Cardno ATC
Shaping the Future

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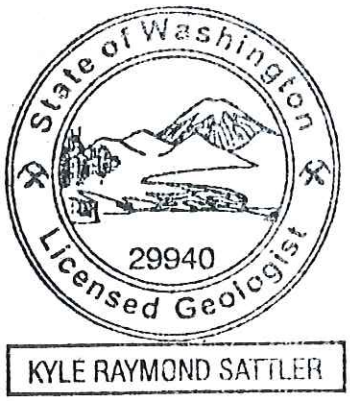
# GROUNDWATER MONITORING REPORT
## (2013 Annual Event)

**Phillips 66 Facility No. 255353 (AOC #1396)**
**600 Westlake Avenue North**
**Seattle, Washington**
**Washington State Department of Ecology VCP No. NW1714**

**Submitted to:**
**Mr. Roger Nye**
**Washington State Department of Ecology**
**3190 160th Avenue Southeast**
**Bellevue, Washington 98008-5452**
**&**
**Phillips 66 Company**
**Remediation Management**
**3900 Kilroy Airport Way**
**Suite 210**
**Long Beach, CA 90806**

**Submitted by:**
**Cardno ATC**
**6347 Seaview Avenue Northwest**
**Seattle, Washington 98107**

**Cardno ATC Project No. 76.75118.1396**
**March 25, 2014**




**Simon Payne, L.G.**
**Project Geologist**

**Kyle Sattler, L.G.**
**Senior Project Manager**

**GROUNDWATER MONITORING REPORT**
**(2013 Annual Event)**
Phillips 66 Facility No. 255353 (AOC #1396)
600 Westlake Avenue North
Seattle, Washington

| **SITE INFORMATION:** | |
|---|---|
| Cardno ATC Contact Person: | Kyle Sattler |
| Date of previous sampling event: | 11/20/12 and 11/21/12 |
| Current remediation technique(s): | Soil Vapor Extraction/Air Sparge (Not active during monitoring and sampling event) |

| **FIELD ACTIVITY:** | |
|---|---|
| Date(s) monitored and/or sampled: | 11/6/13 & 11/7/13 |
| Wells monitored: | Fourteen (MWR-1 through MWR-6, MW-41, MW-45, MW-50, MW-54, MW-209, MW-210, MW-211 and SMW-3). |
| Wells sampled: | Same as those monitored. |
| Purging method: | Wells were purged prior to sampling using low flow pumping via a peristaltic pump and dedicated polyethylene tubing. |
| Sampling method: | Samples were collected using peristaltic pump and dedicated polyethylene tubing. |

| **SITE HYDROGEOLOGY:** | |
|---|---|
| Minimum depth to groundwater (feet below top of casing [TOC]): | 9.42 (MW-209) |
| Maximum depth to groundwater (feet below TOC): | 15.69 (MW-41) |
| Average groundwater elevation (feet above mean sea level): | 17.80 |
| Change in average groundwater elevation since previous monitoring event (feet): | +0.57 |
| Approximate groundwater gradient/flow direction: | 0.003 East |
| Previous groundwater gradient/flow direction: | 0.006 Northeast |

| **GROUNDWATER CONDITIONS (11/6/13 and 11/7/13):** | |
|---|---|
| Minimum dissolved phase gasoline-range hydrocarbons concentration excluding "non-detects" (micrograms per liter [µg/L]): | 185 (MW-50) |
| Maximum dissolved phase gasoline-range hydrocarbons concentration (µg/L): | 3,820 (MWR-5) |
| Maximum dissolved phase gasoline-range hydrocarbons concentration (µg/L) observed previous sampling event: | 35,500 (MWR-5) |
| Minimum dissolved phase diesel-range hydrocarbons concentration excluding "non-detects" (µg/L): | 540 (MW-50), other wells sampled were "non-detect" |
| Maximum dissolved phase diesel-range hydrocarbons concentration (µg/L): | 540 (MW-50), other wells sampled were "non-detect" |
| Maximum dissolved phase diesel-range hydrocarbons concentration (µg/L) observed previous sampling event: | 15,500 (MWR-5) |
| Minimum dissolved phase benzene concentration excluding "non-detects" (µg/L): | 23.0 (MWR-5), other wells sampled were "non-detect" |
| Maximum dissolved phase benzene concentration (µg/L): | 23.0 (MWR-5), other wells sampled were "non-detect" |
| Maximum dissolved phase benzene concentration (µg/L) observed previous sampling event: | 306 (MWR-5) |
| Minimum dissolved phase ethylbenzene concentration excluding "non-detects" (µg/L): | 150 (MWR-5), other wells sampled were "non-detect" |
| Maximum dissolved phase ethylbenzene concentration (µg/L): | 150 (MWR-5), other wells sampled were "non-detect" |
| Maximum dissolved phase ethylbenzene concentration (µg/L) observed previous sampling event: | 1,520 (MWR-5) |
| Minimum dissolved phase toluene concentration excluding "non-detects" (µg/L): | All wells sampled were "non-detect" |
| Maximum dissolved phase toluene concentration (µg/L): | All wells sampled were "non-detect" |
| Maximum dissolved phase toluene concentration (µg/L) observed previous sampling event: | 471 (MWR-5) |

| | |
|---|---|
| Minimum dissolved phase total xylenes concentration excluding "non-detects" (µg/L): | 286 (MWR-5), all other wells sampled were "non-detect" |
| Maximum dissolved phase total xylenes concentration (µg/L): | 286 (MWR-5), all other wells sampled were "non-detect" |
| Maximum dissolved phase total xylenes concentration (µg/L) observed previous sampling event: | 10,700 (MWR-5) |
| Minimum total lead concentration excluding "non-detects" (µg/L): | All wells were "non-detect" |
| Maximum total lead concentration (µg/L): | All wells were "non-detect" |
| Maximum total lead concentration (µg/L) observed previous sampling event: | 14.8 (MW-41) |

**ADDITIONAL INFORMATION AND COMMENTS:**

Gasoline-range hydrocarbon concentrations detected in the groundwater samples collected from MW-45 and MWR-5 decreased significantly since the previous sampling event, while the concentration detected in the groundwater sample collected from MW-50 increased slightly. Diesel-range hydrocarbon concentrations detected in the groundwater samples collected from MW-50 increased since the previous sampling event. Kerosene-range hydrocarbon concentrations detected in the groundwater sample collected from MW-50 increased slightly since the previous sampling event, and, in MWR-5, decreased significantly since the previous sampling event. Concentrations of benzene, toluene, ethylbenzene, total xylenes, MTBE, and total and dissolved lead were either not detected, or were detected at concentrations similar to those detected during the previous sampling event. Concentrations of 1,2-dibromoethane (EDB) and 1,2-dichloroethane (EDC) (not analyzed during previous sampling events) were not detected at concentrations greater than the laboratory's method reporting limits in any of the groundwater samples collected during this sampling event.

Cardno ATC requested that Pace Analytical Services, Inc. (Pace) review the chromatograms for the groundwater samples with detected diesel- and kerosene-range hydrocarbons (Pace Identification Numbers 10248776005 [sample MW-50] and 10248776009 [sample MWR-5]). Based on their review of the chromatograms, Pace concluded that the hydrocarbon patterns are similar in appearance to a form of "weathered" gasoline (see the laboratory narrative on page one of the analytical laboratory report). It is Cardno ATCs technical opinion that, based on Pace's interpretation of the chromatograms, the age of the release (May 1980) and the fact that the release consisted of gasoline (not diesel), the previously detected kerosene- and diesel-range hydrocarbons are the result of weathered gasoline and are not representative of actual kerosene or diesel fuel. Neither diesel- or kerosene fuel products were sold at the site. Therefore, Cardno ATC recommends discontinuing analysis of kerosene- and diesel-range hydrocarbons.

