 **Turbidity after sample collection (NTU):** 0.51 [Clarity, Color]

Comments: soft bottom, pumping @ 0.2 L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Christensen (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** CMW-7

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** CMW-7-20141216

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

**WEATHER:** SUNNY | PRTLY CLOUDY | CLOUDY | RAIN **TEMPERATURE:** °F 45 . °C

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 18:30 | 19.85 | --- | 13.09 | --- | 6.76 | X 1 | 1.10 |
| / / | : | . | --- | . | --- | . | X 3 | 3.30 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 18:49 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/16/14 | 18:49 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/16/14 | 18:49 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/16/14 | 18:49 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/16/14 | 18:49 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 18:49 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 18:49 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/16/14 | 18:49 | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (Lt Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 18:31 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (~~µS/cm~~ mS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:37 | 1.8 | 13.15 | 6.96 | 9.94 | 4.336 | 13.24 | 6.80 | -17.2 | clear |
| 2 | 18:40 | 3.0 | 13.15 | 6.80 | 6.09 | 3.916 | 13.39 | 6.04 | -15.8 | \| |
| 3 | 18:43 | 4.2 | 13.15 | 6.72 | 6.02 | 3.777 | 13.50 | 5.68 | -14.0 | \| |
| 4 | 18:46 | 5.4 | 13.16 | 6.67 | 2.98 | 3.711 | 13.57 | 5.20 | -12.7 | \| |
| 5 | : | | . | . | | | . | | | |
| 6 | : | | . | . | | | . | | | |
| 7 | : | | . | . | NK | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: soft bottom

**SAMPLER:** NORA KOCHIE
(PRINTED NAME)

(SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** DMW2

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** DMW2-20141216

**DUP ID:** DMW52-20141216

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: °F 45 . °C |
|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 12:05 | 19.00 | --- | 9.11 | --- | 9.89 | X 1 | 1.61 |
| / / | : | . | --- | . | --- | . | X 3 | 4.84 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 12:36 | | X 2 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/16/14 | 12:36 | | X 2 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/16/14 | 12:36 | | X 8 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/16/14 | 12:36 | | 36 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/16/14 | 12:36 | | X 2 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 12:36 | | X 2 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 12:36 | | X 2 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/16/14 | 12:36 | | 24 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 128

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 12:09 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:14 | 1.5 | 9.01 | 6.13 | 10.2 | 0.410 | 15.34 | 12.10 | -71.3 | yellowish |
| 2 | 12:18 | 2.7 | 9.01 | 6.31 | 7.06 | 0.370 | 15.39 | 3.88 | -99.9 | small particulates |
| 3 | 12:22 | 3.9 | 9.01 | 6.35 | 4.13 | 0.358 | 15.47 | 3.32 | -112.5 | ↓ |
| 4 | 12:26 | 5.1 | 9.01 | 6.38 | 3.23 | 0.347 | 15.52 | 3.58 | -114.9 | ↓ |
| 5 | 12:30 | 6.3 | 9.01 | 6.38 | 2.47 | 0.345 | 15.56 | 3.24 | -117.6 | ↓ |
| 6 | 12:34 | 7.5 | 9.01 | 6.38 | 2.50 | 0.342 | 15.54 | 2.63 | -118.1 | ✓ |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | NL | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: Soft bottom, slight sheen

**SAMPLER:** NIKKA KOCHIE (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** DMW-3

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** DMW-3-121814

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: °F 50 . °C |
|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 14:56 | 19.46 | --- | 8.94 | --- | 10.52 | X1 | 1.71 |
| / / | : | . | --- | . | --- | . | X3 | 5.14 |

| Gal/ft = (dia./2)² x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 15:45 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL-Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:56 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15:02 | 1.5 | 8.93 | 5.57 | 5.05 | 413 | 17.02 | 3.40 | 79.0 | Clear, faint yellow |
| 2 | 15:05 | 2.25 | 8.94 | 6.00 | 3.83 | 407 | 14.48 | 1.52 | 60.7 | color, slight odor |
| 3 | 15:08 | 3.0 | 8.94 | 6.19 | 3.73 | 405 | 14.64 | 1.12 | 56.1 | (sulfide) |
| 4 | 15:11 | 3.75 | 8.95 | 6.28 | 3.27 | 404 | 14.72 | 0.97 | 44.1 | |
| 5 | 15:14 | 4.5 | 8.95 | 6.28 | 2.65 | 404 | 14.81 | 0.88 | 39.2 | |
| 6 | 15:17 | 5.25 | 8.96 | 6.30 | 5.10 | 405 | 14.92 | 0.73 | 39.5 | |
| 7 | 15:20 | 6.0 | 8.96 | 6.29 | 2.82 | 402 | 14.98 | | 32.5 | DO = 0.66 |
| 8 | 15:23 | | 8.97 | 6.31 | 4.00 | 403 | 14.98 | 0.66 0.63 | 33.2 | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):** 0.96

Comments: soft bottom, pumping @ 0.25 L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Christensen (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** DMW-6A

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** DMW-6A-121714

**DUP ID:** —

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHER:** | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | **TEMPERATURE:** °F 45 °C | | |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 17:10 | 19.95 | --- | 10.56 | --- | 9.39 | X 1 | 1.53 |
| / | : | . | --- | . | --- | . | X 3 | 4.59 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 17'

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 18:10 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 17:22 Depth of tubing (ft btoc): 17'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17:26 | 1.6 l | 10.71 | 7.36 | 46.60 | 344.0 | 14.7 | 0.69 | -123.5 | Almost clear |
| 2 | 17:30 | 3.2 l | 10.80 | 7.10 | 19.56 | 300.5 | 14.7 | 0.62 | -113.6 | clear colorless |
| 3 | 17:34 | 4.8 l | 10.87 | 6.96 | 11.54 | 290.3 | 14.7 | 0.56 | -110.1 | " " |
| 4 | 17:38 | 6.4 l | 10.92 | 6.92 | 8.87 | 288.4 | 14.7 | 0.46 | -109.4 | " " |
| 5 | 17:42 | 8.0 l | 10.98 | 6.88 | 7.31 | 287.1 | 14.7 | 0.36 | -108.6 | " " |
| 6 | 17:46 | 9.6 l | 11.04 | 6.86 | 6.52 | 287.2 | 14.7 | 0.33 | -105.5 | " " |
| 7 | 17:50 | 11.2 l | 11.10 | 6.83 | 5.50 | 287.5 | 14.7 | 0.30 | -99.3 | " " |
| 8 | 17:54 | 12.8 l | 11.16 | 6.83 | 4.66 | 287.3 | 14.7 | 0.29 | -97.5 | " " |
| 9 | 17:58 | 14.4 l | 11.21 | 6.83 | 5.27 | 285.6 | 14.7 | 0.28 | -97.2 | " " |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 5.27 **Turbidity after sample collection (NTU):** 6.88 [Clarity, Color]

**Comments:**

**SAMPLER:** Doug Laffson (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-15

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-15-121514

**DUP ID:** —

**WIND FROM:** N | NE | E | SE | (S) | SW | W | NW | (LIGHT) | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | (CLOUDY) | RAIN **TEMPERATURE:** (°F) 47 °C

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | [Product Thickness] DTP-DTW | [Water Column] DTB-DTW | | [Water Column x Gal/ft] Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 12:26 | 19.8 | --- | 7.95 | --- | 11.85 | X 1 | 1.93 |
| " | " | " | --- | " | --- | " | X 3 | 5.79 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | (2" = 0.163) | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 14:00 | B | ~~2~~ 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | " | " | " | N2 1 | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | " | " | " | ~~2~~ 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | " | " | " | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | " | " | " | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | " | " | " | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | " | " | " | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | " | " | " | 2 | 1 L | None | YES | NO | | √ |

Total Bottles (include duplicate count): 14

**Analysis Allowed per Bottle Type**

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: ~~12:27~~ 12:43 Depth of tubing (ft btoc): 18'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:47 | 0.8 L | 8.67 | 6.53 | 155.7 | 536.4 | 12.4 | 3.54 | 14.4 | light tan cloudy |
| 2 | 12:51 | 1.6 L | 8.90 | 6.44 | 135.4 | 535.0 | 12.4 | 3.60 | 10.1 | " " " |
| 3 | 12:55 | 2.4 L | 9.16 | 6.49 | 208.7 | 533.6 | 12.4 | 3.60 | 13.4 | " " " |
| 4 | 12:59 | 3.0 L | 9.16 | 6.52 | 224.4 | 532.7 | 12.1 | 3.77 | 19.0 | light brown cloudy |
| 5 | 13:03 | 3.6 L | 9.16 | 6.53 | 196.8 | 532.3 | 12.1 | 3.40 | 21.4 | " " " |
| 6 | 13:07 | 4.2 L | 9.16 | 6.55 | 179.1 | 532.7 | 12.1 | 3.33 | 24.4 | " " " |
| 7 | 13:11 | 4.8 L | 9.07 | 6.56 | 166.5 | 531.4 | 12.2 | 3.26 | 25.9 | light tan cloudy |
| 8 | 13:15 | 5.4 L | 9.09 | 6.57 | 164.2 | 532.7 | 12.2 | 3.20 | 25.2 | " " " |
| 9 | 13:19 | 6.0 L | 9.14 | 6.57 | 155.8 | 532.0 | 12.3 | 3.23 | 25.5 | " " " |
| 10 | 13:23 | 6.6 L | 9.17 | 6.57 | 137.2 | 532.1 | 12.4 | 3.06 | 20.5 | " " " |
| 11 | 13:27 | 7.2 L | 9.16 | 6.57 | 114.0 | 531.0 | 12.3 | 2.70 | 7.6 | very light tan cloudy |
| 12 | 13:31 | 7.8 L | 9.17 | 6.55 | 81.22 | 530.7 | 12.3 | 2.48 | -0.1 | tan tint |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 25.38 **Turbidity after sample collection (NTU):** 20.87

Comments: pg 1 of

**SAMPLER:** Doug Luffson (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc.
**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109
**PROJECT NUMBER:** 131044-01.01

**WELL ID:** EMW-15
**BLIND ID:** EMW-15-121514
**DUP ID:** —

WATER QUALITY DATA | Purge Start Time: 12:43 | Method: Low Flow Peristaltic Pump | Pump/Bailer Inlet Depth:

| Time | DTW (ft) | Purge ~~(gal)~~ (Cummulative Totals) | pH | E Cond (µS) | ~~°F~~ Temp °C (circle units) | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality (Clarity, Color) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1335 | 9.15 | 8.4 L | 6.55 | 527.2 | 12.3 | 2.21 | -11.5 | — | — | 45.21 | almost clear |
| 1339 | 9.14 | 9.0 L | 6.55 | 526.6 | 12.3 | 2.11 | -16.5 | — | — | 29.22 | " " |
| 1343 | 9.14 | 9.6 L | 6.54 | 526.6 | 12.3 | 2.07 | -20.1 | — | — | 24.80 | " " |
| 1347 | 9.14 | 10.2 L | 6.56 | 528.1 | 12.3 | 1.99 | -22.1 | — | — | 24.21 | " " |
| 1351 | 9.13 | 10.8 L | 6.54 | 529.0 | 12.3 | 1.96 | -23.4 | — | — | 26.86 | " " |
| 1355 | 9.13 | 11.4 L | 6.55 | 529.0 | 12.3 | 2.01 | -23.1 | — | — | 25.38 | " " |

Notes:

pg 2 of

Sampler: Doug Laffoon (Printed Name) (Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-2S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-2S-121714

**DUP ID:** —

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | | | | | TEMPERATURE: | °F . °C | |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 19:16 | 19.54 | --- | 6.~~78~~ | --- | 12.63 | X1 | 2.06 |
| / / | : | . | --- | .91 | --- | . | X3 | 6.18 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 20:00 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 19:16 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19:20 | 1.0 | 7.25 | 6.29 | 24.0 | 493 | 13.15 | 3.90 | 33.0 | clear, colorless |
| 2 | 19:23 | 1.75 | 7.32 | 6.28 | 20.8 | 497 | 13.36 | 2.01 | 23.7 | slight odor |
| 3 | 19:26 | 2.5 | 7.41 | 6.27 | 19.5 | 500 | 13.41 | 1.44 | 20.6 | |
| 4 | 19:29 | 3.25 | 7.44 | 6.25 | 20.5 | 503 | 13.50 | 1.09 | 18.9 | |
| 5 | 19:31 | 4.0 | 7.46 | 6.24 | 19.0 | 503 | 13.56 | 0.86 | 18.0 | |
| 6 | 19:34 | 4.75 | 7.51 | 6.24 | 18.0 | 503 | 13.59 | 0.73 | 17.3 | |
| 7 | 19:37 | 5.5 | 7.51 | 6.23 | 18.6 | 503 | 13.58 | 0.73 | 16.6 | |
| 8 | 19:40 | 6.25 | 7.58 | 6.22 | 19.2 | 502 | 13.59 | 0.76 | 16.1 | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):** N.9 [Clarity, Color]

Comments: Soft bottom, pumping at 0.25L/min drop in DTW contributed to tide going out

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Ch (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-3S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-3S-121514

**DUP ID:** —

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN |
|---|---|---|---|---|

**TEMPERATURE:** °F 52 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 17:59 | 19.94 | --- | 10.42 | --- | 9.52 | X 1 | 1.55 |
| / / | : | . | --- | . | --- | . | X 3 | 4.66 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = | 0.041 | 2" = | 0.163 | 3" = | 0.367 | 4" = | 0.653 | 6" = | 1.469 | 10" = | 4.080 | 12" = | 5.875 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 18:30 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: : Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:03 | 1.2L | 10.64 | 6.17 | 7.32 | 7830 | 12.00 | 7.53 | 123.4 | Clear, Colorless, |
| 2 | 18:06 | 2.1L | 10.76 | 6.17 | 4.10 | 7970 | 12.05 | 6.84 | 108.7 | odorless |
| 3 | 18:09 | 3.0L | 10.88 | 6.13 | 2.61 | 8069 | 12.10 | 6.64 | 102.2 | |
| 4 | 18:12 | 3.9L | 10.90 | 6.12 | 1.31 | 8113 | 12.11 | 6.39 | 97.5 | |
| 5 | 18:15 | 4.8L | 11.01 | 6.11 | 0.73 | 8135 | 12.15 | 6.28 | 92.8 | |
| 6 | : | | . | . | | | . | | | |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 0.73 **Turbidity after sample collection (NTU):** 0.37 [Clarity, Color]

Comments: Soft Bottom, pumping @ 0.34 min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Ch (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-4D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-4D-20141215

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | (LIGHT) | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | (CLOUDY) | | RAIN | | | | |

**TEMPERATURE:** (°F) 45 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 15:49 | 49.41 | --- | 9.46 | --- | 39.95 | X 1 | 6.51 |
| / / | : | . | --- | . | --- | . | X 3 | 19.53 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 16:28 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/15/14 | 16:28 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/15/14 | 16:28 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/15/14 | 16:28 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/15/14 | 16:28 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 16:28 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 16:28 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/15/14 | 16:28 | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 15 : 54 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (~~µS/cm~~ mS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15:59 | 1.5 | 11.10 | 6.38 | 5.56 | 5.624 | 12.86 | 4.22 | -117.5 | clear |
| 2 | 16:04 | 3.0 | 12.61 | 6.54 | 12.0 | 5.923 | 12.84 | 3.32 | ~~-113~~ -137.2 | clear |
| 3 | 16:08 | 4.2 | 10.65 | 6.59 | 8.04 | 5.971 | 12.83 | 2.91 | -144.4 | ↓ |
| 4 | 16:12 | 5.4 | 10.65 | 6.62 | 5.13 | 6.054 | 12.78 | 3.01 | -142.8 | |
| 5 | 16:16 | 6.6 | 10.71 | 6.64 | 3.97 | 6.35 | 12.81 | 3.12 | -146.6 | |
| 6 | : | | . | . | | | . | | | |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | NA | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: soft bottom, moderate $H_2S$ odor

**SAMPLER:** NORA KOCHIE (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-55A

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-55A-121514

**DUP ID:** —

**WIND FROM:** N | NE | E | SE | (S) | SW | W | NW | (LIGHT) | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | (CLOUDY) | RAIN **TEMPERATURE:** (°F) 47 °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 15:34 | 19.94 | --- | 9.54 | --- | 10.40 | X1 | 1.70 |
| / / | : | . | --- | . | --- | . | X3 | 5.10 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | (2" = 0.163) | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 18'

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 16:30 | B | ~~2~~ 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | ~~2~~ 1 | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | / / | : | | ~~2~~ 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | √ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 15:43 Depth of tubing (ft btoc): 18'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15:47 | 1.6 l | 09.71 | 6.54 | 30.98 | 502.4 | 14.1 | 0.21 | -42.9 | tan tint |
| 2 | 15:51 | 3.2 l | 09.74 | 6.52 | 81.55 | 502.9 | 14.1 | 0.22 | -47.2 | " " |
| 3 | 15:55 | 4.8 l | 09.76 | 6.50 | 61.16 | 503.1 | 14.1 | 0.27 | -50.4 | " " |
| 4 | 15:59 | 6.4 l | 09.79 | 6.49 | 46.61 | 502.1 | 14.0 | 0.32 | -52.6 | almost clear |
| 5 | 16:03 | 8.0 l | 09.84 | 6.49 | 25.78 | 501.3 | 14.0 | 0.38 | -54.3 | " " |
| 6 | 16:07 | 9.6 l | 09.88 | 6.49 | 19.92 | 501.4 | 14.1 | 0.42 | -51.2 | clear, colorless |
| 7 | 16:11 | 11.2 l | 09.92 | 6.49 | 11.14 | 500.3 | 14.1 | 0.46 | -54.5 | " " |
| 8 | 16:15 | 12.8 l | 09.96 | 6.49 | 9.24 | 500.1 | 14.1 | 0.49 | -57.0 | " " |
| 9 | 16:19 | 14.4 l | 09.98 | 6.49 | 9.07 | 500.6 | 14.1 | 0.52 | -57.5 | " " |
| 10 | 16:23 | 16.0 l | 10.00 | 6.49 | 7.33 | 501.2 | 14.1 | 0.54 | -58.7 | " " |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 7.33 **Turbidity after sample collection (NTU):** 5.55

Comments: OTW tidally influenced

**SAMPLER:** Doug Leffler (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA
720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

PROJECT NAME: 8th Avenue Terminals, Inc. WELL ID: EMW-6S
SITE ADDRESS: 7400 8th Ave S, Seattle WA 98109 SAMPLE ID: EMW-6S-20141215
DUP ID:

WIND FROM: N | NE | E | SE | S | SW | W | NW
WEATHER: SUNNY | PRTLY CLOUDY | CLOUDY | RAIN
LIGHT | MEDIUM | HEAVY
TEMPERATURE: °F 50 . °C
[Circle appropriate units]

## HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 12:29 | 19.61 | --- | 7.35 | --- | 12.26 | X1 | 1.99 |
| / / | : | . | --- | . | --- | . | X3 | 5.99 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

## GROUNDWATER SAMPLING DATA

Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 13:33 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/15/14 | 13:33 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/15/14 | 13:33 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/15/14 | 13:33 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/15/14 | 13:33 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 13:33 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/15/14 | 13:33 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/15/14 | 13:33 | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

## WATER QUALITY DATA

Purge Start Time: 12:34
Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:43 | 2.7 | 7.41 | 4.27 | 11.2 | 0.147 | 10.76 | ~~200~~ 21.26 | ~~[illegible]~~ 17.5 | clear, small particulates |
| 2 | 12:47 | 3.9 | 7.43 | 4.44 | 10.6 | 0.145 | 10.65 | 19.12 | 7.3 | clear, small particulates |
| 3 | 12:50 | 5.1 | 7.44 | 4.77 | 8.69 | 0.144 | 10.61 | 18.73 | -6.9 | " |
| 4 | 12:54 | 6.3 | 7.49 | 5.01 | 5.50 | 0.139 | 10.55 | 12.61 | -18.1 | " |
| 5 | 12:58 | 7.5 | 7.47 | 5.18 | 5.73 | 0.136 | 10.51 | 6.60 | -23.8 | " |
| 6 | 13:02 | 8.7 | 7.47 | 5.43 | 5.57 | 0.137 | 10.60 | 6.27 | -36.7 | " |
| 7 | 13:06 | 9.9 | 7.47 | 5.59 | 4.00 | 0.138 | 10.53 | 6.57 | -45.5 | " |
| 8 | 13:10 | 11.1 | 7.47 | 5.70 | 3.07 | 0.138 | 10.60 | 6.14 | -51.3 | " |
| 9 | 13:14 | 12.3 | 7.47 | 5.80 | 2.81 | 0.138 | 10.62 | 5.31 | -58.1 | " |
| 10 | 13:18 | 13.5 | 7.47 | 5.89 | 3.17 | 0.134 | 10.64 | 4.88 | -62.7 | " |
| 11 | 13:22 | 14.7 | 7.47 | 5.96 | 2.11 | 0.133 | 10.59 | 5.03 | -67.8 | " |
| 12 | 13:26 | 15.9 | 7.47 | 6.00 | 1.51 | 0.132 | 10.59 | 5.25 | -69.6 | " |

Turbidity before sample collection (NTU): 15.9 Turbidity after sample collection (NTU): 0.81

Comments: silt bottom

SAMPLER: NORA KOCHIE (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-75

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-75-20141216

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: | °F 45 | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 14:31 | 20.02 | --- | 8.92 | --- | 11.1 | X 1 | 1.81 |
| / / | : | . | --- | . | --- | . | X 3 | 5.43 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 15:11 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/16/14 | 15:11 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/16/14 | 15:11 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/16/14 | 15:11 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/16/14 | 15:11 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 15:11 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 15:11 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/16/14 | 15:11 | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:33 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (~~µS/cm~~ mS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:36 | 1.2 | 9.38 | 6.48 | 109 | 0.384 | 14.41 | 5.44 | -28.6 | yellowish |
| 2 | 14:39 | 2.4 | 9.57 | 6.44 | 105 | 0.389 | 14.60 | 4.42 | -54.7 | orange, |
| 3 | 14:41 | 3.6 | 9.57 | 6.42 | 86.3 | 0.391 | 14.67 | 4.14 | -68.4 | moderate |
| 4 | 14:44 | 4.8 | 9.57 | 6.41 | 57.4 | 0.390 | 14.70 | 3.81 | -74.8 | particulates |
| 5 | 14:47 | 6.0 | 9.57 | 6.40 | 41.3 | 0.389 | 14.67 | 3.34 | -83.6 | |
| 6 | 14:50 | 7.2 | 9.57 | 6.40 | 30.0 | 0.389 | 14.73 | 3.08 | -91.8 | |
| 7 | 14:53 | 8.4 | 9.57 | 6.40 | 27.7 | 0.389 | 14.77 | 3.16 | -97.0 | |
| 8 | 14:56 | 9.6 | 9.57 | 6.39 | 21.5 | 0.388 | 14.69 | 2.93 | -101.1 | |
| 9 | 14:59 | 10.8 | 9.57 | 6.40 | 15.2 | 0.387 | 14.67 | 3.03 | -102.6 | |
| 10 | 15:02 | 12.0 | 9.57 | 6.40 | 11.9 | 0.386 | 14.65 | 2.94 | -104.8 | |
| 11 | 15:05 | 13.2 | 9.57 | 6.39 | 9.44 | 0.385 | 14.62 | 2.69 | -105.2 | |
| 12 | 15:08 | 14.4 | 9.57 | 6.39 | 8.37 | 0.385 | 14.65 | 2.65 | -107.3 | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 6.42 **Turbidity after sample collection (NTU):** 2.83

Comments: Soft bottom

**SAMPLER:** NORA KOHLE
(PRINTED NAME)

(SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-8S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-8S-121714

**DUP ID:**

**WIND FROM:** N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | CLOUDY | RAIN light **TEMPERATURE:** °F 48 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 17:16 | 20.29 | --- | 9.~~89~~ 86 | --- | 10.43 | X1 | 1.70 |
| / / | : | . | --- | . | --- | . | X3 | 5.10 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 18:05 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | ↓ | ↓ | ↓ | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 17:16 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17:22 | 1.5 | 10.19 | 6.60 | 7.53 | 707 | 14.01 | 2.24 | -3.8 | Clear, colorless, |
| 2 | 17:25 | 2.25 | 10.23 | 6.38 | 3.55 | 598 | 14.30 | 1.69 | -15.3 | no odor |
| 3 | 17:28 | 3.0 | 10.24 | 6.25 | 3.07 | 503 | 14.47 | 0.95 | -16.5 | |
| 4 | 17:31 | 3.75 | 10.28 | 6.22 | 1.66 | 493 | 14.50 | 0.95 | -16.0 | |
| 5 | 17:34 | 4.5 | 10.32 | 6.19 | 3.53 | 484 | 14.55 | 0.81 | -14.9 | |
| 6 | 17:37 | 5.25 | 10.37 | 6.19 | 1.76 | 479 | 14.63 | 0.77 | -13.6 | |
| 7 | 17:40 | 6.0 | 10.38 | 6.18 | 1.63 | 473 | 14.62 | 0.77 | -12.2 | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 1.63 **Turbidity after sample collection (NTU):** 0.89 [Clarity, Color]

**Comments:** Soft bottom, pumping @ 0.25 L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Christensen (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-9S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-9S-20141217

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: °F 45 . °C | | |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 17:09 | 19.79 | --- | 10.32 | --- | 9.47 | X 1 | 1.544 |
| / / | : | . | --- | . | --- | . | X 3 | 4.630 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 17:50 | | 1 | 500 mL | HNO3 | YES | NO | | |
| 500 mL HDPE | 12/17/14 | 17:50 | | 1 | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | 12/17/14 | 17:50 | | 4 | 500 mL | None | YES | NO | | |
| 40 mL vial | 12/17/14 | 17:50 | | 3 | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | 12/17/14 | 17:50 | | 1 | 500 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 17:50 | | 1 | 250 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 17:50 | | 1 | 250 mL | None | YES | Yes | | |
| 1L AG | 12/17/14 | 17:50 | | 2 | 1 L | None | YES | NO | | |
| | | Total Bottles (include duplicate count): | | 14 | | | | | | |

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 17:24 hrs Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (~~µS/cm~~ mS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17:29 | 1.5 | 10.61 | 6.38 | 4.90 | 0.032 | 14.97 | 4.56 | -77.5 | clear |
| 2 | 17:33 | 2.7 | 10.65 | 6.39 | 4.31 | 0.039 | 15.47 | 4.11 | -89.8 | clear |
| 3 | 17:34 | 3.9 | 10.72 | 6.39 | 5.05 | 0.310 | 15.55 | 3.20 | -97.0 | " |
| 4 | 17:38 | 5.1 | 10.72 | 6.38 | 8.90 | 0.309 | 15.56 | 3.15 | -101.3 | " |
| 5 | 17:41 | 6.3 | 10.72 | 6.38 | 9.60 | 0.309 | 15.56 | 2.95 | -104.3 | " |
| 6 | 17:45 | 7.5 | 10.72 | 6.39 | 9.84 | 0.309 | 15.54 | 2.80 | -105.8 | " |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

JRP

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: Soft bottom clear 2.28 NTU

**SAMPLER:** Joseph R. Pursley (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-100

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-100-121714

**DUP ID:** —

**WIND FROM:** N | NE | E | SE | S | SW | W | NW | (LIGHT) | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | (CLOUDY) | RAIN **TEMPERATURE:** (°F) 47 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 14:17 | 49.58 | --- | 9.04 | --- | 40.54 | X 1 | 6.61 |
| / / | : | . | --- | . | --- | . | X 3 | 19.82 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | (2") = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 15:15 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

**Analysis Allowed per Bottle Type**

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:17 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:22 | 1.25L | 9.04 | 6.80 | 9.36 | 4850 | 13.84 | 2.69 | 61.9 | clear faint yellow |
| 2 | 14:25 | 2.0L | 9.04 | 6.72 | 1.72 | 6832 | 14.14 | 1.42 | 58.4 | color, no odor |
| 3 | 14:28 | 2.75L | 9.06 | 6.66 | 1.70 | 8815 | 14.15 | 1.06 | 57.8 | |
| 4 | 14:31 | 3.5L | 9.05 | 6.66 | 6.31 | 9127 | 14.05 | 0.80 | 55.1 | |
| 5 | 14:34 | 4.25L | 9.05 | 6.66 | 20.6 | 9244 | 14.03 | 0.67 | 50.7 | clear w/small |
| 6 | 14:37 | 5.0 | 9.06 | 6.67 | 30.8 | 9297 | 14.04 | 0.57 | 46.7 | white particles |
| 7 | 14:40 | 5.75 | 9.10 | 6.67 | 29.7 | 9395 | 14.07 | 0.53 | 43.7 | |
| 8 | 14:43 | 6.5 | 9.12 | 6.66 | 26.9 | 9584 | 14.02 | 0.49 | 40.8 | |
| 9 | 14:46 | 7.25 | 9.13 | 6.65 | 23.7 | 9807 | 14.04 | 0.45 | 39.3 | |
| 10 | 14:49 | 8.0 | 9.17 | 6.65 | 19.1 | 10257 | 14.02 | 0.46 | 36.3 | |
| 11 | 14:52 | 8.75 | 9.19 | 6.67 | 15.2 | 10591 | 13.98 | 0.42 | 34.2 | |
| 12 | 14:55 | 9.5 | 9.17 | 6.64 | 16.5 | 10934 | 14.00 | 0.40 | 32.7 | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 16.8 **Turbidity after sample collection (NTU):** 11.0

Comments: Soft bottom, pumping @ 0.25L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Chr (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc.
**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109
**PROJECT NUMBER:** 131044-01.01

**WELL ID:** EMW-10D
SAMPLE ~~BLIND~~ ID: EMW-10D-121714
**DUP ID:** —

WATER QUALITY DATA — Purge Start Time: : — Method: Low Flow Peristaltic Pump — Pump/Bailer Inlet Depth:

| Time | DTW (ft) | Purge (gal) | pH | E Cond (µS) | °F Temp °C | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 14:58 | 9.17 | 10.25 | 6.65 | 11057 | 13.99 | 0.38 | 30.0 | | | 16.8 | |
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(Cummulative Totals) (circle units) (Clarity, Color)

Notes:

Sampler: Kellee Christensen
(Printed Name)

Kellee C
(Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-11S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-11S-121614

**DUP ID:**

**WIND FROM:** N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | CLOUDY | RAIN **TEMPERATURE:** °F 50 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 12:13 | 20.13 | --- | 8.99 | --- | 11.14 | X1 | 1.82 |
| / / | : | . | --- | . | --- | . | X3 | 5.45 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 13:10 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: : Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:18 | 1.25L | 8.99 | 6.52 | 218 | 511 | 14.33 | 3.40 | 28.7 | Cloudy light brown, |
| 2 | 12:21 | 2.0L | 9.00 | 6.49 | 165 | 477 | 14.49 | 1.56 | 16.7 | slight odor |
| 3 | 12:24 | 2.75L | 9.00 | 6.49 | 89.0 | 462 | 14.54 | 1.28 | 12.0 | |
| 4 | 12:27 | 3.5L | 9.01 | 6.48 | 58.3 | 458 | 14.53 | 0.94 | 6.6 | clear w/ brownish |
| 5 | 12:30 | 4.25L | 9.01 | 6.46 | 43.2 | 457 | 14.51 | 0.75 | 3.2 | orange particles |
| 6 | 12:33 | 5.0L | 9.01 | 6.47 | 29.5 | 456 | 14.56 | 0.76 | -0.3 | |
| 7 | 12:36 | 5.75L | 9.01 | 6.47 | 19.4 | 457 | 14.58 | 0.63 | -5.4 | |
| 8 | 12:39 | 6.5L | 9.01 | 6.46 | 13.4 | 456 | 14.57 | 1.07 | -7.2 | |
| 9 | 12:42 | 7.25L | 9.01 | 6.45 | 9.24 | 457 | 14.60 | 1.14 | -11.9 | |
| 10 | 12:45 | 8.0L | 9.01 | 6.45 | 7.58 | 456 | 14.57 | 1.00 | -14.3 | |
| 11 | 12:48 | 8.25L | 9.01 | 6.45 | 4.88 | 456 | 14.58 | 1.00 | -19.8 | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 4.88 **Turbidity after sample collection (NTU):** 4.88

**Comments:** Soft bottom, pumping @ 0.25L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee C (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** ~~EMTQ~~ EMW-125

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-125-20141219

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | | | |

**TEMPERATURE:** °F 48 . °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/19/14 | 19:32 | 19.9 | --- | 13.25 | --- | 6.65 | X 1 | 1.08 |
| / / | : | . | --- | . | --- | . | X 3 | 3.25 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/19/14 | : | | 1 | 500 mL | HNO3 | YES | NO | | |
| 500 mL HDPE | 12/19/14 | : | | 1 | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | 12/19/14 | : | | 4 | 500 mL | None | YES | NO | | |
| 40 mL vial | 12/19/14 | : | | 3 | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | 12/19/14 | : | | 1 | 500 mL | None | YES | NO | | |
| 250mL polys | 12/19/14 | : | | 1 | 250 mL | None | YES | NO | | |
| 250mL polys | 12/19/14 | : | | 1 | 250 mL | None | YES | Yes | | |
| 1L AG | 12/19/14 | : | | 2 | 1 L | None | YES | NO | | |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 19:32 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19:36 | 1.6 | 13.33 | 6.64 | 1.77 | 387.5 | 12.8 | 1.78 | 123.7 | clear, colorless |
| 2 | 19:40 | 3.2 | 13.38 | 6.4 | .93 | 372.0 | 12.7 | 1.31 | 132.8 | |
| 3 | 19:44 | 4.8 | 13.44 | 6.33 | .90 | 366.6 | 12.7 | 1.16 | 136.6 | |
| 4 | 19:48 | 6.4 | 13.48 | 6.27 | .74 | 364.1 | 12.7 | 1.14 | 139.5 | |
| 5 | 19:52 | 8.0 | 13.52 | 6.25 | .77 | 361.5 | 12.7 | 1.11 | 141.0 | |
| 6 | : | | . | . | | | . | | | |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | NR | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: soft bottom

**SAMPLER:** NORA KOENIG (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-135

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-135-121614

**DUP ID:** EMW-635-121614 @1940

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: | °F 43 | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 17:43 | 19.8 | --- | 10.64 | --- | 9.16 | X1 | 1.49 |
| / | : | . | --- | . | --- | . | X3 | 4.47 |

| Gal/ft = (dia./2)² x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 16'

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 19:25 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | / | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | / | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | / | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | / | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | / | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | / | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | / | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14 + 14 (DUP) = 28

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 17:50 Depth of tubing (ft btoc): 16'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17:54 | 1.2 l | 11.55 | 8.15 | 23.46 | 9439 | 9.1 | 6.78 | 36.4 | almost clear |
| 2 | 17:58 | 2.4 l | 11.60 | 8.11 | 14.38 | 9494 | 9.2 | 5.95 | 41.7 | clear, colorless |
| 3 | 18:02 | 3.6 l | 11.84 | 8.09 | 26.05 | 9512 | 9.2 | 5.73 | 43.4 | almost clear |
| 4 | 18:06 | 4.8 l | 12.00 | 8.11 | 41.25 | 9541 | 9.2 | 5.63 | 43.6 | " " |
| 5 | 18:10 | 5.8 l | 11.91 | 8.10 | 48.03 | 9550 | 9.2 | 5.21 | 42.0 | " " |
| 6 | 18:14 | 6.4 l | 11.80 | 8.13 | 34.67 | 9570 | 9.2 | 4.90 | 39.5 | " " |
| 7 | 18:18 | 7.2 l | 11.85 | 8.16 | 25.13 | 9570 | 9.3 | 4.64 | 35.9 | " " |
| 8 | 18:22 | 8.0 l | 11.90 | 8.19 | 30.10 | 9553 | 9.3 | 4.45 | 33.7 | " " |
| 9 | 18:26 | 8.8 l | 11.89 | 8.19 | 36.70 | 9564 | 9.3 | 4.55 | 33.8 | " " |
| 10 | 18:30 | 9.6 l | 11.93 | 8.20 | 25.03 | 9551 | 9.3 | 4.53 | 32.2 | " " |
| 11 | 18:34 | 10.4 l | 11.94 | 8.22 | 23.43 | 9501 | 9.3 | 4.60 | 30.6 | " " |
| 12 | 18:39 | 11.2 l | 11.96 | 8.23 | 30.69 | 9482 | 9.3 | 4.54 | 30.2 | " " |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):** pg 1 of 2

Comments:

**SAMPLER:** Doug Laffoon (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc.
**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109
**PROJECT NUMBER:** 131044-01.01

**WELL ID:** EMW-13S
**BLIND ID:** EMW-13S-121614
**DUP ID:** —

WATER QUALITY DATA | Purge Start Time: : | Method: Low Flow Peristaltic Pump | Pump/Bailer Inlet Depth:

| Time | DTW (ft) | Purge (gal) | pH | E Cond (µS) | ~~°F~~ Temp °C | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1842 | 11.98 | 12.0 l | 8.23 | 9478 | 9.4 | 4.47 | 29.8 | — | — | 22.10 | clear, colorless |
| 1846 | 12.01 | 12.8 l | 8.25 | 9463 | 9.4 | 4.49 | 29.9 | — | — | 21.99 | " " |
| 1850 | 12.05 | 13.6 l | 8.24 | 9476 | 9.3 | 4.60 | 31.3 | — | — | 29.58 | " " |
| 1854 | 12.06 | 14.4 l | 8.25 | 9465 | 9.3 | 4.54 | 31.1 | — | — | 18.76 | " " |
| 1858 | 12.03 | 15.2 l | 8.27 | 9445 | 9.3 | 4.41 | 30.7 | — | — | 11.26 | " " |
| 1902 | 12.01 | 16.0 l | 8.27 | 9446 | 9.3 | 4.46 | 30.8 | — | — | 9.25 | " " |
| 1906 | 12.03 | 16.8 l | 8.28 | 9444 | 9.3 | 4.56 | 30.8 | — | — | 7.80 | " " |
| 1910 | 12.05 | 17.6 l | 8.28 | 9441 | 9.3 | 4.57 | 30.9 | — | — | 7.95 | " " |

(Cummulative Totals) (circle units) (Clarity, Color)

Notes:

pg 2 of 2

Sampler: Doug Leffoon (Printed Name) (Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-14D
**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-14D-121614
**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: °F 50 | | °C |

(Circle appropriate units)

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 16:36 | 48.59 | --- | 10.86 | --- | 37.73 | X 1 | 6.15 |
| / / | : | . | --- | . | --- | . | X 3 | 18.45 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 18:00 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |
| Total Bottles (include duplicate count): | | | | 14 | | | | | | |

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 16:30 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16:41 | 1.25L | 11.01 | 6.70 | 4.20 | 6963 | 14.37 | 6.63 | -127.3 | Clear, colorless |
| 2 | 16:44 | 2.0L | 11.04 | 6.78 | 16.20 | 8077 | 14.62 | 4.89 | -133.1 | slight ocean odor |
| 3 | 16:47 | 2.75L | 11.12 | 6.78 | 103 | 8770 | 14.66 | 5.82 | -125.3 | clear, with |
| 4 | 16:50 | 3.5L | 11.21 | 6.79 | 204 | 9225 | 14.60 | 7.15 | -120.1 | white particles cloudy white |
| 5 | 16:53 | 4.25L | 11.25 | 6.82 | 329 | 8757 | 14.60 | 7.72 | -123.2 | cloudy white w/ lots |
| 6 | 16:56 | 5.0L | 11.27 | 6.80 | 514 | 9702 | 14.57 | 7.72 | -113.3 | of particles orange, cloudy |
| 7 | 16:59 | 5.75L | 11.30 | 6.81 | 201 | 9614 | 14.61 | 4.08 | -133.5 | |
| 8 | 17:02 | 6.5L | 11.40 | 6.81 | 115 | 9863 | 14.56 | 3.92 | -125.4 | |
| 9 | 17:05 | 7.25L | 11.52 | 6.82 | 62.3 | 9975 | 14.48 | 5.54 | -126.2 | |
| 10 | 17:08 | 8.0L | 11.55 | 6.82 | 34.6 | 10171 | 14.47 | 7.48 | -119.3 | Clear, colorless small particles |
| 11 | 17:11 | 8.75L | 11.54 | 6.82 | 24.2 | 10221 | 14.41 | 8.52 | -119.5 | |
| 12 | 17:14 | 9.5L | 11.62 | 6.82 | 18.1 | 10322 | 14.43 | 8.81 | -128.8 | clear, colorless small particles |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 7.53 **Turbidity after sample collection (NTU):** 5.38 2nd page

Comments: 5ft bottom, pumping @ 0.25L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee C (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-14D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 SAMPLE ~~BLIND~~ **ID:** EMW-14D-121614

**PROJECT NUMBER:** 131044-01.01 **DUP ID:**

WATER QUALITY DATA | Purge Start Time: : | Method: Low Flow Peristaltic Pump | Pump/Bailer Inlet Depth:

| Time | DTW (ft) | Purge (~~gal~~ L) | pH | E Cond (µS) | °F Temp (°C) | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 17:17 | 11.66 | 10.25 | 6.83 | 10367 | 14.38 | 9.47 | -123.4 | | | 18.5 | |
| 17:20 | 11.65 | 11.0 | 6.82 | 10415 | 14.38 | 8.35 | -119.3 | | | 14.3 | |
| 17:23 | 11.75 | 11.75 | 6.82 | 10457 | 14.38 | 8.10 | -126.3 | | | 13.2 | |
| 17:26 | 11.79 | 12.5 | 6.82 | 10457 | 14.36 | 8.22 | -124.2 | | | 11.3 | |
| 17:29 | 11.85 | 13.25 | 6.83 | 10496 | 14.41 | 7.75 | -123.7 | | | 9.61 | |
| 17:32 | 11.90 | 14.0 | 6.82 | 10554 | 14.41 | 3.34 | -124.2 | | | 9.89 | |
| 17:35 | 11.98 | 14.75 | 6.83 | 10552 | 14.40 | 2.97 | -118.9 | | | 7.76 | |
| 17:38 | 11.98 | 15.5 | 6.83 | 10534 | 14.43 | 3.03 | -118.6 | | | 7.53 | |

(Cummulative Totals) (circle units) (Clarity, Color)

Notes: Water drop contributed to tide going out

Sampler: Kellee Christensen
(Printed Name)

Kellee Ch
(Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-150

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-150-121814

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: °F 48 . °C |
|---|---|---|---|---|---|

(Circle appropriate units)

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 18:23 | 49.50 | --- | 11.52 | --- | 37.98 | X 1 | 6.19 |
| / / | : | . | --- | . | --- | . | X 3 | 18.57 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 19:15 | B1 | 500 mL | HNO3 | YES | NO | | |
| 500 mL HDPE | / / | : | | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | / / | : | | 500 mL | None | YES | NO | | |
| 40 mL vial | / / | : | | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | / / | : | | 500 mL | None | YES | NO | | |
| 250mL polys | / / | : | | 250 mL | None | YES | NO | | |
| 250mL polys | / / | : | | 250 mL | None | YES | Yes | | |
| 1L AG | / / | : | | 1 L | None | YES | NO | | |
| Total Bottles (include duplicate count): | | | | | | | | | |

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 18:23 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:27 | 1.8 | 11.76 | 7.57 | 11.81 | ~~755.3~~ | 13.2 | 1.08 | -9.6 | Clear colorless |
| 2 | 18:30 | 3.15 | 11.87 | 7.40 | 9.80 | 4117 | 13.2 | 0.73 | -3.9 | |
| 3 | 18:33 | 4.50 | 11.89 | 7.31 | 9.60 | 4119 | 13.1 | 0.56 | -0.9 | |
| 4 | 18:36 | 5.85 | 11.94 | 7.23 | 8.33 | 4148 | 13.0 | 0.45 | -0.3 | |
| 5 | 18:39 | 7.2 | 12.03 | 6.89 | 10.03 | 9543 | 12.9 | 0.40 | -2.8 | |
| 6 | 18:42 | 8.55 | 12.05 | 6.93 | 9.64 | 11433 | 12.8 | 0.37 | -27.0 | |
| 7 | 18:45 | 9.90 | 12.13 | 6.94 | 9.73 | 11525 | 12.7 | 0.31 | -44.0 | |
| 8 | 18:48 | 11.25 | 12.20 | 6.94 | 10.19 | 11465 | 12.8 | 0.31 | -46.5 | |
| 9 | 18:51 | 12.60 | 12.23 | 6.93 | 6.91 | 11506 | 12.8 | 0.30 | -49.7 | |
| 10 | 18:54 | 13.95 | 12.27 | 6.93 | 7.84 | 11464 | 12.8 | 0.29 | -52.3 | TURB 7.84 |
| 11 | 18:57 | 14.30 | 12.32 | 6.93 | 6.19 | 11295 | 12.8 | 0.28 | -55.4 | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** 6.19 **Turbidity after sample collection (NTU):** 7.60

Comments: Pumping @ 0.45 L/min
1.35

**SAMPLER:** Kelsee Christensen & Doug La Fran
(PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-16D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-16D-~~20141218~~ 20141216

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | | PRTLY CLOUDY | | CLOUDY | | RAIN | | TEMPERATURE: | °F . °C | |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | [Product Thickness] DTP-DTW | [Water Column] DTB-DTW | | [Water Column x Gal/ft] Volume (gal) |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 16:39 | 47.20 | --- | 11.53 | --- | 35.67 | X1 | 5.81 |
| / / | : | . | --- | . | --- | . | X3 | 17.44 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 15:27 | | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/16/14 | 15:27 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/16/14 | 15:27 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/16/14 | 15:27 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/16/14 | 15:27 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 15:27 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/16/14 | 15:27 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/16/14 | 15:27 | | 2 | 1 L | None | YES | NO | | ✓ |
| Total Bottles (include duplicate count): | | | | 14 | | | | | | |

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 16:43 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16:49 | 2.7 | 11.8 | 6.46 | 1.38 | 8.126 | 13.57 | 2.27 | 90.2 | clear |
| 2 | 16:53 | ~~4~~ 3.9 | 11.87 | 6.55 | 1.26 | 13.20 | 13.66 | 0.85 | 74.2 | \| |
| 3 | 16:57 | 5.1 | 11.87 | 6.44 | 1.39 | 26.98 | 13.52 | 0.69 | 73.6 | \| |
| 4 | 17:01 | 6.3 | 11.57 | 6.50 | 1.46 | 27.59 | 13.52 | 0.58 | 62.0 | \| |
| 5 | 17:05 | 7.5 | 12.11 | 6.52 | 1.35 | 27.69 | 13.46 | 0.61 | 54.7 | \| |
| 6 | 17:09 | 8.7 | 12.19 | 6.53 | 0.69 | 27.54 | 13.43 | 0.48 | 45.7 | \| |
| 7 | 17:13 | 9.9 | 12.20 | 6.54 | 0.88 | 27.73 | 13.40 | 0.46 | 40.7 | \| |
| 8 | 17:17 | 11.1 | 12.34 | 6.54 | 0.47 | 27.64 | 13.35 | 0.46 | 33.1 | \| |
| 9 | 17:21 | 12.3 | 12.42 | 6.54 | 0.73 | 27.76 | 13.37 | 0.48 | 27.8 | \| |
| 10 | 17:25 | 13.5 | 12.48 | 6.54 | 0.36 | 27.62 | 13.31 | 0.40 | 23.5 | ✓ |
| 11 | : | | . | . | NL | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):** 0.19

Comments: Soft bottom

**SAMPLER:** Nora Kachie (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-17S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-17S-20141218

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: °F 50 . °C |
|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 14:40 | 20.0 | --- | 8.50 | --- | 11.5 | X1 | 1.87 |
| / / | : | Hard ↑ | --- | . | --- | . | X3 | 5.62 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 19'

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 15:30 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | 12/18/14 | 15:30 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | 12/18/14 | 15:30 | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | 12/18/14 | 15:30 | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | 12/18/14 | 15:30 | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/18/14 | 15:30 | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | 12/18/14 | 15:30 | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | 12/18/14 | 15:30 | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

**Analysis Allowed per Bottle Type**

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:48 0.250 L/min Depth of tubing (ft btoc): ~19'

| Meas. | Time | Cum. Volume (L) | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (mS µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:53 | 1.25 | 8.6 | 6.35 | 3.36 | 0.295 | 13.43 | 7.87 | -51.4 | yellow tint, mostly clear |
| 2 | 14:58 | 2.50 | 8.6 | 6.37 | 10.5 | 0.291 | 13.86 | 4.90 | -66.5 | mostly clear |
| 3 | 15:03 | 3.75 | . | 6.36 | 140 or 9.85 | 0.283 | 13.97 | 5.01 | -70.1 | " |
| 4 | : | | . | . | | | . | | | |
| 5 | 15:08 | 5.00 | 8.6 | 6.36 | 9.37 | 0.281 | 14.04 | 3.70 | -82.4 | " |
| 6 | 15:11 | 6.25 5.75 | 8.6 | 6.35 | 8.95 | 0.280 | 14.00 | 4.21 | -89.7 | " |
| 7 | 15:15 | 7.50 6.75 | 8.6 | 6.36 | 6.46 | 0.280 | 14.06 | 3.03 | -96.8 | " |
| 8 | 15:19 | 7.75 | 8.6 | 6.35 | 6.46 | 0.280 | 14.06 | 2.80 | -95.2 | " |
| 9 | 15:22 | 8.50 | 8.6 | 6.35 | 7.75 | 0.280 | 14.06 | 2.78 | -98.4 | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 7.75 **Turbidity after sample collection (NTU):** 3.36

Comments: End time 1555, total purged before sampling: 8.5 L / 2.25 gallons

**SAMPLER:** Evan Malczyk (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-18S

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-18S-20141217

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | | | | | TEMPERATURE: | °F 45 . | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 14:24 | 19.89 | --- | 7.72 | --- | 12.17 | X1 | ~~12~~ . ~~17~~ 1.98 |
| / / | : | . | --- | . | --- | . | X3 | 5 . 95 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 15:15 | | 1 | 500 mL | HNO3 | YES | NO | | |
| 500 mL HDPE | 12/17/14 | 15:15 | | 1 | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | 12/17/14 | 15:15 | | 4 | 500 mL | None | YES | NO | | |
| 40 mL vial | 12/17/14 | 15:15 | | 3 | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | 12/17/14 | 15:15 | | 1 | 500 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 15:15 | | 1 | 250 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 15:15 | | 1 | 250 mL | None | YES | Yes | | |
| 1L AG | 12/17/14 | 15:15 | | 2 | 1 L | None | YES | NO | | |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:40 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:44 | 1.2L | 7.71 | 6.51 | 36.6 | 0.830 | 13.46 | 3.10 | -94.2 | Yellow tint |
| 2 | 14:48 | 2.4L | 7.71 | 6.13 | 31.7 | 0.344 | 13.60 | 3.01 | -105.2 | " |
| 3 | 14:52 | 3.6L | 7.70 | 6.11 | 22.3 | 0.325 | 13.73 | 2.85 | -107.3 | " |
| 4 | 14:56 | 4.8L | 7.71 | 6.12 | 14.1 | 0.309 | 13.76 | 2.33 | -107.2 | Clear |
| 5 | 15:00 | 6.0L | 7.71 | 6.12 | 10.8 | 0.304 | 13.77 | 2.43 | -101.1 | Clear |
| 6 | 15:04 | 7.2L | 7.80 | 6.13 | 8.82 | 0.301 | 13.79 | 2.11 | -96.5 | ↓ |
| 7 | 15:08 | 8.4L | 7.82 | 6.14 | 6.68 | 0.293 | 13.83 | 2.26 | -102.6 | ↓ |
| 8 | 15:12 | 9.6 | 7.83 | 6.14 | 4.78 | 0.289 | 13.87 | 2.18 | -105.8 | ↓ |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | JRP | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: Soft bottom Clear 2.44 NTU

**SAMPLER:** Joseph R. Pursley (PRINTED NAME) (SIGNATURE) [signature]

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-19D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-19D-121814

**DUP ID:** —

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
| **WEATHER:** | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | | | | | | | |

**TEMPERATURE:** °F 46 °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 14:35 | 79.14 | --- | 8.78 | --- | 70.32 | X 1 | 11.46 |
| / / | : | . | --- | . | --- | . | X 3 | 34.38 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 77'

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 16:40 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 15:12 DTW=8.85 Depth of tubing (ft btoc): 77'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15:16 | 1.4 l | 8.86 | 6.88 | 284.9 | 35297 | 12.1 | 1.87 | -76.8 | light gray cloudy |
| 2 | 15:20 | 2.8 l | 8.87 | 6.92 | 201.5 | 35338 | 12.1 | 1.11 | -90.1 | " " " |
| 3 | 15:24 | 4.2 l | 8.92 | 6.94 | 131.6 | 35284 | 12.0 | 0.70 | -97.3 | very light gray cloudy |
| 4 | 15:28 | 5.6 l | 8.93 | 6.95 | 101.5 | 35251 | 12.0 | 0.53 | -102.0 | " " " " |
| 5 | 15:32 | 7.2 l | 8.93 | 6.95 | 75.38 | 35222 | 12.0 | 0.47 | -104.6 | gray tint |
| 6 | 15:36 | 8.8 l | 8.97 | 6.95 | 62.54 | 35194 | 12.0 | 0.41 | -107.6 | " " |
| 7 | 15:40 | 10.4 l | 9.00 | 6.96 | 47.82 | 35161 | 12.0 | 0.39 | -109.4 | " " |
| 8 | 15:44 | 12.0 l | 9.02 | 6.96 | 40.42 | 35142 | 11.9 | 0.37 | -111.5 | almost clear |
| 9 | 15:48 | 13.6 l | 9.03 | 6.96 | 35.45 | 35192 | 11.9 | 0.35 | -112.9 | " " |
| 10 | 15:52 | 15.2 l | 9.05 | 6.96 | 30.64 | 35176 | 11.9 | 0.33 | -114.2 | " " |
| 11 | 15:56 | 16.8 l | 9.08 | 6.96 | 23.62 | 35149 | 11.9 | 0.34 | -115.4 | clear, colorless |
| 12 | 16:00 | 18.4 l | 9.11 | 6.96 | 30.05 | 35136 | 11.9 | 0.34 | -116.2 | almost clear |

[gallons or liters] [Clarity, Color]

pg 1 of 2

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: * - Removed 0.9' of sediment from bottom of well, DTB now 80.0' by using Waterra tubing, removed 6 gallon prior to purge start time

**SAMPLER:** Doug Lufkoon (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc.
**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109
**PROJECT NUMBER:** 131044-01.01

**WELL ID:** EMW-19D
**BLIND ID:** EMW-19D-121814
**DUP ID:** —

WATER QUALITY DATA | Purge Start Time: 15:12 | Method: Low Flow Peristaltic Pump | Pump/Bailer Inlet Depth: 77'

| Time | DTW (ft) | Purge (gal) | pH | E Cond (µS) | °F Temp °C | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1604 | 9.14 | 20.0 l | 6.96 | 35131 | 11.9 | 0.34 | -117.2 | — | — | 28.86 | almost clear |
| 1608 | 9.18 | 21.6 l | 6.96 | 35120 | 11.9 | 0.34 | -117.8 | — | — | 20.07 | " " |
| 1612 | 9.17 | 23.2 l | 6.96 | 35096 | 11.9 | 0.36 | -118.4 | — | — | 17.16 | clear, colorless |
| 1616 | 9.23 | 24.8 l | 6.97 | 35088 | 11.9 | 0.37 | -119.2 | — | — | 15.39 | " " |
| 1620 | 9.28 | 26.4 l | 6.97 | 35085 | 11.9 | 0.37 | -119.6 | — | — | 12.35 | " " |
| 1624 | 9.32 | 28.0 l | 6.97 | 35066 | 11.9 | 0.37 | -120.2 | — | — | 13.22 | " " |
| 1628 | 9.35 | 29.6 l | 6.97 | 35072 | 11.9 | 0.39 | -120.6 | — | — | 14.32 | " " |
| 1632 | 9.38 | 31.2 l | 6.97 | 35138 | 11.9 | 0.40 | -120.8 | — | — | 13.96 | " " |

(Cummulative Totals) (circle units) (Clarity, Color)

Notes:

pg 2 of 2

Sampler: Doug Laffoon (Printed Name) (Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-20D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-20D-121614

**DUP ID:**

| WIND FROM: | N | NE | E | SE | (S) | SW | W | NW | (LIGHT) | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | (L+RAIN) | | | | | TEMPERATURE: | (°F) 47. | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 14:21 | 79.70 | --- | 8.00 | --- | 71.70 | X 1 | 11.69 |
| / / | : | . | --- | . | --- | . | X 3 | 35.07 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | (2" = 0.163) | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 77'

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 16:15 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:49 Depth of tubing (ft btoc): 77'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) * | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:53 | 1.2 l | 8.34 | 7.36 | 332.9 | 36175 | 12.1 | 0.26 | -124.1 | Gray cloudy |
| 2 | 14:57 | 2.4 l | 8.39 | 7.36 | 515.5 | 36243 | 12.1 | 0.23 | -127.5 | " " |
| 3 | 15:01 | 3.6 l | 8.44 | 7.37 | 218.7 | 36512 | 12.1 | 0.30 | -123.6 | light gray cloudy |
| 4 | 15:05 | 4.8 l | 8.48 | 7.37 | 144.8 | 36515 | 12.1 | 0.19 | -133.3 | " " " |
| 5 | 15:09 | 6.0 l | 8.56 | 7.37 | 85.87 | 36519 | 12.1 | 0.17 | -137.4 | gray tint |
| 6 | 15:13 | 7.2 l | 8.61 | 7.37 | 77.29 | 36528 | 12.1 | 0.15 | -140.3 | " " |
| 7 | 15:17 | 8.4 l | 8.69 | 7.37 | 48.47 | 36520 | 12.1 | 0.14 | -141.7 | almost clear |
| 8 | 15:21 | 9.6 l | 8.76 | 7.36 | 53.43 | 36530 | 12.1 | 0.14 | -142.8 | " " |
| 9 | 15:25 | 10.8 l | 8.81 | 7.37 | 38.18 | 36537 | 12.1 | 0.13 | -143.9 | " " |
| 10 | 15:29 | 12.0 l | 8.88 | 7.37 | 30.09 | 36544 | 12.1 | 0.12 | -144.8 | " " |
| 11 | 15:33 | 13.2 l | 8.95 | 7.37 | 31.03 | 36540 | 12.1 | 0.13 | -139.1 | " " |
| 12 | 15:37 | 14.4 l | 9.04 | 7.37 | 22.07 | 36546 | 12.1 | 0.14 | -140.1 | " " |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 9.57 **Turbidity after sample collection (NTU):** 13.68

Comments: * - water level tidally influenced

pg 1 of 2

**SAMPLER:** Doug Laffoon (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-20D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **BLIND ID:** EMW-20D-121614

**PROJECT NUMBER:** 131044-01.01 **DUP ID:** —

WATER QUALITY DATA | Purge Start Time: 14:49 | Method: Low Flow Peristaltic Pump | Pump/Bailer Inlet Depth: 77'

| Time | DTW (ft) | Purge (gal) | pH | E Cond (µS) | °F Temp °C | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1541 | 9.09 | 15.6 l | 7.37 | 36551 | 12.1 | 0.13 | -142.4 | — | — | 22.68 | almost clear |
| 1545 | 9.15 | 16.8 l | 7.37 | 36554 | 12.1 | 0.13 | -143.8 | — | — | 18.70 | clear, colorless |
| 1549 | 9.23 | 18.0 l | 7.37 | 36561 | 12.1 | 0.12 | -145.2 | — | — | 13.32 | " " |
| 1553 | 9.30 | 19.2 l | 7.37 | 36567 | 12.1 | 0.12 | -145.9 | — | — | 9.84 | " " |
| 1557 | 9.38 | 20.4 l | 7.37 | 36572 | 12.1 | 0.13 | -146.8 | — | — | 9.12 | " " |
| 1601 | 9.45 | 21.6 l | 7.37 | 36582 | 12.1 | 0.13 | -147.2 | — | — | 9.57 | " " |

(Cummulative Totals) (circle units) (Clarity, Color)

Notes:

pg 2 of 2

Sampler: Doug Laffoon
(Printed Name)

(Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-21D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** EMW-21D-121614

**DUP ID:** —

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHER:** | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | | | | | | | |

**TEMPERATURE:** °F 45 °C [Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/16/14 | 12:04 | 79.20 | --- | 7.47 | --- | 71.73 | X1 | 11.67 |
| / / | : | . | --- | . | --- | . | X3 | 35.07 |

| Gal/ft = (dia./2)² x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 77'

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/16/14 | 13:10 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | 13:10 | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 12:34 Depth of tubing (ft btoc): 77'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12:38 | 1.2 l | 7.61 | 6.83 | 87.5 | 41953 | 10.7 | 0.39 | -65.3 | brown tint |
| 2 | 12:42 | 2.4 l | 7.65 | 6.95 | 27.94 | 42150 | 10.7 | 0.29 | -85.0 | almost clear |
| 3 | 12:46 | 3.6 l | 7.65 | 7.01 | 11.07 | 42184 | 10.7 | 0.21 | -95.1 | clear, colorless |
| 4 | 12:50 | 4.8 l | 7.66 | 7.03 | 8.40 | 42180 | 10.7 | 0.19 | -100.5 | " " |
| 5 | 12:54 | 6.0 l | 7.66 | 7.03 | 6.58 | 42186 | 10.7 | 0.18 | -105.2 | " " |
| 6 | 12:58 | 7.2 l | 7.67 | 7.06 | 5.08 | 42183 | 10.7 | 0.18 | -107.1 | " " |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters]

**Turbidity before sample collection (NTU):** 5.08 **Turbidity after sample collection (NTU):** 2.01 [Clarity, Color]

Comments:

**SAMPLER:** Doug Luffson (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME: 8th Avenue Terminals, Inc.** **WELL ID:** EMW-22D

**SITE ADDRESS: 7400 8th Ave S, Seattle WA 98109** **SAMPLE ID:** EMW-22D-121714

**DUP ID:** —

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHER:** | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | | | | | **TEMPERATURE:** | °F 48 | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 14:07 | 79.60 | --- | 7.89 | --- | 71.71 | X 1 | 11.69 |
| / | : | . | --- | . | --- | . | X 3 | 35.07 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer  Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 76'

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | [√ if used] |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 16:00 | B | 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 14:36 DTW = 8.04 Depth of tubing (ft btoc): 76'

| Meas. | Time | Cum. Volume | DTW(ft bTOC) * | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:40 | 1.2 l | 8.12 | 6.92 | 166.2 | 33408 | 11.4 | 0.99 | -100.9 | light tan cloudy |
| 2 | 14:44 | 2.4 l | 8.15 | 6.99 | 203.5 | 33509 | 11.4 | 0.87 | -111.7 | tan cloudy |
| 3 | 14:48 | 3.6 l | 8.18 | 7.03 | 210.3 | 33556 | 11.4 | 0.75 | -118.9 | " " |
| 4 | 14:52 | 4.8 l | 8.21 | 7.05 | 184.4 | 33585 | 11.4 | 0.67 | -123.2 | " " |
| 5 | 14:56 | 6.0 l | 8.25 | 7.06 | 182.8 | 33613 | 11.4 | 0.63 | -126.5 | " " |
| 6 | 15:00 | 7.2 l | 8.30 | 7.07 | 152.4 | 33630 | 11.3 | 0.62 | -128.3 | light tan cloudy |
| 7 | 15:04 | 8.4 l | 8.33 | 7.07 | 114.4 | 33661 | 11.3 | 0.62 | -130.2 | " " " |
| 8 | 15:08 | 9.6 l | 8.34 | 7.08 | 91.89 | 33683 | 11.3 | 0.63 | -131.4 | very light tan cloudy |
| 9 | 15:12 | 10.8 l | 8.40 | 7.08 | 72.39 | 33713 | 11.3 | 0.61 | -132.6 | " " " " |
| 10 | 15:16 | 12.0 l | 8.42 | 7.08 | 57.54 | 33744 | 11.3 | 0.50 | -133.7 | " " " " |
| 11 | 15:20 | 13.2 l | 8.50 | 7.09 | 48.55 | 33765 | 11.3 | 0.42 | -134.3 | almost clear |
| 12 | 15:24 | 14.4 l | 8.53 | 7.09 | 43.53 | 33806 | 11.3 | 0.38 | -135.2 | " " |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 7.73 **Turbidity after sample collection (NTU):** 7.56

**Comments:** * – well tidally influenced

**SAMPLER:** Doug Laffoon (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle WA 98101

Office: (206) 287-9130 Fax: (206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** EMW-22D

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **BLIND ID:** EMW-22D-121714

**PROJECT NUMBER:** 131044-01.01 **DUP ID:** —

WATER QUALITY DATA | Purge Start Time: 14:36 | Method: Low Flow Peristaltic Pump | Pump/~~Bailer~~ Inlet Depth: 76'

| Time | DTW (ft) | Purge (gal) | pH | E Cond (µS) | °F Temp °C | DO (mg/L) | ORP | TDS | Salinity | Turbidity | Water Quality |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1528 | 8.53 | 15.6 ℓ | 7.09 | 33844 | 11.3 | 0.36 | -135.8 | — | — | 31.51 | almost clear |
| 1532 | 8.60 | 16.8 ℓ | 7.09 | 33880 | 11.3 | 0.36 | -136.3 | — | — | 24.30 | " " |
| 1536 | 8.67 | 18.0 ℓ | 7.09 | 33924 | 11.3 | 0.36 | -136.7 | — | — | 16.05 | clear, colorless |
| 1540 | 8.71 | 19.2 ℓ | 7.09 | 33957 | 11.3 | 0.37 | -137.2 | — | — | 8.36 | " " |
| 1544 | 8.75 | 20.4 ℓ | 7.10 | 33998 | 11.3 | 0.38 | -137.6 | — | — | 9.54 | " " |
| 1548 | 8.52 | 21.6 ℓ | 7.10 | 34010 | 11.3 | 0.38 | -137.7 | — | — | 7.73 | " " |

(Cummulative Totals) (circle units) (Clarity, Color)

Notes:

Sampler: Doug Luffoon (Printed Name) (Signature)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** HC-20

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** HC-20-121614

**DUP ID:** —

**WIND FROM:** N | NE | E | SE | (S) | SW | W | NW | (LIGHT) | MEDIUM | HEAVY

**WEATHER:** SUNNY | PRTLY CLOUDY | (CLOUDY) | (RAIN) **TEMPERATURE:** (°F) 50 . °C

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/10/14 | 14:37 | 17.23 | --- | 9.38 | --- | 7.85 | X 1 | 1.28 |
| / / | : | . | --- | . | --- | . | X 3 | 3.84 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | (2" = 0.163) | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/10/14 | 15:20 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

**Analysis Allowed per Bottle Type**

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: : Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14:42 | 1.5L | 10.03 | 6.05 | 11.6 | 354 | 14.75 | 2.86 | 23.1 | clear, slight yellow |
| 2 | 14:45 | 2.4L | 10.45 | 6.08 | 18.6 | 355 | 14.79 | 1.24 | 27.4 | tinge, slight odor |
| 3 | 14:48 | 3.3L | 10.59 | 6.09 | 15.0 | 356 | 14.86 | 0.99 | 26.1 | |
| 4 | 14:51 | 4.2L | 10.69 | 6.09 | 11.9 | 357 | 14.87 | 0.85 | 22.4 | |
| 5 | 14:54 | 4.725L | 10.46 | 6.10 | 7.47 | 358 | 14.66 | 0.67 | 17.4 | |
| 6 | 14:57 | 5.25 | 10.42 | 6.10 | 4.79 | 358 | 14.59 | 0.64 | 15.8 | |
| 7 | 15:00 | 5.775 | 10.42 | 6.10 | 3.62 | 358 | 14.57 | 0.63 | 14.4 | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** 362 **Turbidity after sample collection (NTU):** 1.8

Comments: Soft bottom, Start pumping @ 0.34/min water dropping so slowed to 0.175L/min @ 14:51 0.525
slight sheen to water in the bailer

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

well mount does not have threads to tighten well plate

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** SLR-1

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** SLR-1-12182014

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | | RAIN | | | | TEMPERATURE: | °F 48 . | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/18/14 | 18:11 | 15.1 | --- | 5.2 | --- | 9.9 | X1 | 1.61 |
| / / | : | Hard bottom | --- | . | --- | . | X3 | 4.84 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth:

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ if used |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/18/14 | 18:35 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 18 : 11 0.3"/min Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume (L) | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (mS µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 18:15 | 1.2 | 5.2 | 6.67 | 3.02 | 0.416 | 13.38 | 11.31 | -86.8 | yellow tint, $H_2S$ odor, clear |
| 2 | 18:20 | 2.7 | 5.6 | 6.72 | 1.68 | 0.431 | 13.80 | 5.71 | -119.9 | slight yellow tint, clear |
| 3 | 18:24 | 3.9 | 5.6 | 6.70 | 1.86 | 0.433 | 13.89 | 3.97 | -122.7 | moderate $H_2S$ odor |
| 4 | 18:26 | 5.1 | 5.6 | 6.72 | ~~0~~ 1.83 | 0.434 | 13.98 | 3.87 | -127.5 | " |
| 5 | 18:30 | 6.3 | 5.6 | 6.71 | 1.35 | 0.434 | 13.97 | 3.62 | -128.7 | " |
| 6 | 18:33 | 7.2 | 5.6 | 6.71 | 1.21 | 0.434 | 14.06 | 3.34 | -131.4 | " |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 1.21 **Turbidity after sample collection (NTU):** 1.34

Comments: Begin sampling 1835, ~~very mount~~ casing full of water when mount opened, drained water out well did not look to be impacted when well plug removed. Total purged before sampling 1.9gal/7.2L

**SAMPLER:** Evan Malczyk (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** SLR-2

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** SLR-2-121714

**DUP ID:** —

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **WEATHER:** | SUNNY | PRTLY CLOUDY | CLOUDY | | RAIN | | | | **TEMPERATURE:** °F 42 | | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | 18:56 | 14.15 | --- | 3.83 | --- | 10.32 | X 1 | 1.68 |
| — | : | . | --- | . | --- | . | X 3 | 5.04 |

Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer | Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: 11.5' [√ if used]

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 20:00 | B | 1 | 500 mL | HNO3 | YES | NO | | √ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | √ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | √ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | √ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | √ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | √ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | √ |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 19:06 Depth of tubing (ft btoc): 11.5'

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19:10 | 1.6 l | 4.35 | 6.85 | 40.85 | 628.8 | 8.9 | 6.81 | 25.3 | almost clear |
| 2 | 19:14 | 3.2 l | 4.64 | 6.92 | 31.27 | 632.2 | 8.8 | 6.76 | 26.2 | " " |
| 3 | 19:18 | 4.8 l | 4.80 | 6.97 | 11.86 | 668.0 | 8.8 | 6.48 | 30.3 | clear, colorless |
| 4 | 19:22 | 6.4 l | 4.90 | 6.96 | 13.56 | 675.4 | 8.9 | 6.29 | 33.5 | " " |
| 5 | 19:26 | 8.0 l | 5.00 | 6.96 | 11.58 | 672.4 | 8.9 | 6.26 | 38.6 | " " |
| 6 | 19:30 | 9.6 l | 5.06 | 6.94 | 9.61 | 668.2 | 8.9 | 6.26 | 43.6 | " " |
| 7 | 19:34 | 11.2 l | 5.12 | 6.94 | 8.79 | 658.9 | 8.9 | 6.23 | 47.8 | " " |
| 8 | 19:38 | 12.8 l | 5.19 | 6.93 | 7.02 | 649.1 | 8.9 | 6.28 | 51.6 | " " |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: Tidally influenced

**SAMPLER:** Doug Laffson (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** SLR-3

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** SLR-3-121514

**DUP ID:** —

| **WIND FROM:** | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|

| **WEATHER:** | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | **TEMPERATURE:** °F 54 . °C |
|---|---|---|---|---|---|

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 15:57 | 14.33 | --- | [illegible] | --- | 8.89 | X 1 | 1.45 |
| / / | : | . | --- | 5.44 | --- | . | X 3 | 4.35 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: (√ if used)

| Bottle Type | Date | Time | Method | Amount | Volume mL | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 17:05 | B1 | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

**Analysis Allowed per Bottle Type**

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: : Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume [gallons or liters] | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) [Clarity, Color] |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 16:05 | 2.4L | 5.46 | 6.58 | 6.38 | 1467 | 13.65 | 1.75 | 96.9 | yellowish Green, |
| 2 | 16:08 | 3.3L | 5.54 | 6.60 | 67.25 | 1475 | 13.86 | 1.14 | 91.2 | clear, no odor |
| 3 | 16:11 | 4.2L | 5.55 | 6.62 | 5.36 | 1488 | 14.19 | 0.87 | 87.8 | |
| 4 | 16:14 | 5.1L | 5.58 | 6.62 | 4.42 | 1494 | 14.36 | 0.66 | 85.3 | |
| 5 | 16:17 | 6.0L | 5.71 | 6.64 | 4.34 | 1494 | 14.41 | 0.64 | 83.4 | |
| 6 | 16:20 | 6.9L | 5.71 | 6.64 | 3.93 | 1496 | 14.47 | 0.53 | 81.8 | |
| 7 | : | | . | . | | | . | | | |
| 8 | : | | . | . | | | . | | | |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

**Turbidity before sample collection (NTU):** 3.93 **Turbidity after sample collection (NTU):** 1.65

**Comments:** Soft Bottom, Pumping @ 0.3 L/min

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Christensen (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

720 Olive Way, Suite 1900
Seattle, Washington 98101
(206) 287-9131

**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** SLR-6

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** SLR-6-20141217

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | | | CLOUDY | | RAIN | | TEMPERATURE: | °F 48 . | °C |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/17/14 | : | 13.98 | --- | 6.85 | --- | 7.13 | X1 | 1.162 |
| / / | : | . | --- | . | --- | . | X3 | 3.486 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/17/14 | 19:00 | | 1 | 500 mL | HNO3 | YES | NO | | |
| 500 mL HDPE | 12/17/14 | 19:50 | | 1 | 500 mL | HNO3 | YES | YES | | |
| 500 mL AG | 12/17/14 | 19:50 | | 4 | 500 mL | None | YES | NO | | |
| 40 mL vial | 12/17/14 | 19:50 | | 3 | 40 mL | HCl | YES | NO | | |
| Lg OJ HDPE | 12/17/14 | 19:50 | | 1 | 500 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 19:50 | | 1 | 250 mL | None | YES | NO | | |
| 250mL polys | 12/17/14 | 19:50 | | 1 | 250 mL | None | YES | Yes | | |
| 1L AG | 12/17/14 | 19:50 | | 2 | 1 L | None | YES | NO | | |

Total Bottles (include duplicate count): 14

| Analysis Allowed per Bottle Type | BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|---|
| | 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| | 500 mL AG | (PAHs) (TPH-D) |
| | 40 mL vial | (VOCs) |
| | Lg OJ HDPE | (TDS) (Chloride) |
| | 250 mL polys | (LL Hg) |
| | 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: 19:06 Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond ~~(µS/cm)~~ mS/cm | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19:11 | 1.5 | 7.35 | 6.57 | 22.0 | 0.839 | 10.91 | 8.40 | -15.7 | Yellow tint |
| 2 | 19:15 | 2.7 | 7.55 | 6.45 | 15.8 | 0.850 | 10.90 | 8.18 | -42.4 | Particulate |
| 3 | 19:19 | 3.9 | 7.63 | 6.40 | 10.5 | 0.855 | 11.03 | 7.70 | -47.6 | Clearing |
| 4 | 19:23 | 5.2 | 7.80 | 6.37 | 7.36 | 0.855 | 11.19 | 7.57 | -54.7 | " |
| 5 | 19:27 | 6.4 | 7.90 | 6.36 | 4.52 | 0.850 | 11.34 | 7.54 | -61.5 | " |
| 6 | 19:31 | 7.6 | 7.95 | 6.35 | 2.47 | 0.840 | 11.46 | 6.77 | -69.7 | " |
| 7 | 19:35 | 8.8 | 8.03 | 6.35 | 1.62 | 0.847 | 11.53 | 6.51 | -72.2 | " |
| 8 | 19:39 | 10.0 | 8.07 | 6.34 | 1.25 | 0.846 | 11.53 | 6.40 | -79.5 | " |
| 9 | : | | . | . | | | . | | | |
| 10 | : | | . | . | JRP | | . | | | |
| 11 | : | | . | . | | | . | | | |
| 12 | : | | . | . | | | . | | | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** **Turbidity after sample collection (NTU):**

Comments: Stiff bottom 0.63 NTU @ 20.11 hrs

**SAMPLER:** Joseph R Pursley (PRINTED NAME) (SIGNATURE)

# FIELD SAMPLING DATA SHEET

ANCHOR QEA

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**PROJECT NAME:** 8th Avenue Terminals, Inc. **WELL ID:** SUR-7

**SITE ADDRESS:** 7400 8th Ave S, Seattle WA 98109 **SAMPLE ID:** SUR-7-121514

**DUP ID:**

| WIND FROM: | N | NE | E | SE | S | SW | W | NW | LIGHT | MEDIUM | HEAVY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WEATHER: | SUNNY | PRTLY CLOUDY | CLOUDY | RAIN | TEMPERATURE: | °F 53 . °C | | | | | |

[Circle appropriate units]

**HYDROLOGY/LEVEL MEASUREMENTS** (Nearest 0.01 ft)

| Date | Time | DT-Bottom | DT-Product | DT-Water | DTP-DTW [Product Thickness] | DTB-DTW [Water Column] | | Volume (gal) [Water Column x Gal/ft] |
|---|---|---|---|---|---|---|---|---|
| 12/15/14 | 12:53 | 15.28 | --- | 6.75 | --- | 8.53 | X 1 | 1.39 |
| / / | : | . | --- | . | --- | . | X 3 | 4.17 |

| Gal/ft = (dia./2)$^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875 |
|---|---|---|---|---|---|---|---|

§ METHODS: (A) Waterra (B) Peristaltic Pump (C) Disposable Bailer Sampled via: (1) Low-flow (2) Purged 3 casing volumes (3) Purged dry, let recover, and sampled

**GROUNDWATER SAMPLING DATA** Sample Depth: [√ if used]

| Bottle Type | Date | Time | Method | Amount & Volume mL | | Preservative [circle] | Ice | Filter | pH | √ |
|---|---|---|---|---|---|---|---|---|---|---|
| 500 mL HDPE | 12/15/14 | 14:15 | B | 1 | 500 mL | HNO3 | YES | NO | | ✓ |
| 500 mL HDPE | / / | : | | 1 | 500 mL | HNO3 | YES | YES | | ✓ |
| 500 mL AG | / / | : | | 4 | 500 mL | None | YES | NO | | ✓ |
| 40 mL vial | / / | : | | 3 | 40 mL | HCl | YES | NO | | ✓ |
| Lg OJ HDPE | / / | : | | 1 | 500 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | NO | | ✓ |
| 250mL polys | / / | : | | 1 | 250 mL | None | YES | Yes | | ✓ |
| 1L AG | / / | : | | 2 | 1 L | None | YES | NO | | ✓ |

Total Bottles (include duplicate count): 14

Analysis Allowed per Bottle Type

| BOTTLE TYPE | ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) |
|---|---|
| 500 mL HDPE | Total and Dissolved Metals: (Ag) (As) (Be) (Cd) (Cr) (Cu) (Hg) (Ni) (Pb) (Sb) (Se) (Tl) (Zn) (Ba) |
| 500 mL AG | (PAHs) (TPH-D) |
| 40 mL vial | (VOCs) |
| Lg OJ HDPE | (TDS) (Chloride) |
| 250 mL polys | (LL Hg) |
| 1L AG | (PCBs) |

**WATER QUALITY DATA** Purge Start Time: : Depth of tubing (ft btoc):

| Meas. | Time | Cum. Volume | DTW(ft bTOC) | pH | Turbidity (NTU) | E Cond (µS/cm) | Temp °C | DO (mg/L) | ORP | Water Quality (Color, Clarity) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13:13 | 1.75 L | 7.14 | 6.22 | 23.2 | 525 | 15.26 | 2.77 | 144.4 | clear w/orange tint, |
| 2 | 13:16 | 2.50 L | 7.18 | 6.30 | 20.0 | 501 | 15.35 | 2.74 | 132.9 | small orange particles, |
| 3 | 13:19 | 3.25 L | 7.21 | 6.32 | 20.0 | 496 | 15.40 | 2.81 | 130.1 | no odor |
| 4 | 13:22 | 4.0 L | 7.27 | 6.33 | 17.9 | 501 | 15.39 | 2.70 | 126.3 | |
| 5 | 13:25 | 4.75 L | 7.29 | 6.32 | 16.0 | 494 | 15.43 | 2.33 | 124.2 | |
| 6 | 13:28 | 5.5 L | 7.33 | 6.33 | 14.7 | 488 | 15.52 | 2.12 | 120.9 | |
| 7 | 13:31 | 6.25 L | 7.33 | 6.33 | 11.5 | 487 | 15.49 | 1.89 | 117.0 | |
| 8 | 13:34 | 7.0 L | 7.35 | 6.33 | 10.2 | 487 | 15.51 | 2.01 | 114.8 | |
| 9 | 13:37 | 7.75 L | 7.36 | 6.32 | 8.77 | 486 | 15.52 | 1.55 | 113.0 | |
| 10 | 13:40 | 8.5 L | 7.38 | 6.32 | 5.82 | 485 | 15.53 | 1.39 | 107.7 | |
| 11 | 13:43 | 9.25 L | 7.38 | 6.32 | 4.98 | 484 | 15.53 | 1.40 | 104.7 | |
| 12 | 13:46 | 10.0 L | 7.41 | 6.32 | 3.24 | 485 | 15.49 | 1.34 | 102.0 | |

[gallons or liters] [Clarity, Color]

**Turbidity before sample collection (NTU):** 3.24 **Turbidity after sample collection (NTU):** 1.60

Comments: Soft Bottom, 0.25 L/min start pumping @ 1306

**SAMPLER:** Kellee Christensen (PRINTED NAME) Kellee Christensen (SIGNATURE)

# SEDIMENT CORE LOGS

# Sediment Core Log

## SSED-SB-12A



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **7.3ft** | Penetration Depth (ft): **15ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -18.8** | Field Recovery Length (ft): **13.1ft** |
| Collection Date: **12/12/14** | Mudline Elevation (ft MLLW): **-11.5ft** | Process Date: **12/15/14** |
| Contractor: **MSS** | Northing: **198597.061** Easting: **1272607.387** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0–1 | | | 0 | SILT (ML): 0-3.0ft: Moist, soft, black, 95% fines (low plasticity), 5% fine sand. Contains trace organics (hair-like fibers, wood fibers). Trace biota (shells). | -12.0 |
| 1–7.8 | | | 0 | SILT (ML): 0.3-6.8ft: Moist, medium stiff, black, 90% fines (low plasticity fines), 10% fine sand. Occasional organics (wood fibers & fragments, hair-like fibers). | -13.0 to -18.0 |
| 2–3 | SSED-SB-12A-2-4 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | | |
| 4–5 | SSED-SB-12A-4-6 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | | |
| 6–7.8 | SSED-SB-12A-6-7.7 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | | |
| 7–7.8 | | | 0 | SILT (ML): 6.8-7.8ft: Moist, medium stiff, dark gray, 5% fine sand, 95% fines. Trace organics (wood fibers), medium plasticity, fines. Trace H2S-like odor.<br>@7.8ft: NATIVE CONTACT. | -19.0 |
| 8–12.9 | SSED-SB-12A-8-10 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | POORLY GRADED SAND (SP): 7.8-12.9ft: Moist, loose, dark gray, 100% sand (fine to medium). Contains occasional small (<1 in) pockets of moist, dense, gray brown SILT crumbles.<br>@8.0ft: 1 piece dense sand ball, contains organic (wood fibers).<br>@8.3-8.4ft: Pocket of moist, medium dense, black, SILT (CLAY (ML/CL)), 90% fines, 10% fine sand.<br>@8.3-8.6ft: 1 piece anthropogenic material, diameter of tube, 1.5 in wide, puck-shaped. Upon clearing off piece- shiny surface, very dense. Trace napthalene-like odor.<br>@9.8-10.7ft: Contains occasional organics (wood fragments & fibers, sticks).<br>@10.4-10.7ft: Pocket of substantial organics (wood fragments up to 4 in).<br>@10.7-12.9ft: Moist, dense, dark gray, 95% fine sand, 5% fines.<br><br>@11.9-12.3ft: Stratified bed of SILTY SAND (SM), moist, medium dense, gray, 75% fine sand, 25% fines.<br><br>End of core @12.9ft. | -20.0 to -24.0 |

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**Notes:** 1. Attempt 1 of 1.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**87%**

# Sediment Core Log

## SSED-SB-13A



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **12.1ft** | Penetration Depth (ft): **14ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -17.7ft** | Field Recovery Length (ft): **12.1ft** |
| Collection Date: **12/13/14** | Mudline Elevation (ft MLLW): **-5.6FT** | Process Date: **12/15/14** |
| Contractor: **MSS** | Northing: **198701.905** Easting: **1272474.68** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0 | | | 0 | SANDY SILT (ML): 0-0.1ft: Moist, soft, gray brown, 30% fine sand, 70% fines. | -6.0 |
| 1 | SSED-SB-13A-0.5-2 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | POORLY GRADED SAND (SP): 0.1-2.2ft: Moist, medium dense, dark gray, 5% fines, 95% medium sand. Trace organics (stick), sand grains are black, red, orange, white.<br>@0.6-1.4ft: Pockets of SILTY SAND (SM), moist, medium stiff, dark gray with black mottling, 70% medium sand, 30% fines. Occasional anthropogenic material (1/4 in black, angular, shiny, coal-like fragments).<br>@1.4-2.0ft: Sand is reddish brown, grades to dark gray.<br>@2.0ft: 1-2 in gravel (subrounded white).<br>@2.2-2.4ft: Pocket of dark gray SILT 10% fine sand, 90% fines. | -7.0 |
| 2 | | | | | -8.0 |
| 3 | SSED-SB-13A-3-5 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | | -9.0 |
| 4 | | | 0 | POORLY GRADED SAND (SP): 2.2-6.2ft: Moist, medium dense, dark gray, 100% medium sand. Sand grains are dark gray, black, white, orange. Contains occasional to trace pockets of brown gray silt. 1/2 in diameter. | -10.0 |
| 5 | | | | @5.3-5.5ft: 0.5 in stratified bed contains coarse sand and occasional fine gravel/subrounded. | -11.0 |
| 6 | | | | | -12.0 |
| 7 | | | 0 | SILT WITH SAND (ML): 6.2-8.0ft: Moist, medium stiff, gray, 10% fine sand, 90% fines, low-medium plasticity.<br>@6.2ft: 1 in piece c-gravel, 2.5 in, subrounded and subangular.<br>@6.8-7.3ft: SILT is soft, lighter gray. Sand content increases downcore. | -13.0 |
| 8 | | | | | -14.0 |
| 9 | | | | POORLY GRADED SAND (SP): 8.0-11.7ft: Moist, medium dense to dense, gray, 5% Fines, 95% fine sand, contains stratified beds with increased sand content.<br>@9.0-9.7ft: Layer same as above @6.2ft.<br>@10.2ft: Organic matter (wood fragment, stick).<br>@10.5-11.7ft: Sand is medium, 100% SAND. | -15.0 |
| 10 | | | 0 | | -16.0 |
| 11 | | | | End of core @11.7ft. | -17.0 |

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**Notes:** 1.Attempt 2 of 2.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**86%**

# Sediment Core Log

## SSED-SB-14A



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **11.7ft** | Penetration Depth (ft): **13.8ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -10.5ft** | Field Recovery Length (ft): **14ft** |
| Collection Date: **12/13/14** | Mudline Elevation (ft MLLW): **+1.2** | Process Date: **12/14/15** |
| Contractor: **MSS** | Northing: **198778.867** Easting: **1272485.023** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0 | | | 0 | SILTY SAND (SM): 0-0.4ft: Moist, medium dense, dark gray, 25% fines, 75% sand (medium). | 1.0 |
| 1 | SSED-SB-14A-0.5-2 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | SILT (ML): 0.4-2.1ft: Moist, dark gray with black mottling, 10% fine sand, 90% fines. Contains organics (sticks). Contains trace biota (shell).<br>@0.75-0.8ft: 2-1/4 in laminated beds of sand. @0.75ft gray, @0.8ft black.<br>@2.0ft: Contains anthropogenic material (black, coal-like). | 0.0 |
| 2 | SSED-SB-14A-2-4 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | @2.1-2.3ft: Layer of organic (wood fragments, reddish, partially decomposed, slight H2S like odor). | -1.0 |
| 3 | | | 0 | SILTY SAND (SM): 2.3-3.8ft: Moist, dense, gray, 30% fines, 70% medium to coarse sand, contains moderate organics (wood fragments), contains substantical anthropogenic material (angular, brick-like fragments up to 2 in, molten glass-like fragments up to 2 in). | -2.0 |
| 4 | SSED-SB-14A-4-6 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | POORLY GRADED SAND (SP): 3.8-6.0ft: Moist, loose-medium dense, dark reddish gray, 100% sand (fine), color grades to dark gray. | -3.0 |
| 5 | | | 0 | @6.0ft: NATIVE CONTACT | -4.0 |
| 6 | | | | POORLY GRADED SAND (SP): 6.0-13.5ft: Moist, loose to medium, dense, dark gray, 100% medium sand. Sand grains are black, dark gray, white, red. | -5.0 |
| 7 | SSED-SB-14A-7-9 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | @6.8ft: Several pieces of organic matter (wood fragments up to 2 in). | -6.0 |
| 8 | | | | | -7.0 |
| 9 | | | | | -8.0 |
| 10 | | | 0 | | -9.0 |
| 11 | | | | | -10.0 |
| 12 | | | | @12-13.5ft: Sand is dense.<br>@12.5-12.8ft: Pocket of silty sand, moist, dense, dark gray, 30% fines, 70% fine sand. 1 piece organic material, wood fragment (branch like fragment) up to 2 in. | -11.0 |
| 13 | | | | End of core @13.5ft. | -12.0 |

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**Notes:** 1.Attempt 2 of 2.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**98%**

# Sediment Core Log

## SSED-SB-16A



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **6.9ft** | Penetration Depth (ft): **15ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -7.7ft** | Field Recovery Length (ft): **12.3ft** |
| Collection Date: **12/12/14** | Mudline Elevation (ft MLLW): **-0.77ft** | Process Date: **12/15/14** |
| Contractor: **MSS** | Northing: **198750.424** Easting: **1272484.308** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0–1 | | | 0 | SILTY SAND (SM): 0-1.0ft: Moist, medium dense, dark gray. 70% fine to medium sand, 30% fines.<br>@0.4ft: One 2 in gravel (subrounded).<br>@0.5-0.7ft: 1/2 in bed of poorly graded sand, reddish brown, contains moderate stratified beds of silt. | -1.0 |
| 1–2.7 | SSED-SB-16A-1-2.7 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | POORLY GRADED SAND WITH SILT (SP-SM): 1.0-2.8ft: Moist, medium dense, dark gray, 90% fine to medium sand, 10% fines. Contains occasional stratified and laminated beds of dark gray SILT. 90% fines, 10% fine sand. Trace anthropogenic like material (1 glass fragment).<br>@1.1-1.3ft: Pocket contains hard, reddish, vesiculated, gravel-like fragments, black, angular, shiny, coal-like.<br>@1.8-2.1ft: Pocket of dark gray silt, 100% fines.<br>@2.2ft: 1-2 in piece wood fragment, reddish, bark-like.<br>@2.6-2.8ft: Pocket of organic matter, wood fragments, black.<br>@2.8ft: NATIVE CONTACT | -2.0<br>-3.0<br>-4.0 |
| 2.7–4 | | | | | -5.0 |
| 4–6 | SSED-SB-16A-4-6 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | | POORLY GRADED SAND (SP): 2.8-12.0ft: Moist, loose to medium dense, dark gray, 100% medium sand. Sand grains are red, gray, black, and white.<br>@4.5ft: Pockets of organics (wood fragments, stick like, up to 1.5 in).<br>@6.5ft: Contains trace fine gravel, subrounded, 0.5in. | -6.0<br>-7.0 |
| 6–12 | | | 0 | End of core @12.0ft. | -8.0<br>-9.0<br>-10.0<br>-11.0<br>-12.0 |

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**Notes:** 1. Attempt 1 of 1.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**82%**

# Sediment Core Log

## SSED-SB-19



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **12.4ft** | Penetration Depth (ft): **14ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -13.2ft** | Field Recovery Length (ft): **13.3ft** |
| Collection Date: **12/13/14** | Mudline Elevation (ft MLLW): **-0.77ft** | Process Date: **12/16/14** |
| Contractor: **MSS** | Northing: **198779.874** Easting: **1272448.682** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0–1 | | | 0 | SILTY SAND (SM): 0-0.4ft: Moist, medium dense, dark gray, 30% fines, 70% medium sand. Contains pockets with reddish brown color. | -1.0 |
| 1–3.7 | | | 0 | SILT (ML): 0.4-3.7ft: Moist, medium stiff to stiff, very dark gray, 5% fine sand, 95% fines. SILT/CLAY (ML/CL) can be remolded and rolled into 1/8 in ribbon. Medium plasticity fines. Trace H2S-like odor. Contains occasional organics (wood fragments up to 1.5 in). Contains trace biota (shell).<br>@2.1-2.3ft: Moist, medium stiff, dark gray, 30% fines, 70% fine sand.<br>@2.3-2.5ft: Stratified bed of poorly graded sand 100% fine sand.<br>@2.5-3.7ft: Moist, medium stiff, dark gray, SILT, 90% fines, 10% fine sand, contains trace organics (wood fragments). | -2.0 |
| 2–3 | SSED-SB-19-2-4 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0<br>0<br>0 | | -3.0 |
| 3–4.5 | | | | | -4.0 |
| 4–6 | SSED-SB-19-4-6 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | POORLY GRADED SAND WITH SILT (SP-SM): 3.7-6.0ft: Moist, medium dark to dark gray, 20% fines, 80% medium sand, contains laminated beds and pockets of increased silt content. Trace H2S like odor.<br>@5.8-6.0ft: Stratified bed same as above @2.5ft. | -5.0 |
| 5–6.8 | | | | | -6.0 |
| 6–7 | | | 0 | POORLY GRADED SAND (SP): 6.0-6.8ft: Moist, medium dense, dark gray, 5% fines, 95% medium sand. Trace H2S-like odor. Sand grains are dark gray, white, red, and black. | -7.0 |
| 7–8 | SSED-SB-19-7-9 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | SILT (ML): 6.8-10.6ft: Moist, medium stiff to stiff, gray with dark gray mottling, 5% fine sand, 95% fines, low plasticity fines. | -8.0 |
| 8–9 | | | | | -9.0 |
| 9–10 | | | | | -10.0 |
| 10–11 | | | | | -11.0 |
| 11–12 | | | 0 | SILT WITH SAND (ML): 10.6-12.8ft: Moist, stiff, gray, 20% fine sand, 80% fines. Low plasticity.<br>End of core @12.8ft. | -12.0 |
| 12 | | | | | -13.0 |

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**Notes:** 1. Attempt 1 of 1.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**95%**

# Sediment Core Log

## SSED-SB-20



| | | |
|---|---|---|
| Project: **Draft RI Report, 8th Ave Terminals, Inc.** | Location: **7400 8th Ave S., Seattle WA** | Tube Length (ft): **15.0** |
| Project #: **131044-01.01** | Surface Water Elevation (MLLW): **12.6ft** | Penetration Depth (ft): **14ft** |
| Client: **DeNovo Seattle, LLC** | Water Depth (ft): **LL: -19.2ft** | Field Recovery Length (ft): **12.1ft** |
| Collection Date: **12/13/14** | Mudline Elevation (ft MLLW): **-6.5ft** | Process Date: **12/16/14** |
| Contractor: **MSS** | Northing: **198726.831** Easting: **1272437.196** | Process Method: **Cut tube** |
| Vessel: **Nancy Anne** | Horiz. Datum: **NAD83 SP WA N, US Ft** Vert. Datum: **MLLW** | Sample Quality: **Good** |
| Operator: **Bill Jaworski** | Method/Tube ID: **Vibracore/3.75"** | Logged By: **EM/BW** |

| Recoverd Depth (ft) | Recovered Interval & Sample | Chemical Analysis | PID Measurement | Sediment Description<br>Samples and Descriptions are in Recovered Depths.<br>Classification Scheme: ASTM | Estimated In-situ Elevation (MLLW) |
|---|---|---|---|---|---|
| 0–3.1 | SSED-SB-20-2-4 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | POORLY GRADED SAND (SP): 0-3.1ft: Moist, medium dense, gray, 5% fines, 95% fine to medium sand.<br><br>@0.2-0.3ft: 1/2 in bed of dark gray to black SILTY SAND. Contains organics (wood fragments).<br><br>@2.8ft: Fines content increases downcore. | -7.0 to -8.0 |
| 3.1–10.2 | SSED-SB-20-5-7<br>SSED-SB-20-8-10 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs<br>GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs | 0 | SILTY SAND (SM): 3.1-10.2ft: Moist, medium dense, dark gray with gray mottling, 40% fines, 60% fine sand. Contains occasional organics (sticks, wood fragments). Contains stratified beds of poorly graded sand with silt, 85% fine sand, 15% fines, and beds of SILT with sand, 85% fines, 15% fine sand. | -8.0 to -16.0 |
| 10.2–11.8 | | | 0 | SILT WITH SAND (ML): 10.2-11.8ft: Moist, medium stiff to stiff, gray with dark gray mottling, 85% fines, 15% fine sand. Contains stratified beds of sand with silt, 30% fines, 70% fine sand.<br>@10.6ft: 3.5 in wood fragment.<br>End of core @11.8ft. | -16.0 to -18.0 |

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**Notes:** 1. Attempt 1 of 1.

**Calculated Recovery**
Recovery Length/Penetration Depth:
**86%**

# SOIL BORING LOGS

# Soil Boring Log



## DMW-6A

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272867.6** Easting: **198906.288** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/26/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | 91 | 0.0 | | | 0.0-0.6ft: ASPHALT. Dark gray, coarse, angular, fine. | |
| 1–2 | | | | | 0.6-1.1ft: SAND WITH GRAVEL (SP). 85% sand (medium to coarse, poorly graded), 15% gravel (fine, angular). | |
| 2–3 | | | DMW6A-2-3 | | 1.1-2.0ft: POORLY GRADED SAND (SP). Light brown, damp, medium dense, 90% sand (fine to medium, poorly graded), 5% fines (silt), 5% gravel (fine, subrounded). | |
| 3–4 | | | DMW-6A-3-3.5 | | 2.0-3.0ft: FILL. Red-brown to black, damp, medium dense, organics (woody fibers), oxidation. | |
| 4–5 | | | | | 3.0-3.7ft: FILL. Ash-like debris, white to light gray, dense, dry, chalky. | |
| 5–6 | 64 | | | | 3.7-5.3ft: POORLY GRADED SAND (SP). Dark gray, damp, dense, 95% sand (fine), 5% gravel (fine, subrounded) | |
| 6–7 | | | DMW6A-6.5-8 | | @4.6ft: Pocket, rubble/fill, same as @2.0ft. | |
| 7–8 | | | | | 5.3-6.1ft: ASPHALT-like, light gray, dense. | |
| 8–9 | | | DMW6A-8-10 | | 6.1-13.6ft: POORLY GRADED SAND (SP). Gray, damp, dense, 95% sand (fine to medium, fines upward with layers 8in thick), 5% fines (silt). | |
| 9–10 | | | | | | |
| 10–11 | 74 | | | | @6.5-6.9ft: Sand (medium to coarse). @10.5ft: Becomes wet, standing water. | |
| 11–12 | | | DMW6A-11-13 | | @11.9-12.5ft: Oxidation. | |
| 12–13 | | | | | | |
| 13–14 | | | | | 13.6-20.0ft: POORLY GRADED SAND (SP). Red-brown, wet, dense, 95% sand (medium to coarse), 5% fines (silt). | |
| 14–15 | | | | | | |
| 15–16 | 91 | | DMW6A-15-17 | | @16.5ft: Color is dark gray. | |
| 16–17 | | | | | | |
| 17–18 | | | DMW-6A-18-20 | | | |
| 18–19 | | | | | | |
| 19–20 | | | | | End of core @20.0ft below ground surface. | |
| 20–25 | | | | | | |

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**Notes:**

# Soil Boring Log

**Sheet 1 of 1**

## EB-03

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273011.425** Easting: **199620.896** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/05/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–4.5 | 80 | 0.0 | EB-03-3-5 | | 0-1.2ft: ASPHALT. Light gray, gravel, fine, angular.<br>1.2-2.4ft: SILTY SAND WITH GRAVEL (SM). Light brown to gray to dark brown (each approximately 0.4ft thick). 70% sand (fine to medium, poorly graded), 15% gravel (fine, angular), 15% fines (stiff), dry, dense.<br>2.4-4.5ft: Dark gray with red and white grains, damp, dense, 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt).<br>@2.4ft: Anthropogenic debris- light pink, brick like debris, coarse gravel size, angular. | 0–4.5 |
| 4.5–10.8 | 82 | 0.0 | EB-03-6-8<br>EB-03-8-10 | | 4.5-10.8ft: Dark gray, wet, medium dense, 90% sand (fine to medium, predominantly fine), 10% fines (silt), with interbedded SILT (ML), dark gray, with black mottling, (slight) wet, stiff, 90% fines (silt, holds shape), 10% sand (fine to medium, poorly graded). Gray grains. | 4.5–10.8 |
| 10.8–20 | 96 | 0.0 | EB-03-11-13 | | 10.8-20.0ft: Dark gray, wet, dense, 85% sand (fine to medium, predominantly fine, poorly graded), 15% fines (silt).<br>End of core @20.0ft below ground surface. | 10.8–20 |
| 20–25 | 96 | 0.0 | | | | 20–25 |

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**Notes:**

# Soil Boring Log



## EB-06

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273355.786** Easting: **199660.328** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/09/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–2 | 62 | 0.0 | EB-06-2-4 | | 0.0-0.1ft: MOSS. Green, fresh.<br>0.1-0.5ft: POORLY GRADED GRAVEL WITH SAND (GP). 75% gravel (fine to coarse, angular), 15% sand (fine to medium), 10% fines (silt).<br>0.5-1.7ft: SILTY SAND WITH GRAVEL (SM). Dark brown, moist, medium dense, 70% sand (fine to medium, poorly graded), 15% gravel (fine, angular), 15% fines (silt and soil).<br>@1.45-1.7ft: Color is yellow brown. | 0–2 |
| 2–5 | | | | | | 2–5 |
| 5–8 | 62 | 0.0 | EB-06-6-8<br>EB-06-8-10 | | 1.7-9.35ft: POORLY GRADED SAND (SP). 100% sand (medium to coarse, poorly graded), white to light gray, moist, medium dense.<br>@2.25ft: Same as above @1.7, but 95% sand (fine to medium, predominantly medium), 5% fines (silt), and sand is brown.<br>@6.1ft: Sand is predominantly fine. | 5–8 |
| 8–10 | | | | | | 8–10 |
| 10–12 | 96 | 0.0 | EB-06-12-14 | | 9.35-12.1ft: SILT (ML). Brown with orange-brown mottling, moist, stiff, 90% fines (silt, holds shape), 10% sand (fine to medium, predominantly fine).<br>@10.0ft: Grades to wet, standing water. | 10–12 |
| 12–15 | | | | | 12.1-20.0ft: SILTY SAND (SM). Brown, wet (standing water), medium dense, 85% sand (fine to medium, predominantly fine, poorly graded), 15% fines (silt). | 12–15 |
| 15–20 | 96 | 0.0 | EB-06-15-17 | | End of core @20.0ft below ground surface. | 15–20 |
| 20–25 | | | | | | 20–25 |

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**Notes:**

1. Duplicates at 2-4ft, 6-8ft, 8-10ft, and 12-14ft.

# Soil Boring Log



## EB-07

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273372.891** Easting: **199564.936** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/05/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–2 | 72 | 0.0 | EB-07-2-4 | | 0-1.4ft: POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM). Gray to brown, damp, dense, 75% sand (fine to medium, poorly graded), 15% gravel (fine, angular), 10% fines (silt). | |
| | | | | | 1.4-3.6ft: POORLY GRADED SAND (SP). Light brown, damp, dense, 90% sand (fine to medium, predominantly fine), 5% fines (silt), 5% gravel (fine, angular). | |
| | | | | | @3.0-3.6ft: Anthropogenic debris (white fine brick-like/concrete-like, coarse sand size). | |
| 5 | | | EB-07-5-7 | | 3.6-6.1ft: POORLY GRADED SAND WITH GRAVEL (SP). Gray, damp, dense, 75% sand (medium to coarse, predominantly medium, poorly graded), 25% gravel (fine, angular), FILL-like. | |
| 6–8 | 46 | 0.0 | EB-07-8-10 | | 6.1-7.0ft: SANDY ORGANIC SOIL (OL/OH). Dark brown to black, damp, 75% soil, 25% sand (fine to medium, poorly graded), | |
| | | | | | 7.0-8.0ft: POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM). Same as above @3.6ft. | |
| 9–12 | 88 | 0.0 | EB-07-11-13 | | 8.0-12.4ft: SILT WITH SAND (ML). Brown with orange-brown mottling, moist, firm, 75% fines (silt, holds shape), 25% sand (fine to medium, predominantly fine, poorly graded). | |
| 13–15 | | | | | 12.4-15.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Gray, wet, dense, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt), interbedded with thinly laminated SILT (ML) (1-2 mm), light gray, firm, wet, 90% silt (fine), 10% sand. | |
| 16–20 | 96 | 0.0 | EB-07-15.5-17.5 | | 15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, wet (standing water), medium dense, 90% sand (fine to medium, predominantly fine), 10% fines (silt). | |
| | | | | | End of core @20.0ft below ground surface. | |

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**Notes:**

# Soil Boring Log



## EB-11-A

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273191.937** Easting: **199261.106** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/04/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–3 | 86 | 0.0 | EB-11-3-5 | | 0-0.4ft: ASPHALT. Gray, gravel, fine, angular.<br>0.4-2.5ft: POORLY GRADED SAND (SP). Light brown to dark gray, dry, medium dense, 90% SAND (fine to medium, poorly graded), 10% gravel (fine, angular). | |
| 3–5 | | | | | 2.5-6.1ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown, dry, medium dense, 85% sand (fine to medium, predominantly medium, poorly graded), 15% gravel (fine, angular).<br>@5.0-6.1ft: Anthropogenic debris (brick-like fragments, white -concrete-. White to light red, dry, loose (fill-like). | |
| 5–10 | 80 | 0.0 | EB-11-5-7<br>EB-11-8-10 | | 6.1-11.2ft: POORLY GRADED SAND (SP). Brown, damp, dense, 95% sand (fine to medium, predominantly fine, poorly graded), 5% fines (silt).<br>@8.0ft: Sand grades to dark gray, predominantly medium, grains red, white, and gray.<br>@10.0ft: Sand is predominantly fine. | |
| 10–15 | 82 | 0.0 | | | 11.2-15.0ft: SILTY SAND (SM). Brown to red-brown, wet, dense, 85% sand (fine to medium, poorly graded), 15% fines (silt), potential oxidation.<br>@13.0ft: Graded to gray, no potential oxidation. | |
| 15–20 | 100 | 0.0 | | | 15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, moist to wet, dense, 95% sand (fine to medium, predominantly fine, poorly graded), 5% fines (silt).<br>@18.5-18.7ft: Lens SILT (ML). Gray, stiff, damp, 95% fines (silt), 5% sand (fine to medium), organic (dark brown plant fibers).<br>End of core @20.0ft below ground surface. | |

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**Notes:**

1. VOCs and TPH G taken from EB-11-A.
2. All samples homogeneous from EB-11-A&B for volume requirements.

# Soil Boring Log

**EB-11-B**



| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273191.937** Easting: **199261.106** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/04/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | 77 | 0.0 | | | 0-0.4ft: ASPHALT. Gray, gravel fine, angular. | |
| 1–3 | | | | | 0.4-2.8ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown to dark gray, dry, medium dense, 85% SAND (fine to medium, poorly graded), 15% gravel (fine, angular). | |
| 3–5 | | | EB-11-3-5 | | 2.8-10.8ft: POORLY GRADED SAND (SP). Light brown, dry, medium dense, 90% sand (fine to medium, poorly graded), 10% gravel (fine, subrounded). | |
| 5–7 | 89 | | EB-11-5-7 | | @6.8-7.1ft: Lens, white-gray, anthropogenic debris (white, concrete-like, gravel, fine, angular) (fill-like). | |
| 7–8 | | 0.0 | | | @7.1ft: Sand is predominantly fine. | |
| 8–10 | | | EB-11-8-10 | | @8.8ft: Sand grades to dark gray, predominantly medium, grains red, white, and gray, 95% sand, 5% fines (silt). | |
| 10–12 | 84 | 0.0 | | | 10.8-12.8ft: POORLY GRADED SAND WITH SILT (SP-SM). Brown to red-brown, wet, dense, 90% sand (fine to medium, predominantly fine), 10% fines (silt), potential oxidation. | |
| 12–15 | | | | | 12.8-20.0ft: POORLY GRADED SAND (SP). Dark gray, wet, dense, 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt). Grains red, white, and gray. | |
| 15–20 | 96 | | | | @15ft: Same as above @12.8 ft. POORLY GRADED SAND (SP). | |
| 19–20 | | | | | End of core @20.0ft below ground surface. | |
| 20–25 | | | | | | |

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**Notes:**

1. EB-11-B homogenized with EB-11-A

# Soil Boring Log



## EB-12-C

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273306.837** Easting: **199288.561** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/04/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0 | | | | | 0-0.5ft: ASPHALT. Gray, gravel, fine, angular. | 0 |
| 1 | | | | | 0.5-1.1ft: POORLY GRADED SAND (SP). Brown, dry, medium dense, 90% sand (fine to medium, poorly graded), 10% gravel (fine, angular). | 1 |
| 2 | 76 | | EB-12-2-4 | | 1.1-20.0ft: POORLY GRADED SAND (SP). Brown, damp, dense, 90% sand (fine to medium, poorly graded), 5% fines (silt), 5% gravel (fine, subrounded). | 2 |
| 3 | | | | | | 3 |
| 4 | | | | | @3.4ft: Anthropogenic debris (white concrete-like, gravel, angular). | 4 |
| 5 | | | EB-12-5-7 | | | 5 |
| 6 | | | | | @6.1-6.4ft: Anthropogenic debris (white, concrete-like, fine brick-like), gravel, fine, diesel-like odor. | 6 |
| 7 | 74 | | | | @7.3ft: Sand grades to dark gray, predominantly fine, 95% sand, 5% fines (silt). | 7 |
| 8 | | | EB-12-8-10 | | | 8 |
| 9 | | | | | @9.0-9.2ft: Lens, black, fused, glassy, sandy material, coal-like fragments, grades to dark gray/blue @ bottom. | 9 |
| 10 | | | | | | 10 |
| 11 | | | | | @11.5-12.5ft: Layer, POORLY GRADED SAND WITH SILT (SP-SM). Dark gray/blue, 85% sand (fine to medium, predominantly fine, poorly graded), 5% gravel (fine, angular), 10% fines (silt), anthropogenic debris (red brick-like fragments and white-gray concrete-like). | 11 |
| 12 | 76 | | | | @12.3-13.3ft: Anthropogenic debris (white-gray, concrete-like, gravel, coarse, angular). | 12 |
| 13 | | | | | | 13 |
| 14 | | | | | | 14 |
| 15 | | | EB-12-15-17 | | @15.0ft: Same as above @7.3 ft, POORLY GRADED SAND (SP), dark gray, damp, dense, 95% sand (fine to medium, predominantly fine, poorly graded), 5% fines (silt). | 15 |
| 16 | | | | | | 16 |
| 17 | 98 | | | | | 17 |
| 18 | | | EB-12-18-20 | | | 18 |
| 19 | | | | | | 19 |
| 20 | | | | | End of core @20.0ft bgs. | 20 |
| 21 | | | | | | 21 |
| 22 | | | | | | 22 |
| 23 | | | | | | 23 |
| 24 | | | | | | 24 |
| 25 | | | | | | 25 |

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**Notes:**

# Soil Boring Log



## EB-13

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273292.581** Easting: **199482.172** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/05/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–5 | 46 | 0.0 | EB-13-2-4 | | 0-0.6ft: POORLY GRADED GRAVEL WITH SAND (GW). Gray, wet, dense, 80% gravel (fine to coarse, angular), 15% sand (fine to medium), 5% fines (silt). | |
| | | | | | 0.6-6.5ft: POORLY GRADED SAND WITH GRAVEL (GP). Brown, damp, dense, 85% sand (medium to coarse, poorly graded), 15% gravel (fine to coarse) subrounded to subangular (back-fill like). | |
| 5–10 | 62 | 0.0 | EB-13-8-10 | | 6.5-6.9ft: POORLY GRADED GRAVEL (GP). Gray, damp, dense, 90% gravel (fine, angular) 10% sand (medium to coarse). | |
| | | | | | 6.9-10.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Dark brown, damp, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt). | |
| 10–15 | 86 | 0.0 | EB-13-11-13 | | 10.0-12.9ft: SILTY SAND (SM). (Standing water), gray, wet, medium dense, 80% sand (fine to medium, poorly graded, predominantly fine), 20% fines (silt), potential oxidation, red-brown bands @ top. | |
| | | | EB-13-13-15 | | 12.9-20.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Gray, wet (standing water), medium dense, dark, gray, wet, 90% sand (fine to medium, predominantly fine, poorly graded, 10% fines (silt) interbedded with SILT (ML), light gray, wet (standing water), firm, 90% fines (silt), 10% sand (fine to medium) - predominantly (SP-SM). | |
| 15–20 | 96 | 0.0 | EB-13-16-18 | | End of core @20.0ft bgs. | |
| 20–25 | | | | | | |

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**Notes:**

# Soil Boring Log



## EB-19

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272741.859** Easting: **199463.672** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/03/2014** Logged By: **LH/CF** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–5 | 54 | 0.0 | EB-19-1.5-4 | | 0-0.4ft: ASPHALT. Gray, gravel, fine to coarse.<br>0.4-1.35ft: POORLY GRADED SAND WITH GRAVEL (SP). Light gray to white to red to dark gray, dry, loose, 70% sand (fine to medium), predominantly medium, poorly graded, anthropogenic, brick and wood fragments, concrete, 30% gravel (fine to coarse, angular) FILL.<br>1.35-10.9ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 95% sand (fine to medium, poorly graded), 5% fines (silt).<br>@5.4-5.9ft: White to light gray, dry, loose. 70% sand (fine to medium, predominantly medium), 30% gravel (fine to coarse), angular. | 0–5 |
| 5–10 | 72 | 0.0 | EB-19-6-8<br>EB-19-8-10 | | | 5–10 |
| 10–15 | 100 | 0.0 | | | 10.9-14.0ft: SILT (ML). Light gray, moist, stiff, 95% fines (clay/silt, predominantly silt, holds shape, medium plasticity, organics, wood fibers), 5% sand (fine to medium, predominantly fine, poorly graded).<br>14.0-15.0ft: SILT Y SAND (SM). Dark gray, wet, dense, 80% sand (fine to medium, predominantly fine), 20% fines (silt). | 10–15 |
| 15–20 | 100 | 0.0 | | | 15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, wet, poorly graded. 95% Sand (fine to medium, poorly graded), 5% fines (silt). Grains are red, white, and gray.<br>@17.4ft: Sand is moist.<br>End of core @20.0ft bgs. | 15–20 |
| 20–25 | | | | | | 20–25 |

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**Notes:**

# Soil Boring Log



## EB-20

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272668.366** Easting: **199326.275** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/05/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1.3 | | | | | 0-1.3ft: ASPHALT. Gray, gravel, fine, angular, some white sand/powder. | |
| 1.3–1.7 | | | | | 1.3-1.7ft: ASPHALT mixed with POORLY GRADED SAND (SP). | |
| 1.7–10.8 | 82 | 0.0 | EB-20-2-4 | | 1.7-10.8ft: POORLY GRADED SAND (SP). Brown, damp, dense, 90% sand (fine to medium, poorly graded), 5% gravel (fine, subrounded), 5% fines (silt).<br>@3.8-4.0ft: Lens, ORGANIC SOIL WITH SAND (OL/OH), black, damp, 85% organic soil, 15% sand (fine to medium, poorly graded).<br>@4.0ft: Sand is dark gray, 95% sand (fine to medium), 5% fines (silt) grains red, white, and gray, predominantly medium.<br>@6.9-7.9ft: Sand is predominantly fine.<br>@7.4-8.7ft: Thinly laminated SILT (ML) beds, 1-2 mm, red-brown to gray every 0.8 in within POORLY GRADED SAND (SP).<br>@9.6ft: Sand is dark gray. | |
| 5 | 75 | 0.0 | EB-20-5-7 | | | |
| 8 | | 0.0 | EB-20-8-10 | | | |
| 10 | | 0.0 | | | | |
| 10.8–14.2 | 96 | | EB-20-11-13 | | 10.8-14.2ft: SILT (ML). Gray, stiff, moist, 90% fines (silt, holds shape), 10% sand (fine to medium, poorly graded), organics (plant fibers 1 to 3 cm). | |
| 14.2–15 | | | | | 14.2-15ft: SILTY SAND (SM). Gray to light gray, dense, wet, 70% sand (fine to medium, poorly graded), 30% fines (silt). Sand is gray/light gray/ thinly laminated silt. | |
| 15 | | | EB-20-15-17 | | | |
| 15.0–20.0 | 90 | 0.0 | EB-20-18-20 | | 15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, wet, medium dense, 90% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt), 5% gravel (fine, subrounded). Grains red, white, and gray (same as @ 4.0ft).<br>End of core @20.0ft bgs. | |

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**Notes:**

# Soil Boring Log



## EB-22

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272811.189** Easting: **199378.526** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/03/2014** Logged By: **LH/CF** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-0.9ft: ASPHALT. Gray, gravel, fine, coarse. | 0–1 |
| 1–5 | 63 | 0.0 | EB-22-2-4<br>EB-22-6-8 | | 0.9-7.3 ft: POORLY GRADED SAND WITH GRAVEL (SP). Light gray to red pink, gray, red and pink. Dry, loose. 30% gravel (fine to coarse) angular, 70% sand (fine to medium, predominantly medium, poorly graded anthropogenic brick fragments, concrete) FILL. | 1–5 |
| 5–10 | 78 | 0.0 | EB-22-8-10 | | 7.3-11.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 95% sand (fine to medium, poorly graded), 5% fines (silt). | 5–10 |
| 10–15 | 94 | 0.0 | EB-22-11-13 | | 11.0-14.2ft: SILT (ML). Light gray, moist, stiff, 95% fines, clay/silt, predominantly silt, holds shape, medium plasticity. Organics, plant fibers, dark brown, wood fragments, 5% sand (fine to medium, poorly graded). | 10–15 |
| 15–20 | 96 | 0.0 | EB-22-15-17 | | 14.2-15.0ft: SILTY SAND (ML). Dark gray, moist, dense, 85% sand (fine to medium, predominantly fine, poorly graded), 15% fines (silt).<br>15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 95% sand (fine to medium, predominantly fine, poorly graded), 5% fines (silt).<br>@16.8-17.5ft: Sand grades to medium.<br>@17.5-18.1ft: Same as above @14.2 ft.<br>End of core @20.0ft bgs. | 15–20 |
| 20–25 | | | | | | 20–25 |

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**Notes:**

# Soil Boring Log



## EB-23

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272955.912** Easting: **199358.836** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/03/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0.1-0.4ft: ASPHALT. Gray, gravel, fine, angular. | 0–1 |
| 1–2 | | | | | 0.4-1.1ft: Transition asphalt to POORLY GRADED SAND (SP). | 1–2 |
| 2–5 | 80 | 0.0 | EB-23-3-5 | | 1.1-10.8ft: POORLY GRADED SAND (SP). Light brown, dry, medium dense, 95% SAND (fine to medium, predominantly medium, poorly graded), 5% gravel (fine, angular).<br><br>@4.25-4.85ft: Black, damp, medium dense, 85% SAND (fine to medium, poorly graded), 15% gravel (fine, subrounded), oxidation @4.25 ft. | 2–5 |
| 5–10 | 64 | 0.0<br>0.0 | EB-23-5-7<br>EB-23-8-10 | | @5.0ft: Sand is gray, loose to medium dense. | 5–10 |
| 10–13 | 96 | | | | 10.8-13.2ft: SILT WITH SAND (ML). Gray, stiff, moist, 80% fines (clay/silt, holds shape, predominantly silt), 20% sand (fine to medium, predominantly fine), organics (plant fibers and wood fragments). | 10–13 |
| 13–17 | | 0.0 | | | 13.2-17.2ft: SILTY SAND (SM). Dark gray, wet, dense, 85% SAND (fine to medium, predominantly fine), 15% fines (silt).<br><br>@15.0ft: Same as above @13.2 ft.<br>@15.5-16.0ft: Lens, same as above @1.1 ft. | 13–17 |
| 17–20 | | | | | 17.2-20.0ft: POORLY GRADED SAND (SP). Dark gray, wet, dense, 95% SAND (fine to medium, poorly graded), <5% fines (silt), grains red, white, and gray.<br><br>End of core @20.0ft bgs. | 17–20 |

**Notes:**

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# Soil Boring Log



## EB-25

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273088.975** Easting: **199291.545** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/02/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0 | | | | | 0-0.7ft: ASPHALT. Gray, coarse, fine, angular. | 0 |
| 1 | | | | | 0.7-1.0ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown to gray, dry, dense, 80% SAND (fine to medium, poorly graded), 20% gravel (fine, angular). | 1 |
| 2 | 76 | 0.0 | EB-25-2-4 | | 1.0-9.0ft: POORLY GRADED SAND (SP). Light brown, dry, dense, 90% SAND (fine to medium, poorly graded), 10% gravel (fine, subrounded). | 2 |
| 3 | | | | | | 3 |
| 4 | | | | | @3.0ft: Sand is 95% SAND (fine to medium), 5% gravel (fine, subrounded). | 4 |
| 5 | | | EB-25-5.5-7.5 | | @4.8-5.0ft: Lens, black, damp, dense, 95% SAND (fine to medium, poorly graded), 5% gravel (subrounded to subangular) | 5 |
| 6 | | | | | | 6 |
| 7 | 78 | 0.0 | | | @8.9-9.0ft: Zone of red-brown potential oxidation. | 7 |
| 8 | | | | | | 8 |
| 9 | | | | | 9.0-17.4ft: POORLY GRADED SAND WITH SILT (SP-SM). Dark brown, moist, dense, 90% SAND (fine to medium), predominantly fine, poorly graded, 10% fines (silt). | 9 |
| 10 | | | EB-25-10.5-12.5 | | @10.0-10.7ft: Same as above at 1.0ft. | 10 |
| 11 | | 0.0 | | | @11.4ft: Grades to wet. | 11 |
| 12 | 96 | | | | @12.7-13.7ft: Organics (wood fragments), anthropogenic debris (plastic-like fibers, 4 mm). | 12 |
| 13 | | | EB-25-13-15 | | @14.2ft: Grades to moist. | 13 |
| 14 | | | | | | 14 |
| 15 | | | EB-25-15-17 | | | 15 |
| 16 | | | | | | 16 |
| 17 | 82 | | | | | 17 |
| 18 | | 0.0 | | | 17.4-40.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 100% SAND (fine to medium, predominantly medium, poorly graded). | 18 |
| 19 | | | | | | 19 |
| 20 | | | | | | 20 |
| 21 | | | | | | 21 |
| 22 | 76 | | | | | 22 |
| 23 | | | | | @25.0-30.0ft: Core liner crumpled on itself, retrieval poorly graded sand, recovery not available. | 23 |
| 24 | | | | | @33.4ft: Organic (wood debris, fresh 2x1 in). | 24 |
| 25 | | | | | | 25 |

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**Notes:**

# Soil Boring Log



## EB-25

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273088.975** Easting: **199291.545** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/02/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 25–30 | NA | | | | 17.4-40.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 100% SAND (fine to medium, predominantly medium, poorly graded). | 25–30 |
| 30–35 | 82 | | | | @35.0-37.0ft: 5% fines (silt).<br>@35.9ft: Gravel, coarse, subangular, 0.25x1 in.<br>@36.6ft: Grades to predominantly fine sand. | 30–35 |
| 35–40 | 92 | | | | @38.5ft: Anthropogenic debris (razor-blade-like, 1/8 in). | 35–40 |
| 40–41.8 | | | | | 40-41.8ft: SILTY SAND (SM). Dark, gray, wet, dense, 80% sand (fine to medium, predominantly fine, poorly graded, 20% fines (silt). | 40–41.8 |
| 41.8–45 | 92 | | | | 41.8-45.0ft: POORLY GRADED SAND (SP). Dark, gray, wet, dense, 95% SAND (fine to medium, predominantly medium, poorly graded), 5% fines (silt) with thinly laminated gray SILT (ML) (1 to 2 mm) beds. | 41.8–45 |
| 45–46.9 | | | | | 45.0-46.9ft: SILTY SAND (SM). Same as above at 40.0ft. | 45–46.9 |
| 46.9–50 | 98 | | | | 46.9-50.0ft: POORLY GRADED SAND (SP). Dark, gray, wet, dense, 95% SAND (fine to medium, predominantly fine, poorly graded), 5% fines (silt). Grains white, red, and gray.<br>End of core @50.0ft bgs. | 46.9–50 |