The depths to water and groundwater flow direction is likely influenced by the presence of native soil and fill materials on and off-site, the presence of subsurface hydrogeologic barriers installed during the remedial excavation activities completed in 2008, and the current construction dewatering occurring in the immediate vicinity of the Site.

**ATTACHMENTS:**

Table 1 Summary of Historical Groundwater Gauging and Laboratory Analytical Data
Figure 1 Groundwater Conditions Map (11/20/12 and 11/21/12)

Appendix A Laboratory Analytical Data Report and Chain of Custody Document
Appendix B Field Report / Groundwater Gauging & Sampling Logs / Drum Inventory Log / MW Inspection Log

**TABLE**

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-41** | 11/05/91 | **<1,000** | **<1,000** | -- | **67** | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 27.00 | 12/29/93 | <100 | <250 | **<750** | 4.6 | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | 11.24 | 0.00 | 15.76 | -- |
| | 07/14/94 | <100 | <250 | **<750** | **10** | <0.5 | <0.5 | <0.5 | -- | -- | -- | -- | -- | 10.81 | 0.00 | 16.19 | -- |
| | 10/25/94 | <50 | **500** | **<750** | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 13.69 | 0.00 | 13.31 | -- |
| | 03/08/95 | <50 | <250 | **<750** | 1.6 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 14.72 | -- | 12.28 | -- |
| | 06/06/95 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 15.02 | -- | 11.98 | -- |
| | 09/07/95 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 15.00 | -- | 12.00 | -- |
| | 12/08/95 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 16.30 | -- | 10.70 | -- |
| | 04/01/96 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 15.02 | -- | 11.98 | -- |
| | 06/25/96 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.00 | -- | -- | -- | -- | -- | 15.07 | -- | 11.93 | -- |
| | 09/27/96 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1.00 | -- | -- | -- | -- | -- | 15.42 | 0.00 | 11.58 | -- |
| | 03/28/97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 15.27 | 0.00 | 11.73 | -- |
| | 06/30/97 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 06/02/05 | <100 | <237 | <474 | <1 | <1 | <1 | <2 | <1 | -- | -- | -- | -- | 15.48 | 0.00 | 11.52 | 1.40 |
| | 07/26/05 | <50 | 258 [c] | **977** | <0.2 | <0.2 | <0.2 | <0.50 | <1 | <0.5 | -- | -- | -- | 15.88 | 0.00 | -- | 5.70 |
| 36.25 | 11/02/05 | <50 | <238 | <476 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | -- | -- | -- | -- | 15.89 | 0.00 | 20.36 | 0.80 |
| | 02/23/06 | <50 | <250 | <500 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <1 | 1.32 | -- | -- | 15.26 | 0.00 | 20.99 | -- |
| | 05/09/06 | <50 | <253 | **<505** | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <1 | 1.56 | -- | -- | 15.47 | 0.00 | 20.78 | 0.57 |
| | 08/30/06 | <80 | <240 | <481 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <5 | <1 | -- | -- | 15.90 | 0.00 | 20.35 | 0.80 |
| | 12/12/06 | <50 | <243 | <485 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <5 | 8.79 | -- | -- | 15.81 | 0.00 | 20.44 | 1.42 |
| | 03/07/07 | <50 | <263 | **<526** | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <5 | <1 | -- | -- | 15.38 | 0.00 | 20.87 | 0.32 |
| | 06/14/07 | 79.2 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <5 | <1 | -- | -- | 15.45 | 0.00 | 20.80 | 0.53 |
| | 09/13/07 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3.00 | <1 | <5 | 2.56 | -- | -- | 15.61 | 0.00 | 20.64 | 0.28 |
| | 12/18/07 | <50 | <236 | <472 | <1 | <1 | <1 | <3 | <1 | <1 | 2.73 | -- | -- | 15.46 | 0.00 | 20.79 | -- |
| | 03/17/08 | <50 | <236 | <472 | **<236** | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | 15.33 | -- | 20.92 | -- |
| | 06/03/08 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | <236 | 15.31 | 0.00 | 20.94 | -- |
| | 08/04/08 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | <236 | 15.59 | 0.00 | 20.66 | -- |
| | 11/04/08 | <50.0 | <245 | <490 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | <245 | 15.80 | 0.00 | 20.45 | -- |
| | 02/24/09 | <50.0 | <240 | <481 | <0.500 | <0.500 | <0.500 | <3.00 | -- | <5.00 | <1.00 | <1.00 | <240 | 15.60 | 0.00 | 20.65 | -- |
| | 05/17/09 | <50.0 | <250 | <500 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | 2.05 | <1.00 | <250 | 15.78 | 0.00 | 20.47 | -- |
| | 08/16/09 | <50 | 470 | <480 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | <5.0 | <5.0 | <240 | 16.25 | 0.00 | 20.00 | -- |
| | 11/15/09 | <50 | <280 | **<560** | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | -- | -- | <280 | 16.50 | 0.00 | 19.75 | -- |
| | 02/21/10 | <50.0 | 98.4 | <379 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 1.8 | <0.10 | <75.8 | 15.50 | 0.00 | 20.75 | -- |
| | 05/23/10 | <50.0 | <76.9 | <385 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.35 | <0.10 | <76.9 | 15.42 | 0.00 | 20.83 | -- |
| | 08/16/10 | Unable to gauge and sample; Well damaged. | | | | | | | | | | | | | | | -- |
| | 11/15/10 | <50.0 | <77.7 | <388 | <1.0 | 1.8 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 15.24 | 0.00 | 21.01 | -- |
| | 02/28/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 15.09 | 0.00 | 21.16 | -- |
| | 06/14/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.51 | <0.10 | -- | 15.13 | 0.00 | 21.12 | -- |
| | 08/29/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <0.10 | <0.10 | <84.2 | 15.19 | 0.00 | 21.06 | -- |
| | 12/05/11 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.16 | 0.11 | <85.1 | 15.32 | 0.00 | 20.93 | -- |
| | 02/15/12 | <50.0 | <76.2 | <381 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.0 | <10.0 | <10.0 | <76.2 | 15.19 | 0.00 | 21.06 | -- |
| | 05/16/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <81.6 | 14.92 | 0.00 | 21.33 | -- |
| | 08/14/12 | <50.0 | <88.9 | <444 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <88.9 | 15.10 | 0.00 | 21.15 | -- |
| | 11/20/12 | <50.0 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | 14.8 | 7.1 | <100 | 15.19 | 0 | 21.06 | -- |
| | 11/07/13 | <100 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | -- | 15.69 | 0.00 | 20.56 | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-45** | 11/04/91 | **17,000** | **2,000** | -- | | 500 | **1,000** | 370 | **2,300** | -- | -- | -- | -- | -- | -- | -- | -- |
| 18.11 | 12/29/93 | **11,000** | **1,100** | **860** | | **2,900** | **760** | 680 | **3,000** | -- | -- | -- | -- | 8.79 | 0.00 | 9.32 | -- |
| | 04/07/94 | **16,000** | **830** | **<750** | | **2,500** | 620 | 580 | **2,500** | -- | -- | -- | -- | 8.22 | 0.00 | 9.89 | -- |
| | 07/14/94 | **25,000** | **850** | **1,100** | | **4,000** | **750** | 870 | **3,600** | -- | -- | -- | -- | 8.39 | 0.00 | 9.72 | -- |
| | 10/25/94 | **19,000** | **1,000** | **<750** | | **2,600** | 230 | 920 | **3,000** | -- | -- | -- | -- | 9.10 | 0.00 | 9.01 | -- |
| | 09/07/01[b] | <50 | 375 | **<606** | | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | 9.80 | 0.00 | 8.31 | -- |
| | 10/10/01 | -- | -- | -- | | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 12/28/01 | **17,300** | **2,210** | **597** | | **2,130** | 73.4 | **1,330** | **2,970** | -- | -- | -- | -- | 9.03 | 0.00 | 9.08 | -- |
| | 03/08/02 | **15,500** | **2,380** | **686** | | **2,090** | 38.4 | **1,190** | **1,650** | -- | -- | -- | -- | 9.12 | 0.00 | 8.99 | -- |
| | 06/24/02 | **5,100** | **1,920** | **761** | | **1,330** | 6.39 | 451 | **235** | -- | -- | -- | -- | 9.00 | 0.00 | 9.11 | -- |
| | 09/26/02[c] | **2,420** | **1,190** | **547** | | 394 | 3.41 | 204 | **106** | -- | -- | -- | -- | 10.20 | 0.00 | 7.91 | -- |
| | 12/12/02 | Obstructed by vehicle | | | | | | | | | | | | NM | NM | -- | -- |
| | 03/13/03 | **3,590** | **2,050** | <500 | | 219 | 133 | 99.4 | **368** | -- | -- | -- | -- | 8.05 | 0.00 | 10.06 | -- |
| | 06/12/03 | **10,700** | **1,470** | **<575** | | **1,350** | 10.8 | **954** | **631** | -- | -- | -- | -- | 9.16 | 0.00 | 8.95 | -- |
| | 09/19/03 | 583 | <298 | **<595** | | 1.93 | 2.25 | 5.65 | **38.6** | -- | -- | -- | -- | 10.68 | 0.00 | 7.43 | -- |
| | 01/14/04 | 360 | <118 | <236 | | 4.97 | <0.5 | 2.48 | 1.01 | -- | -- | -- | -- | 10.12 | 0.00 | 7.99 | 0.40 |
| | 03/30/04 | 303 | 234 | <240 | | <1 | <1 | <1 | <2 | -- | -- | -- | -- | 10.19 | 0.00 | 7.92 | 0.84 |
| | 06/22/04 | 151 | 365 | 358 | | <1 | <1 | <1 | <2 | -- | -- | -- | -- | 10.34 | 0.00 | 7.77 | 0.70 |
| | 09/29/04 | 270 | <251 | **<503** | | <0.5 | 1.5 | 0.62 | 7.3 | -- | -- | -- | -- | 10.40 | 0.00 | 7.71 | 0.90 |
| | 12/29/04 | 207 | <249 | <498 | | 2.90 | <1 | <1 | 9.04 | -- | -- | -- | -- | 9.40 | 0.00 | 8.71 | 0.30 |
| | 03/17/05 | 235 | <239 | <477 | | 5.61 | 1.08 | 2.49 | 19.1 | -- | -- | -- | -- | 9.44 | 0.00 | 8.67 | 1.20 |
| | 06/01/05 | 793 | 283[ij] | <491[j] | | 17.1 | 37.9 | 13.9 | **83.8** | <1 | -- | -- | -- | 8.62 | 0.00 | 9.49 | 1.30 |
| | 07/25/05 | 564 | <250 | **<500** | | 18.6 | 14.6 | 16.7 | **113.2** | <1 | 7.51 | -- | -- | 8.98 | 0.00 | -- | 3.20 |
| 27.52 | 11/01/05 | 100 | <240 | <481 | | <0.200 | <0.5 | <0.5 | <1 | <2 | -- | -- | -- | 9.81 | 0.00 | 17.71 | NM [o] |
| | 02/21/06 | 484 | <275 | **<549** | | 5.13 | <0.5 | 7.65 | **36.5** | <1 | 3.77 | 1.30 | -- | 8.83 | 0.00 | 18.69 | -- |
| | 05/08/06 | 198 | **540** | **<500** | | 1.06 | <0.5 | 0.980 | 2.70 | <1 | 1.69 | <1 | -- | 8.79 | 0.00 | 18.73 | 1.00 |
| | 08/30/06 | 104 | <248 | <495 | | <0.5 | <0.5 | <0.500 | <3 | <1 | <5 | <1 | -- | 9.84 | 0.00 | 17.68 | 3.03 |
| | 12/12/06 | **25,900** | **662** | <485 | | 64.1 | 23.8 | 330 | **5,020** | <5 | **278** | 10.8 | -- | 9.13 | 0.00 | 18.39 | 1.49 |
| | 03/06/07 | **1,680** | <260 | **<521** | | <0.5 | <0.5 | 22.0 | **139** | <1 | 54 | <1 | -- | 8.75 | 0.00 | 18.77 | 0.30 |
| | 06/15/07 | **12,500** | 439 | <481 [r] | | 16.8 | 2.77 | 178 | **1,590** | <1 | **330** | 1.77 | -- | 8.85 | 0.00 | 18.67 | 0.24 |
| | 09/13/07 | **23,400** | 328 | <481 | | 65.3 | 16.9 | 303 | **3,740** | <1 | **246** | 6.85 | -- | 9.07 | 0.00 | 18.45 | 0.15 |
| | 12/17/07 | Unable to sample, well under water | | | | | | | | | | | | -- | -- | -- | -- |
| | 03/18/08 | <50 | <236 | <472 | **<236** | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | 8.30 | 0.00 | 19.22 | -- |
| | 06/03/08 | Unable to sample, well under water | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/05/08 | 64.4 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | 1.39 | <1 | <236 | 8.90 | 0.00 | 18.62 | -- |
| | 11/03/08 | Well under water, unable to sample. | | | | | | | | | | | | -- | -- | -- | -- |
| | 02/22/09 | 53.2 | <236 | <472 | <0.500 | <0.500 | <0.500 | <3.00 | -- | 15.0 | <1.00 | <1.00 | <236 | 11.44 | 0.00 | 8.38 | -- |
| | 05/17/09 | 176.0 | 428 | <476 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | 97.9 | <1.00 | <1.00 | 431 | 16.67 | 0.00 | 10.85 | -- |
| | 08/16/09 | 250 | **570** | <480 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | 100 | <5.0 | <5.0 | **1200** | 16.92 | 0.00 | 10.60 | -- |
| | 11/15/09 | **1000** | **2,200[y]** | <480 | 3.9 | 2.2 | 11 | 28 | <1.0 | 14 | 9.2 | <1 | **2,100[y]** | 9.12 | 0.00 | 18.40 | -- |
| | 02/21/10 | 745 | **1,160** | **832** | 3.9 | <1.0 | 34 | 23.2 | -- | 14.5 | 4.7 | <0.10 | **566** | 8.46 | 0.00 | 19.06 | -- |
| | 05/23/10 | 398 | **692** | **449** | 1.3 | <1.0 | 14.5 | 4 | -- | 7.9 | 3.1 | <0.10 | **665** | 8.15 | 0.00 | 19.37 | -- |
| | 08/16/10 | 319 | <77.7 | <388 | <1.0 | <1.0 | 5.8 | <3.0 | -- | 7.5 | 7.2 | 0.37 | 177 | 8.80 | 0.00 | 18.72 | -- |
| | 11/16/10 | **1,880** | 106 | <388 | **5.8** | 1.3 | 43.1 | 212 | -- | 28.4 | <10.0 | <10.0 | **547** | 8.15 | 0.00 | 19.37 | -- |
| | 02/28/11 | **10,500** | 347 | <388 | **17.6** | 3.3 | 172.0 | 479 | -- | 150.0 | <10.0 | -- | **2,750** | 8.66 | 0.00 | 18.86 | -- |
| | 06/14/11 | **3,230** | 137 | <396 | 1.7 | <1.0 | 46.8 | 34 | -- | -- | 1.8 | <0.10 | **--** | 8.85 | 0.00 | 18.67 | -- |
| | 08/29/11 | **1,790** | 119 | <421 | <1.0 | <1.0 | 5.1 | <3.0 | -- | 36.5 | 0.4 | <0.10 | 489 | 8.62 | 0.00 | 18.90 | -- |
| | 12/05/11 | **19,900** | 298 | <426 | **20.5** | 5.7 | 327 | **2,240** | -- | **213** | 2.1 | 0.34 | **6,960** | 7.80 | 0.00 | 19.72 | -- |
| | 02/15/12 | **14,000** | 219 | <404 | **11.6** | 2.7 | 203 | 631 | -- | **206.0** | <10.0 | <10.0 | **2,470** | 9.05 | 0.00 | 18.47 | -- |
| | 05/15/12 | **3,920** | 211 | <421 | <5.0 | <5.0 | 77.0 | 122 | -- | 75.4 | <10.0 | <10.0 | **1,330** | 8.14 | 0.00 | 19.38 | -- |
| | 08/14/12 | **1,600** | 206 | <430 | <1.0 | <1.0 | 7.3 | <3.0 | -- | 33.7 | <10.0 | <10.0 | **676** | 8.78 | 0.00 | 18.74 | -- |
| | 11/20/12 | **4,130** | **1,900** | <100 | **6.0** | 2.8 | 105 | 612 | -- | 99.3 | 3.7 | <3.0 | **2,500** | 4.37 | -- | 23.15 | |