**Notes:**

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# Soil Boring Log



## EB-27

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273060.792** Easting: **199150.959** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/04/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–25 | 90 | 0.0 | EB-27-2.5-4.5 | | 0-0.3ft: ASPHALT. Gray, fine, angular. | 0–25 |
| | | | | | 0.3-0.8ft: POORLY GRADED SAND (SP). Brown to gray, asphalt mixed with POORLY GRADED SAND (SP). | |
| | | | | | 0.8-8.0ft: POORLY GRADED SAND (SP). Brown, damp, dense, 90% sand (fine to medium, poorly graded), 10% gravel (fine, angular). | |
| | | | | | @1.2ft: Grades to black, organics (wood fragments, 0.25x1.5 in), sand (predominantly fine). | |
| | | | EB-27-5-7 | | @1.9-2.0ft: Anthropogenic debris- white, concrete/fire brick-like, coarse sand size. | |
| | | | | | @2.7ft: Grades to brown with gray mottling. | |
| | 90 | 0.0 | | | @6.5ft: Grades to black, sand predominantly fine, anthropogenic debris (red, brick-like fragments, 1/8 in). | |
| | | | EB-27-8-10 | | @7.0ft: Same as above at 8.0ft, but 95% sand (fine to medium, poorly graded). Grains are red, white, and gray, 5% fines (silt). | |
| | | | | | 8.0-20.0ft: POORLY GRADED SAND (SP). Brown, damp, dense, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt). | |
| | 90 | 0.0 | | | | |
| | | | | | @15.0ft: Same as above @8.0ft, grades to wet. | |
| | 93 | 0.0 | | | End of core @20.0ft bgs. | |

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**Notes:**

# Soil Boring Log



## EB-30-D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273203.957** Easting: **199059.532** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/08/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-1.25ft: ASPHALT. Gray, dry, gravel, fine, angular. | 0–1 |
| 1–5 | 91 | | EB-30-2-4 | | 1.25-4.6ft: POORLY GRADED SAND (SP). 90% Sand (fine to medium, predominantly fine, poorly graded), 5% fines (silt), 5% gravel (fine to coarse, subrounded), grains red and brown. | 1–5 |
| 5–6 | | | | | 4.6-6.1ft: SILTY SAND (SM). Dark brown with trace red-brown, coloring around root-like fibers, dry, medium, 45% organic soil/silt, 55% sand (fine to medium), organics (root-like fibers). | 5–6 |
| 6–10 | 74 | | EB-30-6-8<br>EB-30-8-10 | | 6.1-11.4ft: POORLY GRADED SAND WITH SILT (SP-SM). Dark gray, damp, dense, 80% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt), 10% gravel (subrounded to subangular).<br>@7.2-7.5ft: Anthropogenic material (concrete-like debris, gravel, fine, angular).<br>@8.2ft: Grades to dark brown (with red-brown mottling at 9.2ft). | 6–10 |
| 10–15 | 63 | | EB-30-12-14 | | 11.4-14.3ft: SILTY SAND WITH GRAVEL (SM). Brown to black to gray, wet, dense, 15% fines (silt), 30% gravel (fine to coarse, angular), 55% sand (medium to coarse, poorly graded), anthropogenics (brick-like, 1x0.5 in. and concrete like gravel, angular, fine). | 10–15 |
| 15–20 | 82 | | EB-30-16.5-18.5 | | 14.3-20.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Dark gray, wet, dense, 90% sand (fine to medium, poorly graded), 10% fines (silt).<br>@15.7-16.3ft: Gravel contents 35% (fine, subrounded), POORLY GRADED SAND WITH SILT AND GRAVEL (SP-SM). | 15–20 |
| 20–25 | | | | | End of core @20.0ft bgs. | 20–25 |

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**Notes:**

# Soil Boring Log

**Sheet 1 of 1**

## EB-31-B

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273274.776** Easting: **199187.548** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/14/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-0.4ft: ASPHALT. Gray, gravel, fine, angular. | |
| 1–2 | 66 | 0.0 | EB-31-2-4 | | 0.4-1.35ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown to gray, dry, medium dense, 75% sand (fine to medium, poorly graded), 25% gravel (fine, angular). | |
| 2–5 | | | | | 1.35-8.3ft: POORLY GRADED SAND (SP). Brown, damp, dense, 90% sand (fine to medium, poorly graded), 5% fines (silt), 5% gravel (fine, angular). | |
| 5–7 | | | EB-31-5-7 | | @5.3-5.5ft: Anthropogenic debris (red, brick-like gravel, angular, and concrete like debris, white). | |
| 7–8 | 72 | 0.0 | | | @7.1ft: Grades to dark gray. | |
| 8–10 | | | EB-31-8-10 | | @7.8-8.0ft: Organics (wood fragments) (SP-SM) | |
| 10–11 | | | | | 8.3-10.5ft: POORLY GRADED SAND WITH GRAVEL AND SILT (SP-SM). Dark gray, damp, dense, 70% sand (fine to medium, poorly graded), 20% gravel (fine to coarse, subangular), 10% fines (silt). | |
| 11–12 | | 0.0 | | | @10.0ft: Grades to wet. | |
| 12–15 | 78 | 0.0 | EB-31-12.5-14.5 | | 10.5-15.9ft: SILTY GRAVEL WITH SAND (SP). Dark gray to gray to black, wet, dense, 50% gravel (fine to coarse, angular), 35% sand (medium to coarse, poorly graded), 15% fines (silt). @12.4ft: Grades to black, petroleum like odor, organics, substantial wood fragments, 3x6.. | |
| 15–20 | 76 | | EB-31-18-20 | | 15.9-20.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt). Grains are gray. @18.4ft: Grades to 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines. Grains red, white, and gray. End of Core @20.0ft bgs. | |
| 20–25 | | | | | | |

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**Notes:**

1. VOCs taken from EB-31-B.
2. All other samples homogenized with B&C cores.

# Soil Boring Log



## EB-31-C

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273274.776** Easting: **199187.548** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/04/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-0.7ft: ASPHALT. Dark gray, gravel, fine, angular. | |
| 1–2 | | | | | 0.7-1.4ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown to gray, dry, medium dense, 80% sand (fine to medium, poorly graded), 20% gravel (fine, angular). | |
| 2–5 | 69 | 0.0 | EB-31-2-4 | | 1.4-8.6ft: POORLY GRADED SAND (SP). Light brown, dry to damp, dense, 95% sand (fine to medium, poorly graded), 5% fines (silt). | |
| 5–8 | 76 | 0.0 | EB-31-5-7<br>EB-31-8-10 | | @7.2ft: Grades to dark gray, and pocket of anthropogenic debris (white, concrete-like rubble). | |
| 8–15 | 69 | 0.0 | EB-31-12.5-14.5 | | 8.6-16.5ft: SILTY SAND WITH GRAVEL (SM). Dark gray to brown, wet, dense, 45% sand (fine to medium, poorly graded), 35% gravel (fine to coarse, angular), 20% fines (silt).<br>@12.9-15.0ft: Organic material (wood piece), sulfur-like odor.<br>@16.1ft: Organics (wood fragments, thin), sulfur-like odor. | |
| 15–20 | 62 | 0.0 | EB-31-18-20 | | 16.5-20.0ft: POORLY GRADED SAND (SP). Dark, gray, wet, dense, 90% sand (fine to medium, predominantly fine), 10% fines (silt). Grains are gray.<br>@19.0ft: Same as above @ 16.5 but 95% sand (predominantly medium). Grains red, white, and gray.<br>End of core @20.0ft below ground surface. | |
| 20–25 | | | | | | |

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**Notes:**

1. EB-31-C homogenized with EB-31-B.

# Soil Boring Log



## EB-34

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272721.267** Easting: **199180.888** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/09/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-1.3ft: ASPHALT. Gray, dry, gravel, fine to coarse, angular, 30% sand. | 0–1 |
| 1–5 | 82 | 0.0 | EB-34-3.5-5 | | 1.3-8.7ft: POORLY GRADED SAND (SP). Brown, damp, loose, 90% sand (fine to medium, predominantly fine), 5% fines (silt), 5% gravel (fine, subangular), grains white and red.<br>@3.5-4.6ft: Anthropogenic material, black (red-brick-like, gravel, fine to coarse) and organics (wood fragments) (coal debris, metallic, sand size coarse).<br>@4.6ft: Grades to dark gray, predominantly medium sand. | 1–5 |
| 5–8 | 76 | 0.0 | EB-34-5-7<br>EB-34-8-10 | | | 5–8 |
| 8–10 | | 0.0 | | | 8.7-10.2ft: SILT (ML). Light gray to gray, dry to damp, stiff, 90% fines (clays/silt, predominantly silt), 10% sand (fine to medium), strong petroleum-like odor, rainbow sheen.<br>@9.4ft: Organics (tan, porous, light-weight). | 8–10 |
| 10–15 | 97 | 0.0 | EB-34-11-13<br>EB-34-15-17 | | 10.2-20.0ft: POORLY GRADED SAND (SP). Gray, moist, medium dense, 90% sand (fine to medium, predominantly fine), 10% fines (silt), strong petroleum like odor, rainbow sheen.<br>@11.6-12.1ft: Same as above @ 8.7ft.<br>@12.3-12.6ft: Standing dark brown-red sheen.<br>@12.6ft: Grades to wet, standing water. | 10–15 |
| 15–20 | 96 | 0.0 | EB-34-18.5-20 | | @17.6-18.1ft: Lens, same as above @ 8.7 ft.<br>@18.1ft: Sand is moist, no odor/sheen, grains are red, white, and blue gray, 95% sand (fine to medium, predominantly medium), 5% fines (silt).<br>End of core @20.0ft below ground surface. | 15–20 |
| 20–25 | | | | | | 20–25 |

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**Notes:**

# Soil Boring Log



## EB-35

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272887.837** Easting: **199174.262** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/09/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–2 | 77 | 0.0 | EB-35-2-4 | | 0-0.7ft: ASPHALT. Dark gray, dry, loose, fine gravel, angular and coarse sand.<br>0.7-1.4ft: POORLY GRADED SAND (SP). Transition asphalt to POORLY GRADED SAND (SP) described @1.4 ft.<br>1.4-8.6ft: POORLY GRADED SAND (SP). Light brown, damp, medium dense, 90% sand (fine to medium), 5% fines (silt), 5% gravel (subrounded to subangular).<br>@4.4-6.2ft: Fill/rubble/anthropogenic debris, dark gray to blue-gray, gravel (fine to coarse gravel size, concrete-like debris). | |
| 5–8 | 78 | 0.0 | EB-35-5-7<br>EB-35-8.5-10 | | @6.2ft: Sand grades to dark gray, sand grains are red, white and gray. | |
| 9–14 | 97 | 0.0 | EB-35-10-12 | | 8.6-14.0ft: SILT (ML) beds (1-3 in thick, light gray, dry, stiff, 90% fines (silt), 10% sand (fine to medium, predominantly fine, poorly graded), holds shape, interbedded with POORLY GRADED SAND (SP), dark gray, moist, dense, 95% sand (fine to medium, predominantly fine, poorly graded).<br>@13.0ft: Sand grades to predominantly medium. | |
| 15–20 | 97 | 0.0 | EB-35-15-17 | | 14.0-20.0ft: POORLY GRADED SAND (SP). Dark gray, moist, dense, 95% sand (fine to medium, predominantly medium), 5% gravel (fine), grains red, white, and blue gray.<br>End of core @20.0ft below ground surface. | |

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**Notes:**

# Soil Boring Log



## EB-36-H

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272766.811** Easting: **199133.546** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/03/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–5 | 68 | 0.0 | | | 0-0.6ft: ASPHALT. Gray, gravel, fine, coarse.<br>0.6-9.0ft: POORLY GRADED SAND (SP). Light brown to brown, 90% SAND (fine to medium, poorly graded), 5% fines (silt), 5% gravel (fine, angular), dry, medium dense.<br>@2.4-2.7ft: Gravel content is 10%.<br>@4.3-5.0ft: Layer, transition, dry, medium dense, black to brown, 85% SAND (fine to medium), 15% gravel (fine, angular). | 0–5 |
| 5–9 | 62 | 0.0 | | | @5.0ft: Sand is black. | 5–9 |
| 9–13.3 | 94 | | EB-36-11-13 | | 9.0-13.3ft: SILTY SAND (SM). Gray, damp, dense, 80% SAND (fine to medium, poorly graded, predominantly fine), 20% fines (silt, holds shape).<br>@9.4-10.0ft: Organics (plant fibers).<br>@10.0-10.7ft: Same as above at 0.6ft. | 9–13.3 |
| 13.3–20.5 | 96 | 0.0 | EB-36-15.5-17.5 | | 13.3-20.5ft: POORLY GRADED SAND (SP). Interbedded POORLY GRADED SAND (SP), 95% SAND (fine to medium, predominantly fine, poorly graded), 5% fines (silt), 1.5 to 2 in thick, gray to dark gray, dense, to SILTY SAND (SM), 0.4 to 0.6 in thick, dark gray, wet, dense, 60% SAND (fine to medium, predominantly fine, poorly graded), 40% fines (silt), does not hold shape.<br>@18.1ft: Grades to predominantly medium sand grains. | 13.3–20.5 |
| 20.5–25 | 96 | 0.0 | | | @20.5-45.0ft: 100% SAND (fine to medium, predominantly medium, poorly graded), red, white, and gray grains. | 20.5–25 |

**Notes:**

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# Soil Boring Log



## EB-36-H

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272766.811** Easting: **199133.546** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/03/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 25–30 | 90 | 0.0 | | | @27.5-29.0ft: Same as above @20.5 in, but 5% gravel (fine, angular). | 25–30 |
| 30–35 | 90 | 0.0 | | | 30.0-45.0ft: POORLY GRADED SAND (SP). Same as above at 25.0ft, POORLY GRADED SAND (SP) except grains predominantly fine and 5% fines (silt). | 30–35 |
| 35–40 | 90 | 0.0 | | | @36.0ft: Same as above @ 30.0ft, grades to predominantly medium.<br>@36.6ft: Organics (wood fibers). | 35–40 |
| 40–45 | 70 | 0.0 | | | @40.0-43.0ft: Same as above @ 30.0ft, but 10% gravel (subrounded, fine), organics (wood fragments 1x2 cm). | 40–45 |
| 45–50 | 66 | 0.0 | | | 45.0-50.0ft: POORLY GRADED SAND WITH SILT (SM). Dark gray, wet, dense, 90% SAND (fine to medium, predominantly fine, poorly graded, 10% fines (silt).<br>@48.5ft: Pocket, light gray, SILT (ML).<br>End of core @50.0ft below ground surface. | 45–50 |

**Notes:**

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# Soil Boring Log



## EB-42

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272777.755** Easting: **198999.75** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/01/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | 61 | 0.0 | | | 0-0.5ft: ASPHALT. Gray, dry, gravel, fine, coarse. | |
| 1–5 | | | EB-42-3-5 | | 0.5-2.9ft: POORLY GRADED SAND (SP). Light brown, dry, medium dense, 90% SAND (fine to medium, poorly graded), 10% gravel (fine, angular). | |
| 5–6 | 89 | 0.0 | EB-42-5-7 | | 2.9-5.0ft: POORLY GRADED SAND (SP). Black to dark brown, 95% SAND (fine to medium, poorly graded), 5% gravel (fine to angular), potential coal debris.<br>@3.6ft: Anthropogenic debris (paint chip flakes, 1 cm). | |
| 6–10 | | | EB-42-8-10 | | 5.0-6.5ft: POORLY GRADED SAND (SP). Same as above @0.5ft. | |
| 10–12 | 84 | 0.0 | EB-42-11-13 | | 6.5-11.5ft: POORLY GRADED SAND WITH SILT (SP-SM). Brown with red thin laminations (1 mm), damp, dense, 90% SAND (fine to medium, predominantly fine, poorly graded), 10% fines (silt), oxidation. | |
| 12–14 | | | | | 11.5-13.5ft: SILTY SAND (SM). Gray with red thin laminations/pockets, wet, dense, 80% SAND (fine to medium, predominantly fine), organics (root-like thin fibers, <1/8 mm), 20% fines (silt). | |
| 14–15 | | | | | 13.5-25.0ft: POORLY GRADED SAND (SP). 100% SAND (fine to medium, predominantly medium, poorly graded), dark gray, wet, dense). | |
| 15–20 | 95 | 0.0 | EB-42-15-17 | | 15.0-25.0ft: POORLY GRADED SAND (SP). Same as above @13.5ft. | |
| 20–25 | 63 | 0.0 | | | | |

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**Notes:**

1. VOCs taken from EB-44-2.
2. EB-44-1 and 2 were homogenized for sample collection to meet volume requirements.

# Soil Boring Log



## EB-42

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272777.755** Easting: **198999.75** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/01/2014** Logged By: **LH** | Total Depth (ft): **50** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 25–27 | 60 | 0.0 | | | 25.0-27.2ft: SILTY SAND (SM). Dark gray, wet, dense, 85% SAND (fine to medium, poorly graded), 15% fines (silt).<br>@29.0ft: Grades to medium to fine sand, 100% SAND. | 25–27 |
| 27–30 | | | | | 27.2-35.0ft: POORLY GRADED SAND (SP). Dark gray, wet, dense, 95% SAND (medium to coarse, poorly graded), 5% fines (silt). | 27–30 |
| 30–35 | 70 | 0.0 | | | | 30–35 |
| 35–36 | 76 | 0.0 | | | 35.0-35.7ft: POORLY GRADED SAND (SP). Same as above @19.0ft, but 10% gravel, organic matter (plant-like stems), fine, angular. | 35–36 |
| 36–37 | | | | | 35.7-37.0ft: POORLY GRADED SAND WITH SILT (SP-SM). 90% SAND (fine to medium, poorly graded), 10% fines (silt), dark gray, wet, dense. | 36–37 |
| 37–40 | | | | | 37.0-50.0ft: POORLY GRADED SAND (SP). 95% SAND (fine to medium, predominantly medium), 5% gravel (fine, subrounded). | 37–40 |
| 40–45 | 82 | 0.0 | | | @46.8-47.9ft: Dark gray, wet, dense, 85% SAND (fine to medium, predominantly fine), 15% fines (silt). | 40–45 |
| 45–50 | 92 | | | | End of core @50.0ft below ground surface. | 45–50 |

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**Notes:**

1. VOCs taken from EB-44-2.
2. EB-44-1 and 2 were homogenized for sample collection to meet volume requirements.

# Soil Boring Log



## EB-44-1

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273041.569** Easting: **198992.124** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/09/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0 | | | | | 0-1.0ft: ASPHALT. Fine, gravel, angular, medium to coarse sand. | 0 |
| 1–4 | 72 | 0.0 | EB-44-2-4 | | 1.0-12.3ft: POORLY GRADED SAND (SP). Brown, damp, medium dense, 90% sand (fine to medium, predominantly medium, poorly graded), 5% gravel (fine, subrounded), 5% fines (silt). | 1–4 |
| 5–10 | 66 | 0.0 | EB-44-5-7<br>EB-44-8-10 | | @6.0-7.0ft: Anthropogenic material (concrete-like, coarse, gravel size, angular).<br>@6.0ft: Same as above, but predominantly fine. | 5–10 |
| 11–14 | 86 | 0.0 | | | 12.3-14.5ft: SILTY SAND (ML). Gray with orange, brown mottling, wet, dense, 85% sand (fine to medium, poorly graded), 15% fines (silt). | 11–14 |
| 15–20 | 96 | 0.0 | | | 14.5-20.0ft: POORLY GRADED SAND (SP). Dark gray with red, white, and orange-brown grains, wet, dense, 95% sand (fine to medium, poorly graded), 5% fines.<br>End of core @20.0ft below ground surface. | 15–20 |
| 21–25 | | | | | | 21–25 |

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**Notes:**

# Soil Boring Log



## EB-44-2

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273041.569** Easting: **198992.124** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/09/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-0.9ft: ASPHALT. Dark gray, fine, gravel, angular. | 0–1 |
| 1–10 | 72 | 0.0 | EB-44-2-4<br>EB-44-5-7 | | 0.9-10.0ft: POORLY GRADED SAND (SP). Light brown, damp, medium dense, 85% sand (fine to medium, poorly graded), 10% gravel (fine to coarse, subrounded to subangular), 5% fines (silt).<br>@6.6-6.8ft: Anthropogenic material (concrete-like, coarse gravel).<br>@6.8ft: Sand grades to predominantly fine, same as above @0.9 but 95% sand, 5% fines. | 1–10 |
| 10–15 | 57 | 0.0 | EB-44-8-10 | | 10.0-15.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Brown, wet, dense, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt).<br>@11.8-14.6ft: Brown with orange to brown mottling, potential oxidation. | 10–15 |
| 15–20 | 83 | 0.0 | | | 15.0-20.0ft: POORLY GRADED SAND (SP). Dark gray with red, white, and orange-brown grains, 95% sand (fine to medium), poorly graded), <5% fines (silt), wet, dense. | 15–20 |
| 20–25 | 96 | 0.0 | | | End of core @20.0ft below ground surface. | 20–25 |

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**Notes:**

# Soil Boring Log



## EB-49

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272676.042** Easting: **198804.778** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/08/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–2 | 90 | 0.0 | | | 0-0.5ft: ASPHALT. Gray, dry, gravel, fine, angular.<br>0.5-1.2ft: Transition asphalt to POORLY GRADED SAND (SP) as described @1.2ft. | |
| 2–5 | 90 | 0.0 | EB-49-3-5 | | 1.2-11.6ft: POORLY GRADED SAND. 90% SAND (fine to medium, predominantly fine, poorly graded), 5% fines (silt), 5% gravel (fine, angular).<br>@2.7ft: Grades to black sand. | |
| 5–10 | 70 | | EB-49-5-7<br>EB-99-5-7 | | @5.5ft: Anthropogenic material (red, brick-like, fine, gravel size).<br>@6.4ft: Anthropogenic material (white/gray, fine gravel/angular), concrete-like.<br>@7.0ft: Zone of potential oxidation (red-orange-brown).<br>@7.1ft: Grades to dark brown, grains red, white, and brown, moist, 95% sand (fine to medium, predominantly medium), 5% fines (silt).<br>@8.5ft: Same as above @ 1.2ft. | |
| 10–13 | 94 | | EB-49-8.5-10 | | 11.6-13.7ft: SILT (ML). Brown with orange-brown mottling near root-like fibers (potential oxidation), 75% fines (silt), holds shape, 25% sand (fine to medium, predominantly fine), organics (root like fibers). | |
| 13–20 | 92 | 0.0 | EB-49-11-13<br>EB-99-11-13 | | 13.7-20.0ft: POORLY GRADED SAND WITH SILT (SP-SM). Gray, wet, dense, 90% sand (fine to medium, predominantly fine, poorly graded), 10% fines (silt).<br>@19.5ft: Sand is predominantly medium grain.<br>End of core @20.0ft below ground surface. | |

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**Notes:**

# Soil Boring Log



## EB-53-C

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273035.68** Easting: **198893.202** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/08/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0 | | | | | 0-0.7ft: ASPHALT. Gray, dry, gravel (fine to coarse, angular). | 0 |
| 1–4 | 72 | 0.0 | EB-49-15-17 | | 0.7-14.1ft: POORLY GRADED SAND (SP). Brown, moist, medium, dense, 90% sand (fine to medium, poorly graded), 5% fines (silt), 5% gravel (fine, subrounded), grains are brown and tan. | 1–4 |
| 5 | | | EB-49-18-20 | | @5.7-5.9ft: Lens, anthropogenic, material (concrete-like, light gray, sand to fine gravel, angular). | 5 |
| 6–7 | | 0.0 | | | | 6–7 |
| 8 | 81 | | EB-53-2-4 | | @8.9-9.5ft: Grades to black, anthropogenic material (red, brick-like, fine to coarse gravel, subangular). | 8 |
| 9 | | | | | | 9 |
| 10 | | 0.0 | | | @10.7-11.0ft: Same as above @8.9ft. | 10 |
| 11 | | | | | @12.5-13.0ft: Same as above @8.9ft. | 11 |
| 12–13 | 81 | 0.0 | | | | 12–13 |
| 14 | | | | | | 14 |
| 15 | | | EB-53-5-7 | | 14.1-18.3ft: SILTY SAND (SM). Brown to gray, wet, loose, 80% sand (fine to medium, poorly graded), 20% fines (silt), standing water. | 15 |
| 16 | | | | | @14.1ft: Pocket, anthropogenic material (red, brick-like gravel, fine to coarse, angular). | 16 |
| 17–18 | 96 | 0.0 | | | | 17–18 |
| 19 | | | | | 18.3-20.0ft: POORLY GRADED SAND (SP). Dark gray, 95% sand (fine to medium, poorly graded), 5% gravel (fine, subangular), grains red, white, and blue gray. | 19 |
| 20 | | | | | End of core @20.0ft below ground surface. | 20 |
| 21–25 | | | | | | 21–25 |

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**Notes:**

# Soil Boring Log



## EB-55

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272840.241** Easting: **199532.629** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/08/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–3 | 65 | 0.0 | EB-53-8-10 | | 0-0.5ft: ASPHALT. Gray, gravel, fine, angular.<br>0.5-3.0ft: CONCRETE. Anthropogenic material, light gray to white, dry, loose, 85% sand size (fine to medium), 15% gravel size (fine, angular), mix of concrete-like and fire-brick-like debris. | |
| 3–8 | 82 | 0.0 | EB-53-15-17<br>EB-103-15-17 | | 3.0-7.9ft: POORLY GRADED SAND (SP). Dark brown, damp to moist, medium dense, 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt), grains are red, white, and orange. | |
| 8–10 | | | | | 7.9-10.0ft: SILT (ML). Gray, firm, moist, 95% fines (clay/silt, predominantly silt), 5% sand (fine to medium, predominantly fine, poorly graded). | |
| 10–13 | 96 | 0.0 | | | 10.0-12.3ft: SILTY SAND (SM). Gray, brown, wet, loose, 65% sand (fine to medium, poorly graded, predominantly fine), 35% fines (silt), standing water.<br>12.3-13.1ft: SILT (ML). Same as above @ 7.9ft. | |
| 13–20 | 96 | 0.0 | | | 13.1-20.0ft: SILTY SAND (SM). Gray, loose, wet, 70% sand (fine to medium, predominantly fine, poorly graded), 30% fines (still), standing water.<br>End of core @20.0ft below ground surface. | |

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**Notes:**

# Soil Boring Log



## EB-56

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272584.265** Easting: **198874.851** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **12/08/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Geoprobe, 2.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Depth (ft) |
|---|---|---|---|---|---|---|
| 0–1 | 61 | 0.0 | EB-55-3-5 | | 0-1.0ft: POORLY GRADED GRAVEL WITH SAND (GW). Dark gray to black, damp, medium dense, 65% sand (fine to medium, poorly graded), 30% gravel (fine to coarse, angular), 5% fines (silt). | 0–1 |
| 1–5 | | | EB-55-5-7 | | 1.0-1.5ft: LEAN CLAY WITH SAND (CL). Light brown with red-brown mottling, dry, stiff, 85% fines (silt/clay, predominantly clay, holds shape, can be remolded, medium plasticity), 15% sand (fine to medium, predominantly fine).<br>@1.5-4.5ft: Nodules of same as above @1.0ft.<br>@5.0ft: Grades to predominantly fine sand. | 1–5 |
| 5–7 | 75 | 0.0 | | | 1.5-6.9ft: POORLY GRADED SAND (SP). Dark brown, damp, dense, 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt), grains red, white, and gray, organic (root-like fibers). | 5–7 |
| 7–12 | | 0.0 | EB-55-8-10 | | 6.9-12.2ft: SILTY SAND (SM). Same as above at 5.0ft with interbedded SILTY SAND (SM), gray with red-brown mottling, wet, firm, 80% sand (fine to medium, predominantly fine), 20% fines (silt), organics (root-like fibers), predominantly SILTY SAND (SM). | 7–12 |
| 12–15 | 92 | | EB-56-2-4 | | 12.2-20.0ft: POORLY GRADED SAND (SP). Dark brown, wet, dense, 100% sand (fine to medium, predominantly medium, poorly graded, grains red and white).<br>@12.4-13.3ft: Same as above @12.2 in, but dark brown to red-brown, potential oxidation.<br>@13.3ft: Organics (wood fragments>.5x1.5 in) | 12–15 |
| 15–20 | 88 | 0.0 | EB-56-5-7 | | Same as above @12.2 but moist.<br>@18.6ft: Grades to predominantly fine sand.<br>@19.0-19.1ft: Lens, gray, firm, damp, 80% fines (silt), 20% sand (fine to medium, poorly graded, predominantly fine).<br>End of core @20.0ft below ground surface. | 15–20 |
| 20–25 | | | | | | 20–25 |

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**Notes:**

# Well Installation Log



## EMW-17S

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272611.79** Easting: **199365.38** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/26/2014** Logged By: **LH** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–1 | 70 | 0.0 | EMW-17S-3-5 | | 0-0.2ft: POORLY GRADED GRAVEL WITH SAND (GP), light gray, moist, loose, 85% gravel (fine, angular), 15% sand (fine to medium, poorly graded). | | 0–1 |
| 1–5 | | | | | 0.2-2.3ft: POORLY GRADED SAND WITH GRAVEL (SP), brown, dry to damp, loose, 85% fine to medium sand, 15% fine gravel (angular). | | 1–5 |
| 5–10 | 70 | 0.0 | EMW-17S-5-7; EMW-17S-8-10 | | 2.3-9.1ft: POORLY GRADED SAND (SP), brown to red-brown, damp, loose to medium dense, 90% SAND (medium to coarse, predominantly medium), 5% gravel (fine, angular), 5% fines (silt). | | 5–10 |
| 8.1–8.6 | | | | | @8.1-8.6ft: Grades to fine to medium sand, red, staining/oxidation. | | 8.1–8.6 |
| 9.1–10.4 | | | | | 9.1-10.4ft: SILT WITH SAND (ML), gray, moist, 85% FINES (silt), 15% sand (fine). | | 9.1–10.4 |
| 10.4–13.3 | | | | | 10.4-13.3ft: SILT (ML), gray, slight black mottling, damp, stiff, 90% fines (clay/silt), 10% fine sand, organic (woody fibers & wood tree debris). | | 10.4–13.3 |
| 10–15 | 76 | 0.0 | EMW-17S-12-14 | | | | 10–15 |
| 13.3–14.7 | | | | | 13.3-14.7ft: SILT WITH SAND (ML), same as above @ 9.1ft, silt with SAND (ML), bands of light gray silt. | | 13.3–14.7 |
| 14.7–20.0 | | | | | 14.7-20.0ft: POORLY GRADED SAND (SP), dark gray, wet, medium dense, 95% SAND (fine to medium, poorly graded), 5% fines (silt). | | 14.7–20.0 |
| 18.7 | | | | | @18.7ft: Grades to medium to coarse sand. | | 18.7 |
| 15–20 | 96 | 0.0 | | | | | 15–20 |
| 20 | | | | | End of core @20.0ft below ground surface. | | 20 |

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**Notes:**

# Well Installation Log



## EMW-18S

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272603.63** Easting: **199134.8** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/26/2014** Logged By: **LH/CF** | Total Depth (ft): **20** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–5 | 66 | 0.0 | EMW-18S-2.5-4.5 | | 0-0.5ft: POORLY GRADED GRAVEL WITH SAND (GP), light gray, moist, loose, 85% gravel (fine, angular), 15% sand (medium to coarse, poorly graded).<br>0.5-2.4ft: ORGANIC SOIL WITH GRAVEL (OL/OH), brown, damp, loose, 75% organic soil, 15% gravel (fine, angular to subangular), 10% sand (fine to medium, poorly graded), organics (wood fragments).<br>@1.1ft: Anthropogenic debris (red brick-like, 1/2 in wide).<br>2.4-6.7ft: POORLY GRADED SAND (SP), brown to gray, damp, loose, 95% sand (fine to medium, predominantly medium, poorly graded), 5% fines (silt). | | |
| 5–7.5 | 76 | 0.0 | EMW-18S-5-6.5 | | | | |
| 7.5–10 | | | EMW-18S-8-10 | | 6.7-9.7ft: SILTY SAND (SM), brown with laminated (thin, 1-2mm) red-brown iron oxidized, damp, 85% SAND (fine, well graded), 15% fines (silt/clay), organics (wood debris, red-brown) 0.3-3.5 in, lens, gray, 80% FINES (silt/clay), 20% sand (fine). | | |
| 10–14.5 | 84 | 0.0 | EMW-18S-11-13 | | 9.7-14.0ft: POORLY GRADED SAND (SP), gray, 90% POORLY GRADED SAND (SP) (fine to medium, predominantly fine), 10% fines (silt), with interbedded light gray SILT-CLAY (CL-ML), wet, firm, low plasticity, holds shape, can be rerolled, 85% FINES (silt/clay), 15% sand (fine to medium). | | |
| 14.5–20 | 92 | 0.0 | | | 14.0-20.0ft: POORLY GRADED SAND (SP), dark gray, wet, medium dense, 95% SAND (medium to coarse, poorly graded), 5% fines (silt). Grains red, gray, and white.<br>End of core @20.0ft below ground surface. | | |

**Notes:**

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# Well Installation Log



## EMW-19D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272736.04** Easting: **199097.59** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/25/2014, 12/5/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–1 | 84 | 0.0 | | | 0-0.6ft: ASPHALT, black, coarse, sand, fine gravel. | | |
| 1–5 | | | | | 0.6-2.8ft: POORLY GRADED SAND (SP), light brown to brown, damp, medium dense, 85% SAND (fine to mediu, poorly graded), 10% gravel (fine, subrounded), 5% fines (silt). | | |
| 1–5 | | | | | 2.8-4.2ft: ASPHALT, black, coarse sand, fine gravel. | | |
| 5–6 | | | | | 4.2-6.0ft: POORLY GRADED GRAVEL (GP), transition zone, asphalt mixed with sandy organic soil with gravel. | | |
| 5–8 | 75 | 0.0 | | | 6.0-8.25ft: POORLY GRADED SAND (SP), dark brown, damp, medium dense, 95% SAND (coarse to medium, poorly graded, 5% fines (silt). | | |
| 8–10 | | | | | 8.25-10.0ft: SILT (ML), dark gray, damp, stiff, 95% FINES (silt/clay, predominantly silt), 5% sand (fines). | | |
| 10–11 | | 0.0 | | | 10.0-10.9ft:POORLY GRADED SAND WITH GRAVEL (SP), brown with red staining, wet, loose, 70% fine to medium sand, 30% fine gravel (angular). | | |
| 10–15 | 88 | 0.0 | | | 10.9-16.0ft: POORLY GRADED SAND (SP), dark gray, wet, dense, 90% fine sand, 10% fines, red staining throughout. | | |
| 10–15 | | | | | @13.4-14.2ft: Silvery sheen on surface of standing water. | | |
| 15–16 | | | EMW-19D-15-17 | | | | |
| 15–20 | 50 | | EMW-19D-18-20 | | 16.0-32.9ft: POORLY GRADED SAND (SP), dark gray-black, medium dense to dense, moist to wet, 95% SAND (medium to coarse, predominantly medium), 5% gravel (fine, subrounded). | | |
| 20–24 | 95 | 0.0 | | | @20.0-21.5ft: Sand is light brown with 10% fines (silt), 10% gravel (fine, subrounded), 80% SAND. | | |
| 20–24 | | | | | @21.5ft: Grades to fine to medium sand, petroleum like odor to 32.9ft. | | |
| 20–24 | | | | | @23.8-24.2ft: Visual rainbow sheen, staining of sediment and core liner. | | |
| 24–25 | | | | | | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-50ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 50-80ft.

# Well Installation Log



## EMW-19D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272736.04** Easting: **199097.59** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/25/2014, 12/5/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 25 | | | | | | | 25 |
| 26 | 96 | 0.0 | EMW-19D-26-28 | | @25.0-28.0ft: Rainbow sheen on surface. | | 26 |
| 27 | | | | | | | 27 |
| 28 | | 0.0 | | | | | 28 |
| 29 | | | | | | | 29 |
| 30 | | | | | @29.15-29.2ft: Red-brown organics (wood debris). | | 30 |
| 31 | | | | | | | 31 |
| 32 | 76 | | | | @31.5-31.8ft: Pocket rainbow sheen.<br>@32.1ft: Organic (wood debris 1x2 in). | | 32 |
| 33 | | | | | | | 33 |
| 34 | | | | | 32.9-35.0ft: SILTY SAND (SM), dark, gray, dense, damp, 75% SAND (fine, well graded), 25% fines (silt). | | 34 |
| 35 | | | | | | | 35 |
| 36 | | | | | 35.0-36.3ft: POORLY GRADED SAND (SP), dark gray-black, dense, moist, 100% S fine to medium sand. | | 36 |
| 37 | 77 | 0.0 | | | 36.3-36.8ft: SILTY SAND (SM), bed, dark gray, damp, 75% SAND (fine well graded), 25% fines (silt). | | 37 |
| 38 | | | EMW-19D-38-40 | | 36.8-48.9ft: POORLY GRADED SAND (SP), same as above @ 35.0ft. | | 38 |
| 39 | | | | | | | 39 |
| 40 | | | | | @40.0-43.5ft: Sand is wet, standing water. | | 40 |
| 41 | | | | | | | 41 |
| 42 | 62 | 0.0 | | | | | 42 |
| 43 | | | | | | | 43 |
| 44 | | | | | | | 44 |
| 45 | | | | | | | 45 |
| 46 | | | | | | | 46 |
| 47 | 82 | | EMW-19D-47-49 | | | | 47 |
| 48 | | | | | | | 48 |
| 49 | | 0.0 | | | 48.9-50.0ft: SILTY SAND (SM). Interbedded layers of SILTY SAND (SM) (3 in) thick with POORLY GRADED SAND (SP), 1.5 in SM 75% SAND (fine), 25% FINES (silt), SP 95% SAND (fine), 5% FINES | | 49 |
| 50 | | | | | | | 50 |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-50ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 50-80ft.

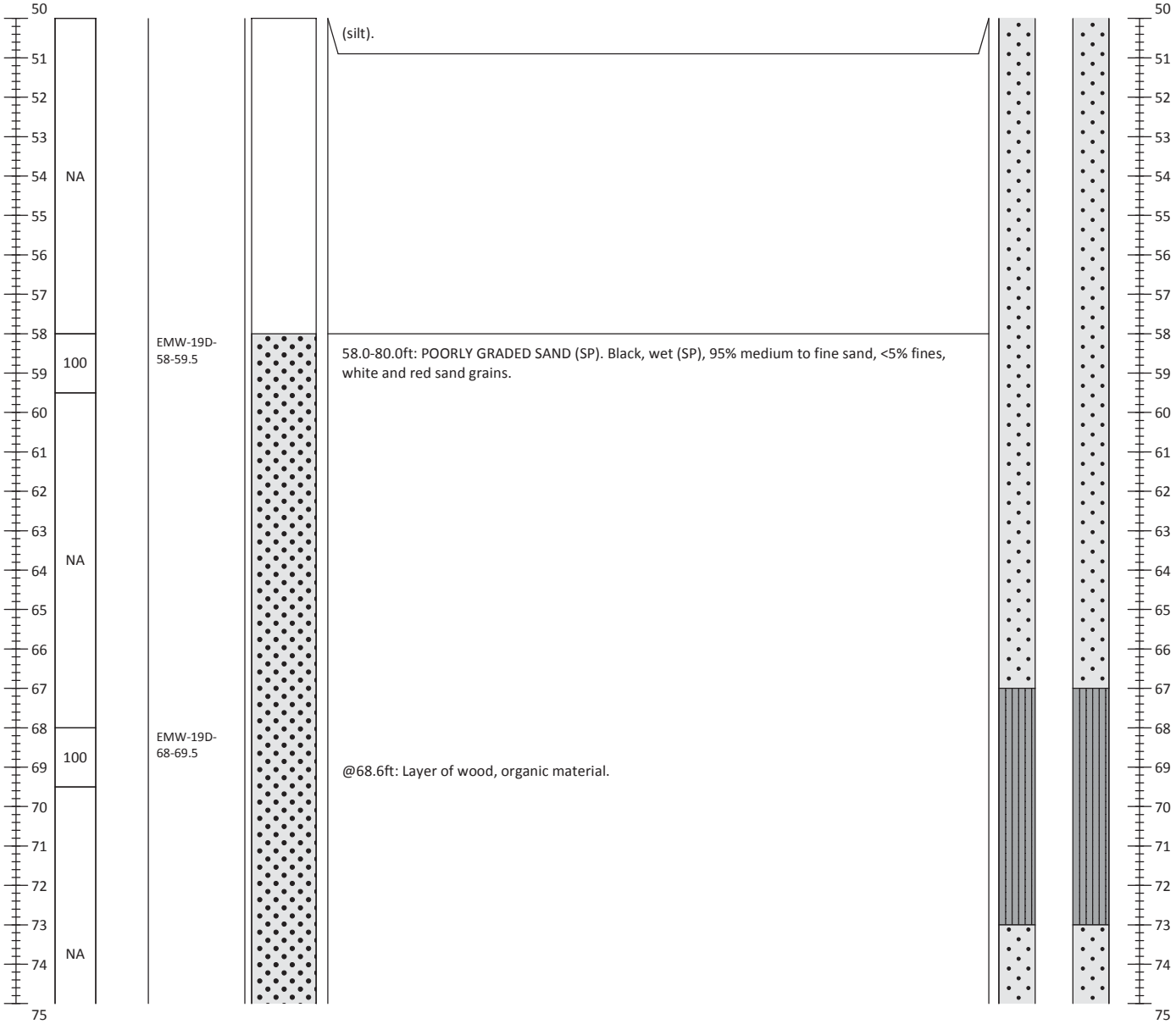
# Well Installation Log



## EMW-19D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272736.04** Easting: **199097.59** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/25/2014, 12/5/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 50–58 | NA | | | | (silt). | | |
| 58–59 | 100 | | EMW-19D-58-59.5 | | 58.0-80.0ft: POORLY GRADED SAND (SP). Black, wet (SP), 95% medium to fine sand, <5% fines, white and red sand grains. | | |
| 59–68 | NA | | | | | | |
| 68–69 | 100 | | EMW-19D-68-69.5 | | @68.6ft: Layer of wood, organic material. | | |
| 69–75 | NA | | | | | | |



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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-50ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 50-80ft.

# Well Installation Log



## EMW-19D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272736.04** Easting: **199097.59** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/25/2014, 12/5/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 75 | | | | | | | 75 |
| 76 | | | | | | | 76 |
| 77 | | | | | | | 77 |
| 78 | 100 | | EMW-19D-78-79.5 | | End of core @80.0ft below ground surface. | | 78 |
| 79 | | | | | | | 79 |
| 80 | NA | | | | | | 80 |
| 81 | | | | | | | 81 |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-50ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 50-80ft.

# Well Installation Log



## EMW-20D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273160.44** Easting: **198935.67** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/4/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–4 | 74 (avg 3 cores) | 0.0<br>0.0<br>0.0 | | | 0-0.9ft: ASPHALT, dark gray to black, gravel, angular, fine.<br>0.9-5.0ft: POORLY GRADED SAND WITH GRAVEL (SP). Light brown to brown, dry to damp, loose to medium dense, 80% SAND (fine to medium, poorly graded), 20% gravel (fine, angular), organics (wood fragments, 2x4 cm), anthropogenic debris (red brick-like fragments). | | |
| 4–5 | 67 | | EMW-20D-4-7 | | 4.0-5.5ft: POORLY GRADED SAND (SP). Brown, dry, 60% SAND (medium), 30% gravel (subrounded to sub-angular, up to 1.5 in), 10% fines. Brick-like chunks throughout. | | |
| 5–7 | 67 | | | | 5.5-7.0ft: POORLY GRADED SAND (SP). Brown, dry, 60% SAND (medium), 30% gravel (subrounded to subangular), 10% fines. Brick-like chunks. Black sand grains at top of core. | | |
| 7–8 | 33 | | EMW-20D-7-10 | | @6.0-6.3ft: Plug of concrete material. | | |
| 8–9 | 67 | | | | 7.0-8.5ft: POORLY GRADED SAND (SP). Brown, dry, gravel is subrounded and up to 1 in. Red brick-like material @7.0-8.0ft. | | |
| 9–11 | 67 | | EMW-20D-10-11 | | 8.5-10.0ft: POORLY GRADED SAND (SP). Gravel sand. 8.5-9.5ft. Angular, fine, brick-like material, sand is brown to black. Fine to coarse, 10% fines. | | |
| 11–12 | 33 | | EMW-20D-11.5-14.5 | | 10.0-11.0ft: POORLY GRADED SAND (SP). Dark gray to black, 20% gravel, up to 1 in, brick-like chunks, 0.1 in layer of black wood-like material. | | |
| 12–13 | | | | | 11.0-11.5ft: CONCRETE. No sample. | | |
| 13–14 | 50 | | | | 11.5-13ft: POORLY GRADED SAND (SP). Graded from brown to gray-black to red, 10% gravel, subangular up to 1.5 in, 85% medium to coarse sand, 10% fine, brick like chunks. | | |
| 14–18 | NA | | | | 13.0-18.0ft: POORLY GRADED SAND (SP). Grades from brown to red to black, fine red angular gravel, up to 1/4 in.<br>@13.4-13.7ft: Black, silt rich, up to 40% fines. | | |
| 18–19 | 33 | | | | 18.0-28.5ft: POORLY GRADED SAND (SP). Black, coarse to medium sand, red brick-like chunks (5%). | | |
| 19–21 | 100 | | | | | | |
| 21–25 | NA | | | | | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-5ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 5-80ft.

# Well Installation Log



## EMW-20D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273160.44** Easting: **198935.67** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/4/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 25–28 | | | | | | | 25–28 |
| 29 | 67 | | | | 28.5-38.0ft: POORLY GRADED SAND (SP). Same as above. Some dark fibrous material. | | 29 |
| 30–37 | NA | | | | | | 30–37 |
| 38–39 | 100 | | | | 38.0-48.0ft: POORLY GRADED SAND (SP). Black, wet, coarse to medium sand.<br>@39.3ft: Layer of fine brown organic material. | | 38–39 |
| 40–47 | NA | | | | | | 40–47 |
| 48–49 | 100 | | | | 48.0-68.0ft: POORLY GRADED SAND (SP). Black, wet, coarse, fine sand, white and red sand grains, 95% sand, <5% fines, fines occur in small (<1 cubic mm) pockets.<br>@48.1ft: Fibrous wood. | | 48–49 |
| 50 | | | | | | | 50 |

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206-287-9130

**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-5ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 5-80ft.

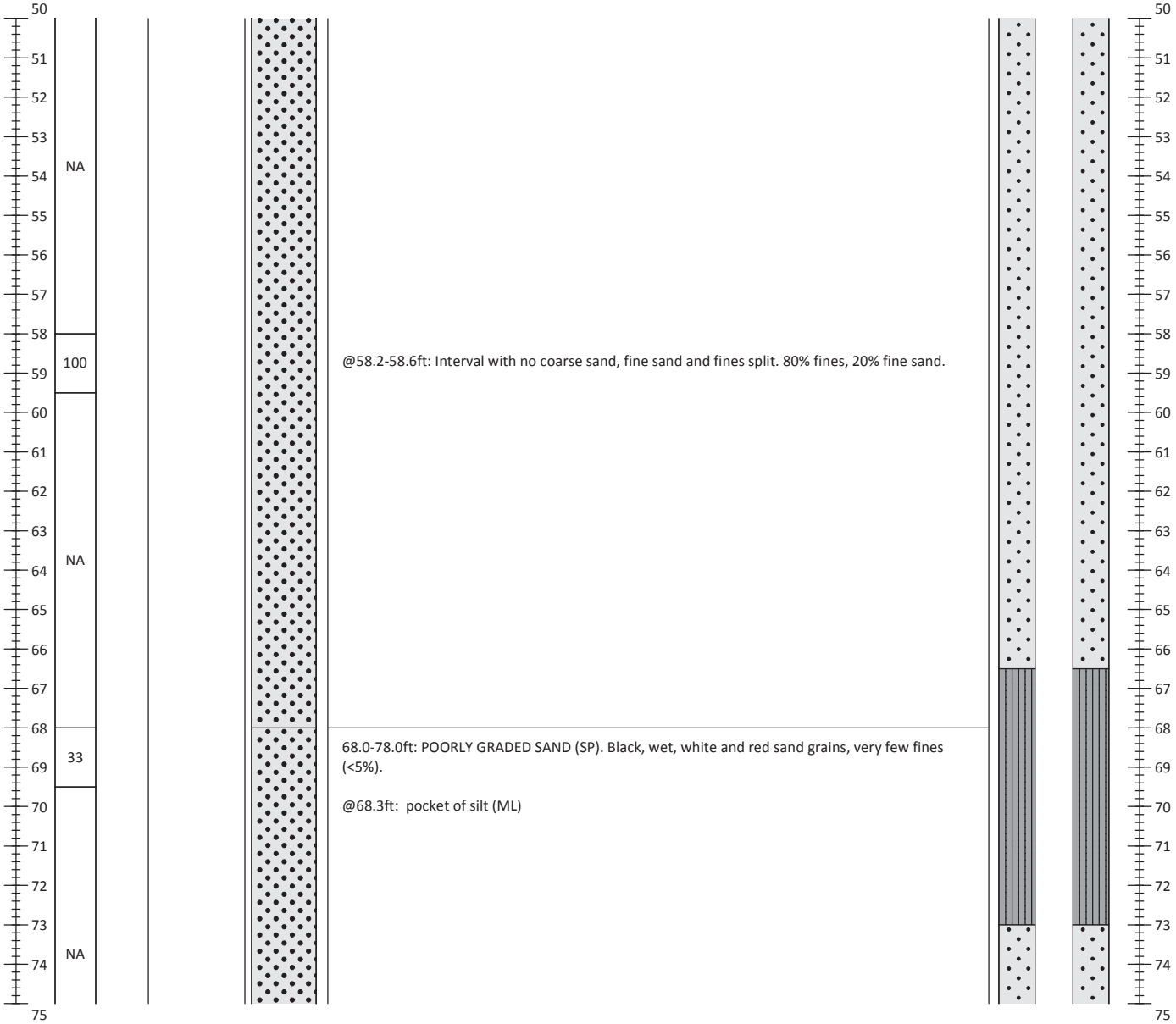
# Well Installation Log



## EMW-20D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273160.44** Easting: **198935.67** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/4/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 50–58 | NA | | | | | | |
| 58–59.5 | 100 | | | | @58.2-58.6ft: Interval with no coarse sand, fine sand and fines split. 80% fines, 20% fine sand. | | |
| 59.5–68 | NA | | | | | | |
| 68–69.5 | 33 | | | | 68.0-78.0ft: POORLY GRADED SAND (SP). Black, wet, white and red sand grains, very few fines (<5%).<br><br>@68.3ft: pocket of silt (ML) | | |
| 69.5–75 | NA | | | | | | |



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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-5ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 5-80ft.

# Well Installation Log



## EMW-20D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273160.44** Easting: **198935.67** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/4/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 75 | | | | | | | 75 |
| 76 | | | | | | | 76 |
| 77 | | | | | | | 77 |
| 78 | 100 | | | | 78.0-79.5ft: POORLY GRADED SAND (SP). Black, wet, 90% sand, grades from coarse to medium at top of core to fine at bottom of core. 10% fines. | | 78 |
| 79 | | | | | End of core @80.0ft below ground surface. | | 79 |
| 80 | NA | | | | | | 80 |
| 81 | | | | | | | 81 |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-5ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 5-80ft.

# Well Installation Log



## EMW-21D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272751.52** Easting: **198668.25** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/3/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description (Samples and descriptions are in recovered depths. Classification scheme: USCS) | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–1 | | 0.0 | | | 0-0.8ft: ASPHALT, black, coarse, angular, fine. | | |
| 1–5 | 63 | | EMW-21D-2-4 | | 0.8-1.5ft: POORLY GRADED SAND WITH GRAVEL (SP), light gray, dry, medium dense, 70% sand (fine to medium, poorly graded), 30% gravel (fine, angular). 1.5-6.0ft: POORLY GRADED SAND (SP), brown, damp, dense, 95% SAND (fine to medium), 5% gravel (fine). | | |
| 5–10 | 48 | 0.0 | EMW-21D-5-7; EMW-21D-8-10 | | 6.0-7.3ft: POORLY GRADED GRAVEL WITH SAND (GP), concrete-like, white to light gray, dry, medium dense, rip-rap-like, angular debris, white rock-like powder, 85% gravel (fine to coarse, angular), 15% sand (fine to medium, poorly graded) (concrete-pad). 7.3-11.10ft: SILTY SAND WITH GRAVEL (SM), brown, moist, medium dense to dense, 50% fine to medium sand, 30% fine gravel (angular), 20% fines. | | |
| 10–11 | 100 | | | | | | |
| 11–12 | 33 | | | | 11.0-14.0ft: SILTY GRAVEL (GM), gravel up to 1 in, subangular, rip rap, 40% silt, brown, moist, 10% fine sand. Pulverized rock. | | |
| 12–13 | NA | | | | | | |
| 13–15 | 50 | | EMW-21D-14-14.7; EMW-21D-15-15.4 | | 14.0-15.0ft: SILTY SAND WITH GRAVEL (SM), gray, moist, 20% gravel up to 1 in, subrounded, 65% fine sand, 15% fines, brick-like chunks. | | |
| 15–17 | 67 | | | | 15.0-17.0ft: POORLY GRADED SAND (SP), wet to moist, gray, 90% sand with white and red grains, 10% fines, some fibers, brick like chunks. | | |
| 17–18 | 50 | | EMW-21D-17-17.7 | | 17.0-18.5ft: POORLY GRADED GRAVEL WITH SAND (GP), 50% Gravel, subangular to angular, light in color (riprap-like), 45% coarse to fine sand, 5% fines, light-dark gray, wet, some organic-like fibers. | | |
| 18–19 | 70 | | | | | | |
| 19–25 | NA | | | | 18.5-28.0ft: POORLY GRADED SAND (SP), gray, wet, 95% sand, red and white grains, organic fibers, <5% fines, sand coarse to medium. | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-11ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 11-80ft.

# Well Installation Log



## EMW-21D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272751.52** Easting: **198668.25** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/3/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 28–29 | 50 | | | | 28.0-38.0ft: POORLY GRADED SAND (SP), wet, gray, 95% sand, red and white grains, <5% fines, sand is coarse to medium. | | |
| 29–38 | NA | | | | | | |
| 38–39 | 60 | | | | 38.0-48.0ft: POORLY GRADED SAND (SP), wet, gray, 95% coarse, medium sand, red and white grains, 5% fines, 2 mm thick silt pocket @38.5ft, organic fibers. | | |
| 39–48 | NA | | | | | | |
| 48–49 | 100 | | | | 48.0-48.5ft: POORLY GRADED SAND (SP), wet, gray, 95% coarse to medium sand, 5% fines, red and white sand grains. | | |
| 49–50 | | | | | 48.5-58.0ft: POORLY GRADED SAND (SP), 75% fine sand, 25% fine, gray, wet, sand with silt. | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-11ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 11-80ft.

# Well Installation Log



## EMW-21D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272751.52** Easting: **198668.25** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/3/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 50–58 | NA | | | | | | |
| 58–59 | 70 | | | | 58.0-58.3ft: POORLY GRADED SAND (SP), gray, wet, 95% coarse to medium sand, red and white grains, 5% fines. | | |
| 59–60 | | | | | 58.3-58.5ft: SILT WITH SAND (ML), gray, wet, 85% silt, 15% fine sand. | | |
| 60–68 | NA | | | | 58.5-68.0ft: POORLY GRADED SAND (SP), 85% fine sand, 15% silt, some red and white grains. | | |
| 68–69 | 100 | | | | 68.0-78.0ft: POORLY GRADED SAND (SP), 95% fine to medium sand, white and red grains, 5% fines.<br>@69.3ft: 3 mm silt pocket. | | |
| 69–75 | NA | | | | | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-11ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 11-80ft.

# Well Installation Log



## EMW-21D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1272751.52** Easting: **198668.25** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/3/2014** Logged By: **LH/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 75 | | | | | | | 75 |
| 76 | | | | | | | 76 |
| 77 | | | | | | | 77 |
| 78 | 100 | | | | 78.0-80.0ft: POORLY GRADED SAND (SP), gray, wet, 95% medium to fine sand, some white and red grains, 5% fines, small (2 square mm), silt pockets.<br>@79.4-79.5ft: Grades to 50% fine sand, 50% fines.<br>End of core @80.0ft below ground surface. | | 78 |
| 79 | | | | | | | 79 |
| 80 | NA | | | | | | 80 |
| 81 | | | | | | | 81 |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-11ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 11-80ft.

# Well Installation Log



## EMW-22D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273360.73** Easting: **199366.13** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/2/2014** Logged By: **LH/NB/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 0–1 | | | | | 0-0.2ft: ASPHALT, dark gray, gravel, coarse, angular. | | |
| 1–5 | 68 | 0.0 | EMW-22D-2-4 | | 0.2-1.2ft: SANDY ORGANIC SOIL (OL/OH), dark brown, damp, medium dense, 60% organic soil, 35% sand (fine to medium, poorly graded), 5% gravel (fine, angular), organics (wood fragments, burnt 4x5 cm).<br>1.2-6.9ft: POORLY GRADED SAND (SP), light brown to brown, damp, dense, 95% SAND (fine to medium, poorly graded), 5% gravel (fine, angular). | | |
| 5–7 | | | EMW-22D-5-7 | | | | |
| 7–10 | 58 | | EMW-22D-8-10 | | 6.9-11.2ft: POORLY GRADED SAND WITH GRAVEL (SP). Dark gray to brown, damp, medium dense, 80% SAND (medium to coarse, poorly graded), 20% gravel (fine, subangular).<br>@8.4ft: Grades to 30% gravel (fine to coarse, subangular). | | |
| 10–12 | 59 | 0.0 | EMW-22D-12.5-14.5 | | 11.2-12.5ft: SILTY GRAVEL WITH SAND (GM). Dark red-brown, moist, medium dense, 45% gravel (coarse, subangular), 30% fines (silt, does not hold shape), 25% sand (medium to coarse, poorly graded).<br>@12.5-14.6ft: Petroluem-like odor, rainbow sheen on water surface. Native contact. | | |
| 12–15 | | | | | 12.5-15.0ft: POORLY GRADED SAND (SP). Dark gray, moist to wetm 90% SAND (fine to medium, poorly graded), 10% fines (silt). | | |
| 15–20 | 86 | 0.0 | | | 15.0-35.0ft: POORLY GRADED SAND (SP). Dark gray, moist to wet, 100% SAND (medium to coarse, predominantly medium, angular).<br>@20.0-22.0ft: Sand grains predominantly red. | | |
| 20–25 | 68 | | | | | | |

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**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-55ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 55-80ft.

# Well Installation Log



## EMW-22D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273360.73** Easting: **199366.13** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/2/2014** Logged By: **LH/NB/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 25–30 | 81 | 0.0 | | | @25.1-25.5ft: Organics (twig/wood debris).<br>@27.6-27.9ft: Organics (wood debris), grades to fine to medium sand @27.6ft. | | |
| 30–35 | 76 | | | | @31.7ft: Sand grades black to medium to coarse to grained. | | |
| 35–38 | 97 | 0.0 | | | 35.0-36.2ft: SILTY SAND (SM). Dark gray, wet, medium dense to dense. 60% SAND (fine sand, some medium grains, poorly graded), 40% fines (silt).<br>36.2-38.4ft: SILTY SAND (SM). Grades from SILTY SAND (SM) to POORLY GRADED SAND (SP). | | |
| 38–40 | | | | | 38.4-40.0ft: POORLY GRADED SAND (SP). Dark gray, wet, medium dense to dense, 95% SAND (fine), 5% fines (silt). | | |
| 40–45 | 84 | 0.0 | | | 40.0-41.0ft: SILT WITH SAND (ML). Dark gray, wet, stiff, 80% fines (silt/clay, predomiantly silt), 20% sand (fine), holds shape, low plasticity, low toughness.<br>41.0-42.6ft: POORLY GRADED SAND (SP). Same as above @38.4ft.<br>42.6-43.9ft: SILT WITH SAND (ML). Same as above @40.0ft.<br>43.9-55.0ft: POORLY GRADED SAND (SP). Dark gray, wet, dense, 95% SAND (fine), 5% fines (silt). | | |
| 45–50 | 78 | 0.0 | | | | | |

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206-287-9130

**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-55ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 55-80ft.

# Well Installation Log



## EMW-22D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273360.73** Easting: **199366.13** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/2/2014** Logged By: **LH/NB/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 50–55 | 98 | | | | @50.5-50.9ft: Layer, light gray, wet, soft, 95% fines (silt, does not hold shape), 5% sand (fines).<br>@54.1-54.6ft: Layer, SILT WITH SAND (ML), gray, damp to moist, stiff, 80% fines (silt), does not hold shape, 20% sand (fines). | | |
| 55–58 | NA | | | | 58-59.5ft: SILT (ML). Wet, gray, does not hold shape, 10% fine sand, 90% fines, soft. | | |
| 58–60 | 100 | | | | | | |
| 60–68 | NA | | | | | | |
| 68–70 | 100 | | | | 68.0-69.5ft: POORLY GRADED SAND WITH SILT (SP). Poorly graded sand with silt (SP-SM), gray, medium dense, red-white grains, sand fine to medium. 90% sand, 10% fines. | | |
| 70–75 | NA | | | | | | |

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206-287-9130

**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-55ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 55-80ft.

# Well Installation Log



## EMW-22D

| | |
|---|---|
| Project: **Draft RI Report - 8th Avenue Terminals, Inc. Site** | Location: **7400 8th Avenue S., Seattle WA 98108** |
| Project #: **131044-01** | Northing: **1273360.73** Easting: **199366.13** |
| Client: **DeNovo Seattle, LLC** | Horizontal Datum: **NAD83 WA State Plane North Feet** |
| Collection Date: **11/24/2014, 12/2/2014** Logged By: **LH/NB/JBW** | Total Depth (ft): **80** |
| Contractor: **Holt Services, Inc.** | Method: **Hollow Stem Auger, 4.25" diameter** |

| Depth (ft) | Sample Recovery (%) | PID (ppm) | Sample Name | Graphic Log | Soil Description<br>Samples and descriptions are in recovered depths.<br>Classification scheme: USCS | Well Details | Depth (ft) |
|---|---|---|---|---|---|---|---|
| 75 | | | | | | | 75 |
| 76 | | | | | | | 76 |
| 77 | | | | | 78.0-79.0ft: POORLY GRADED SAND (SP). Gray with red-white grains, sand is medium to fine, 95% sand, 5% fines. | | 77 |
| 78 | 100 | | | | End of core @80.0ft below ground surface. | | 78 |
| 79 | NA | | | | | | 79 |
| 80 | | | | | | | 80 |
| 81 | | | | | | | 81 |

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206-287-9130

**Notes:**

1: Samples logged continuously and collected via Geoprobe from 0-55ft, samples logged in discontinuous intervals and collected via Hollow Stem Auger from 55-80ft.