| | 11/06/13 | 281 | <400 | <400 | <1.0 | 1.3 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 10.50 | 0.00 | Note Z | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-50** | 10/10/01 | **8,970** | **2,200** | <606 | | 674 | 221 | 382 | **779** | -- | -- | -- | | 11.11 | 0.00 | 8.69 | -- |
| 19.80 | 12/28/01 | **23,200** | **3,460** | <500 | | 1,630 | 3,690 | 991 | **4,480** | -- | -- | -- | | 10.45 | 0.00 | 9.35 | -- |
| | 03/08/02 | Obstructed by vehicle | | | | | | | | | | | | NM | NM | -- | -- |
| | 06/24/02 | **8,290** | **1,970** | 556 | | 414 | 23 | 314 | **2,010** | -- | -- | -- | | 10.84 | 0.00 | 8.96 | -- |
| | 09/26/02 | Obstructed by vehicle | | | | | | | | | | | | NM | NM | -- | -- |
| | 12/12/02 | Obstructed by vehicle | | | | | | | | | | | | NM | NM | -- | -- |
| | 03/13/03 | **12,200** | **1,810** | <588 | | 733 | 127 | 523 | **1,100** | -- | -- | -- | | 9.93 | 0.00 | 9.87 | -- |
| | 06/12/03 | **6,450** | **1,740** | <500 | | 448 | 13.7 | 299 | **286** | -- | -- | -- | | 11.27 | 0.00 | 8.53 | -- |
| | 09/19/03 | **4,440** | <250 | <500 | | 51.7 | 315 | 26.1 | **462** | -- | -- | -- | | 12.05 | 0.00 | 7.75 | -- |
| | 01/14/04 | **29,700** | **1,970** | <258 | | 308 | 502 | 312 | **6,180** | -- | -- | -- | | 11.81 | 0.00 | 7.99 | 4.10 |
| | 03/30/04 | **3,330** | **867** | <241 | | 21.8 | <5 | 21.9 | **226.4** | -- | -- | -- | | 11.65 | 0.00 | 8.15 | 1.69 |
| | 06/22/04 | **2,130** | **874** | <237 | | 14.2 | 2.4 | 27.9 | **85.11** | -- | -- | -- | | 11.79 | 0.00 | 8.01 | 1.10 |
| | 09/29/04 | **3,600** | **1,330** | <502 | | 92 | 62 | 100 | **520** | -- | -- | -- | | 11.71 | 0.00 | 8.09 | 0.20 |
| | 12/29/04 | **1,570** | **745** | <611 | | 9.69 | 3.88 | 9.98 | **27.62** | -- | -- | -- | | 11.01 | 0.00 | 8.79 | 1.50 |
| | 03/17/05 | **1,420** | **1,060** | 506 | | 5.82 | 2.41 | 10.6 | **30.59** | -- | -- | -- | | 11.26 | 0.00 | 8.54 | 0.60 |
| | 06/01/05 | **1,710** | **528** [g] | <503 | | 20.3 | 10.7 | 42.3 | **84.7** | 8.01 | -- | -- | | 10.58 | 0.00 | 9.22 | 1.30 |
| | 07/25/05 | **1,500** | <250 | <500 | | 16.8 | 3.23 | 36.9 | **50.11** | 4.29 | 7.04 | -- | | 10.90 | 0.00 | -- | 1.70 |
| 29.32 | 11/01/05 | 634 | 380 [g] | <472 | | 15.9 | 2.49 | 0.52 | 2.19 | 5.62 | -- | -- | | 10.60 | 0.00 | 18.72 | NM [o] |
| | 02/21/06 | **1,430** | <272 | <543 | | 139 | 15.4 | 16.7 | **28.20** | <5 | 7.05 | 1.33 | | 10.56 | 0.00 | 18.76 | -- |
| | 05/08/06 | **1,550** [j] | **1,870** | <485 | | 28.4 | 2.13 | 24.7 | **35.06** | 3.88 | 9.48 | <1 | | 10.81 | 0.00 | 18.51 | <1.00 |
| | 08/29/06 | 264 | <248 | <495 | | 8.55 | 0.780 | 6.87 | 7.26 | 4.23 | <5 | <1 | | 11.58 | 0.00 | 17.74 | 0.47 |
| | 12/12/06 | **1,650** | <243 | <485 | | 80.9 | 2.75 | 18.9 | 41.9 | 3.93 | **17.4** | 1.62 | | 10.61 | 0.00 | 18.71 | 0.09 |
| | 03/08/07 | **1,650** | <240 | <481 | | 51.3 | 1.06 | 14.1 | 33.6 | 2.92 | **35.9** | <1 | | 10.53 | 0.00 | 18.79 | 0.30 |
| | 06/15/07 | **1390** [J] | 333 | <495 [r] | | 28.0 | 1.00 | 6.46 | 5.20 | 1.85 | **40.5** | <1 | | 10.74 | 0.00 | 18.58 | 0.35 |
| | 09/13/07 | 439 | <240 | <481 | | 4.36 | <0.5 | 0.650 | <3 | 1.89 | 10.3 | <1 | | 10.90 | 0.00 | 18.42 | 0.13 |
| | 12/18/07 | 886 | <236 | <472 | | 1.10 | <1 | 4 | <3 | <1 | 6.9 | 2.94 | | 9.63 | 0.00 | 19.69 | -- |
| | 03/18/08 | 77.6 | <236 | <472 | <236 | 1.02 | 0.58 | 1.85 | <3 | <1 | <5 | <1 | <1 | 11.39 | 0.00 | 17.93 | -- |
| | 06/03/08 | Well covered by trailer truck, unable to sample | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/05/08 | **1,260** | <236 | <472 | 3.94 | 0.50 | 8.42 | 9.76 | 2.06 | <5 | 4 | <1 | 494 | 11.28 | 0.00 | 18.04 | -- |
| | 11/03/08 | **1,250** | <236 | <472 | <0.500 | <0.500 | 3.69 | 4.84 | <1.00 | <5.00 | <1.00 | <1.00 | 478 | 10.79 | 0.00 | 18.53 | -- |
| | 11/18/08 | Thought to be Decommissioned | | | | | | | | | | | | -- | -- | -- | -- |
| | 11/15/09 | 630 | **2,900** [Y] | <490 | 2.3 | 0.74 | 0.65 | <2.0 | <1.0 | 660 [H] | 1.1 | <1 | **3000** | 11.88 | 0.00 | 17.44 | -- |
| | 02/21/10 | <50.0 | **1,280** | 457 | <1.0 | <1.0 | <1.0 | 4.9 | -- | 62.8 | 0.61 | <0.10 | 392 | 11.02 | 0.00 | 18.30 | -- |
| | 05/23/10 | 57.4 | **1320** | 433 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 60.4 | 0.92 | <0.10 | **1080** | 10.72 | 0.00 | 18.60 | -- |
| | 08/16/10 | <50.0 | 158 | <392 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 33.4 | 0.63 | 0.18 | 181 | 11.07 | 0.00 | 18.25 | -- |
| | 11/16/10 | <50.0 | 102 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 35.6 | <10.0 | <10.0 | 102 | 10.43 | 0.00 | 18.89 | -- |
| | 02/28/11 | 74.8 | 102 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 19.2 | <10.0 | -- | 114 | 10.75 | 0.00 | 18.57 | -- |
| | 06/14/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.52 | <0.10 | -- | 10.06 | 0.00 | 19.26 | -- |
| | 08/29/11 | 65.1 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 15 | 0.19 | 0.12 | 88.2 | 10.65 | 0.00 | 18.67 | -- |
| | 12/05/11 | 71.6 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 10.2 | 0.53 | <0.10 | <86.0 | 10.15 | 0.00 | 19.17 | -- |
| | 02/15/12 | 85.0 | 110 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 20.5 | <10.0 | <10.0 | 154 | 11.35 | 0.00 | 17.97 | -- |
| | 05/15/12 | 97.9 | <80.0 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 16.1 | <10.0 | <10.0 | 87.3 | 10.36 | 0.00 | 18.96 | -- |
| | 08/14/12 | 138 | 117 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 11.4 | <10.0 | <10.0 | 143 | 10.75 | 0.00 | 18.57 | |
| | 11/20/12 | 183 | 180 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 6.5 | 6.4 | <3.0 | 250 | 8.88 | 0.00 | 20.44 | |
| | 11/06/13 | 185 | **540** | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | **530** | 12.55 | 0.00 | 16.77 | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-54** | 06/16/05 | 206 | 130[f] | 410 | 4.82 | <1 | 2.09 | 10.27 | <1 | -- | -- | -- | -- | 9.09 | 0.00 | 18.91 | 1.40 |
| 28.00 | 07/25/05 | 177 | <250 | <500 | **5.26** | 0.280 | 0.680 | 3.11 | <1 | 0.990 | -- | -- | -- | 9.51 | 0.00 | 18.49 | 0.20 |
| | 11/18/05 | 75.8 | <243 | <485 | 0.560 | 0.530 | 4.19 | 10.8 | <1 | -- | -- | -- | -- | 9.73 | 0.00 | 18.27 | 0.39 |
| | 02/23/06 | <50 | **695** | <472 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <1 | 1.04 | -- | -- | 9.44 | 0.00 | 18.56 | -- |
| | 05/08/06 | <50 | 328[p] | <500 | <0.5 | <0.5 | <0.5 | <3 | <1 | <1 | 1.41 | -- | -- | 9.31 | 0.00 | 18.69 | 0.97 |
| | 08/29/06 | <80 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 10.33 | 0.00 | 17.67 | 0.53 |
| | 12/12/06 | <50 | <248 | <495 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | 2.69 | -- | -- | 9.69 | 0.00 | 18.31 | 1.99 |
| | 03/06/07 | <50 | <263 | **<526** | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 9.40 | 0.00 | 18.60 | 0.83 |
| | 06/15/07 | <50 | <243 | <485[r] | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 9.25 | 0.00 | 18.75 | 0.38 |
| | 09/13/07 | <50 | <245 | <490 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 9.59 | 0.00 | 18.41 | 0.20 |
| | 12/18/07 | <50 | <236 | <472 | <1 | <1 | <1 | <3 | <1 | <1 | 1.13 | -- | -- | 8.53 | 0.00 | 19.47 | |
| | 03/18/08 | <50 | <236 | <472 | **<236** | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | 9.06 | | 18.94 | -- |
| | 06/03/08 | Unable to sample, well under water | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/05/08 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | 2.37 | <1 | <236 | 9.68 | 0.00 | 18.32 | -- |
| | 11/03/08 | <50 | <236 | <472 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | 8.64 | <1.00 | <236 | 8.72 | 0.00 | 19.28 | -- |
| | 02/22/09 | Well inaccessible: buried under garbage containers. | | | | | | | | | | | | -- | -- | -- | -- |
| | 05/17/09 | Well inaccessible: buried under garbage containers. | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/16/09 | 280 | <240 | <480 | <0.50 | <0.50 | 1.4 | 2.5 | <1.0 | <5.0 | <5.0 | <5.0 | 310 | 11.78 | 0.00 | 16.22 | -- |
| | 11/15/09 | <50 | <240 | <470 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | 1.8 | <1 | <240 | 9.78 | 0.00 | 18.22 | -- |
| | 02/21/10 | <50.0 | 178 | 434 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 1.1 | 0.24 | <75.8 | 9.20 | 0.00 | 18.80 | -- |
| | 05/23/10 | <50.0 | 144 | 384 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 4.4 | 0.12 | 92.8 | 8.64 | 0.00 | 19.36 | -- |
| | 08/16/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 5.7 | 0.21 | <77.7 | 9.30 | 0.00 | 18.70 | -- |
| | 11/17/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 8.76 | 0.00 | 19.24 | -- |
| | 02/28/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 9.23 | 0.00 | 18.77 | -- |
| | 06/14/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 1.2 | <0.10 | -- | 8.50 | 0.00 | 19.50 | -- |
| | 08/29/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.58 | <0.10 | <84.2 | 9.13 | 0.00 | 18.87 | -- |
| | 12/05/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.70 | 0.18 | <84.2 | 8.90 | 0.00 | 19.10 | -- |
| | 02/16/12 | <50.0 | <75.8 | <379 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.4 | <10.0 | <10.0 | <75.8 | 9.98 | 0.00 | 18.02 | -- |
| | 05/15/12 | <50.0 | <75.5 | <377 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 4.0 | <10.0 | <10.0 | <75.5 | 8.38 | 0.00 | 19.62 | -- |
| | 08/14/12 | <50.0 | <87.9 | <440 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <87.9 | 9.40 | 0.00 | 18.60 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 6.89 | 0 | 21.11 | -- |
| | 11/06/13 | 281 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 10.43 | 0.00 | Note Z | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MW-209** | 11/05/08 | <50.0 | <238 | <476 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | <238 | 9.22 | 0.00 | 17.78 | -- |
| 27.00 | 02/23/09 | Inaccessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 05/17/09 | Inaccessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/17/09 | Inaccessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 11/17/09 | Inaccessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 02/22/10 | <50.0 | 251 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 1.3 | <0.10 | <77.7 | 9.30 | 0.00 | 17.70 | -- |
| | 05/24/10 | <50.0 | 192 | <396 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 1.1 | <0.10 | 137 | 8.04 | 0.00 | 18.96 | -- |
| | 08/18/10 | <50.0 | 86.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 1.3 | <0.10 | <77.7 | 8.86 | 0.00 | 18.14 | -- |
| | 11/16/10 | <50.0 | 85.1 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 9.45 | 0.00 | 17.55 | -- |
| | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 9.26 | 0.00 | 17.74 | -- |
| | 06/15/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.19 | <0.10 | -- | 8.10 | 0.00 | 18.90 | -- |
| | 08/30/11 | <50.0 | <80.0 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.35 | 0.17 | -- | 9.09 | 0.00 | 17.91 | -- |
| | 12/06/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.12 | 0.18 | <82.5 | 9.50 | 0.00 | 17.50 | -- |
| | 02/15/12 | <50.0 | 103 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.1 | <10.0 | <10.0 | <82.5 | 9.70 | 0.00 | 17.30 | -- |
| | 05/16/12 | <50.0 | <79.2 | <396 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <79.2 | 8.08 | 0.00 | 18.92 | -- |
| | 08/15/12 | <50.0 | 117 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | 85.6 | 8.80 | 0.00 | 18.20 | |
| | 11/21/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 9.00 | 0.00 | 18.00 | |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 9.66 | 0.00 | 17.34 | -- |
| **MW-210** | 11/05/08 | <50.0 | <243 | <485 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | <243 | 8.60 | 0.00 | 18.10 | -- |
| 26.70 | 02/25/09 | <50.0 | <240 | <481 | <0.500 | <0.500 | <0.500 | <3.00 | -- | <5.00 | <1.00 | <1.00 | <240 | 5.90 | 0.00 | 20.80 | -- |
| | 05/17/09 | <50.0 | <245 | <490 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | <245 | 8.61 | 0.00 | 18.09 | -- |
| | 08/17/09 | <50 | <240 | <280 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | <5.0 | <5.0 | <240 | 9.60 | 0.00 | 17.10 | -- |
| | 11/17/09 | <50 | <240 | <490 | <0.50 | <0.50 | <0.50[H] | <2.0 | <1.0 | <5.0 | 1.3 | <1 | <240 | 8.15 | 0.00 | 18.55 | -- |
| | 02/22/10 | <50.0 | 154 | <381 | <1.0 | <1.0 | <1.0 | 5.5 | -- | <1.0 | 0.31 | 0.21 | <76.2 | 8.73 | 0.00 | 17.97 | -- |
| | 05/24/10 | <50.0 | 190 | <385 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .45 | <0.10 | 150 | 7.65 | 0.00 | 19.05 | -- |
| | 08/18/10 | <50.0 | <78.4 | <392 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .36 | <0.10 | <78.4 | 8.54 | 0.00 | 18.16 | -- |
| | 11/16/10 | <50.0 | 85.1 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 8.81 | 0.00 | 17.89 | -- |
| | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 8.77 | 0.00 | 17.93 | -- |
| | 06/15/11 | <50.0 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.27 | <0.10 | -- | 7.73 | 0.00 | 18.97 | -- |
| | 08/30/11 | <50.0 | <87.0 | <435 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <0.10 | <0.10 | <87.0 | 8.67 | 0.00 | 18.03 | -- |
| | 12/06/11 | <50.0 | <86.2 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <0.10 | 0.22 | <82.5 | 8.95 | 0.00 | 17.75 | -- |
| | 02/15/12 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.1 | <10.0 | <10.0 | <82.5 | 9.20 | 0.00 | 17.50 | -- |
| | 05/16/12 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <83.3 | 7.64 | 0.00 | 19.06 | -- |
| | 08/15/12 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <85.1 | 8.43 | 0.00 | 18.27 | -- |
| | 11/21/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 6.42 | 0.00 | 20.28 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 9.42 | 0.00 | 17.28 | -- |
| **MW-211** | 11/05/08 | <50.0 | <240 | <481 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | <1.00 | <1.00 | <240 | 7.23 | 0.00 | 19.32 | -- |
| 26.55 | 02/25/09 | <50.0 | <240 | <481 | <0.500 | <0.500 | <0.500 | <3.00 | -- | <5.00 | <1.00 | <1.00 | <240 | 8.19 | 0.00 | 18.39 | -- |
| | 05/17/09 | <50.0 | <236 | <472 | <0.500 | <0.500 | <0.500 | <3.00 | <1.00 | <5.00 | 4.72 | <1.00 | <236 | 9.10 | 0.00 | 17.45 | -- |
| | 08/17/09 | <50 | <240 | <490 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | <5.0 | <5.0 | <240 | 9.74 | 0.00 | 16.81 | -- |
| | 11/17/09 | <50 | <240 | <480 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | <1 | <1 | <240 | 8.24 | 0.00 | 18.31 | -- |
| | 02/22/10 | <50.0 | 146 | <385 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.42 | <0.10 | <76.9 | 7.91 | 0.00 | 18.64 | -- |
| | 05/24/10 | <50.0 | 115 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .46 | .29 | 85.1 | 7.56 | 0.00 | 18.99 | -- |
| | 08/18/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .34 | .13 | <77.7 | 8.42 | 0.00 | 18.13 | -- |
| | 11/15/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 8.37 | 0.00 | 18.18 | -- |
| | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 8.54 | 0.00 | 18.01 | -- |
| | 06/15/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.12 | <0.10 | -- | 5.61 | 0.00 | 20.94 | -- |
| | 08/30/11 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <0.10 | <0.10 | <84.2 | 8.48 | 0.00 | 18.07 | -- |
| | 12/06/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | <0.10 | 0.15 | <83.3 | 8.83 | 0.00 | 17.72 | -- |
| | 02/15/12 | <50.0 | <75.5 | <377 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.1 | <10.0 | <10.0 | <75.5 | 9.10 | 0.00 | 17.45 | -- |
| | 05/16/12 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 4.0 | <10.0 | <10.0 | <83.3 | 7.65 | 0.00 | 18.90 | -- |
| | 08/15/12 | <50.0 | <88.9 | <444 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <88.9 | 8.42 | 0.00 | 18.13 | -- |
| | 11/21/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 6.70 | 0.00 | 19.85 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 9.45 | 0.00 | 17.10 | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMW-3** | 03/08/95 | <50 | 400 | **2,500** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.25 | 0.00 | -- | -- |
| 29.03 | 06/06/95 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.23 | 0.00 | -- | -- |
| | 09/07/95 | <50 | 300 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.89 | 0.00 | -- | -- |
| | 12/08/95 | <50 | 300 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.36 | 0.00 | -- | -- |
| | 04/01/96 | **34,000** | **4,000** | **2,300** | **6,400** | 42 | **2,100** | **3,000** | -- | -- | -- | -- | -- | 10.07 | 0.00 | -- | -- |
| | 06/25/96 | <50 | 320 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.19 | 0.00 | -- | -- |
| | 09/27/96 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 11.12 | 0.00 | -- | -- |
| | 03/28/97 | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.19 | 0.00 | -- | -- |
| | 06/30/97[b] | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.14 | 0.00 | -- | -- |
| | 09/08/97[b] | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.85 | 0.00 | -- | -- |
| | 12/19/97[b] | <50 | 521 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 9.67 | 0.00 | -- | -- |
| | 03/16/98[b] | 50.1 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 9.28 | 0.00 | -- | -- |
| | 06/26/98[b] | <50 | 500 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 8.87 | 0.00 | -- | -- |
| | 09/23/98[b] | <50 | <250 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 9.88 | 0.00 | -- | -- |
| | 12/17/98[b] | <50 | 293 | **<750** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 9.22 | 0.00 | -- | -- |
| | 03/31/99[b] | <50 | 360 | **<750** | <0.5 | <0.5 | 0.53 | 4.97 | -- | -- | -- | -- | -- | 9.01 | 0.00 | -- | -- |
| | 06/30/99[b] | <50 | 639 | **<750** | <0.5 | 0.609 | <0.5 | 1.32 | -- | -- | -- | -- | -- | 9.55 | 0.00 | -- | -- |
| | 12/08/99[b] | <50 | <484 | **<1,450** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 8.75 | 0.00 | -- | -- |
| | 06/20/00[b] | <50 | <250 | **<750** | <0.5 | 0.585 | <0.5 | 1.86 | -- | -- | -- | -- | -- | 8.89 | 0.00 | -- | -- |
| | 12/19/00 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 06/15/01[b] | <50 | 368 | **<866** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 7.23 | 0.00 | -- | -- |
| | 06/26/01 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 09/07/01[b] | <50 | 385 | **<571** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 9.19 | 0.00 | -- | -- |
| | 10/10/01 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 12/28/01 | <50 | **1,160** | <500 | <0.5 | 0.902 | <0.5 | 2.78 | -- | -- | -- | -- | -- | 8.89 | 0.00 | -- | -- |
| | 03/08/02 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 06/24/02 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 09/26/02 | <100 | <250 | <500 | 1.83 | <2 | <1.00 | <1.5 | -- | -- | -- | -- | -- | 10.32 | 0.00 | -- | -- |
| | 12/12/02 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 03/13/03 | <50 | <250 | <500 | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 10.99 | 0.00 | -- | -- |
| | 06/12/03 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 09/19/03 | <50 | <287 | **<575** | <0.5 | <0.5 | <0.5 | <1 | -- | -- | -- | -- | -- | 11.00 | 0.00 | -- | -- |