SLR
22118 20th Ave. SE, Suite G-202
Bothell, Washington 98021
Telephone: 425.402.8800
Fax: 425.402.8488

# BORING NUMBER EB-5



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/18/13 **COMPLETED** 6/18/13
**GROUND ELEVATION** 11.97' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
▼ **AT TIME OF DRILLING** 7.0 ft
**LOGGED BY** G. Lish/A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | EB-5-1.0* | | | | **SAND AND GRAVEL (FILL)**, light brown, fine to coarse sand, fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | @ 1.0 feet: Becomes dark brown; little fines. | |
| | | | | | | | 1.8 | |
| | | GP | EB-5-2.5 | 90 | SP | | **SAND (FILL)**, brown, fine-grained, few fines, moist, no hydrocarbon-like odors or staining. | |
| 5 | | | | | | | | 0.0 |
| | | | EB-5-5.0* | | | | | 0.0 |
| | | | | | | | ▼ @ 6.5 feet: Becomes gray. | 0.0 |
| | | | | | | | @ 7.0 feet: Becomes wet. | |
| | | GP | EB-5-7.5 | 90 | | | 7.5 | |
| | | | | | SM | | **SILTY SAND (FILL)**, gray, fine-grained, some fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | EB-5-10.0* | | | | | 0.0 |
| | | GP | EB-5-12.5 | 100 | | | | 0.0 |
| 15 | | | | | | | | 0.0 |
| | | | | | | | 15.2 | 0.0 |
| | | GP | | 100 | SP | | **SAND**, gray, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
▽ Water level at time of drilling.

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# BORING NUMBER EB-14



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 15.59' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.2 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.7 **ASPHALT**. | 0.0 |
| | | | EB-14-1.0* | | SP | | **SAND (FILL)**, brown, fine-grained, few fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 2.0 From 1.3 to 1.5 feet: Red brick. | |
| | | GP | EB-14-2.5 | 95 | | | @ 1.8 feet: Cobble fragments in sampler. | 0.0 |
| | | | | | SP | | **GRAVELLY SAND (FILL)**, dark gray, fine-grained, little to some gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | @ 4.0 feet: Weak hydrocarbon-like odor. | 0.6 |
| 5 | | | | | | | @ 4.5 feet: Becomes brown. | 0.0 |
| | | | EB-14-5.0* | | | | | 0.0 |
| | | | | | | | 6.8 | |
| | | | | | SP | | 7.2 **SAND (FILL)**, gray, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-14-7.5 | 95 | | | **SILTY SAND (FILL)**, brown, fine-grained, little to some fines, few wood fragments, moist, no hydrocarbon-like odors or staining. | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | EB-14-10.0* | | | | | 0.0 |
| | | | | | | | @ 11.2 feet: Becomes wet. | 0.0 |
| | | GP | EB-14-12.5 | 90 | SM | | From 12.0 to 12.2 feet: Wood fragments. | 0.0 |
| 15 | | | | | | | | 0.0 |
| | | | | | | | 17.0 | 0.0 |
| | | GP | | | SP | | **SAND**, brownish-gray, fine-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-16



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/19/13 **COMPLETED** 6/19/13
**GROUND ELEVATION** 14.64' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9.5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 1.0 **CONCRETE**. | |
| | | | | | | | 1.5 **ASPHALT**. | |
| | | GP | EB-16-2.5* | 100 | GP | | **SANDY GRAVEL (FILL)**, brown, fine, some fine-grained sand, damp, no hydrocarbon-like odors or staining. 3.0 | 0.0 |
| | | | | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| 5 | | GP | EB-16-5.0* | 100 | | | | 0.0 |
| | | | EB-16-7.5 | | | | 6.5 | |
| | | | | | ML | | **SANDY SILT (FILL)**, brown, some fine-grained sand, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 9.5 ▼ | 0.0 |
| 10 | | GP | EB-16-10.0* | -- | SP | | **SAND**, brownish-gray, fine-grained, few fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-16-12.5 | 100 | | | | 0.0 |
| 15 | | | EB-16-15.0 | | | | | 0.0 |
| | | GP | | 100 | | | | 0.0 |
| | | | | | | | @ 18.5 feet: Becomes fine- to medium-grained, no fines. 19.5 | 0.0 |
| 20 | | | EB-16-20.0 | | SP | | **SAND**, dark brown, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▼ Water level at time of drilling.

SLR SB LOG CROWLEY RIFS BORINGS.GPJ GINT US.GDT 1/16/14

*(Continued Next Page)*

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# BORING NUMBER EB-16



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SP | | **SAND**, dark brown, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 |
| | | | | | | | | 0.0 |
| 25 | | GP | EB-16-25.0 | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| 30 | | GP | EB-16-30.0 | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| 35 | | GP | EB-16-35.0 | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| 40 | | GP | | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | GP | EB-16-40.0 | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | EB-16-44.0 | | | | 44.0 Boring completed at 44.0 feet due to refusal. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER EB-17



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 15.35' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.0 |
| | | | EB-17-1.0* | | SP | | 1.0 **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | SP | | 2.0 **SAND (FILL)**, tan, fine-grained, few to little fine to coarse gravel, few fines, few brick fragments, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-17-2.5 | 90 | ML | | 3.0 **SANDY SILT (FILL)**, brown, some fine-grained sand, little fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | SP | | **SAND (FILL)**, brown to dark brown, fine- to medium-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| 5 | | | | | | | From 4.5 feet to 5.75 feet: No recovery. | |
| | | | EB-17-5.75* | | | | | 0.0 |
| | | GP | EB-17-7.5 | | | | 7.6 | 0.0 |
| | | | | | SM | | **SILTY SAND (FILL)**, gray, fine-grained, some fines, moist to wet, no hydrocarbon-like odors or staining. | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | EB-17-10.0* | | | | | 0.0 |
| | | | | | | | @ 11.0 feet: Becomes wet. | 0.0 |
| | | GP | | | | | 12.5 | 0.0 |
| | | | | | | | **SAND**, gray, fine-grained, few to little fines, wet, no hydrocarbon-like odors or staining. | |
| 15 | | | | | | | | |
| | | | | | SP | | @ 15.2 feet: Trace fines. | |
| | | GP | | 100 | | | | |
| 20 | | | | | | | 20.0 | |

Boring completed at 20.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-24



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 16.84' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT**. | |
| | | GP | EB-24-1.0* | | GP | | 1.0 **SANDY GRAVEL (FILL)**, brown, fine to coarse, trace fines, dry to moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-24-2.5 | 95 | SP | | **SAND (FILL)**, brown, fine- to medium-grained, few fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 5 | | | | | | | | 2.7 |
| | | | EB-24-5.0* | | | | @ 4.8 feet: Moderate hydrocarbon-like odors. | 41.3 |
| | | | | | | | @ 5.2 feet: No hydrocarbon-like odors or staining. | 2.7 |
| | | | | | | | | 0.0 |
| | | | | | | | 7.0 | 0.0 |
| | | GP | EB-24-7.5 | 100 | SP | | **SAND (FILL)**, gray, fine- to medium-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 9.0 | 0.0 |
| 10 | | | | | SP | | **SAND (FILL)**, gray, fine-grained, few fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-24-10.0* | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | GP | EB-24-12.5 | | | | @ 12.0 feet: Becomes wet. | 0.0 |
| | | | | | | | 13.5 | 0.0 |
| 15 | | | | | SM | | **SILTY SAND (FILL)**, gray, fine-grained, little to some fines, wet, no hydrocarbon-like odors or staining. 14.8 | 0.0 |
| | | | | | SP | | **SAND**, gray, fine- to medium-grained, trace fines, trace wood fragments, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-28



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/10/13 **COMPLETED** 6/10/13
**GROUND ELEVATION** 16.93' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | 0.0 |
| | | GP | EB-28-1.0* | | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, damp, no hydrocarbon-like odors or staining. 1.5 | 0.0 |
| | | | | | SP | | 2.0 **SAND (FILL)**, brown, fine- to medium-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-28-2.5 | 100 | SP | | **SAND (FILL)**, dark brown to black, very fine- to fine-grained, some fine gravel, damp, weak hydrocarbon-like odor. | 2.9 |
| | | | | | | | | 3.5 |
| 5 | | | | | | | | 0.2 |
| | | | EB-28-5.0* | | | | | 1.8 |
| | | GP | EB-28-7.5* | 90 | | | | 0.0 |
| | | | | | | | 8.0 From 7.5 to 7.7 feet: Red brick. | 0.0 |
| | | | | | CL | | **SILTY CLAY (FILL)**, black, few pieces of charred wood, trace ash, moist, no hydrocarbon-like odors or staining. 9.0 | 0.0 |
| | | | | | SP | | From 8.5 feet to 9.0 feet: Wood debris. | 0.0 |
| 10 | | | | | | | 10.0 **SAND (FILL)**, brown, very fine- to fine-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-28-10.0* | | | | @ 9.8 feet: Becomes fine- to medium-grained. | 0.0 |
| | | | | | SM | | **SILTY SAND (FILL)**, brown, very fine- to fine-grained, some fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-28-12.5 | 100 | | | @ 12.0 feet: Becomes wet. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | 14.5 | 0.0 |
| 15 | | | | | | | **SAND**, gray, fine- to medium-grained, wet, weak hydrogen sulfide-like odor. | 0.0 |
| | | | EB-28-15.0 | | | | | 0.0 |
| | | GP | | | SP | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 20 | | | EB-28-20.0 | | | | 20.0 Boring completed at 20.0 feet. | 0.0 |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-32



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/14/13 **COMPLETED** 6/14/13
**GROUND ELEVATION** 16.88' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | 0.0 |
| | | | | | SP | | 0.8 **GRAVELLY SAND (FILL)**, brown, fine-grained, fine to coarse gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-32-1.0* | 100 | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace to few fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-32-2.5 | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | 4.5 | |
| 5 | | GP | EB-32-5.0* | 100 | SP | | **SAND (FILL)**, gray, fine- to medium-grained, trace fine gravel, moist, weak hydrocarbon-like odor. @ 5.0 feet: Black staining. | 0.5 |
| | | | | | SP | | 6.2 @ 6.0 feet: Cobble fragments in sampler. | 16.4 |
| | | | | | | | 7.2 **SAND (FILL)**, brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-32-7.5 | | SP | | **SAND (FILL)**, brownish-gray, fine-grained, few to little fines, moist, mottled, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | @ 9.0 feet: Becomes brown. | 0.0 |
| 10 | | GP | EB-32-10.0* | 100 | | | @ 9.5 feet: Becomes fine- to medium-grained. | 0.0 |
| | | | | | | | @ 11.0 feet: Becomes wet. | 0.0 |
| | | | EB-32-12.5* | | SP | | | 0.0 |
| | | | | | | | | 0.0 |
| | | GP | | 50 | | | @ 14.0 feet to 17.5 feet: No recovery. | |
| 15 | | | | | | | | |
| | | | | | | | 17.5 | |
| | | GP | | | SP | | **SAND**, gray, fine- to medium-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining. | |
| 20 | | | EB-32-20.0 | | | | 20.0 Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-38



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 16.91' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.2 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | 0.0 |
| | | GP | EB-38-1.0* | 100 | SP | | **SAND (FILL)**, brown, fine- to medium-grained, little fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-38-2.5 | | | | @ 1.5 feet: Cobble fragments in sampler. | 0.0 |
| | | | | | | | 3.2 | 0.0 |
| 5 | | | | | SP | | **SAND (FILL)**, dark gray to black, fine- to medium-grained, trace fine gravel, trace fines, moist, weak hydrocarbon-like odor. | 0.5 |
| | | GP | EB-38-5.0* | 100 | | | | 5.2 |
| | | | EB-38-7.5 | | | | | 5.7 |
| | | | | | | | | 1.3 |
| | | | | | | | 8.5 | 1.5 |
| 10 | | | | | SM | | **SILTY SAND (FILL)**, grayish-brown, fine-grained, little to some fines, moist, no hydrocarbon-like odors or staining. | 0.4 |
| | | GP | EB-38-10.0* | 100 | | | | 0.0 |
| | | | EB-38-12.5* | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | 14.5 | 0.0 |
| 15 | | | | | SP | | **SAND**, gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |

Boring completed at 20.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-40



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/10/13 **COMPLETED** 6/10/13
**GROUND ELEVATION** 17.03' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.3 **ASPHALT**. | 0.0 |
| | | | | | GP | | 1.0 **GRAVEL (FILL)**, gray, dry, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-40-1.0* | | | | | |
| | | | | | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-40-2.5 | 95 | | | 2.5 | |
| | | | | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | @ 3.0 feet: Becomes black. | 0.0 |
| 5 | | | | | | | 4.8 @ 4.5 feet: Becomes dark brown. | 0.0 |
| | | | | | | | 5.0 **ASPHALT**. | 0.0 |
| | | | EB-40-5.0* | | SP | | 6.0 **SAND (FILL)**, brown, fine- to medium-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | SP | | **SAND (FILL)**, brown, fine-grained, trace to few fines, damp, no odors or staining. | 0.0 |
| | | GP | EB-40-7.5 | 95 | | | | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | EB-40-10.0* | | | | 11.0 | 0.0 |
| | | | | | SP | | **SAND (FILL)**, black, fine-grained, damp, no odors or staining. | 0.0 |
| | | GP | EB-40-12.5 | 100 | | | 12.5 | |
| | | | | | ML | | **SANDY SILT (FILL)**, brown, some fine-grained sand, wet, no odors or staining. | 0.0 |
| 15 | | | | | | | 14.0 **SAND**, gray, fine- to medium-grained, wet, no odors or staining. | 0.0 |
| | | | | | SP | | | 0.0 |
| | | GP | | 100 | | | | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |

Boring completed at 20.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

SLR
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# BORING NUMBER EB-41



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/14/13 **COMPLETED** 6/14/13
**GROUND ELEVATION** 16.88' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.8 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.0 |
| | | GP | EB-41-1.0* | 95 | SP | | **SAND (FILL)**, brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 2.0 | |
| | | | EB-41-2.5 | | SP | | **SAND (FILL)**, brown to dark brown, fine-grained, few cobbles, moist, no hydrocarbon-like odors or staining. | 0.2 |
| | | | | | | | 3.0 | |
| | | | | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 3.8 | |
| 5 | | GP | EB-41-5.0* | 100 | SP | | **SAND (FILL)**, dark brown, fine-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining.<br>@ 4.8 feet: Weak hydrocarbon-like odors.<br>@ 5.2 feet: Becomes brown, few fine gravel, no hydrocarbon-like odors or staining. | 0.0<br>0.5<br>0.0 |
| | | | | | | | 7.0 | |
| | | | | | | | @ 6.8 feet: Cobble fragments in sampler. | 0.2 |
| | | | EB-41-7.5 | | SP | | **SAND (FILL)**, grayish-brown to brown, fine-grained, trace to few fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 9.0 | |
| 10 | | GP | EB-41-10.0* | 100 | SP | | **SAND (FILL)**, brown, fine-grained, trace fines, moist, no hydrocarbon-like odors or staining.<br>@ 10.0 feet: Becomes fine- to medium-grained. | 0.0<br>0.0 |
| | | | | | | | @ 11.8 feet: Becomes wet. | 0.0 |
| | | GP | EB-41-12.5 | 90 | | | | 0.0 |
| | | | | | | | 14.2 | 0.0 |
| 15 | | | EB-41-15.0* | | SM | | **SILTY SAND (FILL)**, brownish-gray, fine-grained, some fines, trace fine gravel, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 15.2 | |
| | | | | | SP | | **SAND**, dark brown, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 16.5 | |
| | | GP | | 90 | SW | | **SAND**, gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. | 0.0<br>0.0<br>0.0 |
| 20 | | | EB-41-20.0 | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-91-10.0' was collected over the same interval as sample EB-41-10.0'.
Water level at time of drilling.

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# BORING NUMBER EB-45



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/10/13 **COMPLETED** 6/10/13
**GROUND ELEVATION** 16.67' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12.5 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.3 **ASPHALT**. | 0.0 |
| | | | EB-45-1.0* | | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, damp, no hydrocarbon-like odors or staining. 1.5 | 0.0 |
| | | GP | EB-45-2.5 | 90 | SP | | **SAND (FILL)**, brown, fine-grained, trace fine gravel, trace fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | 4.5 @ 4.0 feet: Becomes fine- to medium-grained. | 0.0 |
| 5 | | | | | SP | | **SAND (FILL)**, black, fine-grained, few fine gravel, trace fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-45-5.0* | | | | 6.0 | 0.0 |
| | | GP | EB-45-7.5* | 80 | SP | | **SAND (FILL)**, brown, very fine- to fine-grained, trace to few fine gravel, trace fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | From 7.8 to 7.9 feet: Brick fragments. | 0.0 |
| | | | | | | | @ 8.0 feet: Charred wood fragments. | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | EB-45-10.0* | | | | | 0.0 |
| | | | | | | | @ 11.0 feet: Few fines. | 0.0 |
| | | GP | EB-45-12.5* | 100 | | | @ 12.0 feet: Becomes fine- to medium-grained. | 0.0 |
| | | | | | | | @ 12.5 feet: Becomes wet. | 0.0 |
| | | | | | | | 14.0 | 0.0 |
| 15 | | | | | SM | | **SILTY SAND (FILL)**, gray, very fine- to fine-grained, little to some fines, wet, no hydrocarbon-like odors or staining. 15.0 | 0.0 |
| | | | | | | | **SAND**, gray, fine- to medium-grained, trace to few fine gravel, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | | | SP | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 20 | | | | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed at 20.0 feet. | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-46



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/14/13 **COMPLETED** 6/14/13
**GROUND ELEVATION** 16.89' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.3 |
| | | GP | EB-46-1.0* | 100 | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace to few fine gravel, moist, no hydrocarbon-like odors or staining. 1.5 | 0.0 |
| | | | EB-46-2.5* | | SP | | **SAND (FILL)**, dark gray to black, fine-grained, trace fines, trace brick fragments, moist, weak hydrocarbon-like odor. | 12.5 |
| | | | | | | | | 8.1 |
| 5 | | GP | | 0 | SP | | From 4.0 to 8.0 feet: No recovery. | |
| | | | EB-46-8.0* | | | | 9.0 | 0.0 |
| 10 | | GP | EB-46-10.0* | 80 | SP | | **SAND (FILL)**, brown, fine-grained, trace fines, moist, mottled, no hydrocarbon-like odors or staining. 10.8 | 0.0 |
| | | | | | SM | | **SILTY SAND (FILL)**, gray, fine-grained, moist, no hydrocarbon-like odors or staining. @ 11.0 feet: Becomes wet. 12.0 | 0.0 |
| 15 | | GP | EB-46-12.5 | 100 | SP | | **SAND**, gray, fine- to medium-grained, trace to few fines, wet, no hydrocarbon-like odors or staining. 16.0 | 0.0 |
| | | | | | | | Boring completed at 16.0 feet. | 0.0 |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER EB-47



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/10/13 **COMPLETED** 6/10/13
**GROUND ELEVATION** 16.90' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11.8 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.0 |
| | | GP | EB-47-1.0* | 90 | SP | | **GRAVELLY SAND (FILL)**, brown, some fine to coarse gravel, trace fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-47-2.5 | | | | 2.5 | 0.0 |
| | | | | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace fine gravel, trace fines, damp, no hydrocarbon-like odors or staining. 3.5 | 0.0 |
| 5 | | | | | SM | | **SILTY SAND (FILL)**, dark gray, very fine- to fine-grained, some fines, damp, weak hydrocarbon-like odors. | 0.0 |
| | | GP | EB-47-5.0* | 100 | | | | 0.2 |
| | | | | | | | 6.5 | 0.2 |
| | | | | | SP | | **SAND (FILL)**, brown, fine-grained, damp, no hydrocarbon-like odors or staining. 7.5 | 0.2 |
| | | | EB-47-7.5 | | SP | | **SAND (FILL)**, brown, very fine- to fine-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 9.5 | 0.0 |
| 10 | | | | | SM | | **SILTY SAND (FILL)**, brownish-gray, very fine- to fine-grained, some fines, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-47-10.0* | 100 | | | @ 11.0 feet: Becomes brown, very-fine grained. | 0.0 |
| | | | EB-47.12.5 | | | | @ 11.8 feet: Becomes wet. | 0.0 |
| | | | | | | | 13.0 | 0.0 |
| | | | | | SP | | 13.5 **SAND**, dark brown, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | |
| | | | | | SP | | **SAND**, grayish-brown, very fine-grained, wet, no hydrocarbon-like odors or staining. 14.5 | 0.0 |
| 15 | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | EB-47-15.0 | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 20 | | | EB-47-20.0 | | | | 20.0 | 0.0 |

Boring completed at 20.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.
Water level at time of drilling.

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# BORING NUMBER EB-50



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/14/13 **COMPLETED** 6/14/13
**GROUND ELEVATION** 16.83' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** N/A
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.0 |
| | | GP | EB-50-1.0* | 100 | SP | | 1.0 **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-50-2.5' | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, few fine gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | 4.5 | 0.0 |
| 5 | | GP | EB-50-5.0* | | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, little to some fine to coarse gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | @ 5.8 feet: Becomes gray, trace fines. | 0.4 |
| | | | | | | | @ 6.0 feet: Becomes black, weak hydrocarbon-like odor. | |
| | | | | | | | @ 6.5 feet: No hydrocarbon-like odors or staining. | 0.0 |
| | | | EB-50-7.5* | | | | @ 7.2 feet: Wood fragments. | 0.0 |
| | | | | | | | 9.0 | 0.5 |
| | | GP | | 90 | | | **CONCRETE DEBRIS**. | 0.0 |
| 10 | | | | | | | 10.0 | |

Boring completed at 10.0 feet due to refusal.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER EB-51



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/13/13 **COMPLETED** 6/13/13
**GROUND ELEVATION** 16.71' **HOLE SIZE** 2.125-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** N/A
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.3 **ASPHALT**. | 0.1 |
| | | | EB-51-1.0* | | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 2.0 | |
| | | GP | EB-51-2.5 | 95 | SP | | **SAND (FILL)**, brown, fine-grained, trace fines, trace fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 5 | | | | | | | From 4.5 to 4.7 feet: Becomes black, weak hydrocarbon-like odors. | 3.3 |
| | | | EB-51-5.0* | | | | | 5.6 |
| | | | | | | | | 4.0 |
| | | | | | | | 7.0 @ 6.5 feet: Brick fragments. | |
| | | GP | EB-51-7.5* | | CL-ML | | **SILTY CLAY (FILL)**, gray to black, few fine-grained sand in layers, moist, strong hydrocarbon-like odors. | 31.6 |
| | | | | | | | | 547.7 |
| | | | | | | | 9.0 | |
| 10 | | | EB-51-10.0* | | SP | | **SAND (FILL)**, grayish-brown to black, fine-grained, trace fines, trace fine gravel, moist, moderate hydrocarbon-like odors. | 18.2 |
| | | | | | | | 10.0 | 37.0 |

Boring completed at 10.0 feet due to refusal.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# WELL NUMBER EMW-1S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/12/13 **COMPLETED** 6/12/13
**GROUND ELEVATION** 16.65' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 13.5 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | | 0.5 **GRAVEL**. | | Concrete |
| | | GP | EMW-1S-2.5* | 50 | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| | | | | | | | @ 3.0 feet: Cobble fragments in sampler. | 0.0 | |
| | | | | | | | 4.0 From 3.8 to 4.0 feet: Brick fragments. | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | | | **GRAVELLY SAND**, brown, fine- to medium-grained, little to some fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | EMW-1S-5.0* | | SP | | @ 5.0 feet: Becomes fine-grained. | 0.2 | |
| | | | | | | | 7.0 | 0.3 | |
| | | GP | EMW-1S-7.5 | 60 | SP | | **SAND**, dark brown, fine- to medium-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining. | 0.2 | 10x20 silica sand pack |
| | | | | | | | 8.8 | | |
| 10 | | | | | SM | | **SILTY SAND**, gray, very fine- to fine-grained, moist, no hydrocarbon-like odors or staining. | 0.2 | |
| | | | EMW-1S-10.0* | | | | From 10.0 feet to 13.0 feet: No recovery. | | |
| | | GP | | 25 | | | | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| 15 | | | | | | | | 0.0 | |
| | | | EMW-1S-15.0 | | | | From 15.0 feet to 19.0 feet: No recovery. | | |
| | | GP | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

(Continued Next Page)

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# WELL NUMBER EMW-1S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | SM | | **SILTY SAND**, gray, very fine- to fine-grained, moist, no hydrocarbon-like odors or staining. *(continued)* | | |
| 20 | | | | | | | 20.0 Boring completed at 20.0 feet. | | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-2S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 12.92' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE**. | | Concrete |
| | | GP | EMW-2S-2.5* | 90 | GP | | **SANDY GRAVEL (FILL)**, fine to coarse, some fine-grained sand, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | SP | | **SAND (FILL)**, brown, fine-grained, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| 5 | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | | | | 0.0 | |
| | | | EMW-2S-5.0* | | | | | 0.0 | |
| | | GP | EMW-2S-7.0 | 80 | | | @ 6.5 feet: Becomes wet. | 0.0 | |
| | | | | | SM | | **SILTY SAND (FILL)**, brown, fine-grained, some fines, few wood fragments, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | From 8.0 to 9.8 feet: No recovery. | 0.0 | 10x20 silica sand pack |
| 10 | | | | | | | | 0.0 | |
| | | | EMW-2S-10.0* | | | | | 0.0 | |
| | | | | | | | @ 10.8 feet: Becomes brownish-gray. | 0.0 | |
| | | GP | EMW-2S-12.5 | 95 | | | | 0.0 | |
| | | | | | SP | | **SAND**, brownish-gray to gray, fine-grained, few to little fines, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| 15 | | | | | | | | 0.0 | |

0.5
2.0
7.0
12.8

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

*(Continued Next Page)*

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# WELL NUMBER EMW-2S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | | SP | | **SAND**, brownish-gray to gray, fine-grained, few to little fines, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0<br>0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | 18.2 | 0.0 | |
| | | | | | SP | | **SAND**, gray, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |

Boring completed at 20.0 feet.

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
4.8 to 19.6 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.86 to 19.8 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-3S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/11/13 **COMPLETED** 6/11/13
**GROUND ELEVATION** 16.92' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 13.8 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | GP | EMW-3S-1.0* | 100 | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, trace fines, dry to moist, no hydrocarbon-like odors or staining. | 0.0 | Concrete |
| | | | | | | | | 0.0 | |
| | | | | | | | 2.0 | | |
| | | GP | EMW-3S-2.5 | | SP | | **SAND (FILL)**, brown, fine-grained, trace fine gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | | | | | |
| | | | EMW-3S-5.0* | | | | | 0.0 | |
| | | | | | | | 6.0 | | |
| | | | | | | | **GRAVELLY SAND (FILL)**, brown, very fine-grained, some fine to coarse gravel, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-3S-7.5 | 80 | SP | | | 0.0 | |
| | | | | | | | | 0.0 | 10x20 silica sand pack |
| | | | | | | | 8.5 | | |
| | | | | | | | **SAND (FILL)**, brown, very fine-grained, few fines, trace charred wood fragments, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| 10 | | | | | | | | | |
| | | | EMW-3S-10.0* | | | | | | |
| | | | | | SP | | From 11.0 to 11.5 feet: Wood fragments. | | |
| | | GP | EMW-3S-12.5 | 50 | | | From 12.5 feet to 15.0 feet: No recovery. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | | 0.0 | |
| | | | | | | | 13.5 | | |
| | | | | | | | **SILTY SAND (FILL)**, gray, fine-grained, some fines, wet, hydrogen sulfide-like odor. | 0.0 | |
| 15 | | | | | SM | | | | |
| | | | EMW-3S-15.0* | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

*(Continued Next Page)*

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# WELL NUMBER EMW-3S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SM | | **SILTY SAND (FILL)**, gray, fine-grained, some fines, wet, hydrogen sulfide-like odor. *(continued)* | 0.0<br>0.0<br>0.0<br>0.0 | |
| 20 | | | EMW-3S-20.0 | | | | 20.0 Boring completed at 20.0 feet. | 0.0 | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-4D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 17.01' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 15.0 ft
**LOGGED BY** C. Lee/A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE**. | 0.0 | Concrete |
| | | GP | EMW-4D-2.5* | 100 | GP | | 1.5 **SANDY GRAVEL (FILL)**, brown, fine to coarse, little fine- to coarse-grained sand, very moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | SP | | 2.5 **SAND (FILL)**, light brown, fine-grained, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| 5 | | GP | EMW-4D-5.0* | 50 | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | EMW-4D-7.5* | | | | 7.5 **GRAVEL (FILL)**, gray, fine, few fine- to coarse-grained sand, moist, no hydrocarbon-like odors or staining. From 8.0 to 12.0 feet: Rock fragments and gravel blocked sampler. | 0.0 | |
| 10 | | GP | | 0 | GP | | | | |
| | | | EMW-4D-12.5 | | | | | 0.0 | |
| | | GP | | 100 | | | 14.0 **SAND (FILL)**, dark brown to dark gray, fine-grained, moist to wet, trace wood fragments, weak hydrocarbon-like odors. | 0.0 | Hydrated bentonite chips |
| 15 | | | EMW-4D-15.0 | | SP | | 15.5 | 0.0 | |
| | | | | | ML | | | 3.2 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
Perched groundwater level at time of drilling.



*(Continued Next Page)*

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# WELL NUMBER EMW-4D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | ML | | **SANDY SILT**, dark gray, wet, trace wood fragments, weak hydrocarbon-like odors. *(continued)* | 0.0<br>0.0 | |
| | | GP | | 100 | SW | | 18.0<br>**SAND**, dark gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining | 0.0<br>0.0 | |
| 20 | | GP | EMW-4D-20.0 | 100 | | | | 0.0<br>0.0<br>0.0<br>0.0<br>0.0 | |
| 25 | | GP | EMW-4D-25.0 | 100 | | | 26.5 | 0.0<br>0.0 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | 0.0<br>0.0 | |
| 30 | | GP | EMW-4D-30.0 | 100 | | | | 0.0<br>0.0<br>0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-4D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 35 | | | EMW-4D-35.0 | | | | @ 35.0 feet: Refusal with direct push drilling method; remaining depth logged from hollow-stem auger cuttings at time of well installation. | | |
| 40 | | | | | SP | | | | 10x20 silica sand pack |
| 45 | | | | | | | | | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |

## REMARKS

PID = Photoionization detector.
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GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

*(Continued Next Page)*

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# WELL NUMBER EMW-4D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 50 | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | | |
| | | | | | | | 50.0 Boring completed at 50.0 feet. | | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 40.0 feet: 2"-diameter Sch. 40 PVC blank riser.
40.0 to 49.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
49.8 to 50.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 38.0 feet: Hydrated bentonite chips.
38.0 to 50.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-5S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/13/13 **COMPLETED** 6/13/13
**GROUND ELEVATION** 17.00' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.2 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | 0.3 | Concrete |
| | | GP | EMW-5S-1.0* | 60 | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, trace to few fines, moist, no hydrocarbon-like odors or staining. 2.0 | 0.0 | |
| | | GP | EMW-5S-2.5 | | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. 2.8 | 0.0 | Hydrated bentonite chips |
| | | | | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace fines, moist, no hydrocarbon-like odors or staining. From 3.0 feet to 6.5 feet: No recovery. | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | | | | | |
| | | GP | EMW-5S-6.5 | 70 | | | From 6.5 feet to 6.8 feet: Brick and charred wood fragments and ash. | 0.0 | |
| | | | EMW-5S-7.5* | | SP | | 7.2 @ 6.8 feet: Cobble fragments in sampler. **SAND (FILL)**, brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. @ 8.0 feet: Becomes fine-grained; becomes brownish-gray. 9.5 | 0.0 | 10x20 silica sand pack |
| 10 | | | | | SM | | **SILTY SAND (FILL)**, brownish-gray, fine-grained, some fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-5S-10.0* | 100 | | | 12.0 | 0.0 | |
| | | | EMW-5S-12.5 | | SP | | **SAND**, gray, fine- to medium-grained, moist to wet, mottled, no hydrocarbon-like odors or staining. @ 12.2 feet: Becomes wet. @ 14.5 feet: Few fines. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| 15 | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

(Continued Next Page)

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# WELL NUMBER EMW-5S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SP | | **SAND**, gray, fine- to medium-grained, moist to wet, mottled, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |

Boring completed at 20.0 feet.

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-6S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/12/13 **COMPLETED** 6/12/13
**GROUND ELEVATION** 16.70' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 11.5 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.4 | Concrete |
| | | GP | EMW-6S-1.0* | 95 | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, moist, no hydrocarbon-like odors or staining. | 0.3 | |
| | | | EMW-6S-2.5 | | | | @ 2.8 feet: Cobble fragments in sampler. From 3.2 to 3.5 feet: Brick fragments. | 0.3 | Hydrated bentonite chips |
| | | | | | | | 4.5 | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | SP | | **SAND (FILL)**, dark brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. @ 4.8 feet: Charred wood fragments. | 0.0 | |
| | | GP | EMW-6S-5.0* | 90 | | | | 0.0 | |
| | | | EMW-6S-7.5 | | | | | 0.0 | |
| | | | | | | | | 0.0 | 10x20 silica sand pack |
| | | | | | | | 9.0 | 0.0 | |
| 10 | | | | | SM | | **SILTY SAND**, gray, fine-grained, some fines, moist to wet, thin laminations of fine- to medium-grained sand, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-6S-10.0* | | | | | 0.0 | |
| | | | EMW-6S-12.5 | | | | @ 11.5 feet: Becomes wet. | 0.0 | |
| | | | | | | | @ 12.5 feet: Wood fragments. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| 15 | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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Fax: 425.402.8488

# WELL NUMBER EMW-6S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SM | | **SILTY SAND**, gray, fine-grained, some fines, moist to wet, thin laminations of fine- to medium-grained sand, no hydrocarbon-like odors or staining. *(continued)* | 0.0<br>0.0<br>0.0 | |
| | | | | | | | 18.5 | | |
| | | | | | SP | | **SAND**, gray, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |
| | | | | | | | Boring completed at 20.0 feet. | | |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-7S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/13/13 **COMPLETED** 6/13/13
**GROUND ELEVATION** 17.12' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.5 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | | Concrete |
| | | GP | EMW-7S-1.0* | 95 | SP | | **GRAVELLY SAND (FILL)**, fine-grained, some fine to coarse gravel, moist, weak hydrocarbon-like odors. | 0.7 | |
| | | | | | | | @ 2.2 feet to 3.0 feet: Cobbles. | 2.7 | Hydrated bentonite chips |
| | | | | | | | 3.5 | 0.0 | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, moist, no hydrocarbon-like odors or staining. | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | | | | 0.0 | |
| | | GP | EMW-7S-5.0* | 100 | | | | 0.0 | |
| | | | EMW-7S-7.5 | | | | | 0.0 | |
| | | | | | | | | 0.0 | 10x20 silica sand pack |
| | | | | | | | | 0.0 | |
| 10 | | | | | | | 9.8 | | |
| | | GP | EMW-7S-10.0* | | SP | | **SAND**, gray, fine- to medium-grained, trace to few fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | 12.2 | 0.0 | |
| | | | EMW-7S-12.5 | | SM | | **SILTY SAND**, brownish-gray, fine-grained, some fines, moist to wet, no hydrocarbon-like odors or staining. @ 12.5 feet: Becomes wet. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| 15 | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

(Continued Next Page)

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Fax: 425.402.8488

# WELL NUMBER EMW-7S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | | SM | | **SILTY SAND**, brownish-gray, fine-grained, some fines, moist to wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| 17.5 | | | | | | | | | |
| | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, trace fine gravel, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | | 0.0 | 2"-diameter Sch. 40 PVC end cap |
| 20.0 | | | | | | | Boring completed at 20.0 feet. | | |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-8S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/12/13 **COMPLETED** 6/12/13
**GROUND ELEVATION** 16.97' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.3 **ASPHALT**. | 0.0 | Concrete |
| | | GP | EMW-8S-1.0* | 90 | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. 1.5 | 0.0 | |
| | | | EMW-8S-2.5 | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, few fine to coarse gravel, moist, no hydrocarbon-like odors or staining. 4.5 | 0.0 0.0 0.0 | Hydrated bentonite chips; 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | SP | | 5.0 **SAND**, dark gray to black, very fine-grained, moist, weak hydrocarbon-like odor. | 0.0 | |
| | | GP | EMW-8S-5.0* | 100 | SP | | **SAND**, dark gray, fine- to medium-grained, trace fines, moist, weak hydrocarbon-like odor. 9.0 | 0.0 0.0 0.0 | 10x20 silica sand pack |
| | | | EMW-8S-7.5 | | | | | 0.0 | |
| 10 | | | | | SM | | **SILTY SAND**, gray, fine-grained, some fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-8S-10.0* | 80 | | | | | |
| | | | EMW-8S-12.5 | | | | @ 12.0 feet: Becomes wet. 14.2 | 0.0 0.0 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| 15 | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

(Continued Next Page)

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# WELL NUMBER EMW-8S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | -- | SP | | **SAND**, dark gray, fine- to medium-grained, trace fines, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |

Boring completed at 20.0 feet.

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-9S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/13/13 **COMPLETED** 6/13/13
**GROUND ELEVATION** 16.94' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT**. | | Concrete |
| | | GP | EMW-9S-1.0* | | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, fine to coarse gravel, moist, no odors or staining. 2.0 | 0.1 | |
| | | GP | EMW-9S-2.5 | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, few fine gravel, trace fines, moist, no hydrocarbon-like odors or staining. @ 2.5 feet: Becomes black, weak hydrocarbon-like odor; trace brick fragments. @ 3.0 feet: No hydrocarbon-like odors or staining. @ 4.0 feet: Becomes brown. 5.0 @ 4.8 feet: Becomes gray. | 1.2 / 0.0 / 0.0 | Hydrated bentonite chips; 2"-diameter Sch. 40 PVC blank riser |
| 5 | | GP | EMW-9S-5.0* | 100 | SM | | **SILTY SAND (FILL)**, black, very fine-grained, little fines, moist, weak hydrocarbon-like odor. @ 5.1 feet: Becomes brown; no hydrocarbon-like odors or staining. @ 6.0 feet: Becomes black; weak hydrocarbon-like odor. 7.2 @ 6.5 feet: Cobble fragments in sampler. | 1.6 / 6.7 / 0.7 | |
| | | GP | EMW-9S-7.5 | | SP | | **SAND**, brown, fine- to medium-grained, trace to few fines, moist, no hydrocarbon-like odors or staining. @ 8.8 feet: Becomes fine-grained, mottled. @ 9.0 feet: Becomes brownish-gray. 11.0 | 0.2 / 0.3 / 0.0 | 10x20 silica sand pack |
| 10 | | GP | EMW-9S-10.0* | | SM | | **SILTY SAND**, brownish-gray, fine-grained, little to some fines, moist, no hydrocarbon-like odors or staining. @ 12.0 feet: Becomes wet. | 0.0 / 0.0 / 0.0 / 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | GP | EMW-9S-12.5 | | | | | | |
| 15 | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

(Continued Next Page)

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Fax: 425.402.8488

# WELL NUMBER EMW-9S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | SM | | **SILTY SAND**, brownish-gray, fine-grained, little to some fines, moist, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | 17.0 | | |
| | | GP | | 100 | SP | | **SAND**, gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |
| | | | | | | | Boring completed at 20.0 feet. | | |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-10D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/19/13 **COMPLETED** 6/19/13
**GROUND ELEVATION** 17.06' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.0 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | GP | EMW-10D-1.0* | 90 | GP | | 0.5 **ASPHALT**. | | Concrete |
| | | | | | | | **GRAVEL (FILL)**, gray, fine to coarse, few fine-grained sand, damp, no hydrocarbon-like odors or staining. 2.0 | 0.0 | |
| | | | EMW-10D-2.5 | | SP | | **SAND**, brown, fine-grained, few fine gravel, thin layers of dark brown sand, damp, no hydrocarbon-like odors or staining. | 0.9 | |
| 5 | | GP | EMW-10-5.0* | 100 | | | @ 4.5 feet: Becomes dark brown; moderate creosote-like odor. | 1.2 | |
| | | | | | | | | 4.4 | |
| | | | EMW-10D-7.5 | | | | @ 6.5 feet: Creosote-like odor becomes weaker. | 1.1 | |
| | | | | | | | | 2.5 | |
| | | | | | | | 8.5 | | |
| 10 | | GP | EMW-10D-10.0* | 100 | ML | | **SANDY SILT**, grayish brown, little fine-grained sand, moist, weak to no creosote-like odors. | 2.5 | |
| | | | | | | | | 4.6 | |
| | | | | | | | 11.0 | 1.3 | |
| | | | | | SM | | **SILTY SAND**, brown, fine-grained, little fines, moist to wet, no hydrocarbon-like odors. 12.0 ▼ | 2.5 | |
| | | GP | EMW-10D-12.5 | 100 | SP | | **SAND**, brown, fine-grained, few fines, wet, weak creosote-like odor. | 1.6 | |
| | | | | | | | 14.0 @ 13.5 feet: Becomes grayish-brown. | 2.1 | Hydrated bentonite chips |
| | | | | | ML | | **SANDY SILT**, gray, some very fine-grained sand, wet, weak creosote-like odor. 15.0 | 1.9 | |
| 15 | | | EMW-10D-15.0* | | SP | | **SAND**, dark gray, fine- to medium-grained, wet, weak creosote-like odor. | 1.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

*(Continued Next Page)*

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# WELL NUMBER EMW-10D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SP | | **SAND**, dark gray, fine- to medium-grained, wet, weak creosote-like odor. *(continued)* | 3.0 | |
| | | | | | | | | 4.2 | |
| | | | | | | | | 1.9 | |
| | | | | | | | From 19.0 feet to 21.0 feet: Sheen on soil; moderate creosote-like odor. | 4.1 | |
| 20 | | | | | | | | | |
| | | GP | EMW-10D-20.0 | 100 | | | | 5.0 | |
| | | | | | | | | 4.0 | |
| | | | | | | | | 1.9 | |
| | | | | | | | @ 23.0 feet: Sheen on soil; moderate creosote-like odor. | 2.4 | |
| | | | | | | | From 24.0 to 50.0 feet: Strong creosote-like odor; brown staining (product) on sample liners and equipment; oily coating on soil. | 4.0 | |
| 25 | | GP | EMW-10D-25.0 | 100 | | | | 6.8 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | | | | 3.9 | |
| | | | | | | | | 6.1 | |
| | | | | | | | | 6.5 | |
| 30 | | GP | EMW-10D-30.0 | 100 | | | | 3.8 | |
| | | | | | | | | 4.1 | |
| | | | | | | | | 4.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.



*(Continued Next Page)*

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# WELL NUMBER EMW-10D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | EMW-10D-35.0* | 100 | SP | | **SAND**, dark gray, fine- to medium-grained, wet, weak creosote-like odor. *(continued)* | 3.1<br>2.6<br>4.9<br>12.6 | |
| 35 | | | | | | | | | |
| | | GP | EMW-10D-40.0 | 100 | | | | 6.8<br>11.3<br>4.1<br>5.9 | |
| 40 | | | | | | | From 40.0 to 42.0 feet: Sample tube was stuck in sampler; driller shook soil out of sampler. | | |
| | | GP | | -- | | | | | 10x20 silica sand pack |
| | | GP | | 100 | | | | 3.6<br>1.9<br>2.4 | |
| 45 | | | | | | | | | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | | 3.6<br>3.9<br>4.1 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.



*(Continued Next Page)*

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Telephone: 425.402.8800
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# WELL NUMBER EMW-10D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SP | | **SAND**, dark gray, fine- to medium-grained, wet, weak creosote-like odor. *(continued)* | 2.9 | |
| 50 | | | EMW-10D-50.0 | | | | 50.0 Boring completed at 50.0 feet. | | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 40.0 feet: 2"-diameter Sch. 40 PVC blank riser.
40.0 to 49.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
49.8 to 50.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 38.0 feet: Hydrated bentonite chips.
38.0 to 50.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-11S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/12/13 **COMPLETED** 6/12/13
**GROUND ELEVATION** 17.07' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.2 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.4 **ASPHALT**. | 0.1 | Concrete |
| | | GP | EMW-11S-1.0* | 90 | SP | | **GRAVELLY SAND (FILL)**, brown, fine to coarse, some fine-grained sand, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | 2.0 | | |
| | | | EMW-11S-2.5 | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace fine gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| | | | | | | | | 0.0 | |
| | | | | | | | 4.2 | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | SP | | **GRAVELLY SAND (FILL)**, brown, very fine-grained, little to some gravel, few fines, moist, no hydrocarbon-like odors or staining. | 0.1 | |
| | | | EMW-11S-5.0* | | | | 5.5 | | |
| | | GP | EMW-11S-7.5 | 100 | SP | | **SAND**, brown, fine- to medium-grained, trace fine to coarse gravel, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | @ 6.5 feet: Becomes dark brown, fine- to medium-grained, no gravel, no fines. | 0.0 | |
| | | | | | | | @ 8.0 feet: Becomes brown, fine-grained, little fines. | 0.0 | 10x20 silica sand pack |
| | | | | | | | | 0.0 | |
| 10 | | | | | | | @ 9.5 feet: Becomes dark brown, fine- to medium-grained, no fines. | 0.0 | |
| | | | EMW-11S-10.0* | | | | @ 10.8 feet: Becomes fine-grained, few fine gravel. | 0.0 | |
| | | | | | | | 12.0 | 0.0 | |
| | | GP | EMW-11S-12.5 | 100 | SM | | **SILTY SAND**, gray, fine-grained, some fines, moist to wet, mottled, no hydrocarbon-like odors or staining. @ 12.2 feet: Becomes wet. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | 14.2 | 0.0 | |
| 15 | | | | | SP | | **SAND**, brownish-gray, fine- to medium-grained, wet, mottled, no hydrocarbon-like odors or staining. | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-11S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 90 | SP | | **SAND**, brownish-gray, fine- to medium-grained, wet, mottled, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | 20.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap |

Boring completed at 20.0 feet.

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-12S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/11/13 **COMPLETED** 6/11/13
**GROUND ELEVATION** 17.12' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.2 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 0.5 **ASPHALT**. | 0.0 | Concrete |
| | | | EMW-12S-1.0* | | GP | | 1.5 **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-12S-2.5 | 100 | SP | | **SAND (FILL)**, brown, fine-grained, trace fines, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| | | | | | | | 3.5 | 0.0 | |
| | | | | | SM | | 4.0 **SILTY SAND (FILL)**, dark gray, fine-grained, some fines, few fine gravel, few brick fragments, moist, weak hydrocarbon-like odors. | 0.7 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | SP | | 4.5 **SANDY GRAVEL (FILL)**, gray, fine to coarse, some fine-grained sand, moist, no hydrocarbon-like odors or staining. | 13.2 | |
| 5 | | | | | | | | | |
| | | | EMW-12S-5.0* | | SM | | **SILTY SAND (FILL)**, dark gray, fine-grained, some fines, few fine gravel, some asphalt fragments, moist, weak hydrocarbon-like odors. | 0.4 | |
| | | | | | | | 6.5 | | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, trace fine gravel, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-12S-7.5 | 100 | | | 8.0 | | |
| | | | | | SP | | **SAND**, brown, very fine-grained, little fines, moist, no odors or staining. | 0.0 | 10x20 silica sand pack |
| | | | | | | | | 0.0 | |
| 10 | | | | | | | | | |
| | | | EMW-12S-10.0* | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | @ 12.2 feet: Becomes wet. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | GP | EMW-12S-12.5 | 100 | | | 13.0 | | |
| | | | | | SP | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| 15 | | | | | | | | | |
| | | | EMW-12S-15.0* | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-12S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SP | | **SAND**, dark gray, fine- to medium-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0<br>0.0<br>0.0<br>0.0 | |
| 20 | | | EMW-12S-20.0 | | | | 20.0 Boring completed at 20.0 feet. | 0.0 | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-13S



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/11/13 **COMPLETED** 6/11/13
**GROUND ELEVATION** 16.79' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.5 ft
**LOGGED BY** A. Meugniot **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | | | 0.5 **ASPHALT**. | 0.0 | Concrete |
| | | | EMW-13S-1.0* | | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | 2.0 | | |
| | | GP | EMW-13S-2.5 | 100 | | | **SAND (FILL)**, brown, fine-grained, few fine gravel and cobbles, moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 5 | | | | | SP | | | | |
| | | | | | | | | 0.0 | |
| | | | EMW-13S-5.0* | | | | | | |
| | | | | | | | @ 6.0 feet: Becomes fine- to medium-grained. | 0.0 | |
| | | | | | | | | 0.0 | |
| | | GP | EMW-13S-7.5* | 100 | | | 7.5 | | |
| | | | | | SM | | **SILTY SAND (FILL)**, gray to dark gray, very fine- to fine-grained, few fine gravel, few brick fragments, moist, weak hydrocarbon-like odor. | 0.0 | 10x20 silica sand pack |
| | | | | | | | 8.8 | | |
| | | | | | GP | | 9.0 **GRAVEL (FILL)**, brown, fine to coarse, few fine-grained sand, moist, no hydrocarbon-like odors or staining. | 0.0 | |
| 10 | | | | | | | **BRICK DEBRIS**, moist, no hydrocarbon-like odors or staining. | | |
| | | | | | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| | | | | | | | 12.0 | | |
| | | GP | EMW-13S-12.5* | 80 | SP | | **SAND (FILL)**, brown, fine-grained, some fine gravel, few red brick fragments, moist, no hydrocarbon-like odors or staining. @ 12.5 feet: Becomes fine- to medium-grained, wet. | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | | 0.0 | |
| | | | | | | | 13.5 | | |
| | | | | | SP | | **SAND**, gray, fine-grained, some fines, few fine gravel, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| 15 | | | | | | | | | |
| | | | | | | | | 0.0 | |
| | | | | | | | 16.0 | | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-13S



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 90 | SP | | **GRAVELLY SAND**, gray, fine-grained, fine to coarse gravel, wet, no hydrocarbon-like odors or staining. | 0.0<br>0.0 | |
| | | | | | SM | | 18.0 **SILTY SAND**, gray, fine-grained, wet, no hydrocarbon-like odors or staining. | 0.0<br>0.0 | |
| 20 | | | | | | | 20.0 Boring completed at 20.0 feet. | 0.0 | 2"-diameter Sch. 40 PVC end cap |

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 19.8 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
19.8 to 20.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.0 feet: Concrete.
1.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 20.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-14D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/17/13 **COMPLETED** 6/17/13
**GROUND ELEVATION** 16.74' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 8.0 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT**. | | |
| | | GP | EMW-14D-1.0* | 100 | GP | | **GRAVEL (FILL)**, gray, fine to coarse, few fines, dry, no hydrocarbon-like odors or staining. 2.0 | 0.0 0.0 | Concrete |
| | | | EMW-14D-2.5 | | SP | | **SAND (FILL)**, brown, fine-grained, few fine gravel, damp, no hydrocarbon-like odors or staining. 5.0 | 0.0 0.0 0.0 | |
| 5 | | GP | EMW-14D-5.0* | 60 | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 0.0 0.0 | |
| | | | EMW-14D-7.5 | | | | ▼ @ 8.0 feet: Becomes wet. | 0.0 | |
| 10 | | GP | EMW-14D-10.0* | 75 | | | 10.0 | | |
| | | | | | SM | | **SILTY SAND (FILL)**, brownish-gray, fine-grained, some fines, wet, no hydrocarbon-like odors or staining. 11.0 | | |
| | | | EMW-14D-12.5 | | GP | | **GRAVEL (FILL)**, gray, coarse, wet, no hydrocarbon-like odors or staining. 13.5 | 0.0 0.0 | Hydrated bentonite chips |
| 15 | | GP | EMW-14D-15.0* | 80 | SP | | **GRAVELLY SAND**, dark brown to reddish-brown, fine-grained, little fine gravel, wet, no hydrocarbon-like odors or staining. 15.0 | | |
| | | | | | SP | | **SAND**, reddish-brown, fine-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-14D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | SP | | 16.5 | | |
| | | GP | | 100 | SW | | **SAND**, gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | | | | | | | | |
| | | GP | EMW-14D-20.0 | 100 | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 25 | | GP | EMW-14D-25.0 | 100 | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | | | | 0.0 | |
| 30 | | GP | EMW-14D-30.0 | 100 | | | | 0.0 | |
| | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-14D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | | | **SAND**, gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| 35 | | | EMW-14D-35.0 | | | | | 0.0 | |
| | | GP | | 100 | | | | 0.0 | |
| 40 | | | | | SW | | | 0.0 | |
| | | GP | EMW-14D-40.0 | 100 | | | | 0.0 | 10x20 silica sand pack |
| 45 | | GP | EMW-14D-45.0 | -- | | | | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.



*(Continued Next Page)*

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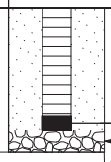
# WELL NUMBER EMW-14D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 50 | | GP | EMW-14D-50.0 | 100 | SW | | **SAND**, gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | 50.0 Boring completed at 50.0 feet. | | |




## WELL COMPLETION DETAILS:

0.3 to 39.5 feet: 2"-diameter Sch. 40 PVC blank riser.
39.5 to 49.5 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
49.5 to 49.7 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.5 feet: Concrete.
1.5 to 37.5 feet: Hydrated bentonite chips.
37.5 to 49.7 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-15D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/18/13 **COMPLETED** 6/18/13
**GROUND ELEVATION** 16.43' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 7.5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | 0.5 **ASPHALT**. | | |
| | | GP | EMW-15D-1.0* | 90 | | GP | | 2.0 **SANDY GRAVEL (FILL)**, brown, fine to coarse, trace fines, damp, no hydrocarbon-like odors or staining. | 0.0 | Concrete |
| | | | EMW-15D-2.5 | | | SP | | **SAND (FILL)**, brown, fine-grained, few fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 | |
| 5 | | GP | EMW-15D-5.0* | 50 | | | | 6.5 | 0.0 | |
| | | | | | | ML | | **SANDY SILT**, brown, some fine-grained sand, moist to wet, no odors or staining. @ 7.5 feet: No recovery. | 0.0 | |
| 10 | | GP | EMW-15D-10.0* | 90 | | SP | | 9.0 **SAND (FILL)**, black, fine-grained, few fine-gravel, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | GP | | 11.0 **GRAVEL (FILL)**, gray, coarse, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-15D-12.5 | 100 | | SP | | 12.0 **SAND (FILL)**, brown, fine-grained, few fine gravel, wet, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| 15 | | | EMW-15D-15.0* | | | | | 15.5 | 0.0 | |
| | | | | | | GP | | | | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
Perched groundwater level at time of drilling.

(Continued Next Page)

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# WELL NUMBER EMW-15D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | | GP | | **GRAVEL (FILL)**, gray, coarse, wet, no hydrocarbon-like odors or staining. *(continued)* | | |
| | | | | | | | | 17.0 **SAND**, black, fine-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | | | | | | @ 18.0 feet: Brick fragments in sampler. | 0.0 | |
| 20 | | SS | EMW-15D-20.0 | 100 | 50/5" | | | @ 20.0 feet: Refusal with Geoprobe. | 0.0 | |
| | | | | | | | | @ 22.5 feet: Becomes dark gray; becomes fine- to medium-grained (auger cuttings). | | |
| | | | | | | SP | | | | |
| 25 | | SS | EMW-15D-25.0 | 100 | 47 | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| 30 | | | | | | | | @ 30.0 feet: Unable to drive split-spoon sampler due to heave in augers. | | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.

*(Continued Next Page)*

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# WELL NUMBER EMW-15D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | **SAND**, black, fine-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | | |
| 35 | | | | | | | | @ 35.0 feet: Unable to drive split-spoon sampler due to heave in augers. | | |
| 40 | | | | | | SP | | @ 40.0 feet: Unable to drive split-spoon sampler due to heave in augers. | | 10x20 silica sand pack |
| 45 | | | | | | | | @ 45.0 feet: Unable to drive split-spoon sampler due to heave in augers. | | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.



*(Continued Next Page)*

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# WELL NUMBER EMW-15D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|---|
| 50 | | | | | | SP | | **SAND**, black, fine-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | | 2"-diameter Sch. 40 PVC end cap |
| | | | | | | | | 50.0 @ 50.0 feet: Unable to drive split-spoon sampler due to heave in augers. Boring completed at 50.0 feet. | | |

## WELL COMPLETION DETAILS:

0.3 to 39.5 feet: 2"-diameter Sch. 40 PVC blank riser.
39.5 to 49.5 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
49.5 to 49.7 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.5 feet: Concrete.
1.5 to 37.5 feet: Hydrated bentonite chips.
37.5 to 49.7 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/20/13.
▼ Perched groundwater level at time of drilling.

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# WELL NUMBER EMW-16D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 6/18/13 **COMPLETED** 6/18/13
**GROUND ELEVATION** 16.99' **HOLE SIZE** 8-inch diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 9.0 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT**. | | |
| | | GP | EMW-16D-1.0* | 80 | GP | | **SANDY GRAVEL (FILL)**, brown, fine to coarse, some fine-grained sand, damp, no hydrocarbon-like odors or staining. 2.0 | 0.0 | Concrete |
| | | | | | | | **CONCRETE DEBRIS**. 4.0 | 0.0 | |
| 5 | | GP | EMW-16D-5.0* | 100 | SP | | **SAND (FILL)**, brown, fine-grained, damp, no hydrocarbon-like odors or staining. 6.0 | 0.0 | |
| | | | | 100 | GP | | **GRAVEL (FILL)**, coarse, few fine-grained sand, damp, no hydrocarbon-like odors or staining. 7.0 | | |
| | | | EMW-16D-7.5 | | SP | | **SAND (FILL)**, brown, fine-grained, trace fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 | |
| 10 | | GP | EMW-16D-10.0* | 100 | | | @ 9.0 feet: Becomes wet. 10.5 | 0.0 | |
| | | | | | SM | | **SILTY SAND (FILL)**, brown, very fine-grained, some fines, wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | GP | EMW-16D-12.5 | | | | 13.5 | 0.0 | Hydrated bentonite chips |
| | | | | | SP | | **SAND (FILL)**, brown, fine-grained, wet, no hydrocarbon-like odors or staining. 15.0 | 100 | |
| 15 | | | EMW-16D-15.0 | | SW | | **SAND**, dark gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
Perched groundwater level at time of drilling.



*(Continued Next Page)*

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# WELL NUMBER EMW-16D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | GP | | 100 | SW | | **SAND**, dark gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | 0.0 | |
| | | | | | | | | 0.0 | |
| 20 | | GP | EMW-16D-20.0 | 100 | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 25 | | GP | EMW-16D-25.0 | 100 | | | | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| | | | | | | | | 0.0 | |
| 30 | | GP | EMW-16D-30.0 | 100 | | | | 0.0 | |
| | | | | | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

*(Continued Next Page)*

SLR MW LOG CROWLEY RIFS WELLS.GPJ GINT US.GDT 1/16/14

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# WELL NUMBER EMW-16D



**CLIENT** Crowley Marine Services
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00030
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | **SAND**, dark gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. *(continued)* | | |
| | | GP | | 100 | | | | 0.0 | |
| 35 | | | EMW-16D-35.0 | | | | | 0.0 | |
| | | GP | | 100 | | | | 0.0 | |
| | | | | | | | | 0.0 | |
| 40 | | | EMW-16D-40.0 | | SW | | | | |
| | | GP | | | | | | 0.0 | 10x20 silica sand pack |
| | | | | | | | | 0.0 | |
| 45 | | | EMW-16D-45.0 | | | | | 0.0 | 2"-diameter Sch. 40 PVC 0.010"-slotted screen |
| | | GP | | 100 | | | | 0.0 | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.



*(Continued Next Page)*

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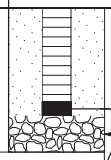
# WELL NUMBER EMW-16D



**CLIENT** Crowley Marine Services **PROJECT NAME** 8th Avenue Terminals, Inc. Site

**PROJECT NUMBER** 101.00205.00030 **PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 50 | | | | | SW | | **SAND**, dark gray, fine- to coarse-grained, wet, no hydrocarbon-like odors or staining. *(continued)* Geoprobe boring completed at 48.0 feet. | | |
| | | | | | | | 50.0 Boring completed at 50.0 feet. | | |




## WELL COMPLETION DETAILS:

0.3 to 39.5 feet: 2"-diameter Sch. 40 PVC blank riser.
39.5 to 49.3 feet: 2"-diameter Sch. 40 PVC 0.010"-slotted screen.
49.3 to 49.5 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 1.5 feet: Concrete.
1.5 to 37.5 feet: Hydrated bentonite chips.
37.5 to 49.5 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Well installed after Geoprobe boring by using a hollow-stem auger drill rig on 6/21/13.
▼ Perched groundwater level at time of drilling.

# Key to Exploration Logs

## Sample Descriptions

Classification of soils in this report is based on visual field and laboratory observations which include density/consistency, moisture condition, grain size, and plasticity estimates and should not be construed to imply field nor laboratory testing unless presented herein. Visual-manual classification methods of ASTM D 2488 were used as an identification guide.

Soil descriptions consist of the following:
Density/consistency, moisture, color, minor constituents, MAJOR CONSTITUENT, additional remarks.

### Density/Consistency

Soil density/consistency in borings is related primarily to the Standard Penetration Resistance. Soil density/consistency in test pits is estimated based on visual observation and is presented parenthetically on the test pit logs.

| SAND or GRAVEL Density | Standard Penetration Resistance in Blows/Foot | SILT or CLAY Consistency | Standard Penetration Resistance in Blows/Foot | Approximate Shear Strength in TSF |
|---|---|---|---|---|
| Very loose | 0 - 4 | Very soft | 0 - 2 | <0.125 |
| Loose | 4 - 10 | Soft | 2 - 4 | 0.125 - 0.25 |
| Medium dense | 10 - 30 | Medium stiff | 4 - 8 | 0.25 - 0.5 |
| Dense | 30 - 50 | Stiff | 8 - 15 | 0.5 - 1.0 |
| Very dense | >50 | Very stiff | 15 - 30 | 1.0 - 2.0 |
| | | Hard | >30 | >2.0 |

### Moisture

| | |
|---|---|
| Dry | Little perceptible moisture |
| Damp | Some perceptible moisture, probably below optimum |
| Moist | Probably near optimum moisture content |
| Wet | Much perceptible moisture, probably above optimum |

### Minor Constituents

| | Estimated Percentage |
|---|---|
| Not identified in description | 0 - 5 |
| Slightly (clayey, silty, etc.) | 5 - 12 |
| Clayey, silty, sandy, gravelly | 12 - 30 |
| Very (clayey, silty, etc.) | 30 - 50 |

## Legends

### Sampling

BORING SAMPLES

- ⊠ Split Spoon
- ⊘ Shelby Tube
- ▥ Cuttings
- ⊞ Core Run
- * No Sample Recovery
- P Tube Pushed, Not Driven

### Test Symbols

| | |
|---|---|
| GS | Grain Size Classification |
| CN | Consolidation |
| TUU | Triaxial Unconsolidated Undrained |
| TCU | Triaxial Consolidated Undrained |
| TCD | Triaxial Consolidated Drained |
| QU | Unconfined Compression |
| DS | Direct Shear |
| K | Permeability |
| PP | Pocket Penetrometer Approximate Compressive Strength in TSF |
| TV | Torvane Approximate Shear Strength in TSF |
| CBR | California Bearing Ratio |
| MD | Moisture Density Relationship |
| AL | Atterberg Limits |

Water Content in Percent
- Liquid Limit
- Natural
- Plastic Limit

### Ground Water Observations

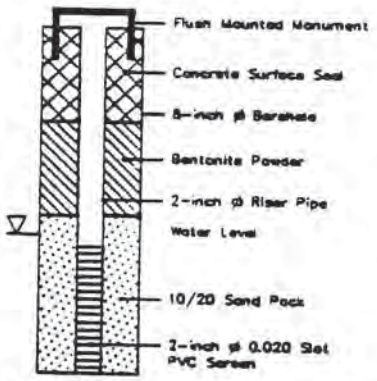



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Figure A-1

# Boring Log and Construction Data for Monitoring Well HC-1/HC-1A

## Geologic Log

Depth in feet

Approx. Ground Surface Elevation in Feet

0.3 foot ASPHALT over very dense, moist, brown, very sandy gravel. (FILL)

Very dense, moist, light brown, slightly gravelly, fine to medium SAND. (FILL)

Very dense, moist, black, silty, gravelly, medium to fine SAND.

Very stiff, damp to moist, dark brown, slightly sandy SILT.

Loose, moist to wet, dark brown, slightly silty, medium to fine SAND.

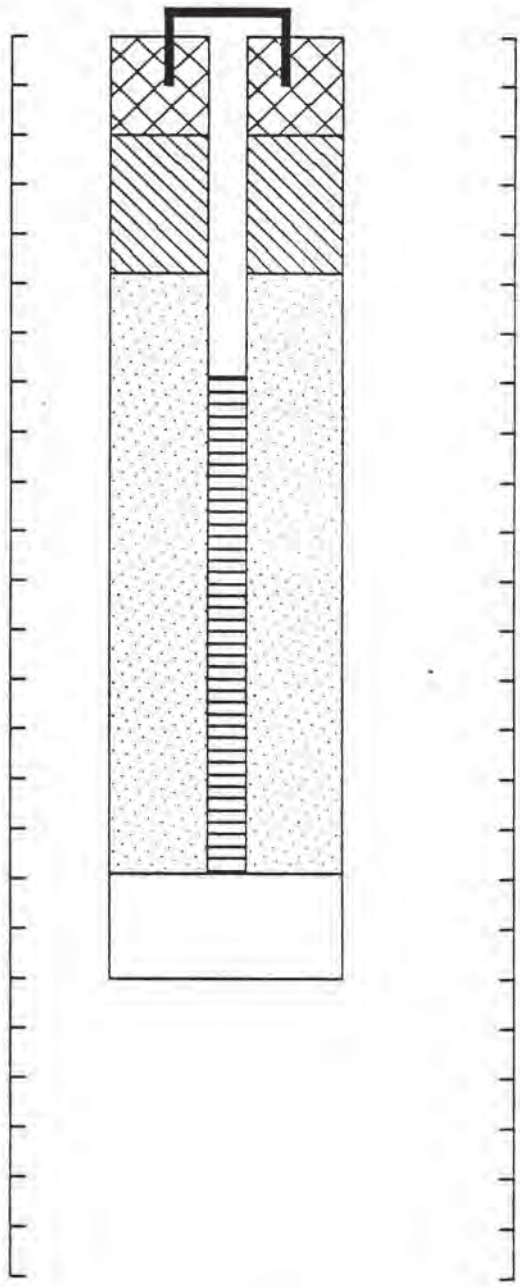
Loose and stiff, wet, gray, interbedded SILT and silty, fine SAND.

Bottom of Boring at 19.0 Feet. Completed 11/7/88.

| Sample | N |
|---|---|
| S-1 | 50/3" |
| S-2 | 50/5" |
| S-3 | 23 |
| S-4 | 10 |
| S-5 | 5 |
| *S-6 | 5 |
| S-7 | 3 |
| S-8 | 9 |

## Monitoring Well Design

Casing Stickup in Feet
Top of PVC in Feet 0.00



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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Figure A-2

# Boring Log and Construction Data for Monitoring Well HC-4

## Geologic Log

Depth in feet

Approx. Ground Surface Elevation in Feet

0.3 foot ASPHALT over dense, moist, sandy GRAVEL. (FILL)

Very dense, moist, gray-brown, silty, gravelly SAND. (FILL)

3-inch-layer of black mottled gray, very gravelly, fine SAND.

Stiff, wet, brown, very sandy SILT.

Loose, wet, brown-gray, very silty, fine SAND interbedded with orange, fine sand stringers.

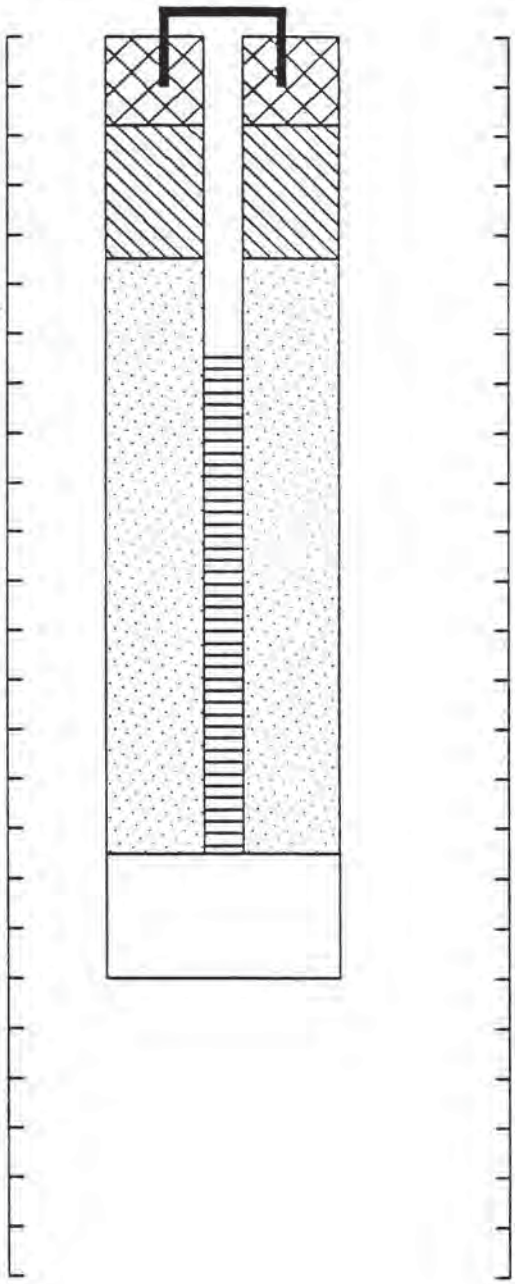
Loose, wet, dark brown, medium to fine SAND.

Bottom of Boring at 19.0 Feet.
Completed 11/7/88.

| Sample | N |
|---|---|
| S-1 | 57 |
| S-2 | 76/10" |
| S-3 | 15 |
| S-4 | 5 |
| S-5 | 8 |
| S-6 | 8 |
| S-7 | 7 |

## Monitoring Well Design

Casing Stickup in Feet
Top of PVC in Feet 0.00



1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

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Figure A-3

# Test Pit Log HC-5

| Sample | Water Content in Percent | Lab Tests | Depth in Feet | SOIL DESCRIPTIONS<br>Ground Surface Elevation in Feet 0.0 |
|---|---|---|---|---|
| S-0.5 | | CA | 0–1 | (Medium dense), moist, brown, silty, very gravelly, fine to medium SAND with roots and pieces of wood. |
| | | | 1–4 | Grading to (medium dense), moist, dark brown, slightly gravelly, fine to medium SAND. |
| S-3.0 | | CA | | |
| | | | 4 | Bottom of Hand Auger Boring at 4.0 Feet.<br>Completed 1/16/89. |
| | | | 5 | |
| | | | 6 | |
| | | | 7 | |
| | | | 8 | |
| | | | 9 | |
| | | | 10 | |
| | | | 11 | |
| | | | 12 | |
| | | | 13 | |
| | | | 14 | |
| | | | 15 | |

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater conditions, if indicated, are at time of excavation. Conditions may vary with time.
4. CA = Chemical Analysis

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J-2183-09 1/89

Figure A-4

# Boring Log HC-6

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet | Sample | Standard Penetration Resistance (▲ Blows per Foot) | Lab Tests |
|---|---|---|---|---|
| 3 inches of ASPHALT over loose, moist, brown, very gravelly, fine SAND. (FILL) | 0 | | | |
| Loose, moist, brown, fine to medium SAND. (FILL) | 5 | S-2.5 | | CA |
| | | S-4.0 | | CA |
| | | S-6.5 | | CA |
| | ▽ ATD | S-8.0 | | CA |
| Bottom of Boring at 10.0 Feet. Completed 1/17/89. | 10 | | | |
| | 15 | | | |
| | 20 | | | |
| | 25 | | | |
| | 30 | | | |
| | 35 | | | |
| | 40 | | | |
| | 45 | | | |
| | 50 | | | |
| | 55 | | | |
| | 60 | | | |

Blows per Foot: 1 2 5 10 20 50 100

● Water Content in Percent: 1 2 5 10 20 50 100

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-5 1/1

# Boring Log HC-7

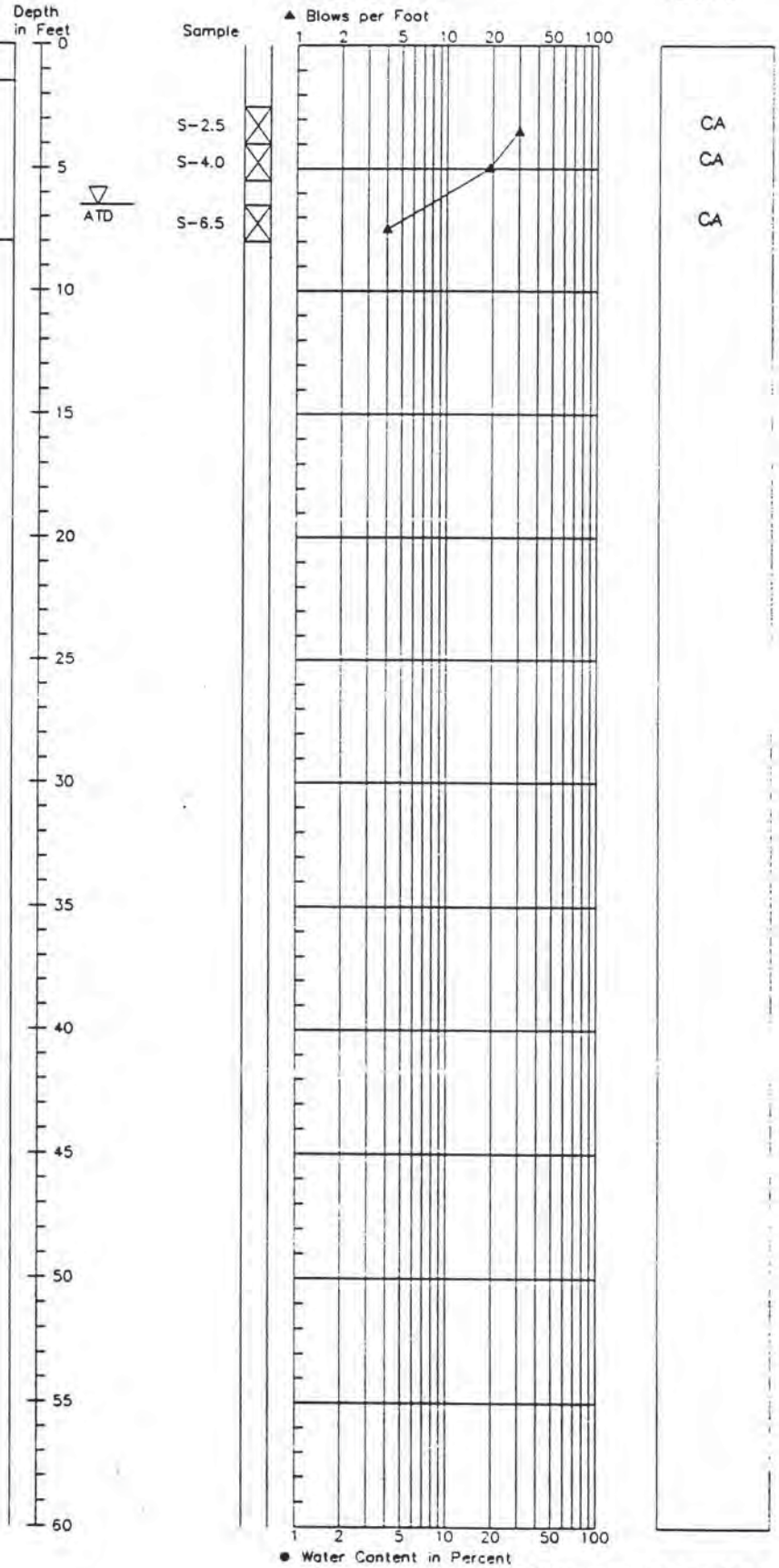
Soil Descriptions

Ground Surface Elevation in Feet 0.0

3 inches of ASPHALT over loose, damp, brown, sandy GRAVEL. (FILL)

Medium dense, moist, brown, fine to medium SAND grading to loose, wet, brown, fine to medium SAND.

Bottom of Boring at 8.0 Feet.
Completed 1/17/89.




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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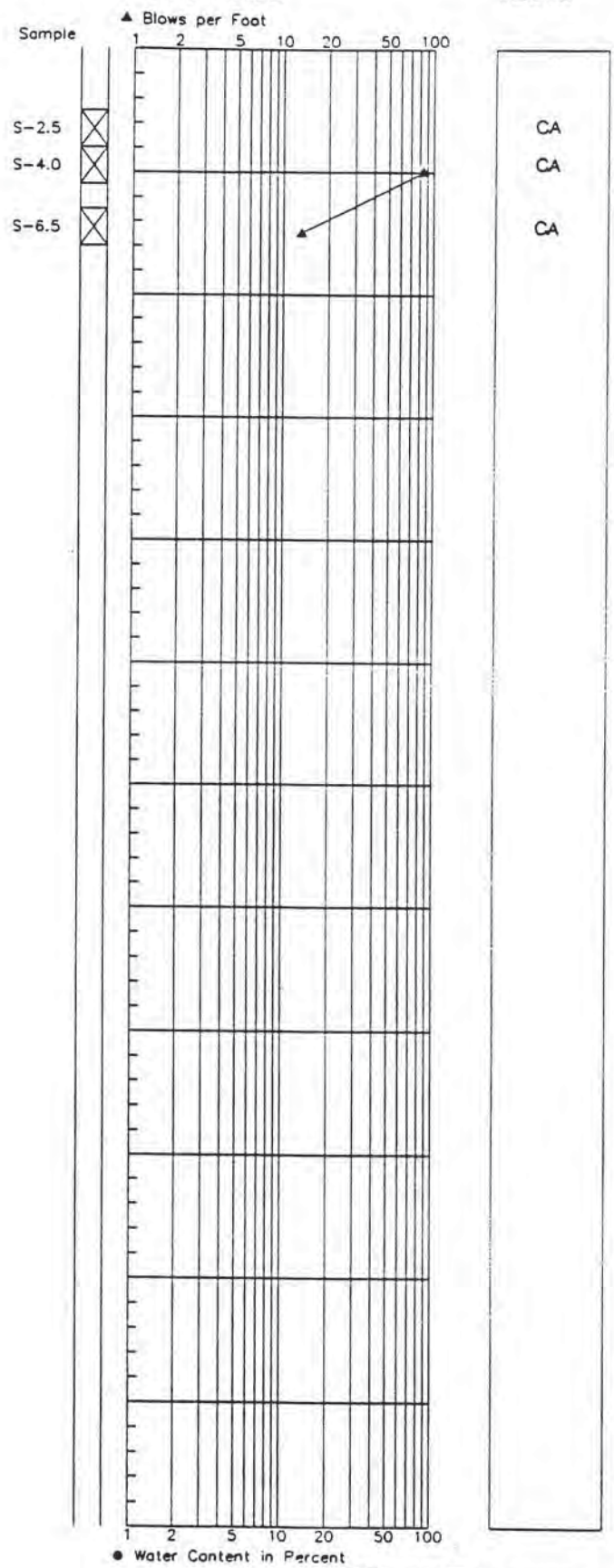
Figure A-6 1/1

# Boring Log HC-8

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet |
|---|---|
| 4 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 |
| Dense, damp, black, gravelly SAND. (FILL) | |
| Dense, damp, brown, fine to medium SAND grading to loose, moist, brown, fine to medium SAND. | 5 |
| Bottom of Boring at 8.0 Feet. Completed 1/18/89. | 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60 |




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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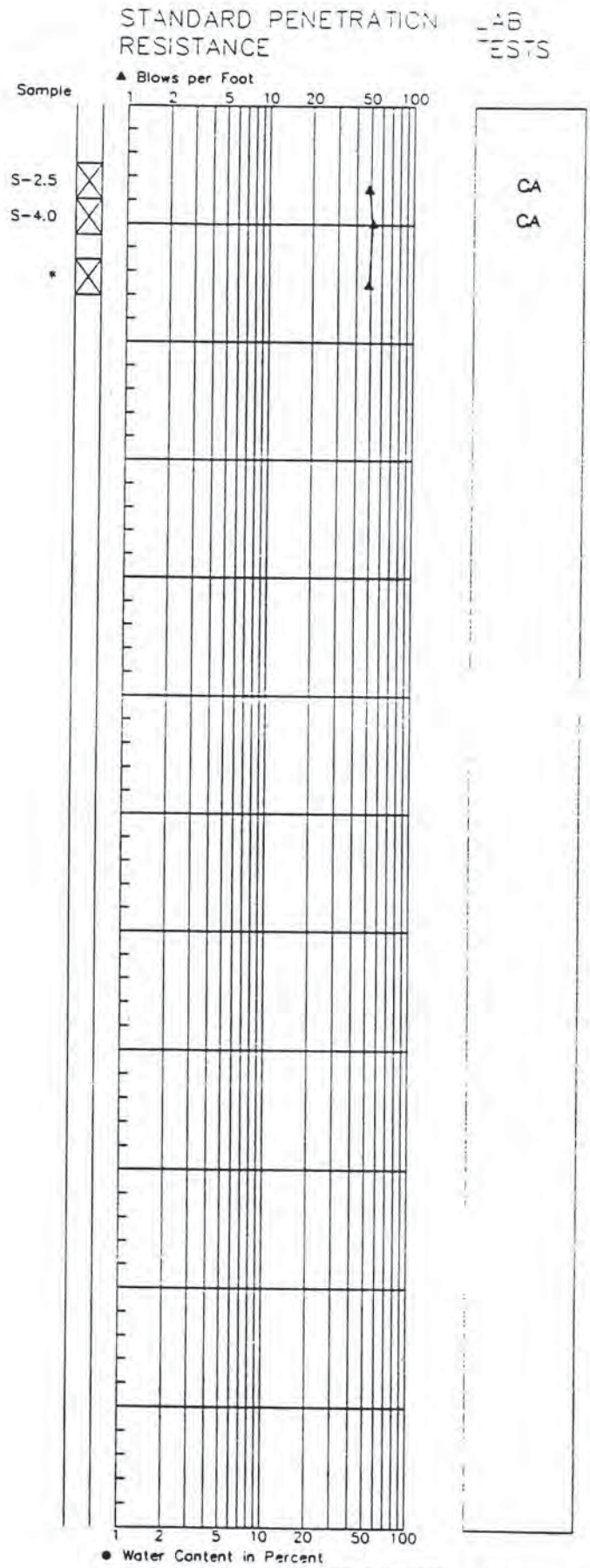
Figure A-7 1/1

# Boring Log HC-9

## Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet |
|---|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 |
| Medium dense, damp, brown, gravelly SAND containing brick fragments. (FILL) | |
| Medium dense, moist, brown, fine to medium SAND. | 5 |
| Bottom of Boring at 8.0 Feet. Completed 1/17/89. | 10 |
| | 15 |
| | 20 |
| | 25 |
| | 30 |
| | 35 |
| | 40 |
| | 45 |
| | 50 |
| | 55 |
| | 60 |




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-8 1/1

# Boring Log HC-10

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet |
|---|---|
| 4 inches of ASPHALT over medium dense, damp, black-brown, sandy GRAVEL. (FILL) | 0 |
| Medium dense, moist, brown, fine to medium SAND grading to loose, moist, brown, fine to medium SAND. | 5 |
| Bottom of Boring at 8.0 Feet. Completed 1/18/89. | 10 |

Depth in Feet: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

STANDARD PENETRATION RESISTANCE

▲ Blows per Foot

| Sample | Blows per Foot | LAB TESTS |
|---|---|---|
| 2.5 | | CA |
| 4.0 | | CA |
| 6.5 | | CA |

1 2 5 10 20 50 100

● Water Content in Percent

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-9 1/1

# Boring Log HC-11

## Soil Descriptions

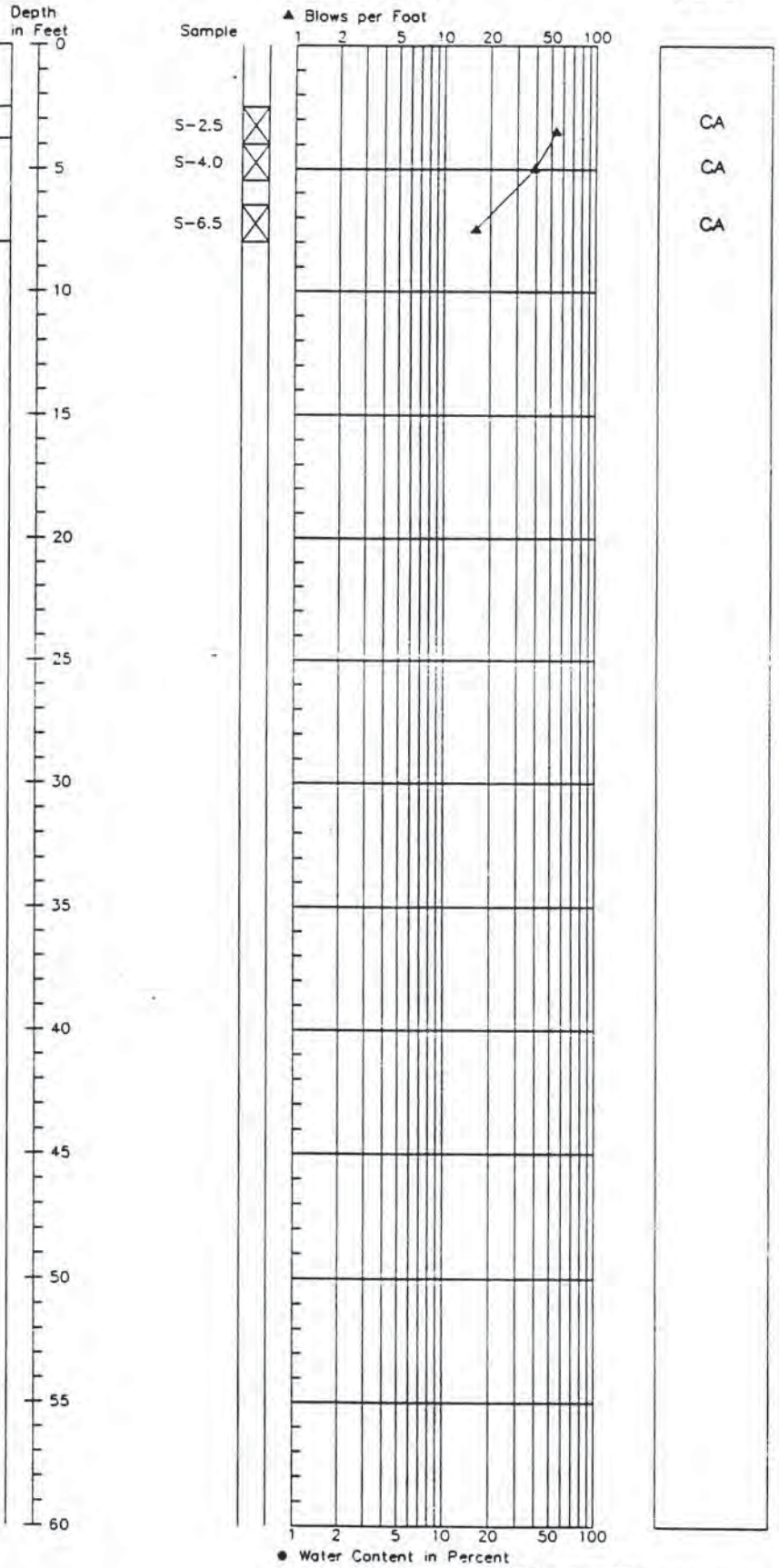
Ground Surface Elevation in Feet 0.0

3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL)

Medium dense, damp, black-gray, very gravelly, fine to medium SAND. (FILL)

Medium dense, moist, brown, fine to medium SAND grading to loose, wet, brown, fine to medium SAND.

Bottom of Boring at 8.0 Feet.
Completed 1/17/89.




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-10 1/1

# Boring Log HC-12

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet |
|---|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 |
| Very stiff, moist, black-gray, slightly gravelly, sandy SILT with wood fragments. | |
| Medium dense, moist, brown, fine to medium SAND grading to loose, moist, brown, fine to medium SAND. | 5 |
| Bottom of Boring at 8.0 Feet. Completed 1/17/89. | |

Depth in Feet: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

STANDARD PENETRATION RESISTANCE

▲ Blows per Foot

1 2 5 10 20 50 100

● Water Content in Percent

| Sample | Lab Tests |
|---|---|
| S-2.5 | CA |
| S-4.0 | CA |
| S-6.5 | CA |

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

4 CA = Chemical Analysis

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Figure A-11 1/1

# Boring Log HC-13

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet | Sample | Standard Penetration Resistance (▲ Blows per Foot) | Lab Tests |
|---|---|---|---|---|
| 4 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 | | | |
| Medium dense, moist, brown, slightly silty, fine to medium SAND. | | S-2.5 | | CA |
| Wood fragments interbedded. | | S-4.1 | | CA |
| Medium dense, moist, brown, slightly gravelly, silty SAND grading to loose, moist, brown, fine to medium SAND. | 5 | | | CA |
| Bottom of Boring at 8.0 Feet. Completed 1/17/89. | 10 | | | |
| | 15 | | | |
| | 20 | | | |
| | 25 | | | |
| | 30 | | | |
| | 35 | | | |
| | 40 | | | |
| | 45 | | | |
| | 50 | | | |
| | 55 | | | |
| | 60 | | | |

Standard Penetration Resistance: ▲ Blows per Foot (1, 2, 5, 10, 20, 50, 100)

● Water Content in Percent (1, 2, 5, 10, 20, 50, 100)

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.

4 CA = Chemical Analysis

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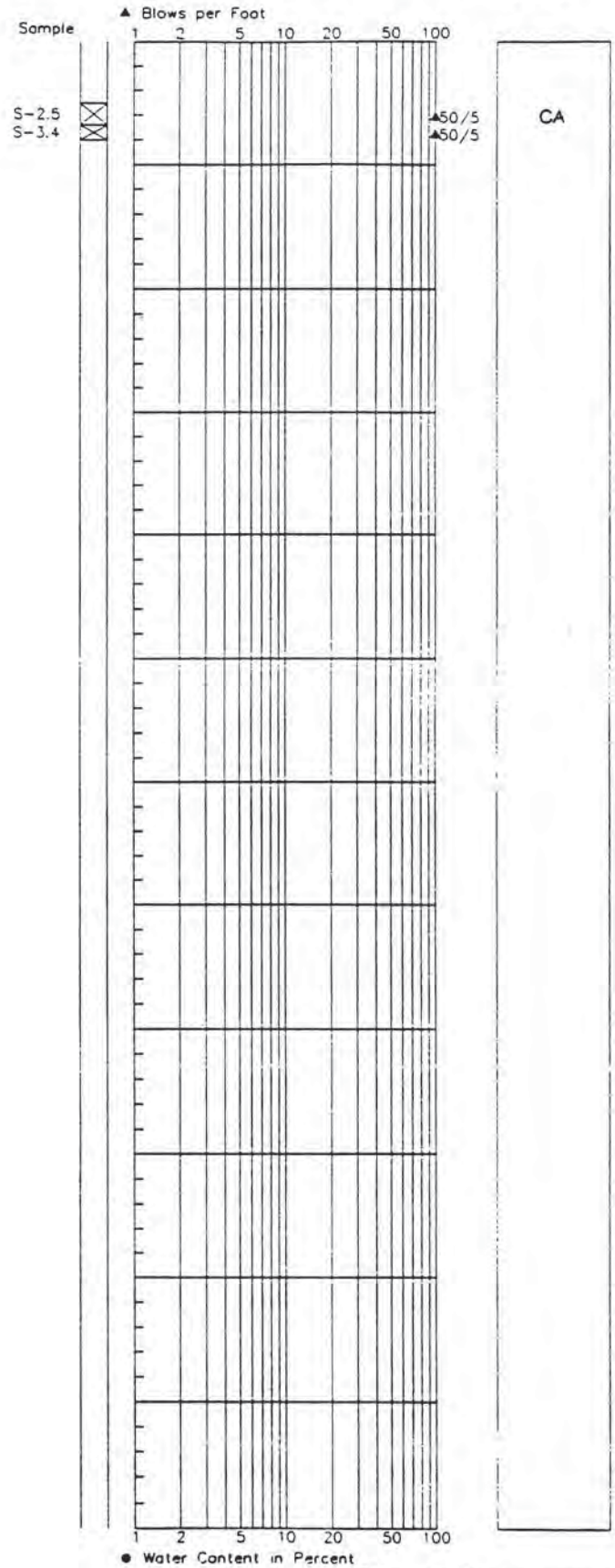
Figure A-12 1/1

# Boring Log HC-14A

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Depth in Feet |
|---|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 |
| Very dense, moist, brown, slightly gravelly, fine to medium SAND. | |
| Very dense, moist, brown, slightly silty SAND with wood fragments. | 5 |
| Bottom of Boring at 6.0 Feet. Completed 2/13/89. | |




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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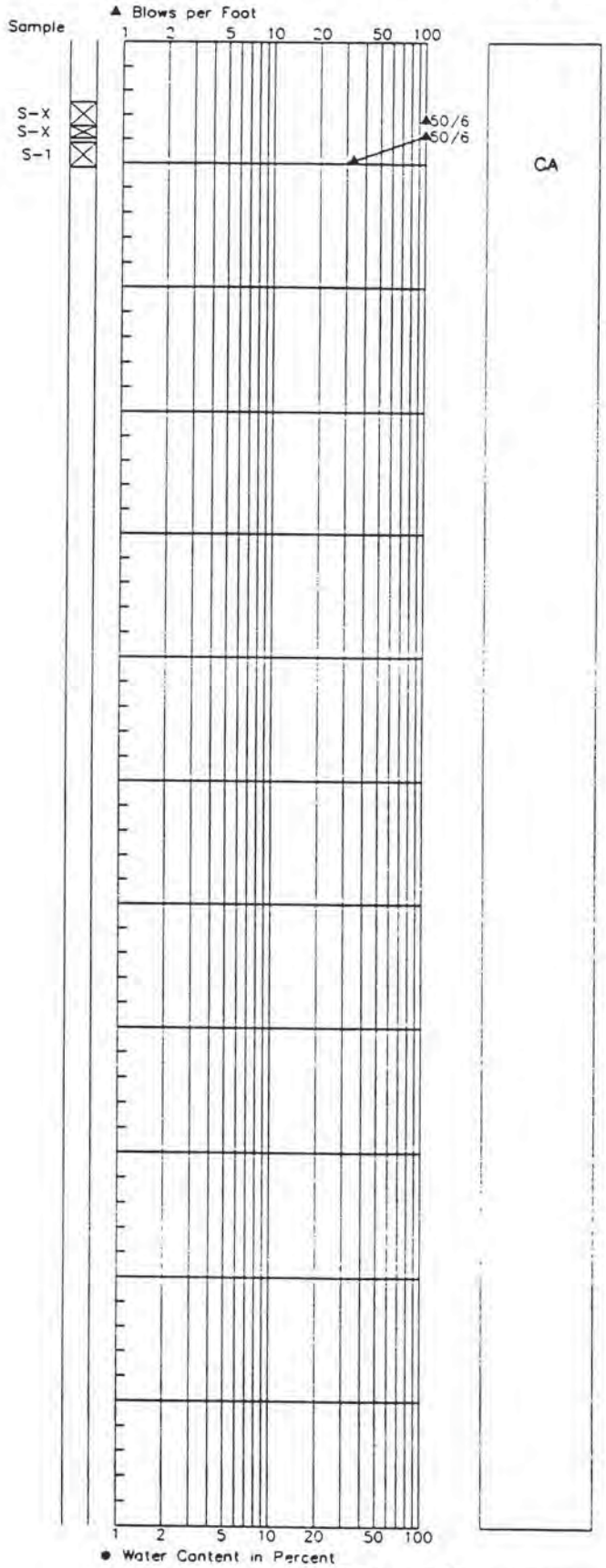
Figure A-13 1/1

# Boring Log HC-15A

## Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Depth in Feet | Soil Description |
|---|---|
| 0 | 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) |
| | Very dense, damp, brown, slightly gravelly, fine to medium SAND. |
| 5 | Very dense, damp, gray-brown, slightly gravelly, fine to medium SAND grading to dense, damp, black, silty, fine to medium SAND. |
| | Bottom of Boring at 5.0 Feet. Completed 2/13/89. |




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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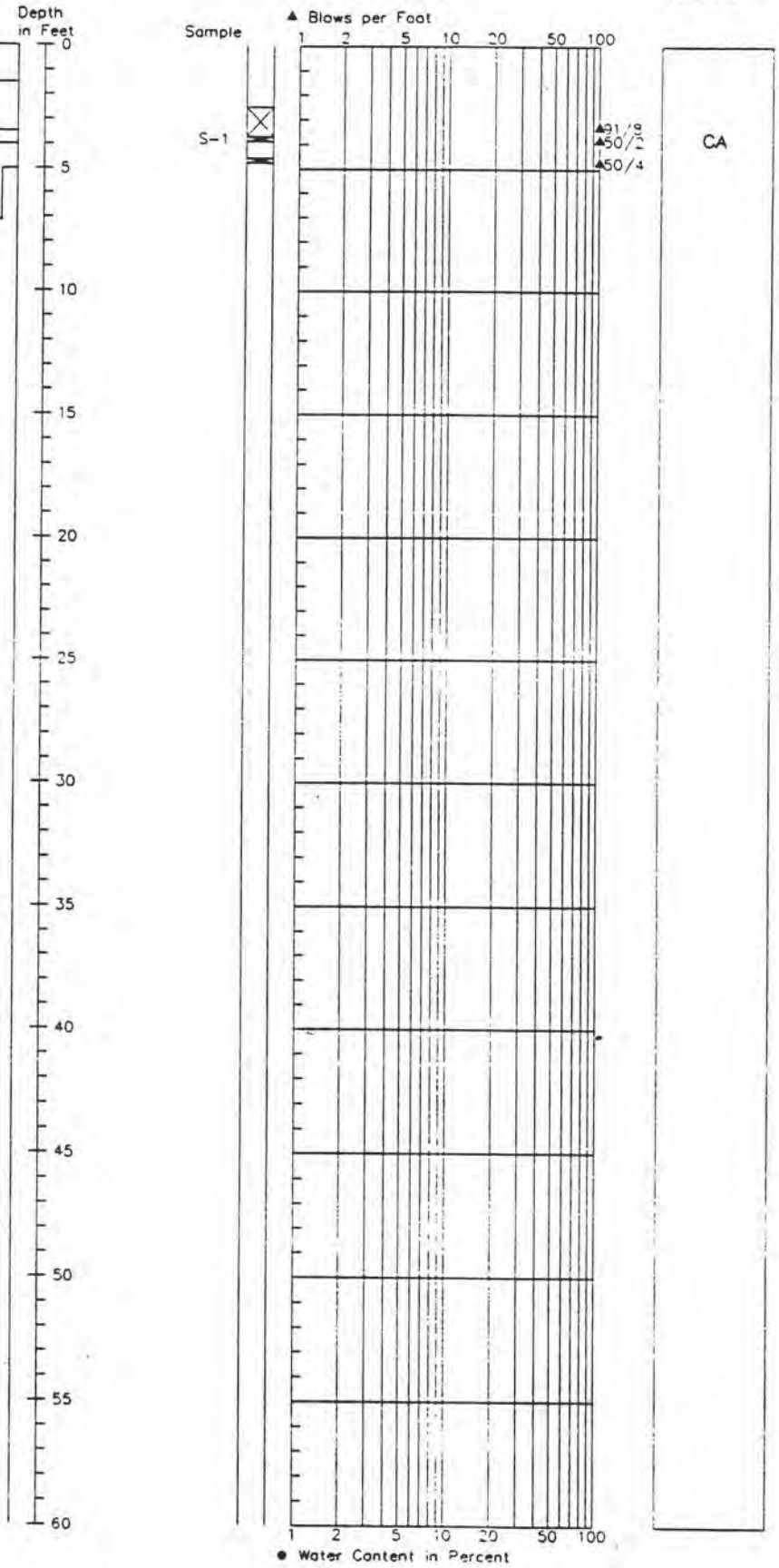
Figure A-14 1/1

# Boring Log HC-16

## Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Description |
|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) |
| Very dense, damp, brown, slightly silty, slightly gravelly, fine to medium SAND. |
| Very dense, damp, black, slighlty gravelly, silty SAND with wood fragments. |
| Very dense, damp, brown, slightly gravelly, silty SAND. |
| Bottom of Boring at 5.0 Feet. Completed 2/13/89. |




1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-15 1/1

# Boring Log HC-17

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Description | Depth in Feet |
|---|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | 0 |
| Very dense, damp, brown, slightly silty, fine to medium SAND. | |
| Very dense, damp, black, slightly silty SAND with rock fragments. | 5 |
| Bottom of Boring at 4.3 Feet. Completed 2/13/89. | |

Depth in Feet: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

STANDARD PENETRATION RESISTANCE

▲ Blows per Foot

Sample: S-1, S-2

1 2 5 10 20 50 100

▲50/4

● Water Content in Percent

LAB TESTS

CA

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-16 1/1

# Boring Log HC-18

Soil Descriptions

Ground Surface Elevation in Feet 0.0

| Soil Descriptions | Sample | Lab Tests |
|---|---|---|
| 3 inches of ASPHALT over medium dense, damp, brown, sandy GRAVEL. (FILL) | | |
| Very dense, moist, black to brown, slightly gravelly, silty SAND grading to dense, damp, dark brown, medium to fine SAND. | S-X<br>S-1 | CA |
| Bottom of Boring at 6.0 Feet. Completed 2/13/89. | | |

Depth in Feet: 0, 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60

STANDARD PENETRATION RESISTANCE

▲ Blows per Foot

1 2 5 10 20 50 100

● Water Content in Percent

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Groundwater level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis

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Figure A-17 1/1

# Boring Log and Construction Data for Monitoring Well HC-19

## Geologic Log

Depth in feet

Approx. Ground Surface Elevation in Feet

0

4-inch-thick ASPHALT.

Loose, damp, brown, slightly sandy GRAVEL. (FILL)

Medium dense, damp, brown, slightly silty, slightly gravelly, fine to coarse SAND. (FILL)

Asphalt fragments.

5

Medium dense, moist, brown, slightly silty, fine to medium SAND. (FILL)

Asphalt fragments.

Very loose, moist, brown, silty SAND grading to soft, sandy SILT. (FILL)

10

Very loose, moist to wet, brown, silty SAND. (FILL)

15

Loose, wet, brown to black, fine to medium SAND. (FILL)

20

Bottom of Boring at 22.5 Feet. Completed

25

| Sample | N | Lab Test |
|---|---|---|
| S-1 | 73/10" | CA |
| S-2 | 33 | CA |
| S-3 | 4 | |
| S-4 | 6 | |
| S-5 | 4 | |
| S-6 | 7 | |
| S-7 | 8 | |

## Monitoring Well Design

Casing Stickup in Feet

Top of PVC in Feet 0.00

ATD

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis.

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Figure A-18

# Boring Log and Construction Data for Monitoring Well HC-20

## Geologic Log

Depth in feet

Approx. Ground Surface Elevation in Feet

0

Loose, damp, brown GRAVEL. (FILL)

Loose, damp, brown, slightly silty SAND. (FILL)

5

Medium stiff, moist, brown SILT. (FILL)

Medium dense, wet, brown, slightly silty, fine to medium SAND. (FILL)

10

Loose, wet, brown black to black, fine to medium SAND. (FILL)

15

20

Bottom of Boring at 20.0 Feet. Completed

25

| Sample | N | Lab Test |
|---|---|---|
| S-1 | 7 | CA |
| S-2 | 2 | CA |
| S-3 | 4 | |
| S-4 | 4 | |
| S-5 | 11 | |
| S-6 | 15 | |
| S-7 | 20 | |

## Monitoring Well Design

Casing Stickup in Feet

Top of PVC in Feet 0.00

ATD

1. Refer to Figure A-1 for explanation of descriptions and symbols.
2. Soil descriptions and stratum lines are interpretive and actual changes may be gradual.
3. Ground water level, if indicated, is at time of drilling (ATD) or for date specified. Level may vary with time.
4. CA = Chemical Analysis.

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Figure A-19

# Unified Soil Classification System

| MAJOR DIVISIONS | | | GRAPH SYMBOL | LETTER SYMBOL | TYPICAL DESCRIPTIONS |
|---|---|---|---|---|---|
| COARSE GRAINED SOILS<br>More than 50% of material is larger than #200 sieve size | GRAVEL AND GRAVELLY SOILS<br>More than 50% of coarse fraction retained on #4 sieve | CLEAN GRAVELS<br>(Little or no fines) | | GW | Well-graded gravels, gravel-sand mixtures, little or no fines |
| | | | | GP | Poorly-graded gravels, gravel-sand mixtures, little or no fines |
| | | GRAVELS WITH FINES<br>(Appreciable amount of fines) | | GM | Silty gravels, gravel-sand-silt mixtures |
| | | | | GC | Clayey gravels, gravel-sand-clay mixtures |
| | SAND AND SANDY SOILS<br>More than 50% of coarse fraction passing #4 sieve | CLEAN SAND<br>(Little or no fines) | | SW | Well-graded sands, gravelly sands, little or no fines |
| | | | | SP | Poorly-graded sands, gravelly sands, little or no fines |
| | | SANDS WITH FINES<br>(Appreciable amount of fines) | | SM | Silty sands, sand-silt mixtures |
| | | | | SC | Clayey sands, sand-clay mixtures |
| FINE GRAINED SOILS<br>More than 50% of material is smaller than #200 sieve size | SILTS AND CLAYS<br>Liquid Limit less than 50 | | | ML | Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity |
| | | | | CL | Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays |
| | | | | OL | Organic silt and organic silty clays of low plasticity |
| | SILTS AND CLAYS<br>Liquid Limit greater than 50 | | | MH | Inorganic silts, micaceous or diatomaceous fine sand or silty soils |
| | | | | CH | Inorganic clays of high plasticity, fat clays |
| | | | | OH | Organic clays of medium to high plasticity, organic silts |
| HIGHLY ORGANIC SOILS | | | | PT | Peat, humus, swamp soils with high organic contents |

Note: Dual symbols are used to indicate borderline soil classifications

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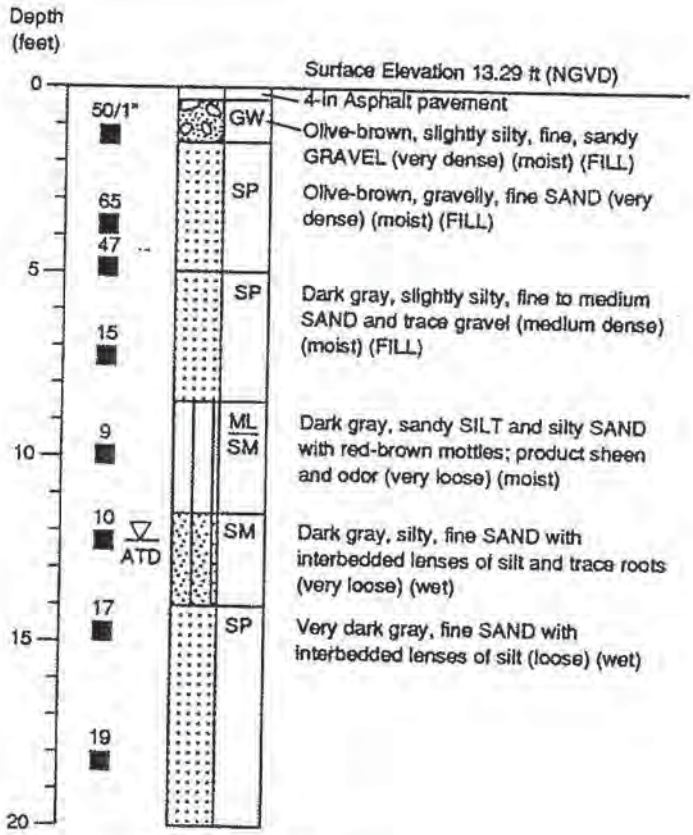
LANDAU ASSOCIATES, INC. | Unified Soil Classification System



Figure B-33

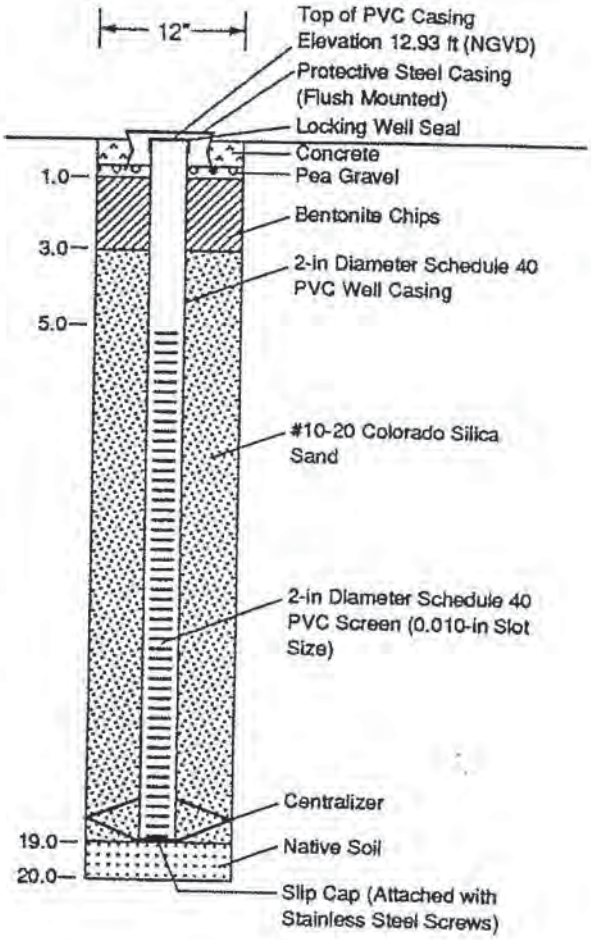
# Well DMW2

## Soil Profile




Boring completed 4/27/90
Total depth 20.0 ft

## Well Detail




KEY

102/7" — Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches; Length sampler was driven prior to refusal (if applicable)

■ — Indicates depth of relatively undisturbed sample

□ — Indicates sample attempt with no recovery

▽ ATD — Approximate water surface elevation at time of drilling

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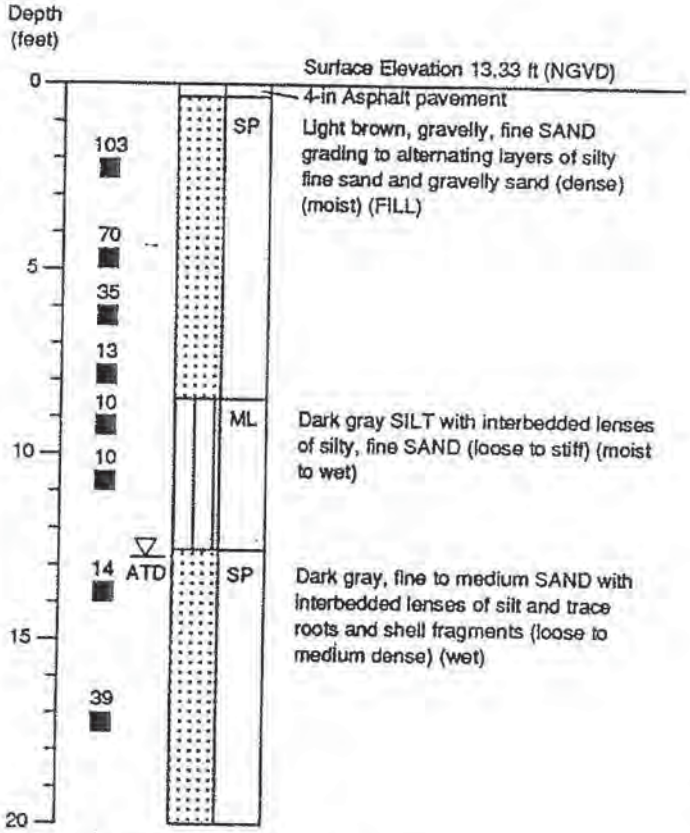
| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well DMW2 |
|---|---|



Figure B-24

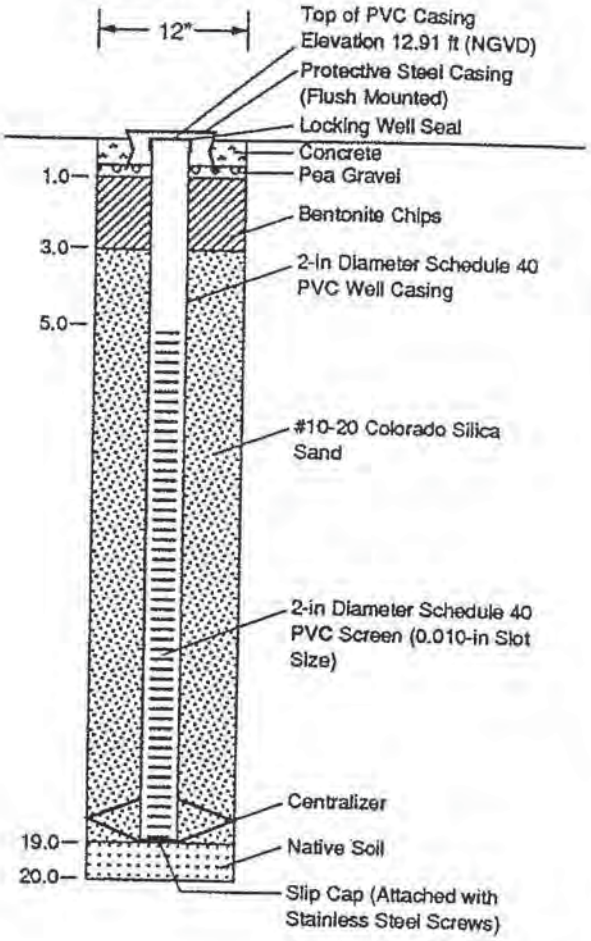
# Well DMW3

## Soil Profile




Boring completed 4/18/90
Total depth 20.0 ft

## Well Detail




KEY

Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches

Length sampler was driven prior to refusal (if applicable)

102/7"

Indicates depth of relatively undisturbed sample

Indicates sample attempt with no recovery

ATD — Approximate water surface elevation at time of drilling

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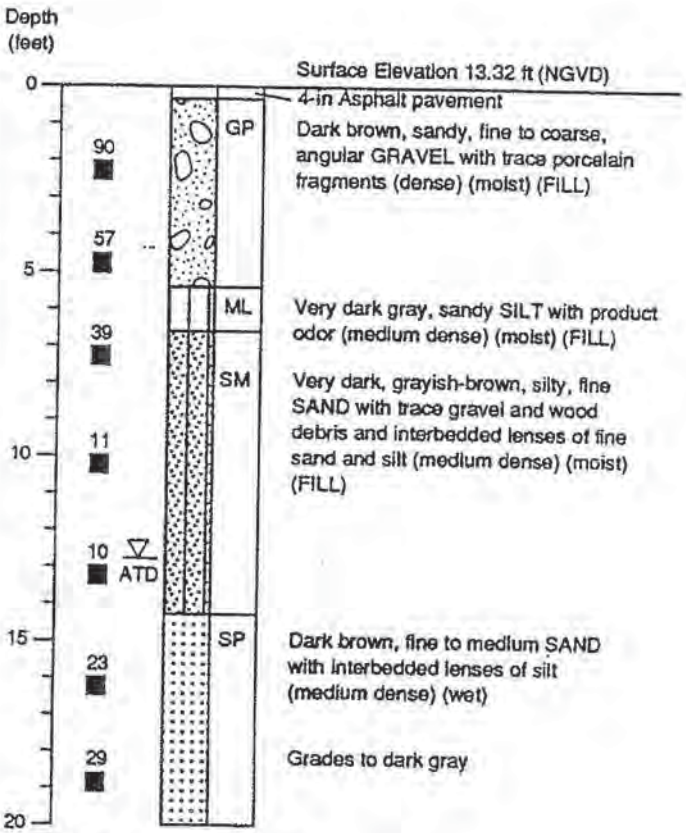
| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well DMW3 |
|---|---|



Figure B-25

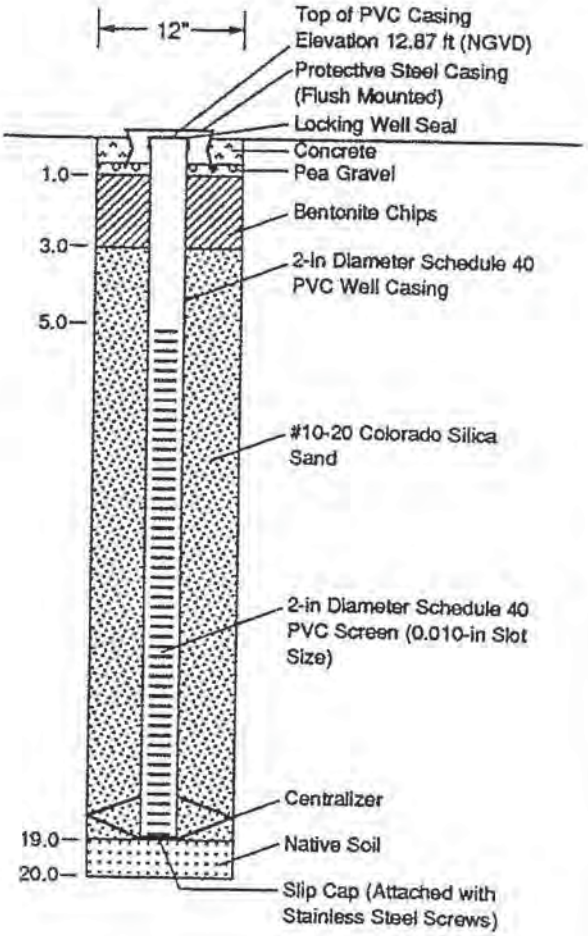
# Well DMW6

## Soil Profile




Boring completed 4/19/90
Total depth 20.0 ft

## Well Detail




KEY

- Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches
- 102/7" — Length sampler was driven prior to refusal (if applicable)
- ■ — Indicates depth of relatively undisturbed sample
- □ — Indicates sample attempt with no recovery
- ▽ ATD — Approximate water surface elevation at time of drilling

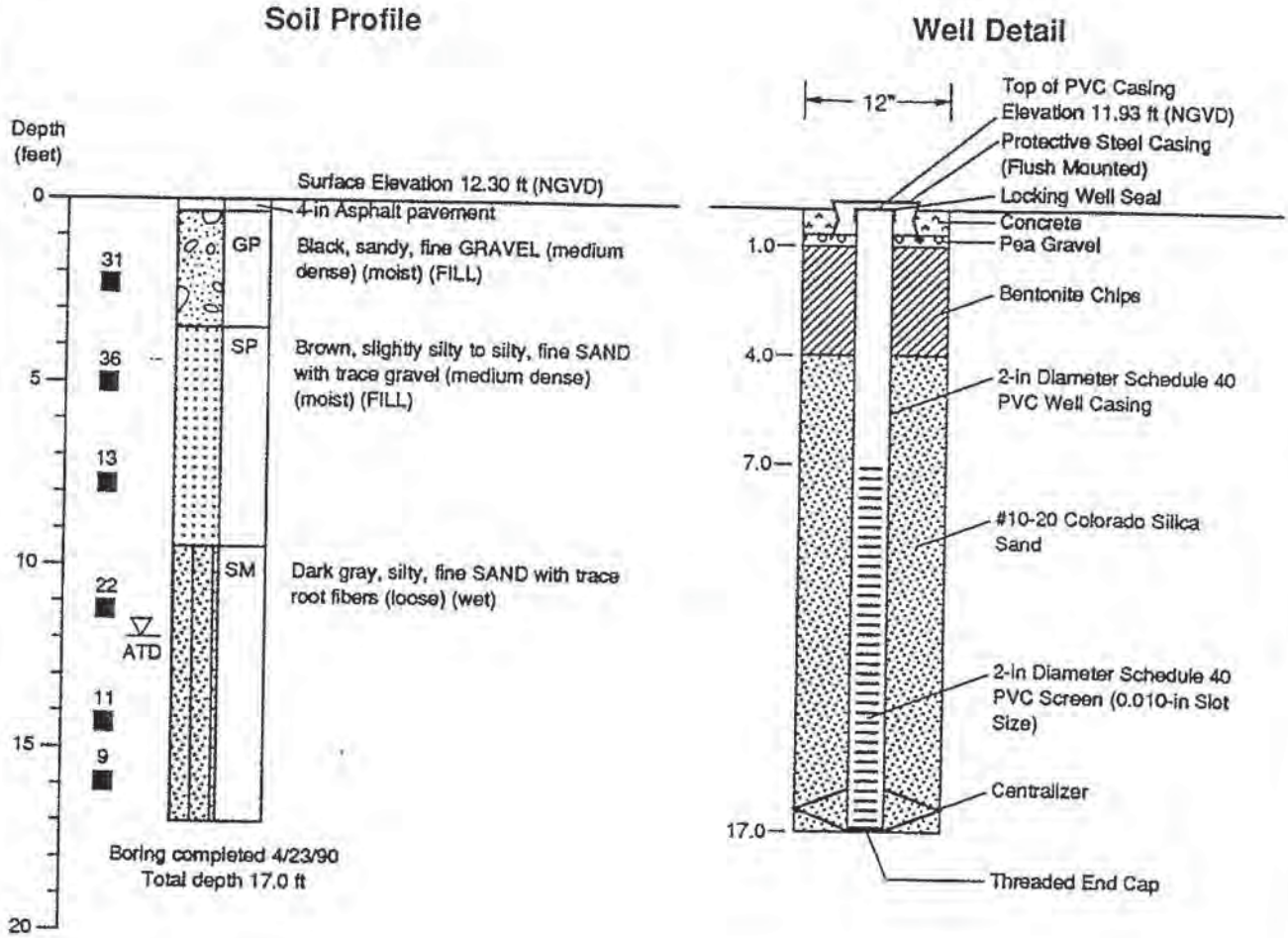
| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well DMW6 |
|---|---|



Figure B-26

25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

# Well EMW1




KEY

102/7" — Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches; Length sampler was driven prior to refusal (if applicable)

■ — Indicates depth of relatively undisturbed sample

□ — Indicates sample attempt with no recovery

▽ ATD — Approximate water surface elevation at time of drilling

| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well EMW1 |
|---|---|

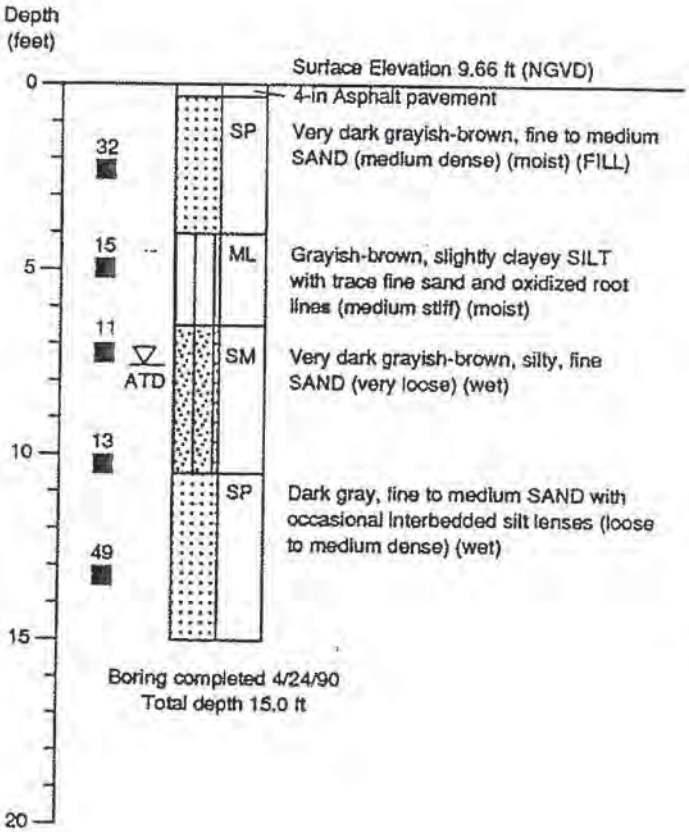


Figure B-27

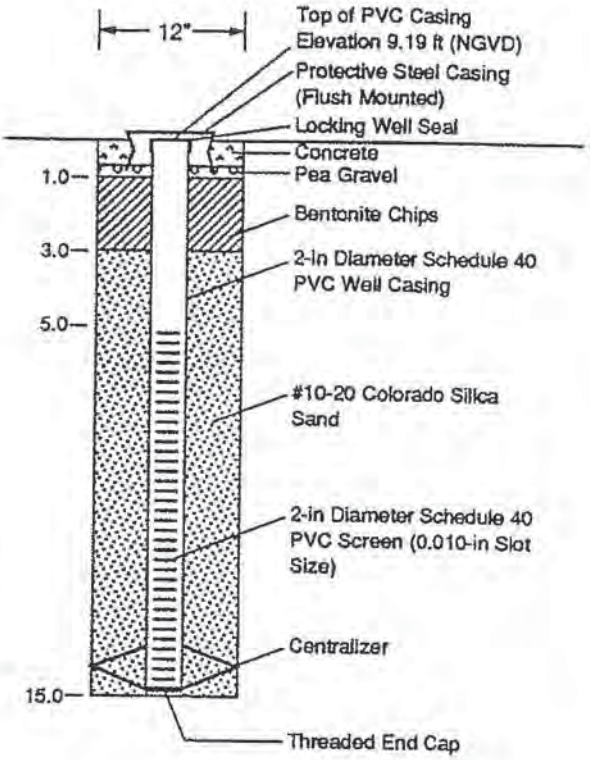
25-52.10 Boeing/Fixt Interstate/Environmental Site Assessment/Final Report 8/8/90