| | 01/14/04 | -- | -- | **--** | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 03/30/04 | <100 | <119 | <238 | <1 | <1 | <1 | <2 | -- | -- | -- | -- | -- | 10.42 | 0.00 | -- | 2.10 |
| | 06/22/04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 09/29/04 | 56 | <242 | <483 | <0.5 | <0.5 | <0.5 | <1.0 | -- | -- | -- | -- | -- | 11.67 | 0.00 | -- | 0.10 |
| | 12/29/04 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | NM | NM | -- | -- |
| | 03/17/05 | <100 | <248 | <495 | <1 | <1 | <1 | <2 | -- | -- | -- | -- | -- | 11.68 | 0.00 | -- | 1.20 |
| | 06/01/05 | <100 | <249 | <498 | <1 | <1 | <1 | <2 | <1 | -- | -- | -- | -- | 10.62 | 0.00 | -- | 1.30 |
| | 07/25/05 | <50 | <250 | <500 | <0.2 | <0.2 | <0.2 | <0.5 | <1 | <0.5 | -- | -- | -- | 11.19 | 0.00 | -- | 1.20 |
| 29.03 | 11/08/05 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | -- | -- | -- | -- | 11.77 | 0.00 | 17.26 | NM [o] |
| | 02/24/06 | <50 | <278 | **<556** | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <1 | <1 | -- | -- | 11.84 | 0.00 | 17.19 | -- |
| | 08/30/06 | <80 | <243 | <485 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | | | | |
| | 10/11/06 | <50 | <243 | <485 | <0.5 | <0.5 | <0.5 | <3 | <1 | <1 | <1 | -- | -- | 10.70 | 0.00 | 18.33 | 0.17 |
| | 12/13/06 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 12.14 | 0.00 | 16.89 | 1.05 |
| | 03/08/07 | <50 | <250 | <500 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | -- | -- | 11.68 | 0.00 | 17.35 | 1.44 |
| | 06/13/07 | Not Accessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 09/12/07 | Not Accessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 12/17/07 | Not Accessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 03/17/08 | Unable to locate | | | | | | | | | | | | -- | -- | -- | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SMW-3** | 06/02/08 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | <1 | <1 | <236 | 9.05 | 0.00 | 19.98 | -- |
| contd. | 08/05/08 | <50 | <236 | <472 | <0.5 | <0.5 | <0.5 | <3 | <1 | <5 | 4.54 | <1 | <236 | 7.64 | 0.00 | 21.39 | -- |
| 27.40 | 11/04/08 | <50.0 | <238 | <476 | <0.500 | <0.500 | <0.500 | <3.00 | | <5.00 | 5.88 | <1.00 | <238 | 9.70 | 0.00 | 17.70 | -- |
| | 02/25/09 | <50.0 | <240 | <481 | <0.500 | <0.500 | <0.500 | <3.00 | -- | <5.00 | <1.00 | <1.00 | <240 | 9.90 | 0.00 | 17.50 | -- |
| | 05/17/09 | Not Accessible | | | | | | | | | | | | -- | -- | -- | -- |
| | 08/17/09 | <50 | <250 | <490 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | <5.0 | <5.0 | <250 | 10.10 | 0.00 | 17.30 | -- |
| | 11/17/09 | <50 | <240 | <490 | <0.50 | <0.50 | <0.50 | <2.0 | <1.0 | <5.0 | 1.2 | <1 | <240 | 9.53 | 0.00 | 17.87 | -- |
| | 02/22/10 | <50.0 | 107 | **605** | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.26 | <0.10 | <76.2 | 9.90 | 0.00 | 17.50 | -- |
| | 05/24/10 | <50.0 | 255 | **510** | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .42 | <0.10 | 100 | 8.50 | 0.00 | 18.90 | -- |
| | 08/18/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | .39 | <0.10 | <77.7 | 9.29 | 0.00 | 18.11 | -- |
| | 11/16/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 10.11 | 0.00 | 17.29 | -- |
| | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 9.85 | 0.00 | 17.55 | -- |
| | 06/15/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.21 | <0.10 | -- | 8.55 | 0.00 | 18.85 | -- |
| | 08/30/11 | <50.0 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.13 | 0.14 | <86.0 | 9.63 | 0.00 | 17.77 | -- |
| | 12/06/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.13 | 0.38 | <82.5 | 10.13 | 0.00 | 17.27 | -- |
| | 02/15/12 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.1 | <10.0 | <10.0 | <82.5 | 10.22 | 0.00 | 17.18 | -- |
| | 05/16/12 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.9 | <10.0 | <10.0 | <83.3 | 8.64 | 0.00 | 18.76 | -- |
| | 08/15/12 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <85.1 | 9.30 | 0.00 | 18.10 | -- |
| | 11/21/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 9.16 | 0.00 | 18.24 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 10.10 | 0.00 | 17.30 | -- |
| **MWR-1** | 11/17/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 9.75 | 0.00 | 20.16 | -- |
| 29.91 | 03/03/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 10.23 | 0.00 | 19.68 | -- |
| | 06/15/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 1.5 | <0.10 | -- | 10.28 | 0.00 | 19.63 | -- |
| | 08/30/11 | <50.0 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.51 | <0.10 | -- | 10.97 | 0.00 | 18.94 | -- |
| | 12/06/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.68 | 0.62 | <83.3 | 10.80 | 0.00 | 19.11 | -- |
| | 02/16/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <81.6 | 10.51 | 0.00 | 19.40 | -- |
| | 05/15/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 3.8 | <10.0 | <10.0 | <81.6 | 10.20 | 0.00 | 19.71 | -- |
| | 08/15/12 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <85.1 | 10.65 | 0.00 | 19.26 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 8.82 | 0.00 | 21.09 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 12.04 | 0.00 | 17.87 | -- |
| **MWR-2** | 11/17/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 11.7 | <10.0 | <77.7 | 8.08 | 0.00 | 20.17 | -- |
| 28.25 | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 16.0 | -- | <77.7 | 8.61 | 0.00 | 19.64 | -- |
| | 06/14/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 3.1 | <0.10 | -- | 8.67 | 0.00 | 19.58 | -- |
| | 08/29/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.35 | 0 | <87.0 | 9.32 | 0.00 | 18.93 | -- |
| | 12/06/11 | <50.0 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 1.3 | <0.10 | <86.0 | 9.09 | 0.00 | 19.16 | -- |
| | 02/16/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.0 | <10.0 | <10.0 | <81.6 | 8.97 | 0.00 | 19.28 | -- |
| | 05/15/12 | <50.0 | <75.8 | <379 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 3.8 | <10.0 | <10.0 | <75.8 | 8.62 | 0.00 | 19.63 | -- |
| | 08/15/12 | <50.0 | <84.2 | <421 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <84.2 | 9.05 | 0.00 | 19.20 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 7.32 | 0.00 | 20.93 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 10.33 | 0.00 | 17.92 | -- |