# Well EMW2

## Soil Profile




## Well Detail




KEY

Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches

Length sampler was driven prior to refusal (if applicable)

102/7"

■ Indicates depth of relatively undisturbed sample

□ Indicates sample attempt with no recovery

▽ ATD Approximate water surface elevation at time of drilling

25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

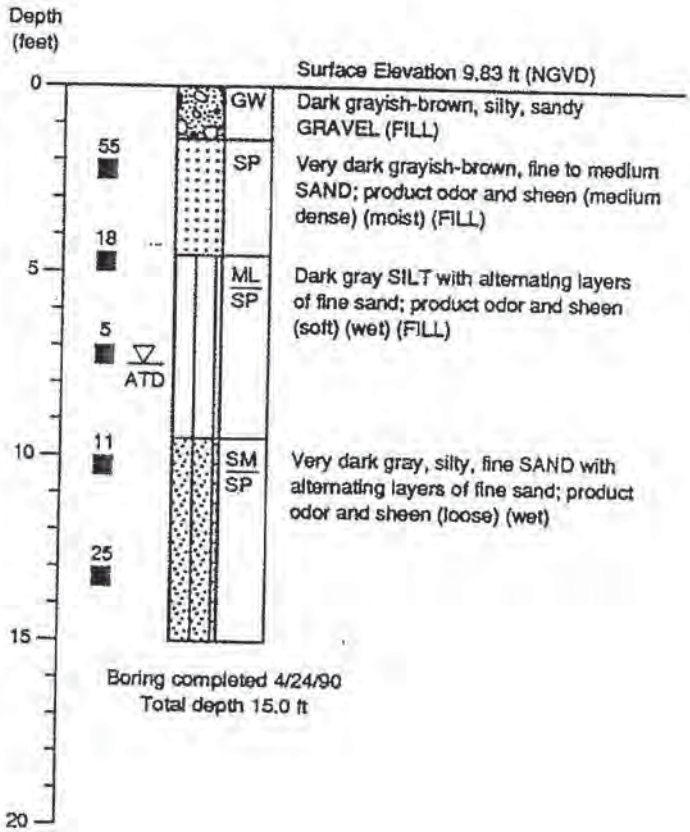
| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well EMW2 |
|---|---|



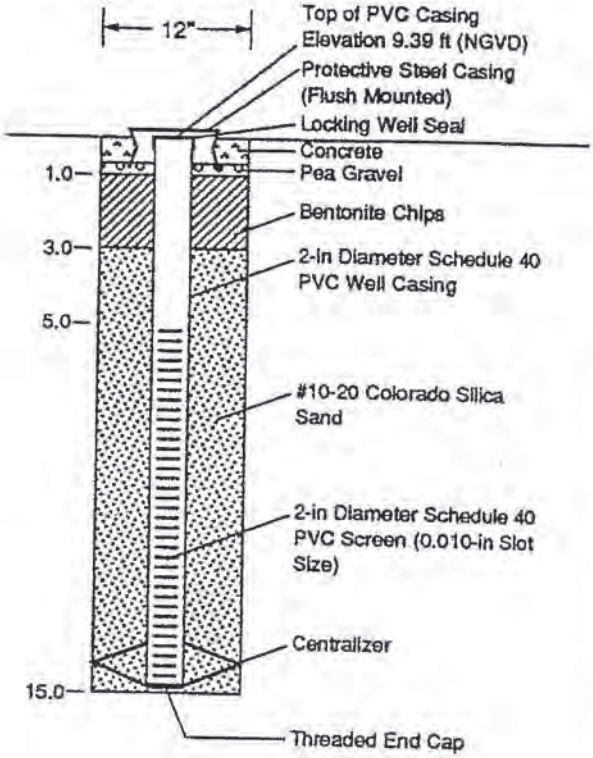
Figure B-28

# Well EMW3

## Soil Profile




## Well Detail




KEY

102/7" — Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches; Length sampler was driven prior to refusal (if applicable)

■ — Indicates depth of relatively undisturbed sample

□ — Indicates sample attempt with no recovery

▽ ATD — Approximate water surface elevation at time of drilling

25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

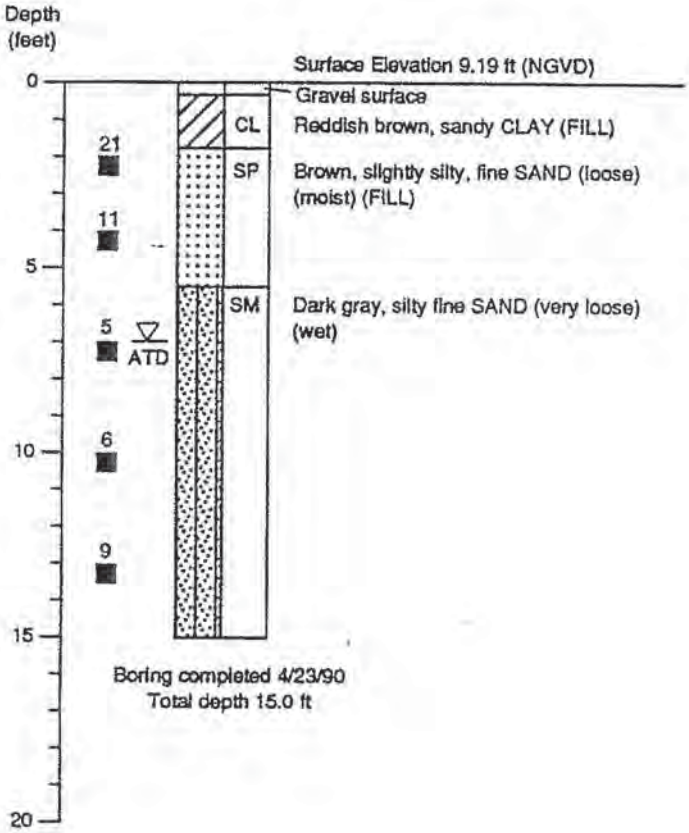
| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well EMW3 |
|---|---|



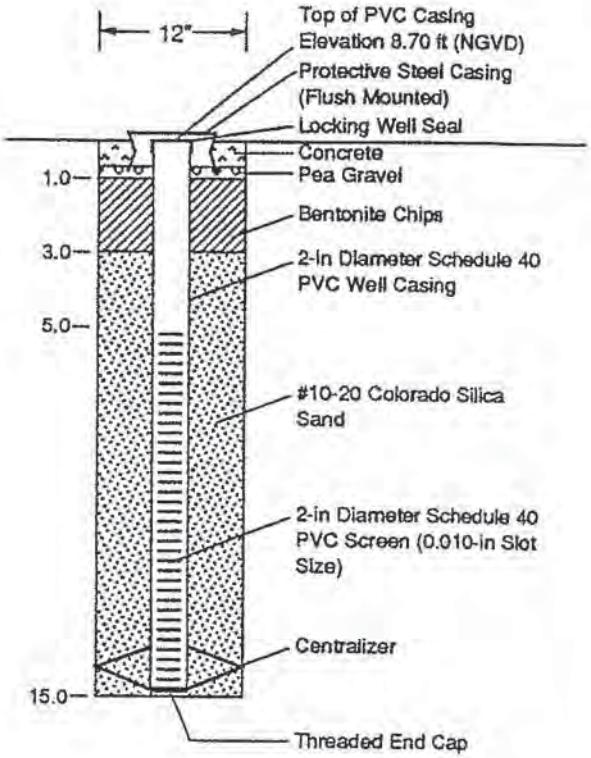
Figure B-29

# Well FMW1

## Soil Profile




## Well Detail




KEY

- Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches
- 102/7" — Length sampler was driven prior to refusal (if applicable)
- ■ — Indicates depth of relatively undisturbed sample
- □ — Indicates sample attempt with no recovery
- ATD — Approximate water surface elevation at time of drilling

| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well FMW1 |
|---|---|

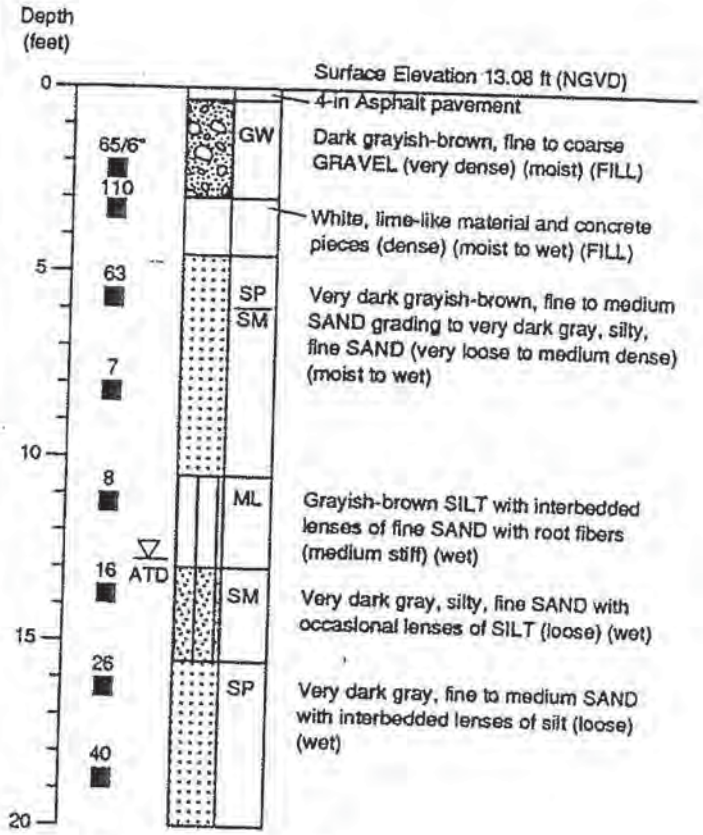


Figure B-30

25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

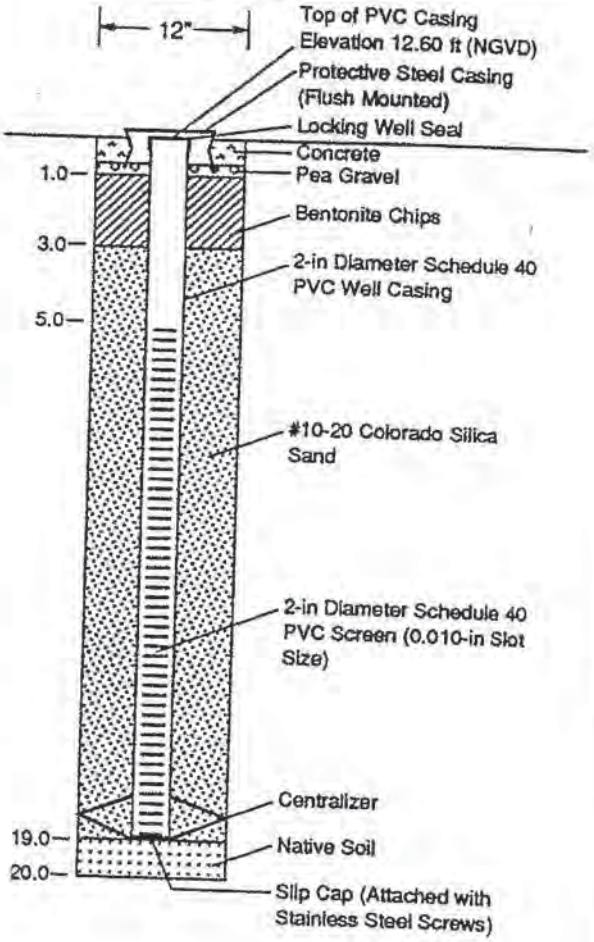
# Well FMW2

## Soil Profile




Boring completed 4/20/90
Total depth 20.0 ft

## Well Detail




KEY

102/7" — Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches; Length sampler was driven prior to refusal (if applicable)

■ — Indicates depth of relatively undisturbed sample

□ — Indicates sample attempt with no recovery

ATD — Approximate water surface elevation at time of drilling

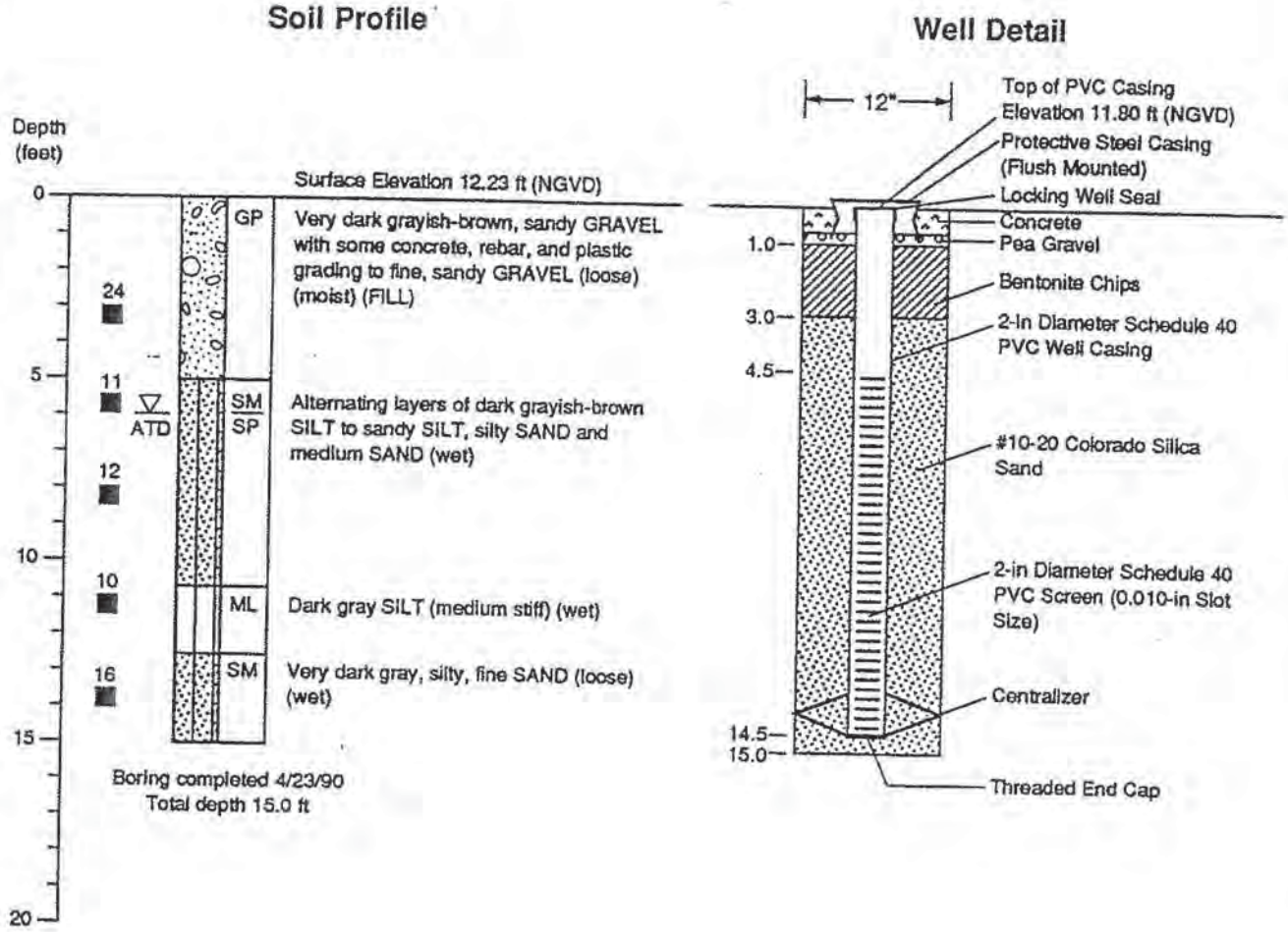
25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well FMW2 |
|---|---|



Figure B-31

# Well FMW3




KEY

102/7" — Blows required to drive 2.42-inch I.D. split barrel sampler 1 foot with a hammer weight of 140 pounds and a stroke of 30 inches

Length sampler was driven prior to refusal (if applicable)

■ — Indicates depth of relatively undisturbed sample

□ — Indicates sample attempt with no recovery

▽ ATD — Approximate water surface elevation at time of drilling

25-52.10 Boeing/First Interstate/Environmental Site Assessment/Final Report 6/8/90

| LANDAU ASSOCIATES, INC. | Soil Profile and Well Detail for Well FMW3 |
|---|---|



Figure B-32

SLR
SLR International Corp
22122 20th Avenue SE
Bothell, Washington 98021
Telephone: 425.402.8800
Fax: 425.402.8488

# WELL NUMBER CMW-1

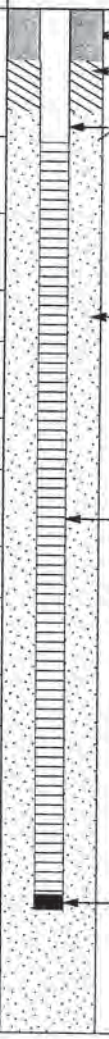


CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/12/08 COMPLETED 6/12/08
GROUND ELEVATION HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
∇ AT TIME OF DRILLING 12.0 ft
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | | **SAND and GRAVEL**, brown, fine to coarse grained, little silt, dense, moist. | |
| | | MC | | 60 | | | 3.1 | |
| | | | | | SP | | **SAND**, brown, fine to medium grained, trace silt, loose, moist to wet. | 0 |
| 5 | | MC | CMW1-5 | 15 | | | | 0 |
| | | | | | | | 6.0 | |
| | | MC | | 10 | SM | | **SILTY SAND**, dark brown, fine to coarse sand, some medium to coarse gravel, loose, moist to wet. | 0 |
| 10 | | MC | | 6 | | | 10.4 | 0 |
| | | MC | | 3 | SP | | **SAND**, dark brown, fine to coarse grained, few red and white grains, little silt, very loose, moist to wet. ∇ Becomes, grey, fine grained, with few wood pieces and sulfur-like odor. | 0 |
| | | | | | | | 13.5 | |
| | | | | | SM | | **SILTY SAND**, grey, fine to medium grained, very loose, wet, sulfur-like odor. | |
| 15 | | MC | | 3 | SP | | 14.5 | |
| | | | | | | | 15.0 **SAND**, rusty brown, fine to coarse grained, trace silt, very loose, wet, sulfur-like odor. | 0 |
| | | | | | ML | | 16.0 **SANDY SILT**, grey, fine sand, soft, wet, sulfur-like odor. | |
| | | MC | | 4 | SM | | **SILTY SAND**, grey, fine grained, very loose, wet, sulfur-like odor. | 0 |
| | | | | | | | 18.5 | |
| 20 | | MC | | 14 | SP | | **SAND**, dark grey/black, fine to coarse grained, few red and white grains, loose, wet, no odor. | 0 |
| | | | | | | | 20.0 | |

Boring completed at 20.0 feet below ground surface.

WELL DIAGRAM




## REMARKS

∇ Water level at time of drilling.

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Fax: 425.402.8488

# WELL NUMBER CMW-2



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/12/08 COMPLETED 6/12/08
GROUND ELEVATION HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
∇ AT TIME OF DRILLING 11.0 ft
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | |
| | | | | | SW | | **SAND**, brown, fine- to coarse-grained, little silt, wet, no odors. | | Cement; Hydrated bentonite chips; 2/12 Lapis Lustre sand pack |
| 5 | | | | | | | | | |
| 10 | | MC | | 8, 50/1" | | | | 0 | 2-inch schedule 40 PVC, 0.010-inch slotted screen |
| | | | | | | | ∇ | | |
| | | | | | | | 13.3 | | |
| | | | | | SM | | **SILTY SAND**, dark brown, fine-grained, wet, sulfur-like odor. | | |
| 15 | | | | | | | | | |
| | | MC | | 4 | | | 18.0 | 3 | End cap |

## REMARKS

∇ Water level at time of drilling.

SLR GENERAL CROWLEY MARINE SVCS1.GPJ GINT US.GDT 7/9/08

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# BORING NUMBER CMW-2a



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/12/08 COMPLETED 6/12/08
GROUND ELEVATION HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
∇ AT TIME OF DRILLING 11.5 ft
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | | **SAND AND GRAVEL.** | |
| | | | | | | | 3.0 | |
| | | MC | | 30 | SP | | **SAND**, brown, fine- to medium-grained, little silt, moist. | 0 |
| 5 | | MC | CMW2-4a | 27 | | | 5.2': Trace coarse gravel, becomes wet. | 0 |
| | | | | | | | 6.0 | |
| | | | | | SP | | **GRAVELLY SAND**, brown, fine-to medium-grained, trace silt, moist to wet. | |
| | | MC | | 14, 50/1" | | | 7.5 | 0 |
| | | | | | GM | | **SILTY GRAVEL**, brown, fine- to coarse-grained, little fine-to coarse-grained sand, moist to wet. | |
| 10 | | MC | | 11 | | | 9.4': With wood. | |
| | | | | | | | 10.2 | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, little silt, moist to wet. | |
| | | MC | | 50/6" | | | ∇ No recovery; rock in sampler. | |
| | | | | | | | 13.5 | |
| | | | | | SW | | **GRAVEL AND SAND**, brown, fine-to coarse-grained, little silt, wet. | |
| 15 | | MC | | 8, 50/4" | | | 15.3 | |

Boring completed at 15.3 feet below ground surface.

## REMARKS

∇ Water level at time of drilling.

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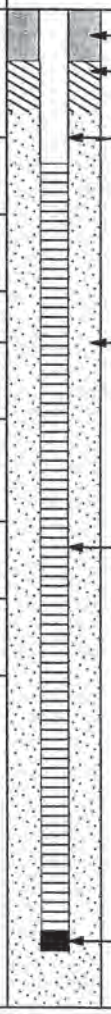
# WELL NUMBER CMW-3



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/12/08 COMPLETED 6/12/08
GROUND ELEVATION
HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
∇ AT TIME OF DRILLING 10.3 ft
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | SW | | **GRAVEL AND SAND**, brown, fine- to coarse-grained, little silt, moist to wet. | |
| | | MC | | 49 | | 3.5 | | 0 |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, trace silt, moist. | |
| 5 | | MC | CMW3-5 | 24 | | | 5': Little fine to coarse gravel. | 0 |
| | | MC | | 23 | | | | 0 |
| 10 | | | | | | 10.0 | 9.2': Becomes rocky. | |
| | | MC | CMW3-10 | | GW | 11.5 | ∇ **SANDY GRAVEL**, dark gray to black, fine- to coarse-grained, some silt, chemical odor. 10.3': Becomes brown, no chemical odor. | 0 |
| | | MC | | | SM | 15.5 | **SILTY SAND**, brown, fine- to coarse-grained, little fine to coarse gravel, wet, no odors. | 0 |
| 15 | | | | | SW | | **SAND**, brown, fine- to coarse-grained, wet, few red and white grains. | |
| | | MC | | 5 | | 19.5 | | |

Boring completed at 19.5 feet below ground surface.




## REMARKS

∇ Water level at time of drilling.

SLR GENERAL CROWLEY MARINE SVCS1.GPJ GINT US.GDT 7/9/08

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22122 20th Avenue SE
Bothell, Washington 98021
Telephone: 425.402.8800
Fax: 425.402.8488

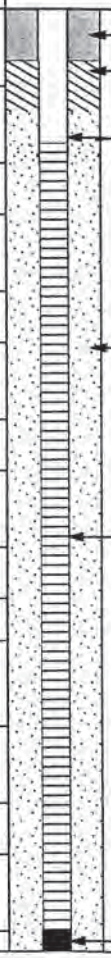
# WELL NUMBER CMW-4



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/13/08 COMPLETED 6/13/08
GROUND ELEVATION
HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | | **GRAVEL.** 0.8 | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, some fine to coarse gravel, little silt, moist. | |
| | ✕ | MC | | 45 | | | | 0 |
| 5 | ✕ | MC | CMW4-5 | 24 | | | 5.0 | 0 |
| | | | | | ML | | **SILT**, brown to gray, little brick, wood, and gravel, little fine- to coarse-grained sand, moist. 6.0 | |
| | | | | | ML | | **SANDY SILT**, brown, little brick and fine to coarse gravel, moist to wet. 8.5 | |
| | ✕ | MC | | 10 | | | | 0 |
| | | | | | SM | | **SILTY SAND**, dark brown, fine- to medium-grained, wet, slight sheen, no odors. 10.0 | |
| 10 | ✕ | MC | | 27 | | | | 0 |
| | | | | | SP | | **SAND**, dark brown, fine- to medium-grained, some brick and metal, little fine to coarse gravel, little silt, wet. | |
| | ✕ | MC | | 23, 50/4" | | | 11.7': Concrete and sand. 12.6 | 0 |
| | | | | | SP | | **SAND**, gray, fine- to medium, little silt, wet. | |
| 15 | ✕ | MC | | 27 | | | 14.4': Becomes brown, some fine to coarse gravel. 16.0 | 0 |
| | | | | | SW | | **SAND**, dark brown to black, fine- to coarse-grained, little silt, little gravel, wet, few red and white grains. | |
| | ✕ | MC | | 14 | | | 18.4 | 0 |

Boring completed at 18.4 feet below ground surface.




**REMARKS**

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Fax: 425.402.8488

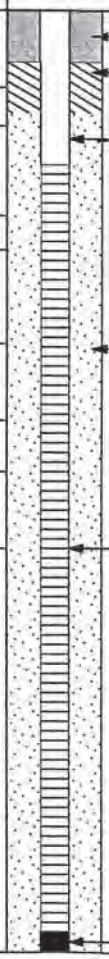
# WELL NUMBER CMW-5



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/13/08 COMPLETED 6/13/08
GROUND ELEVATION
HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
AT TIME OF DRILLING ---
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | 0.8 | **GRAVEL.** | |
| | | MC | | 50/3" | SP | 3.5 | **SAND**, brown, fine- to medium-grained, trace silt, moist. | 0 |
| 5 | | MC | CMW5-5 | 50/2" | SW | 7.6 | **SAND**, brown, fine- to coarse-grained, some silt, little fine to coarse gravel, moist. | 0 |
| | | MC | | 22 | | | | 0 |
| | | | | | GM | 8.5 | **SILTY GRAVEL**, brown, fine to coarse, little fine- to coarse-grained sand, moist. | |
| 10 | | MC | | 30 | SW | | **CONCRETE AND SAND**, brown to gray, fine- to coarse-grained, little silt, moist to wet. | 0 |
| | | MC | | 50/6" | SW | 12.0 | 12': Refusal; moved 22' to the north. **CONCRETE, REBAR AND SAND**, brown, fine- to coarse-grained, little silt, moist. | |
| | | | | | SM | 13.3 | **SILTY SAND**, dark brown, fine- to medium-grained, wet, few red and white grains. | |
| 15 | | MC | | 6 | SP | 14.6 | **SAND**, dark brown, fine-grained, little silt, wet. | |
| | | MC | | 8 | SP | 16.0 | **SAND**, dark brown, fine- to medium-grained, trace silt, wet, few red and white grains. | |
| | | | | | | 18.4 | Boring completed at 18.4 feet below ground surface. | |

WELL DIAGRAM




**REMARKS**

SLR
SLR International Corp
22122 20th Avenue SE
Bothell, Washington 98021
Telephone: 425.402.8800
Fax: 425.402.8488

# WELL NUMBER CMW-6



**CLIENT** Crowley Marine Services
**PROJECT NAME**
**PROJECT NUMBER** 001.0205.00011
**PROJECT LOCATION** Seattle, WA
**DATE STARTED** 6/13/08 **COMPLETED** 6/13/08
**GROUND ELEVATION**
**HOLE SIZE** 8-inch diameter
**DRILLING DRILLING CONTRACTOR** Cascade Drilling
**GROUND WATER LEVELS:**
**DRILLING DRILLING METHOD** Hollow Stem Auger
∇ **AT TIME OF DRILLING** 11.1 ft
**LOGGED BY** K Saganski **CHECKED BY**
**AT END OF** ---
**NOTES**
**AFTER DRILLING** ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | | **GRAVEL.** | |
| | | | | | | | 1.3 | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, some fine to coarse gravel, trace silt, moist. | |
| | | MC | | 26 | | | 3.5 | 0 |
| | | | | | SM | | **SILTY SAND**, fine- to medium-grained, some fine to coarse gravel, moist. | |
| 5 | | MC | CMW6-5 | 16 | | | 5': Some concrete and asphalt fragments. | 0 |
| | | | | | | | 6.5': Brick and concrete fragments. | |
| | | MC | | 13 | | | | 0 |
| | | | | | | | 8.5 | |
| | | | | | SW | | **GRAVEL AND SAND**, brown, fine- to coarse-grained, little silt, moist to wet, some cobbles. | |
| 10 | | MC | | 26 | | | | 0 |
| | | | | | | | ∇ | |
| | | MC | | 13, 50/6" | | | 11.5': Becomes brown to black, few wood and brick fragments, becomes wet. | 0 |
| | | | | | | | 14.3 | |
| | | | | | | | 14': Concrete. | |
| 15 | | MC | | 10 | | | **SAND**, reddish brown to gray, fine- to medium-grained, few silt, wet, few red and white grains. | 0 |
| | | MC | | | SP | | | 0 |
| | | | | | | | 19.9 | |

**WELL DIAGRAM**

- Cement
- Hydrated bentonite chips
- Blank 2-inch schedule 40 PVC riser
- 2/12 Lapis Lustre sand pack
- 2-inch schedule 40 PVC, 0.010-inch slotted screen
- End cap

Boring completed at 19.9 feet below ground surface.

**REMARKS**

∇ Water level at time of drilling.

SLR
SLR International Corp
22122 20th Avenue SE
Bothell, Washington 98021
Telephone: 425.402.8800
Fax: 425.402.8488

# WELL NUMBER CMW-7



CLIENT Crowley Marine Services
PROJECT NAME
PROJECT NUMBER 001.0205.00011
PROJECT LOCATION Seattle, WA
DATE STARTED 6/13/08 COMPLETED 6/13/08
GROUND ELEVATION
HOLE SIZE 8-inch diameter
DRILLING DRILLING CONTRACTOR Cascade Drilling
GROUND WATER LEVELS:
DRILLING DRILLING METHOD Hollow Stem Auger
∇ AT TIME OF DRILLING 11.0 ft
LOGGED BY K Saganski CHECKED BY
AT END OF ---
NOTES
AFTER DRILLING ---

| DEPTH (ft) | INTERVAL | TYPE | NAME | BLOW COUNTS PER FOOT (N VALUE) | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | GP | 0.8 | **GRAVEL AND SAND**, little silt. | | Cement |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, moist. | | |
| | | MC | | 13, 50/6" | | | | 0 | Hydrated bentonite chips |
| | | | | | | 4.5 | | | Blank 2-inch schedule 40 PVC riser |
| 5 | | MC | CMW7-5 | 44 | SM | 5.1 | **SILTY SAND**, gray, fine- to medium-grained, some gravel and brick, moist. | 0 | |
| | | | | | SP | | **SAND**, brown, fine- to medium-grained, moist. | | |
| | | MC | | | | | 7': Slight chemical odor. | 8.9 | 2/12 Lapis Lustre sand pack |
| | | | | | | 9.0 | | | |
| 10 | | | | | SP | | **SAND**, brown, fine-grained, trace silt, moist to wet, interbedded with 2" thick silt lens, bits of wire and brick in slough. ∇ | | |
| | | MC | | 9 | | | | | |
| | | | | | | 12.0 | | | 2-inch schedule 40 PVC, 0.010-inch slotted screen |
| | | MC | | 7 | SM | | **SILTY SAND**, brown, fine-grained, wet, interbedded with 1-2" thick silt and sand lenses. | | |
| | | | | | | 14.5 | | | |
| 15 | | MC | | 6 | SP | | **SAND**, dark brown to black, fine- to medium-grained, wet, few red and white grains. | | |
| | | MC | | 11 | | | 16.5': Color grades from brown to reddish brown, then to black. 17.7': Wood chunk. | | |
| | | | | | | 19.7 | | | End cap |

Boring completed at 19.7' below ground surface.

## REMARKS

∇ Water level at time of drilling.

SLR
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# WELL NUMBER SLR-1



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/22/11 **COMPLETED** 8/22/11
**GROUND ELEVATION** 12.55' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
∇ **AT TIME OF DRILLING** 10.0 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) | WELL DIAGRAM |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **CONCRETE**. | 0.0 | Concrete |
| | | GP | SLR1-1* | 100 | SP | | 1.5 **GRAVELLY SAND (FILL)**, brown, fine-grained, little fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | SLR1-3 | | SP | | **SAND (FILL)**, brown, fine-grained, damp to moist, no hydrocarbon-like odors or staining. | 0.0 | Hydrated bentonite chips |
| 5 | | | | | | | 5.0 @ 4.5 feet: Becomes moist. | 0.0 | 2"-diameter Sch. 40 PVC blank riser |
| | | GP | SLR1-6* | 100 | SM | | **SILTY SAND (FILL)**, dark gray, very fine-grained, little fines, moist to wet, no hydrocarbon-like odors or staining. | 0.0 | |
| | | | SLR1-7.5 | | | | | 0.0 | 10x20 silica sand pack |
| 10 | | GP | SLR1-10* | 50 | | | ∇ @ 10.0 feet: Becomes wet. 11.5 | 0.0 | 2"-diameter Sch. 40 PVC 0.020"-slotted screen. |
| | | GP | SLR1-12.5 | 100 | SP | | **SAND**, dark gray, very fine-grained, wet, no hydrocarbon-like odors or staining. 14.0 | 0.0 | |
| 15 | | | SLR1-15 | | SM | | **SILTY SAND**, dark gray, very fine-grained, little fines, wet, no hydrocarbon-like odors or staining. 16.0 | 0.0 | 2"-diameter Sch. 40 PVC end cap. |

Boring completed at 16.0 feet.

## WELL COMPLETION DETAILS:

0.3 to 5.0 feet: 2"-diameter Sch. 40 PVC blank riser.
5.0 to 14.8 feet: 2"-diameter Sch. 40 PVC 0.020"-slotted screen.
14.8 to 15.1 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 4.0 feet: Hydrated bentonite chips.
4.0 to 16.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

∇ Water level at time of drilling.

SLR
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Bothell, Washington 98021
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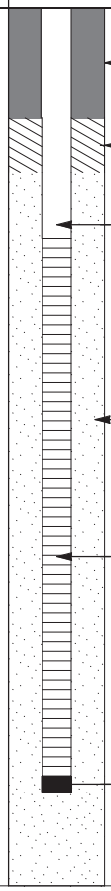
# WELL NUMBER SLR-2



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/19/11 **COMPLETED** 8/19/11
**GROUND ELEVATION** 11.49' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 8.0 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | SLR2-1* | 80 | GP | | **GRAVEL (FILL)**, brown, fine to medium, few fine-grained sand, dry, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 1.0 | |
| | | | | | SP | | **SAND (FILL)**, grayish brown, fine-grained, damp to moist, no hydrocarbon-like odors or staining. | 0.0 |
| | | | SLR2-3 | | | | | 0.0 |
| | | | | | | | | 0.0 |
| 5 | | GP | SLR2-6* | 100 | | | 5.0 | |
| | | | | | ML | | **SILT (FILL)**, gray, moist to wet, spongey texture, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | @ 8.0 feet: Becomes wet. | 0.0 |
| | | | SLR2-8 | | | | | 0.0 |
| 10 | | GP | SLR2-10* | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | SLR2-12.5 | | | | | 0.0 |
| | | | | | | | @ 13.0 feet: Few fine-grained sand. | 0.0 |
| | | GP | | 100 | | | | 0.0 |
| 15 | | | SLR2-15 | | | | 15.0 | |
| | | | | | SM | | **SILTY SAND**, dark gray, fine- to medium-grained, some fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 16.0 | |

Boring completed at 16.0 feet.




## WELL COMPLETION DETAILS:

0.3 to 4.2 feet: 2"-diameter Sch. 40 PVC blank riser.
4.2 to 14.0 feet: 2"-diameter Sch. 40 PVC 0.020"-slotted screen.
14.0 to 14.3 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 16.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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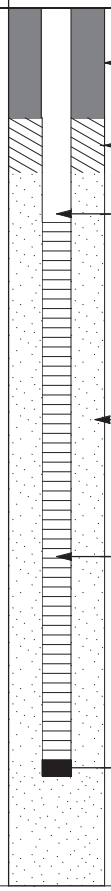
# WELL NUMBER SLR-3



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/19/11 **COMPLETED** 8/19/11
**GROUND ELEVATION** 12.27' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
∇ **AT TIME OF DRILLING** 8.0 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | SLR3-1* | 80 | GP | | 0.5 **ASPHALT**. | 0.0 |
| | | | | | | | **GRAVEL (FILL)**, gray, fine to medium, few fine-grained sand, dry, no hydrocarbon-like odors or staining. 1.5 | 0.0 |
| | | | SLR3-3 | | SP | | **GRAVELLY SAND (FILL)**, brown, fine-grained, some fine to medium gravel, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| 5 | | | | | | | 5.0 | 0.0 |
| | | GP | SLR3-6* | 100 | ML | | **SILT (FILL)**, dark gray, moist to wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | | 0.0 |
| | | | SLR3-8 | | | | ∇ @ 8.0 feet: Becomes wet. | 0.0 |
| 10 | | GP | SLR3-10* | 100 | | | | 0.0 |
| | | | | | | | 11.0 | 0.0 |
| | | | | | SP | | **SAND**, dark gray, fine-grained, few fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | SLR3-12.5 | 30 | | | | 0.0 |
| 15 | | | SLR3-15 | | | | 16.0 | 0.0 |

Boring completed at 16.0 feet.




## WELL COMPLETION DETAILS:

0.3 to 3.9 feet: 2"-diameter Sch. 40 PVC blank riser.
3.9 to 13.7 feet: 2"-diameter Sch. 40 PVC 0.020"-slotted screen.
13.7 to 14.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 16.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

∇ Water level at time of drilling.

SLR
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# BORING NUMBER SLR-4



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/19/11 **COMPLETED** 8/19/11
**GROUND ELEVATION** 16.60' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 11.0 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | SLR4-1* | 100 | GP | | **GRAVEL (FILL)**, tan, fine to medium, few fine-grained sand, damp, no hydrocarbon-like odors or staining. 1.0 | 0.0 |
| | | | SLR4-3 | | SP | | **SAND (FILL)**, brown, fine-grained, damp, no hydrocarbon-like odors or staining. 4.0 | 0.0<br>0.0<br>0.0 |
| 5 | | GP | SLR4-5* | 100 | | | **CONSTRUCTION DEBRIS (FILL)**, brick, wood pieces, few fines, moist, no hydrocarbon-like odors or staining. 5.5 | 0.0 |
| | | | SLR4-7.5 | | SP | | **SAND (FILL)**, dark gray, fine-grained, moist to wet, no hydrocarbon-like odors or staining. | 0.0<br>0.0<br>0.0 |
| 10 | | GP | SLR4-10* | 100 | | | @ 11.0 feet: Becomes wet. 12.0 | 0.0<br>0.0<br>0.0<br>0.0 |
| 15 | | GP | SLR4-12.5<br>SLR4-15 | 100 | SP | | **SAND**, brown, fine-grained, wet, no hydrocarbon-like odors or staining.<br>@ 15.0 feet: Becomes gray. 16.0 | 0.0<br>0.0<br>0.0<br>0.0 |

Boring completed at 16.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

SLR
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Bothell, Washington 98021
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# BORING NUMBER SLR-5



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/22/11 **COMPLETED** 8/22/11
**GROUND ELEVATION** 12.20' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
∇ **AT TIME OF DRILLING** 8.5 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **CONCRETE**. | |
| | | GP | SLR5-1 | 30 | GP | | **SANDY GRAVEL (FILL)**, brown, fine to medium, some fine-grained sand, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 2.0 | 0.0 |
| | | | SLR5-3* | | SP | | **SAND (FILL)**, gray, fine-grained, moist, moderate hydrocarbon-like odor and sheen. | 0.0 |
| | | | | | | | | 24.2 |
| 5 | | | | | | | | 14.7 |
| | | GP | SLR5-6* | 100 | | | | 20.1 |
| | | | | | | | 6.5 | 35.0 |
| | | | SLR5-7.5* | | ML | | **SILT (FILL)**, brown, moist to wet, no hydrocarbon-like odors or staining. | 1.9 |
| | | | | | | | ∇ @ 8.5 feet: Becomes wet. | 0.0 |
| | | | | | | | 9.0 **SAND**, black, fine-grained, wet, no hydrocarbon-like odors or staining. | 0.0 |
| 10 | | GP | SLR5-10* | 100 | | | | 0.0 |
| | | | | | | | | 0.0 |
| | | | SLR5-12.5 | | SP | | | 0.0 |
| | | GP | | 100 | | | | 0.0 |
| 15 | | | SLR5-15 | | | | | 0.0 |
| | | | | | | | 16.0 | 0.0 |

Boring completed at 16.0 feet.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

∇ Water level at time of drilling.

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Bothell, Washington 98021
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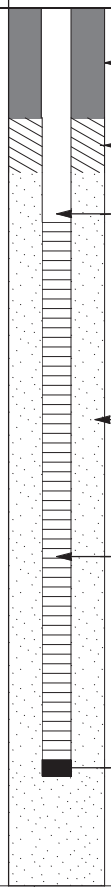
# WELL NUMBER SLR-6



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/19/11 **COMPLETED** 8/19/11
**GROUND ELEVATION** 12.75' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
∇ **AT TIME OF DRILLING** 8.5 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.5 **CONCRETE**. | 0.0 |
| | | | | | GP | | 1.0 **GRAVEL (FILL)**, gray, fine, dry, no hydrocarbon-like odors or staining. | 0.0 |
| | | GP | SLR6-1* | 50 | SP | | **SAND (FILL)**, brown, fine-grained, damp, no hydrocarbon-like odors or staining. | 0.0 |
| | | | SLR6-3 | | | | | 0.0 |
| 5 | | GP | SLR6-5* | 50 | | | @ 5.0 feet: Few fines. | 0.0 |
| | | | SLR6-7.5 | | | | 7.0 | 0.0 |
| | | | | | ML | | **SANDY SILT (FILL)**, brown, some fine-grained sand, moist to wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | ∇ @ 8.5 feet: Becomes wet. | 0.0 |
| 10 | | GP | SLR6-10* | 75 | | | 10.0 | 0.0 |
| | | | | | SP | | **SAND**, gray, fine-grained, few fines, red mottling, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | SLR6-12.5 | | | | 13.0 | 0.0 |
| 15 | | GP | SLR6-15 | 75 | SP | | **GRAVELLY SAND**, brown, fine-grained, some fine gravel, trace fines, wet, no hydrocarbon-like odors or staining. | 0.0 |
| | | | | | | | 16.0 | 0.0 |

Boring completed at 16.0 feet.




## WELL COMPLETION DETAILS:

0.3 to 3.9 feet: 2"-diameter Sch. 40 PVC blank riser.
3.9 to 13.7 feet: 2"-diameter Sch. 40 PVC 0.020"-slotted screen.
13.7 to 14.0 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 16.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

∇ Water level at time of drilling.

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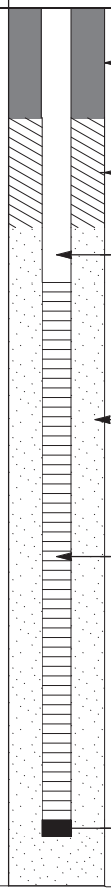
# WELL NUMBER SLR-7



**CLIENT** 8th Avenue Terminals, Inc.
**PROJECT NAME** 8th Avenue Terminals, Inc. Site
**PROJECT NUMBER** 101.00205.00019
**PROJECT LOCATION** 7400 8th Ave. S, Seattle, WA
**DATE STARTED** 8/22/11 **COMPLETED** 8/22/11
**GROUND ELEVATION** 14.60' **HOLE SIZE** 8-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
∇ **AT TIME OF DRILLING** 9.5 ft
**LOGGED BY** C. Lee **CHECKED BY** M. Staton
**AT END OF**
**NOTES**
**AFTER DRILLING**

| DEPTH (ft) | INTERVAL | TYPE | NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT**. | 0.0 |
| | | GP | SLR7-1* | 100 | GP | | **SANDY GRAVEL (FILL)**, light brown, fine to medium, some fine-grained sand, dry, no hydrocarbon-like odors or staining. 2.0 | 0.0 |
| | | | SLR7-3 | | SP | | **SAND (FILL)**, brown, fine- to medium-grained, trace fine gravel, damp, no hydrocarbon-like odors or staining. | 0.0 |
| 5 | | GP | SLR7-5* | 100 | | | 6.5 | 0.0 |
| | | | SLR7-7.5 | | | | 7.0 **CONSTRUCTION DEBRIS (FILL)**, brick. | 0.0 |
| | | | | | SP | | **SAND (FILL)**, dark gray, very fine-grained, few fines, moist to wet, no hydrocarbon-like odors or staining. | 0.0 |
| 10 | | GP | SLR7-10* | 100 | | | ∇ @ 9.5 feet: Becomes wet. 10.0 | 0.0 |
| | | | | | ML | | **SILT (FILL)**, dark gray, few very fine-grained sand, wet, no hydrocarbon-like odors or staining. | 0.0 |
| 15 | | GP | SLR7-12.5 | 100 | | | | 0.0 |
| | | | SLR7-15 | | | | 16.0 | 0.0 |

Boring completed at 16.0 feet.




## WELL COMPLETION DETAILS:

0.3 to 4.2 feet: 2"-diameter Sch. 40 PVC blank riser.
4.2 to 14.0 feet: 2"-diameter Sch. 40 PVC 0.020"-slotted screen.
14.0 to 14.3 feet: 2"-diameter Sch. 40 PVC end cap.

0.0 to 2.0 feet: Concrete.
2.0 to 3.0 feet: Hydrated bentonite chips.
3.0 to 16.0 feet: 10x20 Colorado silica sand.

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

∇ Water level at time of drilling.

| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-1 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1120 | Finish Date/Time: 7/6/94 1207 | |
| First Water (bgs): 6.75' | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 Inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | |
| | | | 1 | | | Rubble, brick and concrete, coarse gravels and sands, very dense, slightly damp | ORIGINAL COVER |
| | HA | 23.0 | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | | | 5 | | | | |
| | 7/10/12 | | | SP | | Sand, dark gray (10YR 4/1), few gravel, mostly medium to coarse sands, loose, moist. (10,90,0,0) | |
| | 4/5/9 | 9.9 | 6 | SM | ▽ | Silty Sand, dark gray (10YR 4/1), fine sand, some silt, loose, moist to wet (0,60,40,0) | |
| | | | 7 | | | | |
| | | | 8 | | | Boring terminated at 6.0 feet. Sampler advanced to 7.5 feet. Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-2 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJO | |
| Sampling Method: HSA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0932 | Finish Date/Time: 7/6/94 1032 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | | 1 | | | Rubble Brick and Concrete, Coarse Gravels and Silt Sands | |
| | | | 2 | | | | |
| | 13/15/17 | 23.6 | 3 | SM | | Sand, dark grayish brown (10YR 4/2), mostly fine to coarse sand, few medium dense, slightly damp (0,90,10,0) | |
| | | | 4 | | | | |
| | 50 | - | 5 | | | Unable to sample, encounter concrete<br>Boring terminated at 5.0 feet.<br>Sampler advanced to 3.7 feet<br>Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-3 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1210 | Finish Date/Time: 7/6/94 1213 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | |
| | HA | | 1 | | | Light gray rubble, concrete and gravel, very dense, slightly damp. | OPEN HOLE COVER |
| | HA | 50.4 | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | 37.3 | 5 | SM | | Sand, brown (10YR 5/3), mostly fine to coarse sand, trace silt, very dense, moist (0.95,5.0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet. Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-4 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0820 | Finish Date/Time: 7/6/94 0920 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | - | 1 | SP-SM | | Sand with Gravel, Light brownish gray, (10YR 6/2), a little fine to medium rounded gravel, mostly fine to coarse sand, few silt, medium dense, slightly moist. (15,75,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | 20.2 | 5 | SM | | Silty Sand, grayish brown (10YR 5/2), mostly fine sand, some silt, medium dense, very moist to wet. (0,55,45,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-5 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJO | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/5/94 1010 | Finish Date/Time: 7/5/94 1040 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | | 1 | SP-SM | | Sand with Gravel, grayish brown, (10YR 5/2), a little fine rounded gravel, mostly fine to coarse sand, few silt, medium dense, slightly damp, (20;70,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | | 5 | SM | | Silty Sand, grayish brown, (10YR 5/2), mostly fine sand, some silt, medium dense, very moist, (0,60,40,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet Boring abandoned on 7/5/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-6 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0714 | Finish Date/Time: 7/6/94 0724 | |
| First Water (bgs): 4.8' | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | 31.5 | 1 | SP-SM | | Sand with gravel, light brownish gray (10YR 6/2), a little gravel to 1/2 inch, mostly fine to coarse sand, few silt, medium dense, slightly moist, (15,75,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
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| | HA | 22.2 | 5 | SM | ▽ | Sand with Silt, very dark gray (10YR 3/1), mostly fine to medium sand, a little silt, loose to medium dense, wet (0,75,25,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-7 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/5/94 | Finish Date/Time: 7/5/94 | |
| First Water (bgs): 5.0 | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | 0.3 | 1 | GM | | Gravelly Sand, light brownish gray (2.5Y 6/2), with silt, rounded gravel to 1/2 inch diameter, medium to coarse sand, a little silt, medium dense, moist (30,55,15,0), no odor | |
| | | | 2 | SM | | Silty Sand, very dark gray (10YR 3/1), medium to coarse sand, a little silt, loose to medium, moist (0,75,25,0), humic odor | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | 0 | 5 | | ▽ | becomes wet at 4.8 feet | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet Boring abandoned on 7/5/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-8 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJO | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/5/94 | Finish Date/Time: 7/5/94 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | | 1 | GP | | Gravelly Sand, grayish brown, (10YR 5/2), some fine rounded gravel, mostly fine to coarse sand, few silt, medium dense, moist, (30,60,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | | 5 | SM | | Silty Sand, dark gray, (10YR 4/1), mostly fine to medium sand, some silt; medium dense; moist, (0,60,40,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet Boring abandoned on 7/5/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-9 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0752 | Finish Date/Time: 7/6/94 0752 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | - | 1 | GP-GM | | Gravelly Sand, grayish brown, (10YR 5/2), some fine rounded gravel, mostly fine to coarse sand, few silt, medium dense, moist, (35,55,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | 11.0 | 5 | SM | | Silty Sand, dark grayish brown (10YR 4/3), mostly very fine to medium sand, some silt, lobes to medium dense, slightly moist (0,60,40,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet. Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-10 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0658 | Finish Date/Time: 7/6/94 0724 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inches | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | 18.2 | 1 | GP-GM | | Gravelly Sand, grayish brown (2.5Y 5/2), some rounded gravel to 1 inch diameter, fine to coarse sand, few silt, medium dense, slightly moist (35,55,10,0) | |
| | | | 2 | | | | |
| | | | 3 | | | Silty Sand, very dark gray (10YR 3/1), mostly medium to coarse sand, a little silt, medium dense, moist (0,75,25,0), humic odor | |
| | | | 4 | | | | |
| | HA | 18.4 | 5 | SM | | Color becomes dark grayish brown (10YR 4/2), moist (0,65,35,0) | |
| | | | 6 | | | Boring terminated at 5.0 feet. Sampler advanced to 5.5 feet. Boring abandoned on 7/6/94. | |
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|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-11 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJO | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0742 | Finish Date/Time: 7/6/94 0758 | |
| First Water (bgs): 5.0 | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | Brick and concrete (degraded cement) | ORIGINAL COVER |
| | HA | 12 | 1 | SM | | Silty Sand, brown (7.5YR 4/4), trace fine to medium gravel, mostly fine to coarse sand and some silt, medium dense, slightly moist (5.55;40.0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | 8/8/8 | 75.1 | 5 | SM | ▽ | Wet | |
| | | | 6 | | | | |
| | | | 7 | | | Boring terminated at 5.0 feet. Sampler advanced to 6.5 feet. Boring abandoned on 7/6/94. | |
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DWG: CRO01GSL
DATE: 7/28/94

SEACOR

Reviewed By: _____ Date: _____

Revised By: _____ Date: _____

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| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-12 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1040 | Finish Date/Time: 7/6/94 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | 20.1 | 1 | SM | | Silty Sand, dark grayish brown (10YR 4/2), mostly fine to medium sand, some silt, slightly damp, (0,60,40,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | | | 4 | | | | |
| | HA | 6.0 | 5 | SM | | Brown (10YR 4/3) | |
| | | | 6 | | | | |
| | | | 7 | | | Boring terminated at 5.0 feet. Sampler advanced to 6.5 feet Boring abandoned on 7/6/94. | |
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DWG:CRO011GL
DATE:7/28/94

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Reviewed By: _____ Date: _____

Revised By: _____ Date: _____

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| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: HA-13 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.: CME 55 | Logged By: DJD | |
| Sampling Method: HSA & HA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 0815 | Finish Date/Time: 7/6/94 0837 | |
| First Water (bgs): | Stabilized Water Level (bgs): | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) | Boring Abandonment/ Well Construction Details |
|---|---|---|---|---|---|---|---|
| | | | 0 | | | | ORIGINAL COVER |
| | HA | 22.0 | 1 | SM | | Silty Sand, yellowish brown (10YR 5/4), mostly fine to medium sand and some silt, loose, slightly moist. (0,65,35,0) | |
| | | | 2 | | | | |
| | | | 3 | | | | |
| | 8/16/12 | 20.4 | 4 | | | | |
| | | | 5 | SM | | dark grayish brown (10YR 4/2) | |
| | 10/10/12 | 14.7 | 6 | | | | |
| | | | 7 | | | Boring terminated at 5.0 feet. Sampler advanced to 6.5 feet Boring abandoned on 7/6/94. | |
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| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: MW-1 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJO | |
| Sampling Method: HSA | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1511 | Finish Date/Time: 7/6/94 1630 | |
| First Water (bgs): 7.0' | Stabilized Water Level (bgs): 8.7 | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) |
|---|---|---|---|---|---|---|
| | | | 0 | | | |
| | 4/9 | 38.6 | 1 | SM | | Silty Sand, dark grayish brown (10YR 5/2), mostly fine to medium sand, some silt, slightly damp, (0,70,30,0) |
| | 9/7/9 | 54.3 | 2 | | | |
| | | | 3 | | | |
| | | | 4 | | | |
| | | | 5 | | | |
| | 9/9/9 | 34.8 | 6 | | | Wet |
| | | | 7 | | ▽ | |
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| | | | 15 | | | Boring terminated at 15.0 feet. |
| | | | 16 | | | Sampler advanced to 5.5 feet. Boring converted to a monitoring well on 7/6/94. |
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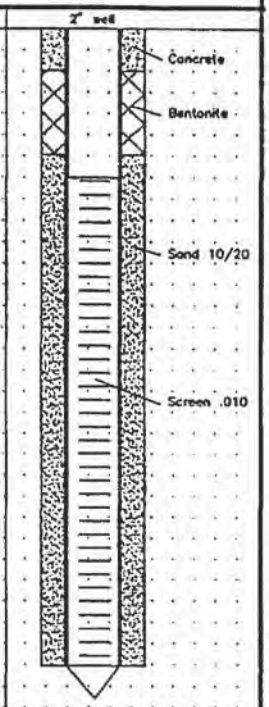
Boring Abandonment/ Well Construction Details




DWG: CR00112L
DATE: 7/28/94

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| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: MW-2 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA 8 1/4 | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1319 | Finish Date/Time: 7/6/94 1457 | |
| First Water (bgs): 6.75' | Stabilized Water Level (bgs): 7.0 | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) |
|---|---|---|---|---|---|---|
| | | | 0 | | | |
| | | | 1 | | | |
| | 12/13/17 | 18.6 | 2 | SM | | Silty Sand, dark gray (10YR 4/1) mostly fine sand, some silt, medium dense, slightly damp (0,60,40,0) |
| | | | 3 | | | |
| | | | 4 | | | |
| | | | 5 | | | |
| | 10/12/21 | 32.9 | 6 | | ▽ | Wet |
| | | | 7 | | | |
| | | | 8 | | | |
| | | | 9 | | | Strong hydrocarbon odors from boring @ 10'. PID reading of cuttings = 330ppm. Soil cutting dark gray silty sands, wet. |
| | | | 10 | | | |
| | | | 11 | | | |
| | | | 12 | | | |
| | | | 13 | | | |
| | | | 14 | | | Silty Sand, dark gray (10YR 4/1), mostly fine to medium sand, some silt, medium dense, wet, (0,70,30,0) |
| | | | 15 | | | Boring terminated at 15.0 feet. |
| | | | 16 | | | Sampler advanced to 6.5 feet. Boring converted to a monitoring well on 7/6/94. |
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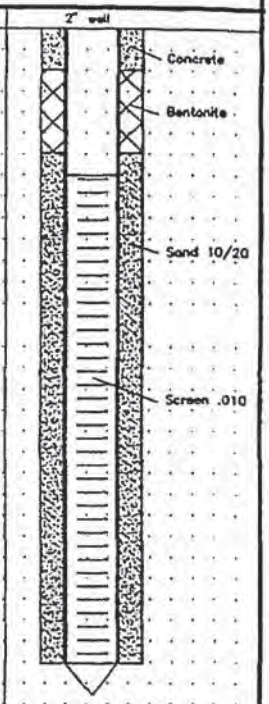
Boring Abandonment/ Well Construction Details




DWG: CR00113L
DATE: 7/28/94

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Reviewed By: _____ Date: _____

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| | | |
|---|---|---|
| Project: CROWLEY MARINE SERVICES | | Log of Boring/Monitoring Well: MW-3 |
| Boring Location: (SEE SITE MAP) | Project No.: 00255-001-01 | |
| Subcontractor and Equipment: CASCADE DRILLING INC.; CME 55 | Logged By: DJD | |
| Sampling Method: HSA 8 1/4 | Monitoring Device: PID | Comments: |
| Start Date/Time: 7/6/94 1650 | Finish Date/Time: 7/6/94 1711 | |
| First Water (bgs): 5.5' | Stabilized Water Level (bgs): 7.3 | |

Surface Elevation: Casing Top Elevation:

| Sample Interval/ Recovery (Inches) | Blows/6 inch | PID (ppm) | Depth (Feet) | USCS Symbol | Water Level | LITHOLOGIC DESCRIPTION (color, grain size, consistency, moisture, other) |
|---|---|---|---|---|---|---|
| | | | 0 | | | |
| | HA | 246 | 1 | SP-SM | | Gravelly Sand with Silt, brown (10YR 4/3), some fine gravel, mostly fine to coarse sand, a little silt, dense, moist (30,50,20,0) |
| | | | 2 | | | |
| | | | 3 | | | |
| | | | 4 | | | |
| | | | 5 | SM | ▽ | Silty Sand, dark grayish brown (10YR 4/2) mostly fine to coarse sand, few silt, loose, very moist, (0,90,10,0) dark gray (10YR 4/1), wet |
| | 3/8/9 | 161 | 6 | | | |
| | | | 7 | | | |
| | | | 8 | | | |
| | | | 9 | | | |
| | | | 10 | | | Very dark gray (10YR 3/1), wet |
| | 2/2/3 | 14.5 | 11 | | | |
| | | | 12 | | | |
| | | | 13 | | | |
| | | | 14 | | | |
| | | | 15 | | | Boring terminated at 15.0 feet. Sampler advanced to 11.5 feet. Boring converted to a monitoring well on 7/6/94. |
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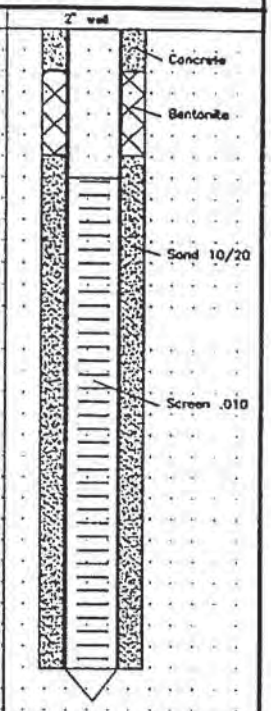
Boring Abandonment/ Well Construction Details




DWG:CR00114
DATE:7/28/94

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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-1** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 0815** | | | |
| **Time Finished: 0835** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Mostly silty gravel fill down to 4’. | SB-1 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-1 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
| 6 | | | | |
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# BORING LOG

| | | | |
|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-2** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 0840** | | | |
| **Time Finished: 0855** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Mostly silty gravel fill down to 4’. | SB-2 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-2 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

| | | | |
|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-3** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 0900** | | | |
| **Time Finished: 0930** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Mostly silty gravel fill down to 4’. | SB-3 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-3 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
| 6 | | | | |
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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-4** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 0935** | | | |
| **Time Finished: 0955** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Mostly silty gravel fill down to 4’. Oil staining and | SB-4 0-1 ft |
| 1 | | | odor at 1’. | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-4 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-5** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1000** | | | |
| **Time Finished: 1035** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Very little recovery. Silty gravely fill. | SB-5 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-5 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-6** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1045** | | | |
| **Time Finished: 1125** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Silty gravel fill. | SB-6 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Black sand. | SB-6 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-7** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1130** | | | |
| **Time Finished: 1140** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Silty gravel fill, then brown and black sand. | SB-7 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | Fill material. Slight oil staining and petroleum odor. | SB-7 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

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|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-8** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1150** | | | |
| **Time Finished: 1245** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Oil staining then silty gravel fill. | SB-8 0-1 ft |
| 1 | | | | |
| 2 | | | | |
| 3 | | | Brown and black fine grained sand. | |
| 4 | | | | SB-8 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

| | | | |
|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-9** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1250** | | | |
| **Time Finished: 1310** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Silty gravel fill. | SB-9 0-1 ft |
| 1 | | | | |
| 2 | | | Fine grained brown sand. | |
| 3 | | | | |
| 4 | | | | SB-9 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

| | | | |
|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-10** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1310** | | | |
| **Time Finished: 1315** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Silty gravel fill. | SB-10 0-1 ft |
| 1 | | | | |
| 2 | | | Fine grained brown sand. | |
| 3 | | | | |
| 4 | | | | SB-10 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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# BORING LOG

| | | | |
|---|---|---|---|
| **Project No: 0928486** | **Project Name: Seattle Baseline** | | **ID: SB-11** |
| **Location: Seattle, WA** | **Geologist: Joshua Bolling** | **Borehole Dia: 2”** | **Date: 12/16/2009** |
| **Drilling Method: DPT** | **Driller: Cascade Drilling** | **Well Dia: NA** | **Screen: NA** |
| **Rig: Power Probe 9630** | **Notes:** | | |
| **Time Started: 1335** | | | |
| **Time Finished: 1340** | | | |
| **Total Depth Drilled: 5’** | | | |

| Depth | Pid | ▼ | Lithology/Remarks | Sample ID/Loc |
|---|---|---|---|---|
| 0 | | | Silty gravel fill. Few inches of oil staining with petroleum | SB-10 0-1 ft |
| 1 | | | odor. | |
| 2 | | | Brown to black fine grained sand. | |
| 3 | | | | |
| 4 | | | | SB-10 4-5 ft |
| 5 | | | Boring terminated at 5 ft. | |
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Fax: 425.402.8488

# BORING NUMBER IAB-1



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE** 1.0 | |
| 5 | | GP | IAB1-3-5* | 80 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, moist, medium grained, no odor/staining 5.0 ▼ | 0.0 |
| 10 | | GP | IAB1-5-7* IAB1-7-9 | 100 | SM | | **Silty SAND** (75% Sand, 25% Silt) gray, fine grained, weak petroleum odor, wet 7.0 | 0.0 |
| 15 | | GP | IAB1-13-15 | 100 | SM | | **Silty SAND** (65% Sand, 35% Silt) gray, wet, fine to medium grained, no odor/staining 15.0 | 18.6 / 0.0 |
| 20 | | GP | IAB1-18-20 | 100 | SP / SP | | **Clean SAND** (100% Sand) dark gray, wet, medium grained, no odor/staining 17.5; **Clean SAND** (100% Sand) dark gray, fine to medium grained, no odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▼ Water level at time of drilling.

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# BORING NUMBER IAB-10



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 8.5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB10-3-5* | 60 | SP | | **Gravelly SAND** light brown, fine grained, moist, no odor/staining (2.0) | |
| 5 | | | | | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining (6.0) | 0.0 |
| | | GP | IAB10-5-7* | 90 | ML | | **SILT** dark brown, mottled, moist, no odor/staining (7.0) | 0.0 |
| 10 | | | IAB10-7-9 | | SM | | **Silty SAND** brown, fine grained, moist to wet, no odor/staining (15.0) | 0.0 |
| 15 | | GP | IAB10-13-15 | 100 | | | | 0.0 |
| 20 | | GP | IAB10-18-20 | 100 | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining (20.0) | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-10A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION**
**HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB10A-0-5 | 80 | SP | | **Gravelly SAND** light brown, fine grained, moist, no odor/staining | 0.0 |
| | | | | | | | 2.0 | |
| | | | | | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining | |
| 5 | | | | | | | 5.0 | |

Boring completed @ 5.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-11



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB11-3-5* | 80 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, fine grained, dry, no odor/staining | |
| | | | | | | | 4.0 | |
| 5 | | | | | SP | | **Clean SAND** (100% Sand) brown, medium grained, moist, no odor/staining | 0.0 |
| | | GP | IAB11-5-7* | 60 | | | | 0.0 |
| 10 | | | IAB11-7-9 | | | | | 0.0 |
| | | GP | IAB11-13-15 | 100 | | | 12.0 ▼ | |
| | | | | | SM | | **Silty SAND** (85% Sand, 15% Silt) gray, fine grained, wet, no odor/staining | |
| 15 | | | | | | | 15.0 | 0.0 |
| | | GP | IAB11-18-20 | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine grained, wet, no odor/staining | |
| | | | | | | | 19.0 | |
| 20 | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | 0.0 |
| | | | | | | | 20.0 | |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-12



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 8 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB12-3-5* | 70 | SP | | **Gravelly SAND** light brown, fine grained, moist, no odor/staining (3.0) | 0.0 |
| 5 | | | | | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining (8.5) | |
| | | GP | IAB12-5-7* | 100 | | | | 0.0 |
| | | | IAB12-7-9 | | | | | 0.0 |
| 10 | | | | | ML | | **SILT** brown, wet, no odor/staining (10.5) | |
| | | | | | SP | | **Clean SAND** brown, fine grained, wet, no odor/staining (12.0) | |
| | | GP | IAB12-13-15 | 100 | SM | | **Silty SAND** dark brown, fine grained, wet, no odor/staining (20.0) | 0.0 |
| 15 | | | | | | | | |
| | | GP | IAB12-18-20 | 100 | | | | 0.0 |
| 20 | | | | | | | | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-13



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB13-3-5* | 85 | GP | | **GRAVEL** light brown, fine grained, dry, no odor/staining (1.0) | |
| | | | | | SP | | **Gravelly SAND** light brown, fine grained, moist, no odor/staining (5.0) | 0.0 |
| 5 | | | | | | | | |
| | | GP | IAB13-5-7* | 90 | SP | | **Clean SAND** black, fine grained, moist, no odor/staining (9.5) | 0.0 |
| | | | IAB13-7-9 | | | | | 0.0 |
| 10 | | | | | | | | |
| | | GP | IAB13-13-15 | 100 | SM | | **Silty SAND** brown, fine grained, wet, no odor/staining (14.0) | |
| 15 | | | | | SP | | **Clean SAND** black, fine grained, wet, no odor/staining (16.0) | 0.0 |
| | | GP | IAB13-18-20 | 100 | SM | | **Silty SAND** dark brown, fine grained, wet, no odor/staining (20.0) | 0.0 |
| 20 | | | | | | | | |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-14



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB14-3-5* | 55 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, fine grained, dry, no odor/staining | |
| | | | | | SP-SM | | 2.5 **SAND with silty fines** (95% Sand, 5% Silt) brown, medium grained, moist, no odor/staining | 0.0 |
| 5 | | | | | | | | |
| | | GP | IAB14-5-7* | 70 | | | 6.0 | 0.0 |
| | | | | | | | 6.5 **FILL** concrete and brick | |
| | | | IAB14-7-9 | | SP | | **Clean SAND** (100% Sand) gray, fine grained, wet, no odor/staining | 0.7 |
| 10 | | | | | | | | |
| | | GP | IAB14-13-15 | 95 | | | | 0.0 |
| 15 | | | | | | | | |
| | | GP | IAB14-18-20 | 90 | | | 17.0 **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | | | | SP | | | 0.4 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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Telephone: 425.402.8800
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# BORING NUMBER IAB-14A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | IAB14A-0-5 | 80 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, fine grained, dry, no odor/staining | 0.0 |
| | | | | | | | 2.5 | |
| | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, medium grained, moist, no odor/staining | |
| 5 | | | | | | | 5.0 | |

Boring completed @ 5.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-15



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9.5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | GP | | 60 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, medium grained, dry, no odor/staining | |
| | | | | | | | 3.0 | |
| 5 | | | | | | | **FILL** concrete, brick, and asphalt | |
| | | | | | | | 6.0 | |
| | | GP | IAB15-7-9* | 65 | SP | | **Clean SAND** (100% Sand) gray, fine grained, moist, no odor/staining | 0.1 |
| 10 | | | | | | | | |
| | | GP | IAB15-9-11* | 80 | | | | 0.0 |
| | | | IAB15-11-13 | | | | | 0.0 |
| | | | IAB15-13-15 | | | | | 0.2 |
| 15 | | | | | | | 14.5 | |
| | | | | | | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB15-18-20 | 100 | SP | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-91-10.0' was collected over the same interval as sample EB-41-10.0'.
Water level at time of drilling.

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# BORING NUMBER IAB-16



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 60 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry to moist, no odor/staining 3.0 | |
| 5 | | | IAB16-3-5* | | | | **FILL** concrete 5.5 | 0.0 |
| | | GP | IAB16-5-7* | 70 | SP | | **Clean SAND** (100% Sand) dark gray, medium grained, moist to wet, no odor/staining | 0.0 |
| 10 | | | IAB16-7-9 | | | | | 0.2 |
| | | GP | | 75 | | | 13.0 | |
| 15 | | | IAB16-13-15 | | SP | | **Clean SAND** (100% Sand) dark gray, fine grained, wet, no odor/staining 14.5 | 0.5 |
| | | GP | | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| 20 | | | IAB16-18-20 | | | | 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-17



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 65 | GP | | **Sandy GRAVEL** (60% Gravel, 40% Sand) gray, medium grained, dry, no odor/staining 2.0 | |
| | | | IAB17-3-5* | | SP | | **Gravelly SAND** (60% Sand, 40% Gravel) brown, medium grained, moist, no odor/staining 4.5 | 0.0 |
| 5 | | | | | | | 5.0 **CONCRETE** | |
| | | GP | IAB17-5-7* | 70 | SM | | **Silty SAND** (85% Sand, 15% Silt) dark gray, fine grained, moist, no odor/staining | 0.0 |
| 10 | | | IAB17-7-9 | | | | | 0.0 |
| | | GP | | 90 | ML | | 11.0 **Sandy SILT** (90% Silt, 10% Sand) dark gray, wet, no odor/staining 13.0 | |
| 15 | | | IAB17-13-15 | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 16.0 | 0.0 |
| | | GP | IAB17-18-20 | 95 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| 20 | | | | | | | 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-17A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION**
**HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | GP | IAB17A-0-5 | 80 | GP | | 2.0 | **Sandy GRAVEL** (60% Gravel, 40% Sand) gray, medium grained, dry, no odor/staining | 0.0 |
| | | | | | SP | | 4.5 | **Gravelly SAND** (60% Sand, 40% Gravel) brown, medium grained, moist, no odor/staining | |
| 5 | | | | | | | 5.0 | **CONCRETE** | |

Boring completed @ 5.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.

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# BORING NUMBER IAB-18



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 60 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, fine grained, dry, no odor/staining 3.0 | |
| 5 | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) gray, fine grained, dry, no odor/staining 6.0 | |
| | | GP | IAB18-5-7* | 90 | | | 6.5 **FILL** woody debris | 0.5 |
| 10 | | | IAB18-7-9* | | SM | | **Silty SAND** (55% Sand, 45% Silt) dark gray, fine grained, wet, no odor/staining | 0.7 |
| | | GP | IAB18-9-11 | 95 | | | | 0.0 |
| 15 | | | IAB18-13-15 | | | | | 0.0 |
| | | GP | | 100 | | | 17.5 **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| 20 | | | IAB18-18-20 | | SP | | 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
Water level at time of drilling.

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# BORING NUMBER IAB-18A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | IAB18A-0-7 | 80 | SP | | **Gravelly SAND** (70% Sand, 30% Gravel) gray, fine grained, dry, no odor/staining 3.0 | |
| 5 | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) gray, fine grained, dry, no odor/staining 6.0 | 0.0 |
| | | | | | | | 6.5 **FILL** woody debris | |
| | | GP | | 85 | SM | | **Silty SAND** (55% Sand, 45% Silt) dark gray, fine grained, wet, no odor/staining | |
| 10 | | | | | | | 10.0 | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-19



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 70 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.5 | |
| 5 | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) gray, fine grained, moist, no odor/staining 6.0 | |
| | | GP | IAB19-5-7* | 90 | | | **FILL** concrete, brick, and asphalt 7.0 | 0.0 |
| 10 | | | IAB19-7-9* | | SP | | **Clean SAND** (100% Sand) dark gray, fine grained, moist, no odor/staining 9.0 ▼ | 0.4 |
| | | GP | IAB19-9-11 | 90 | ML | | **Sandy SILT** (60% Silt, 40% Sand) gray, wet, no odor/staining 13.5 | 0.2 |
| 15 | | | IAB19-13-15 | | SM | | **Silty SAND** (70% Sand, 30% Silt) gray, fine grained, wet, no odor/ staining, wood chips @ 13'-14' and 17.75' 18.0 | 0.1 |
| 20 | | GP | IAB19-18-20 | 80 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.3 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-2



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 7.5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | GP | | **Sandy GRAVEL** brown, fine grained, moist, no odor/staining (1.0) | |
| | | GP | IAB2-3-5* | 60 | SP | | **Clean SAND** dark brown, fine grained, moist, no odor/staining | 0.0 |
| 5 | | | | | | | (5.5) | |
| | | | IAB2-5-7* | | GP | | (6.0) **Sandy GRAVEL** brown, fine grained, moist, no odor/staining | 2.0 |
| | | GP | IAB2-7-9 | 65 | SM | | **Silty SAND** brown, fine grained, moist to wet, no odor/staining | 1.6 |
| 10 | | | | | | | | |
| | | GP | IAB2-13-15 | 65 | | | | 0.1 |
| 15 | | | | | | | | |
| | | GP | IAB2-18-20 | 70 | | | (17.0) **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining | |
| | | | | | SP | | | 0.0 |
| 20 | | | | | | | (20.0) | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-20



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| 5 | | GP | | 70 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 6.0 | |
| | | | IAB20-5-7* | | SP | | **Gravelly SAND with debris** (45% Sand, 15% gravel, 40% Debris) black, fine grained, moist, woody debris with strong creosote odor @ 7' bgs 7.5 | 0.1 |
| 10 | | GP | IAB20-7-9* | 70 | SP-SM | | **SAND with silty fines** (90% Sand, 10% Silt) gray, fine to medium grained, wet, no odor/staining 9.0 ▼ | 0.1 |
| | | | IAB20-9-11 | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining | 0.0 |
| 15 | | GP | IAB20-13-15 | 90 | | | | 0.0 |
| 20 | | GP | IAB20-18-20 | 95 | | | 18.0 | |
| | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet. no odor/staining 20.0 | 0.0 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-21



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| 5 | | GP | | 60 | SP | | **Gravelly SAND** (80% Sand, 15% Gravel, 5% Silt) light brown, fine grained, moist, no odor/staining 7.0 | |
| 10 | | GP | IAB21-5-7* IAB21-7-9* | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine grained, moist, no odor/staining 8.5 | 0.0 0.2 |
| | | | | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining 10.5 | 0.4 |
| | | | | | SM | | **Silty SAND with gravel** (70% Sand, 15% Silt, 15% Gravel) brown, fine grained, moist, no odor/staining 11.5 | |
| 15 | | GP | IAB21-9-11 IAB21-13-15 | 100 | SM | | **Silty SAND with organics** (50% Sand, 40% Silt, 10% organics) gray, fine grained, wet, no odor/staining, wood chips @ 13'-14' with trace roots 16.0 | 0.0 |
| | | | | | SM | | **Silty SAND** (85% Sand, 15% Silt) gray, fine grained, wet, no odor/staining 18.0 | |
| 20 | | GP | IAB21-18-20 | 90 | SP | | **Clean SAND** (100% Sand) dark gray, fine grained, wet, no odor/staining 20.0 | 0.2 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-22



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 65 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.5 | |
| 5 | | | | | SP | | **Woody SAND** (75% Sand, 25% Wood) black, fine grained, moist, weak creosote odor, wood chips throughout 6.0 | |
| | | GP | IAB22-5-7* | 80 | SP | | **SAND with debris** (85% Sand, 15% Debris) dark gray, fine grained, moist, minor brick fragments, no odor/staining 8.0 | 0.4 |
| | | | IAB22-7-9* | | ML | | **Sandy SILT** (85% Silt, 15% Sand) gray, wet, no odor/staining 9.5 | 0.0 |
| 10 | | | | | SM | | **Silty SAND** (60% Sand, 40% Silt) gray, fine grained, wet, no odor/staining 14.5 | 0.0 |
| | | GP | IAB22-9-11 | 85 | | | | |
| | | | IAB22-13-15 | | | | | 0.0 |
| 15 | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine grained, wet, no odor/staining 17.0 | |
| | | GP | IAB22-18-20 | 90 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.2 |
| 20 | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-22A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | GP | IAB22A-0-7 | 85 | GP | | 2.0 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | 0.0 |
| | | | | | SP | | 4.5 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| 5 | | | | | SP | | 6.0 | **Woody SAND** (75% Sand, 25% Wood) black, fine grained, moist, weak creosote odor, wood chips throughout | |
| | | GP | | 90 | SP | | 8.0 | **SAND with debris** (85% Sand, 15% Debris) dark gray, fine grained, moist, minor brick fragments, no odor/staining | |
| | | | | | ML | | 9.5 | **Sandy SILT** (85% Silt, 15% Sand) gray, wet, no odor/staining | |
| 10 | | | | | SM | | 10.0 | **Silty SAND** (60% Sand, 40% Silt) gray, fine grained, wet, no odor/staining | |
| | | | | | | | | Boring completed @ 10.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-23



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 70 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/ staining 2.0 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.5 | |
| 5 | | | | | SP | | **Gravelly SAND** (85% San, 15% Gravel) black, fine grained, moist, weak creosote odor 6.0 | |
| | | GP | IAB23-5-7* | 85 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine grained, moist, no odor/staining 8.5 | 0.4 |
| 10 | | | IAB23-7-9* | | ML | | ▼ **Sandy SILT** (55% Silt, 45% Sand) gray, wet, weak organic odor, no staining 11.0 | 0.0 |
| | | GP | IAB23-9-11 | 100 | SM | | **Silty SAND** (70% Sand, 30% Silt) gray, fine grained, wet, no odor/staining 12.0 | 0.0 |
| 15 | | | IAB23-13-15 | | SM | | **Silty SAND with organics** (50% Sand, 45% Silt, 5% Organics) gray, fine grained, wet, wood chips @ 14'-16' and 17' bgs 17.5 | 0.2 |
| 20 | | GP | IAB23-18-20 | 100 | SP | | **SAND with organics** (95% Sand, 5% Organics) dark gray, fine to medium grained, wet, no odor/staining, wood chips throughout 20.0 | 0.1 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▼ Water level at time of drilling.

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# BORING NUMBER IAB-23A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/ staining 2.0 | |
| | | GP | IAB23A-0-7 | 80 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.5 | 0.1 |
| 5 | | | | | SP | | **Gravelly SAND** (85% San, 15% Gravel) black, fine grained, moist, weak creosote odor 6.0 | |
| | | GP | | 90 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine grained, moist, no odor/staining 8.5 | |
| 10 | | | | | ML | | **Sandy SILT** (55% Silt, 45% Sand) gray, wet, weak organic odor, no staining 10.0 | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-24



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/13/14 **COMPLETED** 7/13/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 70 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SP | | **Clean SAND** (100% Sand) black, fine grained, moist, weak creosote odor 6.5 | 0.0 |
| | | GP | IAB24-5-7* | 85 | GP | | **Sandy GRAVEL with silt** (80% Gravel, 15% Sand, 5% Silt) gray, fine grained, dry, no odor/staining 7.5 | |
| | | | IAB24-7-9* | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, fine grained, moist, no odor/staining 8.5 | 0.4 |
| 10 | | | | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, moist to wet, no odor/staining | 0.0 |
| | | GP | IAB24-9-11 | 80 | | | | |
| 15 | | | IAB24-13-15 | | | | | 0.0 |
| | | GP | | 95 | | | | |
| 20 | | | IAB24-18-20 | | | | 19.0 | 0.3 |
| | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-25



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | 1.5 **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | |
| | | | | | SP | | 2.5 **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| | | GP | | 80 | SP | | 3.5 **SAND with organics** (90% Sand, 10% Organics) gray, fine grained, moist, no odor/staining, minor roots | |
| 5 | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) black, fine grained, weak creosote odor | |
| | | GP | IAB25-5-7* | 85 | | | | 0.2 |
| 10 | | | IAB25-7-9* | | | | | 0.0 |
| | | | | | | | 9.5 | |
| | | | | | SP | | **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining | 0.0 |
| | | | IAB25-9-11 | | | | 11.0 | |
| 15 | | GP | IAB25-13-15 | 85 | SM | | **Silty SAND** (70% Sand, 30% Silt) gray, fine grained, wet, no odor/staining | 0.3 |
| | | | | | | | 17.0 | |
| 20 | | GP | IAB25-18-20 | 100 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) dark gray, fine to medium grained, wet, no odor/staining | 0.0 |
| | | | | | | | 20.0 | |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-91-10.0' was collected over the same interval as sample EB-41-10.0'.
Water level at time of drilling.

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# BORING NUMBER IAB-25A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | | | | GP | | 1.5 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | |
| | | | | | SP | | 2.5 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| | | GP | IAB25A-2-4 | 80 | SP | | 3.5 | **SAND with organics** (90% Sand, 10% Organics) gray, fine grained, moist, no odor/staining, minor roots | 0.0 |
| 5 | | | | | SP-SM | | 9.5 | **SAND with silty fines** (95% Sand, 5% Silt) black, fine grained, weak creosote odor | 0.1 |
| | | GP | IAB25A-4-6<br>IAB25A-6-8 | 100 | | | | | 0.0 |
| 10 | | | | | SP | | 10.0 | **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-25B



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | | | | GP | | 1.5 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | |
| | | | | | SP | | 2.5 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| | | GP | IAB25B-2-4 | 90 | SP | | 3.5 | **SAND with organics** (90% Sand, 10% Organics) gray, fine grained, moist, no odor/staining, minor roots | 0.0 |
| 5 | | | | | SP-SM | | 9.5 | **SAND with silty fines** (95% Sand, 5% Silt) black, fine grained, weak creosote odor | 0.0<br>0.0 |
| | | GP | IAB25B-4-6<br>IAB25B-6-8 | 85 | | | | | |
| 10 | | | | | SP | | 10.0 | **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-26



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 80 | SM | | **Silty SAND with organics** (55% Sand, 40% Silt, 5% Organics) gray, fine grained, weak creosote odor, small wood chips throughout 4.0 | |
| 5 | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) black, fine to medium grained, moist, weak creosote odor 7.0 | |
| | | GP | IAB26-5-7* | 70 | | | | 0.2 |
| | | | IAB26-7-9* | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, moist, no odor/staining 8.5 | 0.0 |
| 10 | | | | | SM | | **Silty SAND with organics** (55% Sand, 40% Silt, 5% Organics) dark gray, fine grained, moist to wet, weak organic odor, wood chips throughout | 0.0 |
| | | GP | IAB26-9-11 | 80 | | | | |
| 15 | | | IAB26-13-15 | | | | 16.0 | 0.1 |
| | | GP | IAB26-18-20 | 80 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| 20 | | | | | | | 20.0 | 0.0 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.
Water level at time of drilling.

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# BORING NUMBER IAB-27



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 70 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) brown, fine grained, dry, no odor/staining 2.0 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SM | | **Silty SAND** (85% Sand, 15% Silt) black, fine to medium grained, moist, no odor, iron oxide staining 6.0 | |
| | | GP | IAB27-5-7* | 95 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, moist, no odor/staining 8.0 | 0.0 |
| | | | IAB27-7-9* | | | | | 0.2 |
| 10 | | | IAB101-7-9* | | ML | | **Sandy SILT** (55% Silt, 45% Sand) gray, fine grained, moist, no odor/staining 12.0 | 0.2 |
| | | GP | IAB27-9-11 | 80 | | | | 0.0 |
| 15 | | | IAB27-13-15 | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining 14.5 | 0.3 |
| | | GP | IAB27-18-20 | 80 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.1 |
| 20 | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
Water level at time of drilling.

SLR
22118 20th Ave. SE, Suite G-202
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Telephone: 425.402.8800
Fax: 425.402.8488

# BORING NUMBER IAB-28



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 80 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SP | | **SAND with debris** (95% Sand, 5% Debris) black, fine grained, moist, weak creosote odor, trace brick fragments throughout 6.5 | |
| | | GP | IAB28-5-7* | 90 | | | | 0.4 |
| | | | IAB28-7-9* | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine to medium grained, moist, no odor/staining 7.5 | 0.0 |
| 10 | | | IAB102-7-9* | | SM | | **Silty SAND with organics** (55% Sand, 40% Silt, 5% Organics) gray, fine grained, moist to wet, no odor/staining, trace wood chips throughout | 0.2 |
| | | GP | IAB28-9-11 | 100 | | | | 0.2 |
| 15 | | | IAB28-13-15 | | | | 14.5 | 0.0 |
| | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB28-18-20 | 100 | | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-28A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | GP | IAB28A-0-7 | 80 | GP | | 2.0 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | 0.0 |
| | | | | | SP | | 4.0 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| 5 | | | | | SP | | 6.5 | **SAND with debris** (95% Sand, 5% Debris) black, fine grained, moist, weak creosote odor, trace brick fragments throughout | |
| | | GP | | 90 | SP-SM | | 7.5 | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine to medium grained, moist, no odor/staining | |
| 10 | | | | | SM | | 10.0 | **Silty SAND with organics** (55% Sand, 40% Silt, 5% Organics) gray, fine grained, moist to wet, no odor/staining, trace wood chips throughout | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-29



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 85 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) black, fine grained, moist, weak creosote odor 6.5 | 0.3 |
| | | | IAB29-5-7* | | | | | 0.2 |
| | | | IAB103-5-7* | | | | | |
| | | GP | IAB29-7-9* | 85 | SP | | **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining 8.5 | 0.0 |
| 10 | | | | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining | 0.0 |
| | | | IAB29-9-11 | | | | | |
| | | GP | IAB29-13-15 | 80 | | | 14.5 | 0.2 |
| 15 | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB29-18-20 | 70 | | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-3



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | **CONCRETE** 1.0 | |
| | | | | | GP | | **Sandy GRAVEL** light brown, fine grained, moist, no odor/staining 2.0 | |
| | | GP | | 80 | SP-SM | | **Clean SAND** brown, fine grained, moist, no odor/staining 3.5 | |
| 5 | | | IAB3-3-5* | | SM | | **Silty SAND** brown, fine grained, moist to wet, no odor/staining ▼ 5.5 | 0.0 |
| | | | IAB3-5-7* | | ML | | **SILT** grayish brown, wet, no odor/staining | 0.0 |
| | | GP | IAB3-7-9 | 85 | | | 9.0 | 0.0 |
| 10 | | | | | ML | | **Sandy SILT** brown, fine grained, wet, no odor/staining 12.0 | |
| | | GP | IAB3-13-15 | 100 | SP | | **Clean SAND** brown, fine grained, wet, no odor/staining 14.0 | |
| 15 | | | | | | | **WOOD** 15.0 | 0.0 |
| | | GP | IAB3-18-20 | 100 | SP | | **Clean SAND** brown, fine grained, wet, no odor/staining 17.5 | |
| 20 | | | | | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-30



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 85 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.5 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SP-SM | | **SAND with silty fines** (90% Sand, 10% Silt) dark gray, fine grained, moist, no odor/staining 6.0 | |
| | | GP | IAB30-5-7* | 85 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, moist, no odor/staining 8.0 | 0.0 |
| | | | IAB30-7-9* | | | | | 0.1 |
| 10 | | | IAB104-7-9* | | SM | | **Silty SAND** (60% Sand, 40% Silt) gray, fine grained, wet, no ofor/staining | 0.1 |
| | | GP | IAB30-9-11 | 90 | | | | 0.2 |
| 15 | | | IAB30-13-15 | | | | 14.5 | 0.0 |
| | | | | | ML | | **Sandy SILT** (60% Silt, 40% Sand) gray, fine grained, wet, no odor/staining 16.0 | |
| | | GP | IAB30-18-20 | 85 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| 20 | | | | | | | 20.0 | 0.7 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-31



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 75 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.5 | |
| 5 | | | | | SM | | **Silty SAND** (55% Sand, 45% Silt) dark gray, fine grained, moist, no odor/staining 5.5 | |
| | | | | | GP | | **Gravelly SAND** (55% Gravel, 45% Sand) gray, fine grained sand, well graded gravel, moist, no odor/staining 7.5 | |
| | | GP | IAB31-7-9* | 80 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) dark gray, fine to medium grained, moist, no odor/staining 8.5 | 0.2 |
| | | | IAB31-9-11* | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | | IAB105-9-11* | | | | 11.5 | |
| | | GP | IAB31-11-13 | 95 | SM | | **Silty SAND** (70% Sand, 30% Silt) dark gray, wet, no odor/staining | 0.7 |
| | | | IAB31-13-15 | | | | | 0.0 |
| 15 | | | | | | | 16.5 | |
| | | GP | | 90 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | | IAB31-18-20 | | | | | 0.3 |
| 20 | | | | | | | 20.0 | |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-32



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 75 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.5 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SM | | **Silty SAND with gravel** (80% Sand, 15% silt, 5% Gravel) gray, fine grained, dry, no odor/staining 7.0 | |
| | | GP | IAB32-7-9* | 85 | SM | | **Silty SAND** (70% Sand, 30% Silt) gray, fine grained, moist to wet, no odor/staining | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | GP | IAB32-9-11* | 80 | | | | 0.4 |
| | | | IAB32-11-13 | | | | | |
| | | | IAB32-13-15 | | | | 14.5 | 0.3 |
| 15 | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB32-18-20 | 100 | | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-32A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | IAB32A-0-9 | 65 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.5 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SM | | **Silty SAND with gravel** (80% Sand, 15% silt, 5% Gravel) gray, fine grained, dry, no odor/staining 7.0 | 0.0 |
| | | GP | | 90 | SM | | **Silty SAND** (70% Sand, 30% Silt) gray, fine grained, moist to wet, no odor/staining 10.0 | |
| 10 | | | | | | | Boring completed @ 10.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-33



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/14/14 **COMPLETED** 7/14/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 80 | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 4.0 | |
| 5 | | | | | SP | | **Gravelly SAND** (80% Sand, 20% Gravel) black, fine grained, moist, no odor/staining 6.0 | |
| | | | | | SP | | **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining 7.5 | |
| | | GP | IAB33-7-9* | 80 | SM | | **Silty SAND** (55% Sand, 45% Silt) gray to reddish brown, fine grained, wet, no odor | 0.2 |
| 10 | | | IAB33-9-11* | | | | | 0.0 |
| | | | IAB106-9-11* | | | | | 0.0 |
| | | GP | IAB33-11-13 | 75 | | | | 0.4 |
| 15 | | | IAB33-13-15 | | | | 14.0 | 0.0 |
| | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB33-18-20 | 80 | | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-33A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 9 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | IAB33A-0-9 | 70 | GP | | 2.0 **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | 0.0 |
| | | | | | SP | | 4.0 **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| 5 | | | | | SP | | 6.0 **Gravelly SAND** (80% Sand, 20% Gravel) black, fine grained, moist, no odor/staining | |
| | | GP | | 100 | SP | | 7.5 **Clean SAND** (100% Sand) gray, fine to medium grained, moist, no odor/staining | |
| 10 | | | | | SM | | 10.0 **Silty SAND** (55% Sand, 45% Silt) gray to reddish brown, fine grained, wet, no odor | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-34



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/15/14 **COMPLETED** 7/15/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 95 | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 3.5 | |
| | | | | | SP | | **Gravelly SAND** (90% Sand, 10% Gravel) black, fine grained, moist, no odor/staining 5.0 | |
| 5 | | GP | IAB34-7-9* | 95 | SM | | **Silty SAND with gravel** (50% Sand, 35% Silt, 15% Gravel) dark gray, fine grained, moist, weak creosote odor 7.0 | |
| | | | | | SM | | **Silty SAND** (85% Sand, 15% Silt) brown, fine grained, moist, no odor/staining 10.0 | 1.9 |
| 10 | | GP | IAB107-7-9* IAB34-9-11* | 95 | SM | | **Silty SAND** (55% Sand, 45% Silt) brown, fine grained, moist to wet, no odor/staining 13.0 | 1.9 0.0 |
| | | GP | IAB34-11-13 IAB34-13-15 | 95 | SM | | **Silty SAND** (85% Sand, 15% Silt) dark gray, fine grained, wet, no odor/staining 16.0 | 0.3 0.4 |
| 15 | | | | | | | | |
| 20 | | GP | IAB34-18-20 | 95 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, not odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-91-10.0' was collected over the same interval as sample EB-41-10.0'.
Water level at time of drilling.

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# BORING NUMBER IAB-35



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/17/14 **COMPLETED** 7/17/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 12.5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 100 | GP | | 1.5 **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | |
| | | | | | SP | | 3.5 **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, dry, no odor/staining | |
| | | | | | SP | | 5.0 **Gravelly SAND** (70% Sand, 30% Gravel) black, fine grained, moist, no odor | |
| 5 | | | | | | | 5.5 **CONCRETE** | |
| | | GP | IAB35-7-9* | 40 | SM | | **Silty SAND** (85% Sand, 15% Silt) brown, fine grained, moist, no odor/staining | 0.0 |
| | | GP | IAB110-7-9* | 90 | | | | 0.0 |
| 10 | | | IAB35-9-11* | | | | | 0.0 |
| | | GP | IAB35-11-13 | 100 | | | 12.5 ▼ | 0.0 |
| | | | | | SM | | 14.0 **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining | |
| 15 | | GP | IAB35-13-15 | | SP-SM | | 15.5 **SAND with silty fines** (95% Sand, 5% Silt) reddish brown to black, fine to medium grained, wet, no odor/staining | 0.0 |
| | | GP | IAB35-18-20 | 95 | SP | | 20.0 **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | 0.2 |
| 20 | | | | | | | Borinf completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
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GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-35A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | GP | IAB35A-0-9 | 75 | GP | | 1.5 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | 0.1 |
| | | GP | IAB35A-2-4 | | SP | | 3.5 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, dry, no odor/staining | 0.0 |
| 5 | | | | | SP | | 5.0 | **Gravelly SAND** (70% Sand, 30% Gravel) black, fine grained, moist, no odor | |
| | | GP | IAB35A-4-6 | 90 | | | 5.5 | **CONCRETE** | 0.3 |
| | | GP | IAB35A-6-8 | | SM | | 10.0 | **Silty SAND** (85% Sand, 15% Silt) brown, fine grained, moist, no odor/staining | 0.1 |
| 10 | | | | | | | | | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-36



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/15/14 **COMPLETED** 7/15/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | 1.5 **Sandy GRAVEL** light brown, fine to medium grained, moist, no odor/staining | |
| 5 | | GP | | 100 | SP | | 5.5 **Clean SAND** light brown to dark brown, fine grained, moist, moderate to weak creosote odor @ 3.5'-4.5' bgs | |
| | | | | | SM | | 7.0 **Silty SAND** dark brown, fine grained, moist, weak creosote odor, cobble fragments @ 7' bgs | |
| | | | | | SP | | 7.5 **Clean SAND** light brown, fine grained, moist, no odor/staining | |
| 10 | | GP | | 100 | SM | | 8.5 **Silty SAND** brown, fine grained, moist, no odor/staining | |
| | | | | | SP | | 11.0 **Clean SAND** brown, fine grained, moist, no odor/staining, fine gravel @ 11' bgs | |
| | | | | | ML | | 11.5 **SILT** gray, moist, no odor/staining | |
| 15 | | GP | | 100 | SM | | 15.0 **Silty SAND** grayish brown, fine grained, moist to wet, no odor/staining | |
| 20 | | GP | IAB36-16-18* | 100 | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining | 0.1 |
| | | | IAB36-18-20* | | | | | 0.0 |
| | | | IAB36-20-22 | | | | | 0.0 |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.
Water level at time of drilling.

*(Continued Next Page)*

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# BORING NUMBER IAB-36



**CLIENT** Anchor QEA, LLC **PROJECT NAME** 8th Avenue Terminals

**PROJECT NUMBER** 101.00902.00003 **PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| | | GP | IAB36-22-24 | 100 | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining *(continued)* | 0.0 |
| | | | | | | | 24.0 Boring completed @ 24.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-37



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/15/14 **COMPLETED** 7/15/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 14 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** light brown, fine to coarse grained, moist, no odor/staining 2.0 | |
| 5 | | GP | | 90 | SP | | **Clean SAND** brown to dark brown, fine grained, moderate to strong creosote odor, woody debris @ 6.5' bgs | 2.5 |
| 10 | | GP | | 100 | SP | | 6.5 | |
| | | | | | | | 7.0 **FILL** concrete | 42.0 |
| | | | | | | | **Clean SAND** black, fine grained, moist, strong creosote-like odor and product @ 8' bgs grading to moderate | 166<br>11.7 |
| 15 | | GP | | 90 | | | 13.0 | 79.2 |
| | | | | | SM | | **Silty SAND** brown, fine grained, moist to wet, moderate creosote odor/sheen on wet soil | 45.0 |
| 20 | | GP | IAB37-16-18*<br>IAB108-16-18*<br>IAB37-18-20* | 100 | | | 18.0 | 11.0<br>11.0 |
| | | | | | SP | | **Clean SAND** dark brown to black, fine to medium grained, wet, moderate creosote odor/sheen on wet soil | 25.0 |
| | | | IAB37-20-22 | | | | | 13.0 |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
Water level at time of drilling.

*(Continued Next Page)*

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# BORING NUMBER IAB-37



**CLIENT** Anchor QEA, LLC **PROJECT NAME** 8th Avenue Terminals

**PROJECT NUMBER** 101.00902.00003 **PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| | | GP | IAB37-22-24 | 90 | SP | | **Clean SAND** dark brown to black, fine to medium grained, wet, moderate creosote odor/sheen on wet soil *(continued)* | 11.0 |
| | | | | | | | 24.0 Boring completed @ 24.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
▽ Water level at time of drilling.

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# BORING NUMBER IAB-37A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | | | | GP | | 2.0 | **Sandy GRAVEL** light brown, fine to coarse grained, moist, no odor/staining | |
| | | GP | IAB37A-2-4 | 80 | SP | | | **Clean SAND** brown to dark brown, fine grained, moderate to strong creosote odor, woody debris @ 6.5' bgs | 0.0 |
| 5 | | | | | | | | | 0.0 |
| | | | IAB37A-4-6 | | | | 6.5 | | |
| | | | IAB37A-6-8 | | | | 7.0 | **FILL** concrete | 0.0 |
| | | GP | | 95 | SP | | | **Clean SAND** black, fine grained, moist,moderate creosote-like odor @ 8' bgs grading to weak | |
| 10 | | | | | | | 10.0 | | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-37B



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | | | | GP | | 2.0 | **Sandy GRAVEL** light brown, fine to coarse grained, moist, no odor/staining | |
| | | GP | IAB37B-2-4 | 90 | SP | | 6.5 | **Clean SAND** brown to dark brown, fine grained, moderate to strong creosote odor, woody debris @ 6.5' bgs | 0.2 |
| 5 | | | | | | | | | 0.2 |
| | | GP | IAB37B-4-6 | 100 | | | | | |
| | | | IAB37B-6-8 | | | | 7.0 | **FILL** concrete | 0.0 |
| | | | | | SP | | 10.0 | **Clean SAND** black, fine grained, moist,moderate creosote-like odor @ 8' bgs grading to weak | |
| 10 | | | | | | | | | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-37D



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 11 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| 5 | | GP | | 90 | | | **Sandy FILL** black, fine grained, moist, strong creosote odor @ 6' bgs above concrete slab 6.0 | |
| | | | | | | | 6.5 **CONCRETE** | |
| 10 | | GP | | 75 | SP | | **Clean SAND** (100% Sand) brown, fine to medium grained, wood chips @ 14' bgs, sand has "gummy" consistancy and strong creosote odor@ 9' bgs | |
| 15 | | GP | | 70 | | | 12.5 | |
| | | | | | SM | | **Silty SAND** (55% Sand, 45% Silt) gray, fine grained, wet, no odor/staining 14.5 | |
| 20 | | GP | | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.



*(Continued Next Page)*

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# BORING NUMBER IAB-37D



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| | | GP | | 45 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining *(continued)* | |
| 25 | | GP | | 100 | | | | |
| 30 | | GP | IAB37D-28-30 | 100 | | | | 0.0 |
| 35 | | GP | IAB37D-33-35 | 100 | | | | 0.0 |
| 40 | | GP | IAB37D-38-40 | 90 | | | | 0.0 |
| | | GP | | 100 | | | | |
| 45 | | GP | IAB37D-43-45 | 100 | | | | 0.0 |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

*(Continued Next Page)*

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# BORING NUMBER IAB-37D



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 50 | | GP | IAB37D-48-50 | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining *(continued)* | 0.0 |
| | | | | | | | 50.0 Boring completed @ 50.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-38



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/16/14 **COMPLETED** 7/16/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| | | GP | | 70 | SP | | **Gravelly SAND** (75% Sand, 25% Gravel) black, fine to medium grained, dry, no odor/staining 3.5 | |
| | | | | | | | 4.0 **ASPHALT** | |
| 5 | | | | | SP | | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining 7.0 | |
| | | | | | | | 7.5 **CONCRETE** | |
| 10 | | GP | IAB38-7-9* IAB38-9-11* | 70 | SM | | **Silty SAND** (65% Sand, 35% Silt) dark gray, fine grained, moist to wet, no odor/staining | 0.2 0.0 |
| 15 | | GP | IAB108-9-11* IAB38-11-13 IAB38-13-15 | 80 | | | ▼ 14.5 | 0.0 0.4 0.0 |
| 20 | | GP | IAB38-18-20 | 95 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-39



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 12 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 1.5 | |
| | | GP | | 60 | | | **FILL** sandy matrix with brick, metal, and concrete, black, weak creosote odor, well indurated 4.5 | |
| 5 | | | | | | | 5.0 **CONCRETE** | |
| | | GP | IAB39-7-9* | 65 | SP | | **Clean SAND** (100% Sand) brown, fine to medium grained, moist, no odor/staining | 0.0 |
| 10 | | | | | | | | 0.0 |
| | | GP | IAB39-9-11* | 80 | | | 11.5 | |
| | | | IAB39-11-13 | | SM | | **Silty SAND** (60% Sand, 40% Silt) gray, fine grained, moist to wet, no odor/staining | 0.1 |
| | | | IAB39-13-15 | | | | 14.5 | 0.0 |
| 15 | | | | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | |
| | | GP | IAB39-18-20 | 100 | | | | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-4



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5.5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE** 1.5 | |
| 5 | | GP | IAB4-3-5* | 60 | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining 5.0 | 0.0 |
| | | | | | GP | | 5.5 ▼ **Sandy GRAVEL** gray, moist, fine grained, no odor/staining | |
| | | GP | IAB4-5-7* | 85 | SP | | **Clean SAND** gray, fine grained, wet, no odor/staining 7.0 | 0.0 |
| 10 | | | IAB4-7-9 | | ML | | **SILT** gray, wet, no odor/staining 10.5 | 0.0 |
| 15 | | GP | IAB4-13-15 | 95 | SP | | **Clean SAND** gray, fine grained, wet, no odor/staining 18.0 | 0.0 |
| 20 | | GP | IAB4-18-20 | 100 | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-40



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/17/14 **COMPLETED** 7/17/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push/Hollow-Stem Auger
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | GP | | 80 | GP | | 1.5 **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | |
| | | | | | SP | | 3.0 **Gravelly SAND** (70% Sand, 30% Gravel) black, fine grained, moist, no odor/staining | |
| 5 | | | | | SP | | 5.0 **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| | | | | | | | 5.5 **CONCRETE** | |
| 10 | | GP | IAB40-7-9* | 80 | SP-SM | | 10.0 ▼ **SAND with silty fines** (95% Sand, 5% Silt) gray, fine grained, moist, no odor/staining | 0.0 |
| | | GP | IAB40-9-11* | 90 | SM | | 11.0 **Silty SAND** (55% Sand, 45% Silt) brown, fine grained, wet, no odor/staining | 0.0 |
| 15 | | | IAB40-11-13<br>IAB40-13-15 | | SP-SM | | 15.0 **SAND with silty fines** (90% Sand, 10% Silt) black, fine to medium grained, wet, no odor, iron oxide staining | 0.0<br>0.0 |
| 20 | | GP | IAB40-18-20 | 95 | SP | | 20.0 **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

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# BORING NUMBER IAB-40A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/22/14 **COMPLETED** 7/22/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 | **ASPHALT** | |
| | | GP | IAB40A-0-9 | 75 | GP | | 1.5 | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining | 0.0 |
| | | | IAB40A-2-4 | | SP | | 3.0 | **Gravelly SAND** (70% Sand, 30% Gravel) black, fine grained, moist, no odor/staining | 0.2 |
| 5 | | | | | SP | | 5.0 | **Gravelly SAND** (85% Sand, 15% Gravel) brown, fine grained, moist, no odor/staining | |
| | | GP | IAB40A-4-6 | 90 | | | 5.5 | **CONCRETE** | 0.0 |
| | | | IAB40A-6-8 | | SP-SM | | 10.0 | **SAND with silty fines** (95% Sand, 5% Silt) gray, fine grained, moist, no odor/staining | 0.0 |
| 10 | | | | | | | | | |

Boring completed @ 10.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-41



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 10 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **ASPHALT** | |
| | | | | | GP | | **Sandy GRAVEL** (55% Gravel, 45% Sand) gray, fine grained, dry, no odor/staining 2.0 | |
| 5 | | GP | | 80 | | | **FILL** sand with silt matrix containing brick, concrete, and metal, weak creosote odor @ 3' bgs 5.5 | |
| | | | | | | | 6.5 **CONCRETE** | |
| 10 | | GP | IAB41-7-9* | 80 | SM | | **Silty SAND** (60% Sand, 40% Silt) brown, fine grained, moist to wet, no odor/staining | 0.0 |
| | | | | | | | 10.5 | 0.2 |
| 15 | | GP | IAB41-9-11*<br>IAB41-11-13<br>IAB41-13-15 | 95 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, no odor/staining | 0.0<br>0.0 |
| 20 | | GP | IAB41-18-20 | 100 | | | 20.0 | 0.1 |
| | | | | | | | boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-42



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 7 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | SP | | **Gravelly SAND** (75% Sand, 25% Gravel) brown, fine grained, dry, no odor/staining (1.0) | |
| | | | | | | | (1.5) **FILL** concrete | |
| | | GP | | 60 | SM | | **Silty SAND** (85% Sand, 15% Silt) brown, fine grained, dry to moist, no odor/staining | |
| 5 | | | IAB42-3-5* | | | | | 0.0 |
| | | | IAB42-5-7* | | | | (6.0) | 0.0 |
| | | GP | IAB42-7-9 | 80 | SM | | **Silty SAND with gravel** (50% Sand, 45% Silt, 5% Gravel) gray, fine grained, moist to wet, no odor/staining | 0.0 |
| 10 | | | | | | | | |
| | | GP | | 70 | | | (13.0) | |
| | | | IAB42-13-15 | | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining | 0.1 |
| 15 | | | | | | | | |
| | | GP | IAB42-18-20 | 100 | | | | |
| 20 | | | | | | | (20.0) | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-5



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE** 1.0 | |
| 5 | | GP | IAB5-3-5* | 55 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, fine grained, moist, no odor/staining 6.0 | 0.0 |
| 10 | | GP | IAB5-5-7* IAB5-7-9 | 90 | ML | | **Sandy SILT** (90% Silt, 10% Sand) brown, wet, no odor/staining 11.0 | 0.0 0.0 |
| 15 | | GP | IAB5-13-15 | 75 | SM | | **Silty SAND** (60% Sand, 40% Silt) brown, fine grained, wet, no odor/staining 13.0 | |
| | | | | | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, medium grained, wet, no odor/staining 18.0 | 0.0 |
| 20 | | GP | IAB5-18-20 | 75 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-91-10.0' was collected over the same interval as sample EB-41-10.0'.
Water level at time of drilling.

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# BORING NUMBER IAB-6



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **CONCRETE** | |
| | | GP | IAB6-3-5* | 60 | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining | 0.0 |
| 5 | | | | | | | | |
| | | GP | IAB6-5-7* | 80 | | | 6.5 | 0.0 |
| | | | | | SM | | 7.0 **Silty SAND** brown, fine grained, wet, no odor/staining | |
| | | GP | IAB6-7-9 | | SP | | **Clean SAND** brown, fine grained, wet, no odor/staining | 0.0 |
| 10 | | | | | | | | |
| | | GP | IAB6-13-15 | 80 | | | | 0.0 |
| 15 | | | | | | | | |
| | | GP | IAB6-18-20 | 100 | | | 18.5 | |
| | | | | | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining | 0.0 |
| 20 | | | | | | | 20.0 | |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

Water level at time of drilling.

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# BORING NUMBER IAB-6A



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/18/14 **COMPLETED** 7/18/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** Holocene
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING**
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | 0.5 **CONCRETE** | |
| | | GP | IAB6A-0-5 | 90 | SP | | **Clean SAND** brown, fine grained, moist, no odor/staining | 0.0 |
| 5 | | | | | | | 5.0 | |

Boring completed @ 5.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

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# BORING NUMBER IAB-7



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/11/14 **COMPLETED** 7/11/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | **CONCRETE** 1.0 | |
| 5 | | GP | IAB7-3-5* | 60 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, fine grained, moist, no odor/staining | 0.0 |
| 10 | | GP | IAB7-5-7* IAB7-7-9 | 75 | SP-SM / ML | | 7.0 **Sandy SILT** (90% Silt, 10% Sand) brown, wet, no odor/staining 9.0 | 0.0 / 0.0 |
| 15 | | GP | IAB7-13-15 | 80 | ML | | **Sandy SILT** (70% Silt, 30% Sand) brown, wet, no odor/staining 16.0 | 0.0 |
| 20 | | GP | IAB7-18-20 | 100 | SP / SP | | **Clean SAND** (100% Sand) gray, fine grained, wet, no odor/staining 17.5 **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-81-2.5' collected at interval of sample EB-47-2.5'.
Water level at time of drilling.

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# BORING NUMBER IAB-8



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 5 ft
**LOGGED BY** C. Lee **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 0.5 **CONCRETE** | |
| | | GP | IAB8-3-5* | 60 | SP | | **Clean SAND** dark brown, fine grained, moist, no odor/staining 4.0 | 0.0 |
| 5 | | | | | SM | | **Silty SAND** dark brown, fine grained, moist, no odor/staining ▼ 6.0 | 0.0 |
| | | GP | IAB8-5-7* | 100 | ML | | **Sandy SILT** brown, wet, no odor/staining 9.0 | 0.0 |
| 10 | | | IAB8-7-9 | | SM | | **Silty SAND** brown, fine grained, wet, no odor/staining | |
| | | GP | IAB8-13-15 | 100 | | | | 0.0 |
| 15 | | | | | | | | |
| | | GP | IAB8-18-20 | 100 | | | 18.0 | |
| 20 | | | | | SP | | **Clean SAND** dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |

Boring completed @ 20.0 feet

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.
Duplicate sample EB-93-10.0' collected over the same interval as sample EB-5-10.0'.
▽ Water level at time of drilling.

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# BORING NUMBER IAB-9



**CLIENT** Anchor QEA, LLC
**PROJECT NAME** 8th Avenue Terminals
**PROJECT NUMBER** 101.00902.00003
**PROJECT LOCATION** 7400 8th Avenue South, Seattle, WA
**DATE STARTED** 7/12/14 **COMPLETED** 7/12/14
**GROUND ELEVATION** **HOLE SIZE** 2.125-inch-diameter
**DRILLING CONTRACTOR** ESN-NW
**GROUND WATER LEVELS:**
**DRILLING METHOD** Direct Push
**AT TIME OF DRILLING** 6 ft
**LOGGED BY** P. LeDoux **CHECKED BY**
**AFTER DRILLING**
**NOTES**

| DEPTH (ft) | INTERVAL | TYPE | SAMPLE NAME | RECOVERY % | U.S.C.S. | GRAPHIC LOG | MATERIAL DESCRIPTION | PID (ppm) |
|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | |
| | | | | | | | **CONCRETE** 1.0 | |
| | | | | | | | **ASPHALT** 1.5 | |
| | | GP | IAB9-3-5* | 70 | SP-SM | | **SAND with silty fines** (95% Sand, 5% Silt) brown, fine grained, moist, no odor/staining 5.0 | 0.0 |
| 5 | | | | | | | | |
| | | GP | IAB9-5-7* | 70 | SM | | **Silty SAND** (90% Sand, 10% Silt) dark gray, medium grained, no odor/staining ▼ 7.0 | 0.0 |
| | | | IAB9-7-9 | | ML | | **Sandy SILT** (90% Silt, 10% Sand) brown, wet, no odor/staining 8.0 | 0.0 |
| 10 | | | | | | | | |
| | | GP | IAB9-13-15 | 100 | ML | | **Sandy SILT** (60% Silt, 40% Sand) gray, wet, no odor/staining 14.0 | 0.0 |
| 15 | | | | | ML | | **Sandy SILT** (95% Silt, 5% Sand) dark gray, wet, no odor/staining 15.5 | |
| | | GP | IAB9-18-20 | 100 | SP | | **Clean SAND** (100% Sand) dark gray, fine to medium grained, wet, no odor/staining 20.0 | 0.0 |
| 20 | | | | | | | | |
| | | | | | | | Boring completed @ 20.0 feet | |

## REMARKS

PID = Photoionization detector.
* = Sample submitted for laboratory analysis. Other samples collected were archived at the laboratory.
GP = Soil samples collected by using 1.5-inch-diameter acetate liners within the drilling rods.

▽ Water level at time of drilling.

# SAMPLING SUMMARY TABLES

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| EB-05 | Phase 1 | 199694.95 | 1273220.99 | EB-05-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-05-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-05-10.0 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-93-10.0 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-05-12.5 | 12 - 13 | PAHs, SVOCs |
| EB-14 | Phase 1 | 199463.99 | 1273127.18 | EB-14-1.0 | 0.5 - 1.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-14-5.0 | 4.5 - 5.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-14-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-14-12.5 | 12 - 13 | PCBs, PAHs |
| EB-16 | Phase 1 | 199587.70 | 1272982.79 | EB-16-2.5' | 2 - 3 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-16-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-16-10.0' | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-16-15.0' | 14.5 - 15.5 | PAHs |
| EB-17 | Phase 1 | 199475.43 | 1272983.69 | EB-17-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-17-5.75 | 5.75 - 6.25 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-17-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-17-12.5 | 12 - 13 | PCBs, SVOCs |
| EB-24 | Phase 1 | 199223.00 | 1272991.18 | EB-24-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-24-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-24-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-24-12.5 | 12 - 13 | PAHs, SVOCs |
| EB-28 | Phase 1 | 199135.54 | 1273184.12 | EB-28-1.0 | 0.5 - 1.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-28-5.0 | 4.5 - 5.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-28-7.5 | 7 - 8 | D/F |
| | | | | EB-28-10.0 | 9.5 - 10.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EB-32 | Phase 1 | 198961.09 | 1272718.25 | EB-32-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-32-5.0 | 4.5 - 5.5 | Chromium VI, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-32-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-32-12.5 | 12 - 13 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| EB-38 | Phase 1 | 199157.29 | 1272918.37 | EB-38-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-38-5.0 | 4.5 - 5.5 | Chromium VI, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-38-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-38-12.5 | 12 - 13 | Metals, PAHs |
| EB-40 | Phase 1 | 198891.80 | 1272681.94 | EB-40-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-40-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-40-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EB-41 | Phase 1 | 198889.38 | 1272799.07 | EB-41-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-41-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-41-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-91-10.0 | 9 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-41-15.0 | 14.5 - 15.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-41-20.0 | 19 - 20 | PAHs |
| EB-45 | Phase 1 | 199020.68 | 1273154.81 | EB-45-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-45-5.0 | 4.5 - 5.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-45-7.5 | 5 - 7 | D/F |
| | | | | EB-45-10.0 | 9.5 - 10.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-45-12.5 | 12 - 13 | Metals, PAHs, SVOCs |
| EB-46 | Phase 1 | 198876.36 | 1272946.87 | EB-46-1.0 | 0.5 - 1.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-46-2.5 | 2 - 3 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-46-8.0 | 8 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-46-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EB-47 | Phase 1 | 198838.83 | 1272866.86 | EB-47-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-47-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-47-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EB-50 | Phase 1 | 198792.72 | 1272951.10 | EB-50-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-50-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-50-7.5 | 7 - 8 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EB-51 | Phase 1 | 198725.06 | 1272836.56 | EB-51-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-51-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EB-51-7.5 | 7.5 - 8.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EB-51-10.0 | 9 - 10 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| EMW-1S | Phase 1 | 199762.87 | 1272940.19 | EMW-1S-2.5 | 2 - 3 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-1S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-1S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-1S-15.0 | 14.5 - 15.5 | PAHs |
| EMW-2S | Phase 1 | 199571.31 | 1273329.79 | EMW-2S-2.5 | 2 - 3 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-2S-5.0 | 4 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-2S-10.0 | 9.5 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EMW-3S | Phase 1 | 199487.42 | 1273364.83 | EMW-3S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-3S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-3S-7.5 | 7 - 8 | D/F |
| | | | | EMW-3S-10.0 | 9.5 - 10.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-3S-12.5 | 12.5 - 13 | D/F |
| | | | | EMW-3S-15.0 | 14.5 - 15.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-89S-5.0 | 14.5 - 15.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| EMW-4D | Phase 1 | 199352.33 | 1273365.96 | EMW-4D-2.5' | 2 - 3 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-4D-5' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-4D-7.5' | 7 - 8 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-4D-12.5' | 12 - 13 | PAHs |
| | | | | EMW-4D-20' | 19.5 - 20.5 | PAHs |
| EMW-5S | Phase 1 | 199380.03 | 1273148.38 | EMW-5S-1.0 | 0.5 - 1.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-5S-2.5 | 2 - 3 | D/F |
| | | | | EMW-5S-6.5 | 6 - 7 | D/F |
| | | | | EMW-5S-7.50 | 7 - 8 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-5S-10.0 | 9.5 - 10.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-5S-12.5 | 12 - 13 | PCBs, PAHs |
| EMW-6S | Phase 1 | 199487.50 | 1272871.49 | EMW-6S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-6S-2.5 | 2 - 3 | D/F |
| | | | | EMW-6S-5.0 | 4.5 - 5.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-6S-7.5 | 7 - 8 | D/F |
| | | | | EMW-6S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-6S-12.5 | 12 - 13 | PAHs, SVOCs |
| EMW-7S | Phase 1 | 199379.09 | 1272655.29 | EMW-7S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-7S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-7S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-7S-12.5 | 12 - 13 | Metals, PAHs |
| EMW-8S | Phase 1 | 199223.49 | 1272897.26 | EMW-8S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-8S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-8S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-8S-12.5 | 12 - 13 | PAHs |
| EMW-9S | Phase 1 | 199146.84 | 1273044.63 | EMW-9S-1.0 | 0.5 - 1.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-9S-5.0 | 4.5 - 5.5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-9S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-9S-12.5 | 12 - 13 | PAHs, SVOCs |
| EMW-10D | Phase 1 | 199094.38 | 1272714.09 | EMW-10D-1.0' | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10D-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10S-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10D-10.0' | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10D-15.0' | 14.5 - 15.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10D-35.0' | 34.5 - 35.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-10D-50.0' | 49 - 50 | PAHs, TPH-Dx |
| EMW-11S | Phase 1 | 199007.93 | 1272657.71 | EMW-11S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-11S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-11S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-11S-12.5 | 12 - 13 | PAHs, SVOCs |
| EMW-12S | Phase 1 | 198751.82 | 1272670.76 | EMW-12S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-12S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-12S-10.0 | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-12S-15.0 | 14.5 - 15.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| EMW-13S | Phase 1 | 198667.92 | 1272788.91 | EMW-13S-1.0 | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-13S-5.0 | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-13S-7.5 | 7 - 8 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-13S-12.5 | 12 - 13 | Metals, PCBs, PAHs, SVOCs, TPH-Dx |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| EMW-14D | Phase 1 | 198695.81 | 1272872.68 | EMW-14D-1.0' | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-14D-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-14D-10.0' | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-14D-15.0' | 14.5 - 15.5 | Metals, PAHs, SVOCs |
| | | | | EMW-14D-25.0' | 24.5 - 25.5 | PAHs |
| | | | | EMW-14D-35.0' | 34.5 - 35.5 | PAHs |
| | | | | EMW-14D-50.0' | 49 - 50 | PAHs |
| EMW-15D | Phase 1 | 198939.73 | 1273164.77 | EMW-15D-1.0' | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-15D-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-15D-10.0' | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | EMW-15D-15.0' | 14.5 - 15.5 | Metals, PAHs |
| | | | | EMW-15D-25.0' | 25 - 26 | PAHs |
| EMW-16D | Phase 1 | 198688.30 | 1272699.81 | EMW-16D-1.0' | 0.5 - 1.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-16D-5.0' | 4.5 - 5.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-16D-10.0' | 9.5 - 10.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, VOCs |
| | | | | EMW-16D-15.0' | 14.5 - 15.5 | PAHs |
| IAB-01 | Interim Action | 199700.60 | 1273221.91 | IAB-01-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-01-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-02 | Interim Action | 199683.31 | 1273229.63 | IAB-02-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, VOCs |
| | | | | IAB-02-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-03 | Interim Action | 199665.66 | 1273179.56 | IAB-03-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-03-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-03-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-04 | Interim Action | 199665.86 | 1273203.80 | IAB-04-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-04-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-04-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-05 | Interim Action | 199643.03 | 1273218.91 | IAB-05-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-05-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-06 | Interim Action | 199657.61 | 1273253.05 | IAB-06-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-06-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-07 | Interim Action | 199610.87 | 1273217.56 | IAB-07-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-07-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-08 | Interim Action | 199613.90 | 1273249.73 | IAB-08-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-08-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-09 | Interim Action | 199563.41 | 1273219.11 | IAB-09-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-09-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-10 | Interim Action | 199544.90 | 1273238.90 | IAB-10-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-10-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-11 | Interim Action | 199523.49 | 1273208.46 | IAB-11-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-11-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-12 | Interim Action | 199519.41 | 1273230.61 | IAB-12-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-12-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-13 | Interim Action | 199472.48 | 1273205.00 | IAB-13-3-5 | 3 - 5 | D/F, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, VOCs |
| | | | | IAB-13-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-14 | Interim Action | 199436.24 | 1273191.95 | IAB-14-3-5 | 3 - 5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-14-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-15 | Interim Action | 199382.59 | 1273136.56 | IAB-15-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-15-9-11 | 9 - 11 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-16 | Interim Action | 199389.36 | 1273163.86 | IAB-16-3-5 | 3 - 5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-16-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-16-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-17 | Interim Action | 199346.17 | 1273133.38 | IAB-17-3-5 | 3 - 5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-17-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-18 | Interim Action | 199292.04 | 1273102.69 | IAB-18-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-18-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-19 | Interim Action | 199259.83 | 1273069.95 | IAB-19-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-19-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| IAB-20 | Interim Action | 199252.54 | 1273069.81 | IAB-20-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-20-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-20-9-11 | 9 - 11 | Metals, PCBs, PAHs |
| IAB-21 | Interim Action | 199220.43 | 1273032.13 | IAB-21-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-21-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-22 | Interim Action | 199209.06 | 1273054.14 | IAB-22-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-22-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-22-9-11 | 9 - 11 | PAHs |
| IAB-23 | Interim Action | 199184.95 | 1272998.76 | IAB-23-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-23-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-24 | Interim Action | 199176.81 | 1273023.87 | IAB-24-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, VOCs |
| | | | | IAB-24-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-25 | Interim Action | 199155.93 | 1272971.59 | IAB-25-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-25-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-25-9-11 | 9 - 11 | PCBs, PAHs |
| IAB-26 | Interim Action | 199137.22 | 1272995.93 | IAB-26-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-26-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-27 | Interim Action | 199116.44 | 1272938.70 | IAB-27-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-27-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-101-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-28 | Interim Action | 199093.94 | 1272970.39 | IAB-28-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-28-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-102-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-29 | Interim Action | 199073.20 | 1272910.69 | IAB-29-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-29-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-103-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-30 | Interim Action | 199045.50 | 1272937.70 | IAB-30-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-30-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-104-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-31 | Interim Action | 199037.11 | 1272890.23 | IAB-31-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-31-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-105-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-32 | Interim Action | 199007.10 | 1272912.30 | IAB-32-7-9 | 7 - 9 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-32-9-11 | 9 - 11 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-33 | Interim Action | 199008.56 | 1272857.56 | IAB-33-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-33-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-106-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-34 | Interim Action | 198962.30 | 1272877.00 | IAB-34-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-34-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-107-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-35 | Interim Action | 198943.39 | 1272831.59 | IAB-35-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-35-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-36 | Interim Action | 198920.89 | 1272863.27 | IAB-36-16-18 | 16 - 18 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-36-18-20 | 18 - 20 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-36-20-22 | 20 - 22 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-36-22-24 | 22 - 24 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-37 | Interim Action | 198910.23 | 1272848.24 | IAB-37-16-18 | 16 - 18 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-108-16-18 | 16 - 18 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-37-18-20 | 18 - 20 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-37-20-22 | 20 - 22 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-37-22-24 | 22 - 24 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-38 | Interim Action | 198896.46 | 1272805.98 | IAB-38-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-38-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-109-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| IAB-39 | Interim Action | 198889.22 | 1272825.03 | IAB-39-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-39-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-39-11-13 | 11 - 13 | Metals, PCBs, PAHs, TPH-Dx |
| IAB-40 | Interim Action | 198864.45 | 1272763.35 | IAB-40-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, VOCs |
| | | | | IAB-40-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| IAB-41 | Interim Action | 198863.78 | 1272797.93 | IAB-41-7-9 | 7 - 9 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-41-9-11 | 9 - 11 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-41-11-13 | 11 - 13 | Metals, PAHs, TPH-Dx |
| IAB-42 | Interim Action | 199731.03 | 1273229.76 | IAB-42-3-5 | 3 - 5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| | | | | IAB-42-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, VOCs |
| DMW-6A | Phase 2 | 198906.29 | 1272867.60 | DMW6A-2-3 | 2 - 3 | D/F, Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | DMW-6A-3-3.5 | 3 - 3.5 | D/F, PAHs, SVOCs, TS, VOCs |
| | | | | DMW6A-6.5-8 | 6.5 - 8 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | DMW6A-8-10 | 8 - 10 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | DMW6A-11-13 | 11 - 13 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | DMW6A-15-17 | 15 - 17 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | DMW-6A-18-20 | 18 - 20 | PAHs, SVOCs, TS, VOCs |
| EB-03 | Phase 2 | 199620.90 | 1273011.43 | EB-03-3-5 | 3 - 5 | Metals, PCBs, TS |
| | | | | EB-03-6-8 | 6 - 8 | Metals, TS |
| | | | | EB-03-8-10 | 8 - 10 | Metals, TS |
| | | | | EB-03-11-13 | 11 - 13 | Metals, TS |
| EB-06 | Phase 2 | 199660.33 | 1273355.79 | EB-06-2-4 | 2 - 4 | Metals, PCBs, TS |
| | | | | EB-06-2-4-FD | 2 - 4 | Metals, TS |
| | | | | EB-06-6-8 | 6 - 8 | Metals, PCBs, TS |
| | | | | EB-06-6-8-FD | 6 - 8 | TS |
| | | | | EB-06-8-10 | 8 - 10 | Metals, PCBs, TS |
| | | | | EB-06-8-10-FD | 8 - 10 | TS |
| | | | | EB-06-12-14 | 12 - 14 | Metals, PCBs, TS |
| | | | | EB-06-15-17 | 15 - 17 | PCBs, TS |
| EB-07 | Phase 2 | 199564.94 | 1273372.89 | EB-07-2-4 | 2 - 4 | D/F, Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-07-5-7 | 5 - 7 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-07-8-10 | 8 - 10 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-07-11-13 | 11 - 13 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-07-15.5-17.5 | 15.5 - 17.5 | PCBs, TS |
| EB-11 | Phase 2 | 199261.11 | 1273191.94 | EB-11-3-5 | 3 - 5 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-11-5-7 | 5 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-11-8-10 | 8 - 10 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| EB-12 | Phase 2 | 199288.56 | 1273306.84 | EB-12-2-4 | 2 - 4 | Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-12-5-7 | 5 - 7 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EB-12-8-10 | 8 - 10 | D/F, Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-12-15-17 | 15 - 17 | Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-12-18-20 | 18 - 20 | PAHs, SVOCs, TS, VOCs |
| EB-13 | Phase 2 | 199482.17 | 1273292.58 | EB-13-2-4 | 2 - 4 | D/F, Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-13-8-10 | 8 - 10 | D/F, Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-13-11-13 | 11 - 13 | D/F, Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-13-13-15 | 13 - 15 | Metals, PAHs, TS |
| | | | | EB-13-16-18 | 16 - 18 | D/F, PAHs, SVOCs, TS, VOCs |
| EB-19 | Phase 2 | 199463.67 | 1272741.86 | EB-19-1.5-4 | 1.5 - 4 | D/F, Metals, TPH-Dx, TS |
| | | | | EB-19-6-8 | 6 - 8 | D/F, Metals, TPH-Dx, TS |
| | | | | EB-19-8-10 | 8 - 10 | D/F, Metals, TPH-Dx, TS |
| EB-20 | Phase 2 | 199326.28 | 1272668.37 | EB-20-2-4 | 2 - 4 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-20-5-7 | 5 - 7 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-20-8-10 | 8 - 10 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-20-11-13 | 11 - 13 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-20-15-17 | 15 - 17 | Metals, PCBs, PAHs, TPH-Dx, TS |
| | | | | EB-20-18-20 | 18 - 20 | PCBs, PAHs, TS |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| EB-22 | Phase 2 | 199378.53 | 1272811.19 | EB-22-2-4 | 2 - 4 | D/F, Metals, PAHs, TS, VOCs |
| | | | | EB-22-6-8 | 6 - 8 | D/F, Metals, PAHs, TS, VOCs |
| | | | | EB-22-8-10 | 8 - 10 | D/F, Metals, PAHs, TS, VOCs |
| | | | | EB-22-11-13 | 11 - 13 | D/F, TS |
| | | | | EB-22-15-17 | 15 - 17 | D/F, TS |
| EB-23 | Phase 2 | 199358.84 | 1272955.91 | EB-23-3-5 | 3 - 5 | D/F, Metals, TS |
| | | | | EB-23-5-7 | 5 - 7 | D/F, Metals, TS |
| | | | | EB-23-8-10 | 8 - 10 | D/F, Metals, TS |
| EB-25 | Phase 2 | 199291.55 | 1273088.98 | EB-25-2-4 | 2 - 4 | D/F, Metals, TS |
| | | | | EB-25-5.5-7.5 | 5 - 7 | D/F, Metals, TS |
| | | | | EB-25-10.5-12.5 | 10.5 - 12.5 | D/F, Metals, TS |
| | | | | EB-25-13-15 | 13 - 15 | Metals, TS |
| | | | | EB-25-15-17 | 15 - 17 | Metals, TS |
| EB-27 | Phase 2 | 199150.96 | 1273060.79 | EB-27-2.5-4.5 | 2.5 - 4.5 | Metals, PCBs, PAHs, SVOCs, TS, VOCs |
| | | | | EB-27-5-7 | 5 - 7 | D/F, TS |
| | | | | EB-27-8-10 | 8 - 10 | D/F, TS |
| EB-30 | Phase 2 | 199059.53 | 1273203.96 | EB-30-2-4 | 2 - 4 | D/F, Metals, TS |
| | | | | EB-30-6-8 | 6 - 8 | D/F, Metals, TS |
| | | | | EB-30-8-10 | 8 - 10 | Metals, TS |
| | | | | EB-30-12-14 | 12 - 14 | Metals, TS |
| | | | | EB-30-16.5-18.5 | 16.5 - 18.5 | D/F, Metals, TS |
| EB-31 | Phase 2 | 199187.55 | 1273274.78 | EB-31-2-4 | 2 - 4 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-31-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-31-8-10 | 8 - 10 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-31-12.5-14.5 | 12.5 - 14.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-31-18-20 | 18 - 20 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| EB-34 | Phase 2 | 199180.89 | 1272721.27 | EB-34-3.5-5 | 3.5 - 5 | D/F, Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-34-5-7 | 5 - 7 | Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-34-8-10 | 8 - 10 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EB-34-11-13 | 11 - 13 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EB-84-11-13 | 11 - 13 | Metals, PAHs, SVOCs, TS, VOCs |
| | | | | EB-34-15-17 | 15 - 17 | Metals, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EB-34-18.5-20 | 18.5 - 20 | Metals, PCBs, PAHs, TS |
| EB-35 | Phase 2 | 199174.26 | 1272887.84 | EB-35-2-4 | 2 - 4 | D/F, Metals, PCBs, PAHs, TS |
| | | | | EB-35-5-7 | 5 - 7 | D/F, TS |
| | | | | EB-85-5-7 | 5 - 7 | D/F, TS |
| | | | | EB-35-8.5-10 | 8.5 - 10 | D/F, Metals, PCBs, PAHs, TS |
| | | | | EB-35-10-12 | 10 - 12 | Metals, PCBs, PAHs, TS |
| | | | | EB-35-15-17 | 15 - 17 | Metals, PCBs, PAHs, TS |
| EB-36 | Phase 2 | 199133.55 | 1272766.81 | EB-36-11-13 | 11 - 13 | EPH, PCBs, PAHs, TPH-Dx, TS, VOCs, VPH |
| | | | | EB-36-15.5-17.5 | 15.5 - 17.5 | EPH, PCBs, PAHs, TPH-Dx, TS, VOCs, VPH |
| EB-42 | Phase 2 | 198999.75 | 1272777.76 | EB-42-3-5 | 3 - 5 | D/F, Metals, PAHs, TPH-Dx, TS |
| | | | | EB-42-5-7 | 5 - 7 | PAHs, TPH-Dx, TS |
| | | | | EB-42-8-10 | 8 - 10 | PAHs, TPH-Dx, TS |
| | | | | EB-42-11-13 | 11 - 13 | PAHs, TPH-Dx, TS |
| | | | | EB-42-15-17 | 15 - 17 | PAHs, TPH-Dx, TS |
| EB-44 | Phase 2 | 198992.12 | 1273041.57 | EB-44-2-4 | 2 - 4 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-44-5-7 | 5 - 7 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | | EB-44-8-10 | 8 - 10 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TPH-Gx, TS, VOCs |
| EB-49 | Phase 2 | 198804.78 | 1272676.04 | EB-49-3-5 | 3 - 5 | PCBs, PAHs, TS |
| | | | | EB-49-5-7 | 5 - 7 | PCBs, PAHs, TS |
| | | | | EB-99-5-7 | 5 - 7 | PAHs, TS |
| | | | | EB-49-8.5-10 | 8.5 - 10 | PCBs, PAHs, TS |
| | | | | EB-49-11-13 | 11 - 13 | PCBs, PAHs, TS |
| | | | | EB-99-11-13 | 11 - 13 | PAHs, TS |
| | | | | EB-49-15-17 | 15 - 17 | PCBs, TS |
| | | | | EB-49-18-20 | 18 - 20 | PCBs, TS |

**Table D-1**
**RI Soil Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | RI Phase | Coordinates[1] | | Sample ID | Sampling Interval ft bgs[2] | Chemical Testing[3] |
|---|---|---|---|---|---|---|
| | | Northing | Easting | | | |
| EB-53 | Phase 2 | 198893.20 | 1273035.68 | EB-53-2-4 | 2 - 4 | D/F, PCBs, PAHs, SVOCs, TS, VOCs |
| | | | | EB-53-5-7 | 5 - 7 | D/F, PCBs, PAHs, SVOCs, TS, VOCs |
| | | | | EB-53-8-10 | 8 - 10 | D/F, PCBs, PAHs, SVOCs, TS, VOCs |
| | | | | EB-53-15-17 | 15 - 17 | Metals, PAHs, TS |
| | | | | EB-103-15-17 | 15 - 17 | Metals, PAHs, TS |
| EB-55 | Phase 2 | 199532.63 | 1272840.24 | EB-55-3-5 | 3 - 5 | D/F, Metals, TS, VOCs |
| | | | | EB-55-5-7 | 5 - 7 | D/F, Metals, TS, VOCs |
| | | | | EB-55-8-10 | 8 - 10 | D/F, Metals, TS, VOCs |
| EB-56 | Phase 2 | 198874.85 | 1272584.27 | EB-56-2-4 | 2 - 4 | Metals, PCBs, PAHs, TS |
| | | | | EB-56-5-7 | 5 - 7 | Metals, PCBs, PAHs, TS |
| | | | | EB-56-8-10 | 8 - 10 | Metals, PCBs, PAHs, TS |
| | | | | EB-56-12.5-14.5 | 12.5 - 14.5 | PCBs, TS |
| | | | | EB-56-16-18 | 16 - 18 | PCBs, TS |
| EMW-17S | Phase 2 | 199365.38 | 1272611.79 | EMW-17S-3-5 | 3 - 5 | Metals, TPH-Dx, TS |
| | | | | EMW-17S-5-7 | 5 - 7 | Metals, TPH-Dx, TS |
| | | | | EMW-17S-8-10 | 8 - 10 | Metals, TPH-Dx, TS |
| | | | | EMW-17S-12-14 | 12 - 14 | Metals, TPH-Dx, TS |
| EMW-18S | Phase 2 | 199134.80 | 1272603.63 | EMW-18S-2.5-4.5 | 2.5 - 4.5 | Metals, PAHs, TPH-Dx, TS |
| | | | | EMW-18S-5-6.5 | 5 - 6.5 | Metals, PAHs, TPH-Dx, TS |
| | | | | EMW-18S-8-10 | 8 - 10 | Metals, PAHs, TPH-Dx, TS |
| | | | | EMW-18S-11-13 | 11 - 13 | Metals, PAHs, TPH-Dx, TS |
| EMW-19D | Phase 2 | 199097.59 | 1272736.04 | EMW-19D-15-17 | 15 - 17 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-18-20 | 18 - 20 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-26-28 | 26 - 28 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-38-40 | 38 - 40 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-47-49 | 47 - 49 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-58-59.5 | 58 - 59.5 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-68-69.5 | 68 - 69.5 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| | | | | EMW-19D-78-79.5 | 78 - 79.5 | EPH, PCBs, PAHs, TPH-Dx, TPH-Gx, TS, VOC, VPH |
| EMW-20D | Phase 2 | 198935.67 | 1273160.44 | EMW-20D-2-4 | 2 - 4 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EMW-20D-4-7 | 4 - 7 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EMW-20D-7-10 | 7 - 10 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EMW-20D-10-11 | 10 - 11 | D/F, Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| | | | | EMW-20D-11.5-14.5 | 11.5 - 14.5 | Metals, PCBs, PAHs, SVOCs, TPH-Dx, TS, VOCs |
| EMW-21D | Phase 2 | 198668.25 | 1272751.52 | EMW-21D-2-4 | 2 - 4 | PAHs, PCBs |
| | | | | EMW-21D-5-7 | 5 - 7 | PAHs, PCBs |
| | | | | EMW-21D-8-10 | 8 - 10 | PAHs, PCBs |
| | | | | EMW-21D-14-14.7 | 14 - 14.7 | PAHs, PCBs, TS |
| | | | | EMW-21D-15-15.4 | 15 - 15.4 | Metals, PCBs, TS |
| | | | | EMW-21D-17-17.7 | 17 - 17.7 | Metals, PCBs, TS |
| EMW-22D | Phase 2 | 199366.13 | 1273360.73 | EMW-22D-2-4 | 2 - 4 | D/F, Metals, PAHs, TPH-Dx, TS |
| | | | | EMW-22D-5-7 | 5 - 7 | Metals, PAHs, TPH-Dx, TS |
| | | | | EMW-22D-8-10 | 8 - 10 | Metals, TS, PAHs, TPH-Dx |
| | | | | EMW-22D-12.5-14.5 | 12.5 - 14.5 | PAHs, SVOCs, TPH-Dx, TS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] ft bgs = feet below ground surface.

[3] Chemical Testing: D/F = dioxins/furans, EPH = extractable petroleum hydrocarbons, Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba]., PAHs = polycyclic aromatic hydrocarbons, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TPH-Dx = total petroleum hydrocarbons diesel extended, TPH-Gx = total petroleum hydrocarbons gasoline extended, TS = total solids, VOCs = volatile organic compounds, VPH = volatile petroleum hydrocarbons

# Table D-2
# RI Groundwater Sampling Summary
# 8th Avenue Terminals, Inc. Site

| Well ID | Coordinates[1] | | RI Phase[2] | | | | Sample ID[3] | Screened Interval ft btoc[4] | Chemical Testing[5] |
|---|---|---|---|---|---|---|---|---|---|
| | Northing | Easting | PH1 HT | PH1 LT | IA | PH2 | | | |
| CMW-1 | 199375.36 | 1273356.80 | | | | X | CMW-1-121514 | 2.5 - 17.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-1-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-1-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-1-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-2 | 199223.67 | 1273303.67 | | | | X | CMW-2-121514 | 2.5 - 17.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-2-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-2-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-2-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-3 | 199072.08 | 1273239.41 | | | | X | CMW-3-121814 | 3.5 - 18.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-3-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-3-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-3-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-4 | 198940.14 | 1273167.51 | | | | X | CMW-4-121814 | 2.5 - 18.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-4-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-4-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-4-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-5 | 198829.50 | 1273003.17 | | | | X | CMW-5-12222014 | 3.0 - 18.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-5-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-5-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-5-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-6 | 198692.03 | 1272872.72 | | | | X | CMW-6-121614 | 5.0 - 19.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-6-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-6- 092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-6-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| CMW-7 | 198703.24 | 1272711.78 | | | | X | CMW-7-121614 | 4.5 - 19.3 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | CMW-7-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | CMW-7-092613 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | CMW-7-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| DMW-2 | 199181.92 | 1272715.23 | | | | X | DMW-2-121614 | 5.0 - 19.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | DMW-2-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | DMW-2-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | DMW-2-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | | | | X | DMW-52-121614 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| DMW-3 | 199085.93 | 1272715.09 | | | | X | DMW-3-121814 | 5.0 - 19.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | DMW-3-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | DMW-3-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | DMW-3-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| DMW-6 | 198920.40 | 1272851.44 | | | X | | DMW6-070314 | 5.0 - 19.0 | Dissolved Metals |
| | | | | X | | | DMW-6-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | DMW-6-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | DMW-6-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| DMW-6A | 198906.29 | 1272867.60 | | | | X | DMW-6A-121714 | 5.0 - 20.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-1S | 199762.87 | 1272940.19 | | | | X | EMW-1S-121514 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-1S-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-1S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-1S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-2S | 199571.31 | 1273329.79 | | | | X | EMW-2S-121714 | 4.8 - 19.6 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-2S-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-2S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-2S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | | X | | | EMW-57S-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | | X | | | EMW-57S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-3S | 199487.42 | 1273364.83 | | | | X | EMW-3S-121514 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-3S-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-3S-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-3S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-4D | 199352.33 | 1273365.96 | | | | X | EMW-4D-121514 | 40.0 - 49.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-4D-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-4D-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-4D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-5S | 199380.03 | 1273148.38 | | | X | | EMW5S-070314 | 5.0 - 19.8 | Dissolved Metals |
| | | | | X | | | EMW-5S-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-5S-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-5S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-89S-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| EMW-5SA | 199397.74 | 1273130.58 | | | | X | EMW-5SA-121514 | 5.0 - 20.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-6S | 199487.50 | 1272871.49 | | | | X | EMW-6S-121514 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-6S-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-6S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-6S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-7S | 199379.09 | 1272655.29 | | | | X | EMW-7S-121614 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-7S-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-7S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-7S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |

# Table D-2
# RI Groundwater Sampling Summary
# 8th Avenue Terminals, Inc. Site

| Well ID | Coordinates[1] | | RI Phase[2] | | | | Sample ID[3] | Screened Interval ft btoc[4] | Chemical Testing[5] |
|---|---|---|---|---|---|---|---|---|---|
| | Northing | Easting | PH1 HT | PH1 LT | IA | PH2 | | | |
| EMW-8S | 199223.49 | 1272897.26 | | | | X | EMW-8S-121714 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-8S-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-8S-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-8S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-9S | 199146.84 | 1273044.63 | | | | X | EMW-9S-121714 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-9S-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-9S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-9S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-10D | 199094.38 | 1272714.09 | | | | X | EMW-10D-121714 | 40.0 - 49.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-10D-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-10D-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-10D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | | X | | | EMW-56D-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-56D-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-56D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-11S | 199007.93 | 1272657.71 | | | | X | EMW-11S-121614 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-11S-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-11S-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-11S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-12S | 198751.82 | 1272670.76 | | | | X | EMW-12S-20141219 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-12S-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-12S-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-12S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-13S | 198667.92 | 1272788.91 | | | | X | EMW-13S-121614 | 5.0 - 19.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-13S-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-13S-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-13S-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | | | | X | EMW-63S-121614 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-14D | 198695.81 | 1272872.68 | | | | X | EMW-14D-121614 | 39.5 - 49.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-14D-093013 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-14D-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-14D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-15D | 198939.73 | 1273164.77 | | | | X | EMW-15D-121814 | 39.5 - 49.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-15D-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-15D-092513 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-15D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-16D | 198688.30 | 1272699.81 | | | | X | EMW-16D-121614 | 39.5 - 49.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | EMW-16D-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | EMW-16D-092413 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | EMW-16D-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| EMW-17S | 199373.02 | 1272607.65 | | | | X | EMW-17S-121814 | 5.0 - 20.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-18S | 199137.09 | 1272601.05 | | | | X | EMW-18S-121714 | 5.0 - 20.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-19D | 199096.93 | 1272734.26 | | | | X | EMW-19D-121814 | 75.0 - 80.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-20D | 198936.36 | 1273157.51 | | | | X | EMW-20D-121614 | 75.0 - 80.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-21D | 198670.55 | 1272750.99 | | | | X | EMW-21D-121614 | 75.0 - 80.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| EMW-22D | 199362.73 | 1273355.76 | | | | X | EMW-22D-121714 | 75.0 - 80.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| HC-4 | 198785.55 | 1272720.30 | X | | | | HC-4-092413 | 6.5 - 16.5 | Chloride, Metals (Total and Dissolved), TDS, TSS |
| HC-20 | 199231.28 | 1272652.10 | | | | X | HC-20-121614 | 9.5 - 19.5 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | HC-20-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | HC-20-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | HC-20-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| MW-2 | 199699.31 | 1273225.15 | | | X | | MW2-072914 | 3.5 - 15.0 | Dissolved Metals |
| SLR-1 | 199652.19 | 1273064.50 | | | | X | SLR-1-121814 | 5.0 - 14.8 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | SLR-1-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | SLR-1-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | SLR-1-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| SLR-2 | 199673.90 | 1273280.25 | | | | X | SLR-2-121714 | 4.2 - 14.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | SLR-2-100213 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | SLR-2-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | SLR-2-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| SLR-3 | 199530.53 | 1273163.01 | | | | X | SLR-3-121514 | 3.9 - 13.7 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | SLR-3-100313 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | SLR-3-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | SLR-3-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| SLR-6 | 199543.67 | 1273285.44 | | | | X | SLR-6-121714 | 3.9 - 13.7 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | SLR-6-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | SLR-6-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | SLR-6-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| SLR-7 | 199538.61 | 1272997.42 | | | | X | SLR-7-121514 | 4.2 - 14.0 | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, VOCs |
| | | | | X | | | SLR-7-100113 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | X | | | | SLR-7-092313 | | Chloride, Metals (Total and Dissolved), TDS, TSS |
| | | | | X | | | SLR-7-0713 | | Chloride, Metals (Total and Dissolved), PCBs, PAHs, SVOCs, TDS, TPH-Dx, TPH-Gx, TSS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] RI Phase: PH1 HT = Phase 1 RI, high-tide sampling event, PH1 LT = Phase 1 RI, low-tide sampling event, IA = interim action sampling event, PH2 = Phase 2 RI sampling event (low tide)

[3] Wells sampled with low flow sampling method, 2-inch well diameter

[4] ft btoc = feet below top of casing.

[5] Chemical Testing: Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TDS = total dissolved solids, TPH-Dx = total petroleum hydrocarbons diesel extended, TPH-Gx = total petroleum hydrocarbons gasoline extended, TSS = total suspended solids, VOCs = volatile organic compounds

**Table D-3**
**RI Seep Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | Coordinates[1] | | Sample ID | Sampling Method | Chemical Testing[2] |
|---|---|---|---|---|---|
| | Northing | Easting | | | |
| SEEP-1 | 198661.75 | 1272754.95 | SEEP-1 | Grab | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| SEEP-2 | 198663.66 | 1272825.93 | SEEP-2 | Grab | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| SEEP-3 | 198907.54 | 1273157.55 | SEEP-3 | Grab | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| SEEP-4 | 198759.68 | 1273049.19 | SEEP-4 | Grab | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| SEEP-5 | 199162.54 | 1273295.34 | SEEP-5 | Grab | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] Chemical Testing: Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TPH-Dx = total petroleum hydrocarbons diesel extended, TPH-Gx = total petroleum hydrocarbons gasoline extended, TSS = total suspended solids, VOCs = volatile organic compounds

# Table D-4
# RI Stormwater Sampling Summary
# 8th Avenue Terminals, Inc. Site

| Station ID | Coordinates[1] | | Sample ID | Sampling Method | Chemical Testing[2] |
|---|---|---|---|---|---|
| | Northing | Easting | | | |
| OF-1 | 198668.86 | 1272702.26 | OF1-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-1-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| OF-2 | 198660.91 | 1272807.14 | OF2-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF9-022014 | | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-2-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| OF-3 | 198691.49 | 1272924.68 | OF3-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-3-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| OF-4 | 198835.07 | 1273082.77 | OF4-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-4-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| OF-5 | 198930.66 | 1273185.18 | OF5-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-5-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| OF-6 | 199300.86 | 1273358.66 | OF6-022014 | Grab | Chloride, Metals, PCBs, PBDEs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |
| | | | OF-6-062613 | | Chloride, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TSS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] Chemical Testing: Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PBDEs = polybrominated diphenyl ethers, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TPH-Dx = total petroleum hydrocarbons diesel extended, TPH-Gx = total petroleum hydrocarbons gasoline extended, TSS = total suspended solids, VOCs = volatile organic compounds

# Table D-5
# RI Catch Basin Solids Sampling Summary
# 8th Avenue Terminals, Inc. Site

| Station ID | Coordinates[1] | | Sample ID | Chemical Testing[2] |
|---|---|---|---|---|
| | Northing | Easting | | |
| DP1CB2 | 198822.04 | 1272695.60 | DP1CB2-061113 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP1CB3 | 198919.45 | 1272697.99 | DP1CB3-061013 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP2CB2 | 198816.54 | 1272816.18 | DP2CB2-061113 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP2CB5 | 199114.02 | 1272821.33 | DP2CB5-060613 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP3CB1 | 198729.47 | 1272934.53 | DP3CB1-060613 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | DP10CB1-060613 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP3CB3 | 198913.38 | 1272937.76 | DP3CB3-060613 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP4CB2 | 199014.31 | 1273060.02 | DP4CB2-061113 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP4CB4 | 199210.13 | 1273063.56 | DP4CB4-021314 | D/F, GS, Metals, PCBs, PAHs, PBDEs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | DP4CB4-061013 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP5CB1 | 198954.89 | 1273180.03 | DP5CB1-061113 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP5CB4 | 199207.06 | 1273285.47 | DP5CB4-061113 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP6CB1 | 199309.50 | 1273187.30 | DP6CB1-060613 | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| DP6CB4 | 199318.02 | 1272825.16 | DP6CB4-021314 | D/F, GS, Metals, PCBs, PAHs, PBDEs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |
| | | | DP6CB4-061013 | GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TPH-Gx, TS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] Chemical Testing: D/F = dioxins/furans, GS = grain size, Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PBDEs = polybrominated diphenyl ethers, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TPH-Dx = total petroleum hydrocarbons diesel extended, TPH-Gx = total petroleum hydrocarbons gasoline extended, TS = total solids, VOCs = volatile organic compounds

## Table D-6
## RI Intertidal Sediment Sampling Summary
## 8th Avenue Terminals, Inc. Site

| Station ID | Coordinates[1] | | Sample ID | Sampling Interval[2] | Chemical Testing[3] |
|---|---|---|---|---|---|
| | Northing | Easting | | | |
| IS-1 | 198652.20 | 1272725.25 | IS-1 | 0-3 inches | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TS |
| IS-2 | 198654.83 | 1272813.77 | IS-2 | 0-3 inches | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TS |
| IS-3 | 198683.41 | 1272928.31 | IS-3 | 0-3 inches | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TS |
| IS-4 | 198795.38 | 1273045.00 | IS-4 | 0-3 inches | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TS |
| IS-5 | 198930.82 | 1273198.95 | IS-5 | 0-3 inches | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TPH-Dx, TS |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] Interval depths below mudline

[3] Chemical Testing: D/F = dioxins/furans, GS = grain size, Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TPH-Dx = total petroleum hydrocarbons diesel extended, TS = total solids

**Table D-7**
**RI Sediment Sampling Summary**
**8th Avenue Terminals, Inc. Site**

| Station ID | Coordinates[1] Northing | Coordinates[1] Easting | Sample ID | Mudline Elevation (ft MLLW)[2] | Sampling Interval[3] | Chemical Testing[4] |
|---|---|---|---|---|---|---|
| ***Surface Sediment Samples*** | | | | | | |
| SSED-01 | 198896.29 | 1273229.94 | SSED-01 | -10.5 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-02 | 198848.14 | 1273279.82 | SSED-02 | -11.3 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-03 | 198757.62 | 1273092.94 | SSED-03 | -11.9 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-04 | 198706.94 | 1273141.83 | SSED-04 | -12.1 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-05 | 198662.75 | 1272977.66 | SSED-05 | -11.4 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-06 | 198603.51 | 1273022.39 | SSED-06 | -13.4 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-56 | | 0-10 cm | D/F, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-07 | 198606.08 | 1272841.99 | SSED-07 | -10.7 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-08 | 198542.15 | 1272840.05 | SSED-08 | -14.1 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-09 | 198648.85 | 1272633.63 | SSED-09 | -2.8 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-10 | 198600.12 | 1272735.18 | SSED-10 | -10.1 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-11 | 198545.68 | 1272739.32 | SSED-11 | -13.9 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-12 | 198599.85 | 1272607.73 | SSED-12 | -9.8 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-13A | 198703.49 | 1272480.76 | SSED-13A | -4.2 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-14 | 198781.65 | 1272482.81 | SSED-14 | +1.7 | 0-10 cm | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-15A | 198646.87 | 1272475.14 | SSED-15A | -15.5 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-16A | 198752.74 | 1272480.77 | SSED-16A | -1.0 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-17A | 198545.62 | 1272616.81 | SSED-17A | -15.9 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-18A | 198597.75 | 1272468.05 | SSED-18A | -18.4 | 0-10 cm | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| ***Subsurface Sediment Samples*** | | | | | | |
| SSED-SB-12A | 198597.06 | 1272607.39 | SSED-SB-12A-2-4 | -11.5 | 2-4 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-12A-4-6 | | 4-6 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-12A-6-7.7 | | 6-7.7 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-12A-8-10 | | 8-10 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-SB-13A | 198701.91 | 1272474.68 | SSED-SB-13A-0.5-2 | -5.6 | 0.5-2 ft | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-13A-3-5 | | 3-5 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-SB-14A | 198778.87 | 1272485.02 | SSED-SB-14A-0.5-2 | +1.2 | 0.5-2 ft | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-14A-2-4 | | 2-4 ft | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-14A-4-6 | | 4-6 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-64A-4-6 | | 4-6 ft | Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-14A-7-9 | | 7-9 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-SB-16A | 198750.42 | 1272484.31 | SSED-SB-16A-1-2.7 | -0.77 | 1-2.7 ft | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-16A-4-6 | | 4-6 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-SB-19 | 198779.87 | 1272448.68 | SSED-SB-19-2-4 | -0.77 | 2-4 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-19-4-6 | | 4-6 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-19-7-9 | | 7-9 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| SSED-SB-20 | 198726.83 | 1272437.20 | SSED-SB-20-2-4 | -6.5 | 2-4 ft | D/F, GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-70-2-4 | | 2-4 ft | D/F, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-20-5-7 | | 5-7 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |
| | | | SSED-SB-20-8-10 | | 8-10 ft | GS, Metals, PCBs, PAHs, SVOCs, TOC, TS, VOCs |

Notes:

[1] Horizontal datum: Washington State Plane North, NAD83, US Survey feet.

[2] ft = feet, MLLW = mean lower low water

[3] cm = centimeters, ft = feet, depths are below mudline

[4] Chemical Testing: D/F = dioxins/furans, GS = grain size, Metals = 13 priority pollutant metals [antimony (Sb), arsenic (As), beryllium (Be), cadmium (Cd), chromium (Cr), copper (Cu), lead (Pb), mercury (Hg), nickel (Ni), selenium (Se), silver (Ag), thallium (Tl), zinc (Zn)], and Barium [Ba], PAHs = polycyclic aromatic hydrocarbons, PCBs = polychlorinated biphenyls, SVOCs = semi-volatile organic compounds, TOC = total organic carbon, TS = total solids, VOCs = volatile organic compounds

**Table D-8**
**Phase 2 RI Sediment Mudline Determinations**
**8th Avenue Terminals, Inc. Site**

| Location | Attempt | Date | Time | Sounder Depth (ft) | Lead Line (Water Depth) (ft) | Estimated Water Level * (MLLW) | Mudline Elevation (MLLW) |
|---|---|---|---|---|---|---|---|
| **Surface Sediment Grabs** | | | | | | | |
| SSED-01 | 1 of 1 | 12/10/2014 | 1051 | 20.8 | 22.2 | 9.6 | -12.6 |
| SSED-02 | 1 of 1 | 12/10/2014 | 1133 | 21.1 | 21.9 | 8.5 | -13.4 |
| SSED-03 | 1 of 1 | 12/9/2014 | 1545 | 21.9 | 22 | 7.9 | -14.1 |
| SSED-04 | 1 of 1 | 12/10/2014 | 905 | 25.5 | 25.5 | 11.5 | -14 |
| SSED-05 | 1 of 1 | 12/10/2014 | 940 | 25.3 | 24.4 | 11.1 | -13.3 |
| SSED-06 | 1 of 1 | 12/10/2014 | 1013 | 25.6 | 25.9 | 10.3 | -15.6 |
| SSED-07 | 1 of 1 | 12/9/2014 | 1425 | N/A | 19.8 | 6.8 | -13 |
| SSED-08 | 1 of 1 | 12/9/2014 | 1515 | 23.6 | 23.8 | 7.4 | -16.4 |
| SSED-09 | 1 of 1 | 12/10/2014 | 1450 | 11.5 | 11.8 | 6.2 | -5.6 |
| SSED-10 | 1 of 1 | 12/10/2014 | 1248 | 19.5 | 19.3 | 6.8 | -12.5 |
| SSED-11 | 1 of 1 | 12/10/2014 | 1322 | 21.9 | 22.8 | 6.4 | -16.4 |
| SSED-12 | 1 of 1 | 12/10/2014 | 1358 | 19.2 | 18.6 | 6.1 | -12.5 |
| SSED-13A[1] | 1 of 1 | 12/12/2014 | 1100 | 15.8 | 16.6 | 10.5 | -6.1 |
| SSED-14 | 1 of 1 | 12/10/2014 | 1526 | 7.9 | 8.3 | 6.6 | -1.7 |
| SSED-15A[1] | 1 of 1 | 12/12/2014 | 1026 | 25 | 28.5 | 11 | -17.5 |
| SSED-16A[1] | 1 of 1 | 12/12/2014 | 835 | 14.1 | 14.6 | 11.2 | -3.4 |
| SSED-17A[1] | 1 of 1 | 12/12/2014 | 912 | 28.1 | 29.5 | 11.5 | -18 |
| SSED-18A[1] | 1 of 1 | 12/12/2014 | 950 | 30.8 | 31.7 | 11.4 | -20.3 |
| **Subsurface Sediment Cores** | | | | | | | |
| SSED-SB-12A[1] | 1 of 1 | 12/12/2014 | 1440 | N/A | 18.8 | 5.7 | -13.1 |
| SSED-SB-13A[1] | 1 of 3 | 12/13/2014 | 1014 | N/A | 14.9 | 11.3 | -3.6 |
| SSED-SB-13A[1] | 2 of 3 | 12/13/2014 | 1046 | N/A | 16.8 | 11.1 | -5.7 |
| SSED-SB-13A[1] | 3 of 3 | 12/13/2014 | 1110 | N/A | 17.7 | 10.8 | -6.9 |
| SSED-SB-14A[1] | 1 of 2 | 12/12/2014 | 1525 | N/A | 5.9 | 5.3 | -0.6 |
| SSED-SB-14A[1] | 2 of 2 | 12/12/2014 | 817 | N/A | 10.5 | 11 | 0.5 |
| SSED-SB-16A[1] | 1 of 1 | 12/12/2014 | 1540 | N/A | 7.7 | 5.3 | -2.4 |
| SSED-SB-19 | 1 of 1 | 12/13/2014 | 859 | N/A | 13.2 | 10.9 | -2.3 |
| SSED-SB-20 | 1 of 1 | 12/13/2014 | 937 | N/A | 19.2 | 11.2 | -8 |

Notes:

[1] The station location was moved due to field conditions.

* - Gauging station provided estimates of tide height at 8th Avenue in Seattle. No real time data available.

**Table D-9**
**Subsurface Sediment Collection Details**
**8th Avenue Terminals, Inc. Site**

| Station ID | Attempt | Date Collected | Date Processed | Sampling Equipment | Water Depth - Lead Line (feet) | Drive Penetration (feet) | Core Tube Length (feet) | Measured Headspace (feet) | Measured Recovery (feet) | Core Recovery (%) | Recovery Compaction Factor (x) | Drive Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SSED-SB-12A | 1 of 1 | 12/12/2014 | 12/15/2014 | Vibracore | 18.8 | 15.0 | 15.0 | 1.9 | 13.1 | 87% | 1.15 | 0-8': Easy coring<br>8-15': Moderate coring |
| SSED-SB-13A | 1 of 3 | 12/13/2014 | -- | Vibracore | 14.9 | 13.8 | 15.0 | 7.1 | 6.7 | 49% | 2.04 | 0-10': Moderate coring<br>10-14': Very hard coring<br>Moved off location because there was debris on the bottom causing vibracore to tilt. |
| SSED-SB-13A | 2 of 3 | 12/13/2014 | -- | Vibracore | 16.6 | 5.5 | 15.0 | 11.5 | 3.5 | 64% | 1.56 | 1-3': Hard coring<br>3-5': Moderate coring<br>5-5.5': Hard coring<br>Refusal at 5.5'. |
| SSED-SB-13A | 3 of 3 | 12/13/2014 | 12/15/2014 | Vibracore | 17.7 | 14.0 | 15.0 | 2.9 | 12.1 | 86% | 1.16 | 0-8': Easy coring<br>8-11': Grading to hard coring<br>11'14': Hard coring |
| SSED-SB-14A | 1 of 2 | 12/12/2014 | -- | Vibracore | 5.9 | -- | -- | -- | -- | -- | -- | Hard penetration in section, potential debris.<br>Lost core tube: sample not processed. |
| SSED-SB-14A | 2 of 2 | 12/12/2014 | 12/15/2014 | Vibracore | 10.5 | 14.0 | 15.0 | 1.2 | 13.8 | 99% | 1.01 | 0-6': Debris, easy to penetrate with intermittant debris<br>6-15': Moderate coring |
| SSED-SB-16A | 1 of 1 | 12/12/2014 | 12/15/2014 | Vibracore | 7.7 | 15.0 | 15.0 | 2.7 | 12.3 | 82% | 1.22 | Debris on the way down, potentially gravel or wood in 1st 8 ft.<br>0-8': Intermittant hard coring<br>8-15': N/A |
| SSED-SB-19 | 1 of 1 | 12/13/2014 | 12/16/2014 | Vibracore | 13.2 | 14 | 15.0 | 1.7 | 13.3 | 95% | 1.05 | 0-9': Easy coring<br>9-15': Moderately easy coring |
| SSED-SB-20 | 1 of 1 | 12/13/2014 | 12/16/2014 | Vibracore | 19.2 | 14 | 15.0 | 2.9 | 12.1 | 86% | 1.16 | 0-15': Easy coring |

**Table D-10**
**Monitoring Well Installation Details**
**8th Avenue Terminals, Inc. Site**

| Well ID | Zone [1] | Shoreline Well | Coordinates [2] | | Top of Casing Elevation (ft) NAVD88 [3] | Bottom of Well Screen (ft) NAVD 88 | Total Well Depth (ft btoc) | Top of Well Screen (ft btoc) | Bottom of Well Screen (ft btoc) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Northing | Easting | | | | | |
| CMW-1 [4] | shallow | X | 199375.36 | 1273356.80 | 16.1 | -1.4 | 17.8 | 2.5 | 17.5 |
| CMW-2 [4] | shallow | X | 199223.67 | 1273303.67 | 16.3 | -1.2 | 17.8 | 2.5 | 17.5 |
| CMW-3 [4] | shallow | X | 199072.08 | 1273239.41 | 16.46 | -2.0 | 18.8 | 3.5 | 18.5 |
| CMW-4 [4] | shallow | X | 198940.14 | 1273167.51 | 16.01 | -2.0 | 18.4 | 2.5 | 18.0 |
| CMW-5 [4] | shallow | X | 198829.50 | 1273003.17 | 16.6 | -1.4 | 18.4 | 3.0 | 18.0 |
| CMW-6 [4] | shallow | X | 198692.03 | 1272872.72 | 16.42 | -3.1 | 19.9 | 5.0 | 19.5 |
| CMW-7 [4] | shallow | X | 198703.24 | 1272711.78 | 16.44 | -2.9 | 19.7 | 4.5 | 19.3 [5] |
| SLR-1 | shallow | | 199652.19 | 1273064.50 | 12.05 | -2.8 | 15.1 | 5.0 | 14.8 |
| SLR-2 | shallow | | 199673.90 | 1273280.25 | 11.26 | -2.7 | 14.3 | 4.2 | 14.0 |
| SLR-3 | shallow | | 199530.53 | 1273163.01 | 11.86 | -1.8 | 14.0 | 3.9 | 13.7 |
| SLR-6 | shallow | | 199543.67 | 1273285.44 | 12.37 | -1.3 | 14.0 | 3.9 | 13.7 |
| SLR-7 | shallow | | 199538.61 | 1272997.42 | 14.15 | 0.2 | 14.3 | 4.2 | 14.0 |
| DMW-2 | shallow | | 199181.92 | 1272715.23 | 16.46 | -2.5 | 19.0 | 5.0 | 19.0 |
| DMW-3 | shallow | | 199085.93 | 1272715.09 | 16.47 | -2.5 | 19.0 | 5.0 | 19.0 |
| DMW-6 | shallow | | 198920.40 | 1272851.44 | 16.39 | -2.6 | 20.0 | 5.0 | 19.0 |
| DMW-6a | shallow | | 198906.35 | 1272869.03 | 16.38 | -3.6 | 20.0 | 5.0 | 20.0 |
| MW-2 [4] | shallow | | 199699.31 | 1273225.15 | 11.98 | -3.0 | 15.0 | 3.5 | 15.0 |
| HC-4 [4] | shallow | | 198785.55 | 1272720.30 | 16.45 | -0.1 | 16.5 | 6.5 | 16.5 |
| HC-19 [4] | shallow | | 199037.21 | 1272865.84 | 16.57 | -5.4 | 22.0 | 12.0 | 22.0 |
| HC-20 [4] | shallow | | 199231.28 | 1272652.10 | 16.66 | -2.8 | 19.5 | 9.5 | 19.5 |
| EMW-1S | shallow | | 199762.87 | 1272940.19 | 16.13 | -3.7 | 20.0 | 5.0 | 19.8 |
| EMW-2S | shallow | | 199571.31 | 1273329.79 | 12.66 | -6.9 | 19.8 | 4.8 | 19.6 |
| EMW-3S | shallow | X | 199487.42 | 1273364.83 | 16.43 | -3.4 | 20.0 | 5.0 | 19.8 |
| EMW-4D | intermediate | X | 199352.33 | 1273365.96 | 16.8 | -33.0 | 50.0 | 40.0 | 49.8 |
| EMW-5S | shallow | | 199380.03 | 1273148.38 | 16.64 | -3.2 | 20.0 | 5.0 | 19.8 |
| EMW-5Sa | shallow | | 199397.01 | 1273133.30 | 16.34 | -3.5 | 20.0 | 5.0 | 19.8 |
| EMW-6S | shallow | | 199487.50 | 1272871.49 | 16.17 | -3.6 | 20.0 | 5.0 | 19.8 |
| EMW-7S | shallow | | 199379.09 | 1272655.29 | 16.71 | -3.1 | 20.0 | 5.0 | 19.8 |
| EMW-8S | shallow | | 199223.49 | 1272897.26 | 16.55 | -3.3 | 20.0 | 5.0 | 19.8 |
| EMW-9S | shallow | | 199146.84 | 1273044.63 | 16.63 | -3.2 | 20.0 | 5.0 | 19.8 |
| EMW-10D | intermediate | | 199094.38 | 1272714.09 | 16.82 | -33.0 | 50.0 | 40.0 | 49.8 |
| EMW-11S | shallow | | 199007.93 | 1272657.71 | 16.61 | -3.2 | 20.0 | 5.0 | 19.8 |
| EMW-12S | shallow | X | 198751.82 | 1272670.76 | 16.81 | -3.0 | 20.0 | 5.0 | 19.8 |
| EMW-13S | shallow | X | 198667.92 | 1272788.91 | 16.39 | -3.4 | 20.0 | 5.0 | 19.8 |
| EMW-14D | intermediate | X | 198695.81 | 1272872.68 | 16.42 | -33.1 | 49.7 | 39.5 | 49.5 |
| EMW-15D | intermediate | X | 198939.73 | 1273164.77 | 16.07 | -33.4 | 49.7 | 39.5 | 49.5 |
| EMW-16D | intermediate | X | 198688.30 | 1272699.81 | 16.52 | -32.8 | 49.5 | 39.5 | 49.3 |
| EMW-17S | shallow | | 199365.38 | 1272611.79 | 16.04 | -4.0 | 20.3 | 5.0 | 20.0 |
| EMW-18S | shallow | | 199134.80 | 1272603.63 | 15.21 | -4.8 | 20.3 | 5.0 | 20.0 |
| EMW-19D | deep | | 199096.93 | 1272734.26 | 16.50 | -63.5 | 80.3 | 75.0 | 80.0 |
| EMW-20D | deep | X | 198936.36 | 1273157.51 | 15.97 | -64.0 | 80.3 | 75.0 | 80.0 |
| EMW-21D | deep | X | 198670.55 | 1272750.99 | 16.18 | -63.8 | 80.3 | 75.0 | 80.0 |
| EMW-22D | deep | X | 199362.73 | 1273355.76 | 15.98 | -64.0 | 80.3 | 75.0 | 80.0 |
| Stilling Well | -- | | 198912.40 | 1273224.34 | 17.1 | -- | -- | -- | -- |

**Notes**
[1] For zone: "shallow" = up to 20 feet (approx); "intermediate" = 40 to 50 feet; "deep" = 75 to 80 feet.
[2] Horizontal datum is North American Datum 83 State Plane Washington north, US feet.
[3] Top of casing elevations were surveyed relative to the NAVD 88 datum by Signature Surveying & Mapping (for Phase 1 wells) and by APS Surveyors (for Phase 2 wells).
[4] Well installation details (total constructed well depth, top of screen and bottom of screen) are estimated from the boring log.
btoc = below top of casing
ft = feet

**Table D-11**
**RI Groundwater Monitoring Summary**
**8th Avenue Terminals, Inc. Site**

| Well Number | Top of Casing Elevation[a] (feet) | Date Measured | Depth to Groundwater[b] (feet) | Groundwater Elevation (feet) | Depth to Surface Water[b] (feet) | Surface Water Elevation (feet) |
|---|---|---|---|---|---|---|
| **Slip 4 Stilling Well** | | | | | | |
| Stilling Well | 17.10 | 7/10/2013 | - | - | 19.57[c] | -2.47 |
| | | 9/23/2013 | - | - | 8.27[d] | 8.83 |
| | | 10/2/2013 | - | - | 16.42[c] | 0.68 |
| **Shallow Groundwater Monitoring Wells** | | | | | | |
| CMW-1 | 16.10 | 7/10/2013 | 10.60[c] | 5.50 | - | - |
| | | 9/23/2013 | 9.44[d] | 6.66 | - | - |
| | | 10/2/2013 | 9.83[c] | 6.27 | - | - |
| | | 12/15/2014 | 8.45 | 7.65 | | |
| CMW-2 | 16.30 | 7/10/2013 | 12.17[c] | 4.13 | - | - |
| | | 9/23/2013 | 7.60[d] | 8.70 | - | - |
| | | 10/2/2013 | 11.65[c] | 4.65 | - | - |
| | | 12/15/2014 | 11.02 | 5.28 | | |
| CMW-3 | 16.46 | 7/10/2013 | 14.51[c] | 1.95 | - | - |
| | | 9/23/2013 | 9.96[d] | 6.50 | - | - |
| | | 10/2/2013 | 12.99[c] | 3.47 | - | - |
| | | 12/18/2014 | 12.6 | 3.86 | | |
| CMW-4 | 16.01 | 7/10/2013 | 14.10[c] | 1.91 | - | - |
| | | 9/23/2013 | NM | -- | - | - |
| | | 10/2/2013 | NM | -- | - | - |
| | | 12/18/2014 | 12.48 | 3.53 | | |
| CMW-5 | 16.60 | 7/10/2013 | 14.97[c] | 1.63 | - | - |
| | | 9/23/2013 | 10.38[d] | 6.22 | - | - |
| | | 10/2/2013 | 13.32[c] | 3.28 | - | - |
| | | 12/22/2014 | 13.48 | 3.12 | | |
| CMW-6 | 16.42 | 7/10/2013 | 15.13[c] | 1.29 | - | - |
| | | 9/23/2013 | 9.94[d] | 6.48 | - | - |
| | | 10/2/2013 | 13.43[c] | 2.99 | - | - |
| | | 12/16/2014 | 12.02 | 4.40 | | |
| CMW-7 | 16.44 | 7/10/2013 | 15.24[c] | 1.20 | - | - |
| | | 9/23/2013 | 9.37[d] | 7.07 | - | - |
| | | 10/2/2013 | 13.58[c] | 2.86 | - | - |
| | | 12/16/2014 | 13.09 | 3.35 | | |
| DMW-2 | 16.46 | 7/10/2013 | 12.74[c] | 3.72 | - | - |
| | | 9/23/2013 | 11.01[d] | 5.45 | - | - |
| | | 10/2/2013 | 11.86[c] | 4.60 | - | - |
| | | 12/16/2014 | 9.11 | 7.35 | | |
| DMW-3 | 16.47 | 7/10/2013 | 12.85[c] | 3.62 | - | - |
| | | 9/23/2013 | 10.81[d] | 5.66 | - | - |
| | | 10/2/2013 | 12.06[c] | 4.41 | - | - |
| | | 12/18/2014 | 8.94 | 7.53 | | |
| DMW-6 | 16.39 | 7/10/2013 | 13.43[c] | 2.96 | - | - |
| | | 9/23/2013 | 10.56[d] | 5.83 | - | - |
| | | 10/2/2013 | 12.33[c] | 4.06 | - | - |
| DMW-6A | 16.38 | 12/17/2014 | 10.56 | 5.82 | | |
| HC-4 | 16.45 | 7/10/2013 | 13.98[c] | 2.47 | - | - |
| | | 9/23/2013 | 10.00[d] | 6.45 | - | - |
| | | 10/2/2013 | 12.73[c] | 3.72 | - | - |
| HC-19 | 16.57 | 7/10/2013 | NM | -- | - | - |
| | | 9/23/2013 | NM | -- | - | - |
| | | 10/2/2013 | NM | -- | - | - |
| HC-20 | 16.66 | 7/10/2013 | 12.78[c] | 3.88 | - | - |
| | | 9/23/2013 | 11.33[d] | 5.33 | - | - |
| | | 10/2/2013 | 11.96[c] | 4.70 | - | - |
| | | 12/16/2014 | 9.38 | 7.28 | - | - |
| SLR-1 | 12.05 | 7/10/2013 | 7.12[c] | 4.93 | - | - |
| | | 9/23/2013 | 6.14[d] | 5.91 | - | - |
| | | 10/2/2013 | NM | -- | - | - |
| | | 12/18/2014 | 5.2 | 6.85 | - | - |
| SLR-2 | 11.26 | 7/10/2013 | 6.31[c] | 4.94 | - | - |
| | | 9/23/2013 | 5.00[d] | 6.25 | - | - |
| | | 10/2/2013 | 4.02c | 7.23 | - | - |
| | | 12/17/2014 | 3.83 | 7.43 | - | - |
| SLR-3 | 11.86 | 7/10/2013 | 7.71c | 4.15 | - | - |
| | | 9/23/2013 | 5.47d | 6.39 | - | - |
| | | 10/2/2013 | 6.77c | 5.09 | - | - |
| | | 12/15/2014 | 5.44 | 6.42 | - | - |

**Table D-11**
**RI Groundwater Monitoring Summary**
**8th Avenue Terminals, Inc. Site**

| Well Number | Top of Casing Elevation[a] (feet) | Date Measured | Depth to Groundwater[b] (feet) | Groundwater Elevation (feet) | Depth to Surface Water[b] (feet) | Surface Water Elevation (feet) |
|---|---|---|---|---|---|---|
| SLR-6 | 12.37 | 7/10/2013 | 8.87c | 3.50 | - | - |
| | | 9/23/2013 | 6.44d | 5.93 | - | - |
| | | 10/2/2013 | 7.80c | 4.57 | - | - |
| | | 12/17/2014 | 6.85 | 5.52 | - | - |
| SLR-7 | 14.15 | 7/10/2013 | 9.48c | 4.67 | - | - |
| | | 9/23/2013 | 8.60d | 5.55 | - | - |
| | | 10/2/2013 | 8.60c | 5.55 | - | - |
| | | 12/15/2014 | 6.75 | 7.40 | - | - |
| EMW-1S | 16.13 | 7/10/2013 | 10.25c | 5.88 | - | - |
| | | 9/23/2013 | 10.18d | 5.95 | - | - |
| | | 10/2/2013 | 9.94c | 6.19 | - | - |
| | | 12/15/2014 | 7.95 | 8.18 | - | - |
| EMW-2S | 12.66 | 7/10/2013 | 8.88c | 3.78 | - | - |
| | | 9/23/2013 | 6.52d | 6.14 | - | - |
| | | 10/2/2013 | 7.86c | 4.80 | - | - |
| | | 12/17/2014 | 6.91 | 5.75 | - | - |
| EMW-3S | 16.43 | 7/10/2013 | 14.14c | 2.29 | - | - |
| | | 9/23/2013 | 9.72d | 6.71 | - | - |
| | | 10/2/2013 | 12.51c | 3.92 | - | - |
| | | 12/15/2014 | 10.42 | 6.01 | - | - |
| EMW-5S | 16.64 | 7/10/2013 | 13.18c | 3.46 | - | - |
| | | 9/23/2013 | 10.51d | 6.13 | - | - |
| | | 10/2/2013 | 12.09c | 4.55 | - | - |
| EMW-5Sa | 16.34 | 12/15/2014 | 9.54 | 7.10 | - | - |
| EMW-6S | 16.17 | 7/10/2013 | 11.71c | 4.46 | - | - |
| | | 9/23/2013 | 10.51d | 5.66 | - | - |
| | | 10/2/2013 | 10.81c | 5.36 | - | - |
| | | 12/15/2014 | 7.35 | 8.82 | - | - |
| EMW-7S | 16.71 | 7/10/2013 | 12.58c | 4.13 | - | - |
| | | 9/23/2013 | 11.04d | 5.67 | - | - |
| | | 10/2/2013 | 11.77c | 4.94 | - | - |
| | | 12/16/2014 | 8.92 | 7.79 | | |
| EMW-8S | 16.55 | 7/10/2013 | 12.98c | 3.57 | - | - |
| | | 9/23/2013 | 10.57d | 5.98 | - | - |
| | | 10/2/2013 | 11.95c | 4.60 | - | - |
| | | 12/17/2014 | 9.86 | 6.69 | - | - |
| EMW-9S | 16.63 | 7/10/2013 | 13.60c | 3.03 | - | - |
| | | 9/23/2013 | 10.37d | 6.26 | - | - |
| | | 10/2/2013 | 12.41c | 4.22 | - | - |
| | | 12/17/2014 | 10.32 | 6.31 | - | - |
| EMW-10D | 16.82 | 12/17/2014 | 9.04 | 7.78 | - | - |
| EMW-11S | 16.61 | 7/10/2013 | 12.93c | 3.68 | - | - |
| | | 9/23/2013 | 10.97d | 5.64 | - | - |
| | | 10/2/2013 | 12.06c | 4.55 | - | - |
| | | 12/16/2014 | 8.99 | 7.62 | - | - |
| EMW-12S | 16.81 | 7/10/2013 | 14.95c | 1.86 | - | - |
| | | 9/23/2013 | 10.14d | 6.67 | - | - |
| | | 10/2/2013 | 13.45c | 3.36 | - | - |
| | | 12/19/2014 | 13.25 | 3.56 | - | - |
| EMW-13S | 16.39 | 7/10/2013 | 13.49[c] | 2.90 | - | - |
| | | 9/23/2013 | 8.99[d] | 7.40 | - | - |
| | | 10/2/2013 | 12.03[c] | 4.36 | - | - |
| | | 12/16/2014 | 10.64 | 5.75 | - | - |
| **Intermediate and Deep Groundwater Monitoring Wells** | | | | | | |
| EMW-4D | 16.80 | 7/10/2013 | 15.71[c] | 1.09 | - | - |
| | | 9/23/2013 | 9.52[d] | 7.28 | - | - |
| | | 10/2/2013 | 13.81[c] | 2.99 | - | - |
| | | 12/15/2014 | 9.46 | 7.34 | - | - |
| EMW-10D | 16.82 | 7/10/2013 | 13.09[c] | 3.73 | - | - |
| | | 9/23/2013 | 11.00[d] | 5.82 | - | - |
| | | 10/2/2013 | 12.29[c] | 4.53 | - | - |
| | | 12/17/2014 | 9.04 | 7.78 | - | - |
| EMW-14D | 16.42 | 7/10/2013 | 15.14[c] | 1.28 | - | - |
| | | 9/23/2013 | 9.80[d] | 6.62 | - | - |
| | | 10/2/2013 | 13.51[c] | 2.91 | - | - |
| | | 12/16/2014 | 10.86 | 5.56 | - | - |
| EMW-15D | 16.07 | 7/10/2013 | 14.86[c] | 1.21 | - | - |
| | | 9/23/2013 | NM | -- | - | - |
| | | 10/2/2013 | 13.02[c] | 3.05 | - | - |
| | | 12/18/2014 | 11.52 | 4.55 | - | - |

**Table D-11**
**RI Groundwater Monitoring Summary**
**8th Avenue Terminals, Inc. Site**

| Well Number | Top of Casing Elevation[a] (feet) | Date Measured | Depth to Groundwater[b] (feet) | Groundwater Elevation (feet) | Depth to Surface Water[b] (feet) | Surface Water Elevation (feet) |
|---|---|---|---|---|---|---|
| EMW-16D | 16.52 | 7/10/2013 | 15.86[c] | 0.66 | - | - |
| | | 9/23/2013 | 9.14[d] | 7.38 | - | - |
| | | 10/2/2013 | 13.97[c] | 2.55 | - | - |
| | | 12/16/2014 | 11.53 | 4.99 | - | - |
| EMW-17S | 16.04 | 12/18/2014 | 8.5 | 7.54 | -- | -- |
| EMW-18S | 15.21 | 12/17/2014 | 7.72 | 7.49 | -- | -- |
| EMW-19D | 16.50 | 12/18/2014 | 8.78 | 7.72 | -- | -- |
| EMW-20D | 15.97 | 12/16/2014 | 8.00 | 7.97 | -- | -- |
| EMW-21D | 16.18 | 12/16/2014 | 7.47 | 8.71 | -- | -- |
| EMW-22D | 15.98 | 12/17/2014 | 7.89 | 8.09 | -- | -- |

Notes:

[a] Top of casing elevations were surveyed relative to the NAVD 88 datum by Signature Surveying & Mapping.

[b] Measurements in feet below the top of the well casing

[c] Measured during low tide conditions in the LDW.

[d] Measured during high tide conditions in the LDW.

LDW = Lower Duwamish Waterway; NM = not measured because well was not accesible