**Table 1**
**Summary of Historical Groundwater Gauging and Laboratory Analytical Data**
Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue North
Seattle, Washington

| Sample I.D. TOC [a] | Sample Date | TPH-Gasoline (µg/L) | TPH-Diesel (µg/L) | TPH-Oil (µg/L) | Benzene (µg/L) | Toluene (µg/L) | Ethyl-benzene (µg/L) | Total Xylenes (µg/L) | MTBE (µg/L) | Naphtha-lene (µg/L) | Total Lead (µg/L) | Dissolved Lead (µg/L) | Kerosone (µg/L) | DTW (feet) | SPH (feet) | GWE (feet) | DO (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MWR-3** | 11/17/10 | <50.0 | 83.6 | <385 | <1.0 | 1.4 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | **1,140** | 9.82 | 0.00 | 19.94 | -- |
| 29.76 | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 10.17 | 0.00 | 19.59 | -- |
| | 06/15/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.74 | <0.10 | -- | 10.18 | 0.00 | 19.58 | -- |
| | 08/30/11 | <50.0 | <88.9 | <444 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.38 | <0.10 | <88.9 | 10.87 | 0.00 | 18.89 | -- |
| | 12/06/11 | <50.0 | <86.0 | <430 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | <0.10 | <0.10 | <86.0 | 10.63 | 0.00 | 19.13 | -- |
| | 02/16/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.0 | <10.0 | <10.0 | <81.6 | 10.51 | 0.00 | 19.25 | -- |
| | 05/15/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <81.6 | 10.22 | 0.00 | 19.54 | -- |
| | 08/15/12 | <50.0 | <87.0 | <435 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <87.0 | 10.56 | 0.00 | 19.20 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 9.86 | 0.00 | 19.90 | |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 11.52 | 0.00 | 18.24 | -- |
| **MWR-4** | 11/17/10 | 141 | <76.9 | <385 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | 140 | 8.98 | 0.00 | 19.90 | -- |
| 28.88 | 03/01/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | 132 | 9.44 | 0.00 | 19.44 | -- |
| | 06/14/11 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 0.63 | <0.10 | -- | 9.32 | 0.00 | 19.56 | -- |
| | 08/29/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.18 | 0 | <82.5 | 10.02 | 0.00 | 18.86 | -- |
| | 12/06/11 | <50.0 | <83.3 | <417 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | <0.10 | 0.29 | <83.3 | 9.78 | 0.00 | 19.10 | -- |
| | 02/16/12 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.0 | <10.0 | <10.0 | <82.5 | 10.72 | 0.00 | 18.16 | -- |
| | 05/15/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 3.8 | <10.0 | <10.0 | <81.6 | 9.32 | 0.00 | 19.56 | -- |
| | 08/15/12 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <82.5 | 9.82 | 0.00 | 19.06 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 9.31 | 0.00 | 19.57 | -- |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 11.02 | 0.00 | 17.86 | -- |
| **MWR-5** | 11/17/10 | **15,900** | 423 | <388 | **199** | 371 | 592 | **3,710** | -- | 157 | <10.0 | <10.0 | **5,080** | 7.91 | 0.00 | 19.36 | -- |
| 27.27 | 02/28/11 | **21,800** | 368 | <388 | **195** | 444 | 642 | **3,430** | -- | 143 | <10.0 | -- | **4,650** | 8.60 | 0.00 | 18.67 | -- |
| | 06/14/11 | **22,700** | 323 | <400 | **192** | 383 | **719** | **4,340** | -- | -- | 4.1 | 0 | **--** | 7.82 | 0.00 | 19.45 | -- |
| | 08/29/11 | **35,400** | 478 | <408 | **244** | 271 | **861** | **4,500** | -- | **338** | 0.95 | 0.62 | **7,060** | 8.50 | 0.00 | 18.77 | -- |
| | 12/05/11 | **30,500** | 235 | <412 | **211** | 450 | **1,140** | **5,960** | -- | **193** | 1.3 | 0.52 | **9,580** | 7.75 | 0.00 | 19.52 | -- |
| | 02/16/12 | **9,490** | 160 | <396 | **68.7** | 9.1 | 218 | **1,090** | -- | 88.2 | <10.0 | <10.0 | **2,330** | 8.93 | 0.00 | 18.34 | -- |
| | 05/15/12 | **27,900** | 298 | <404 | **181** | 160 | **813** | **4,830** | -- | **226** | <10.0 | <10.0 | **4,650** | 8.01 | 0.00 | 19.26 | -- |
| | 08/14/12 | **7,720** | 329 | <440 | **60.5** | 3.80 | 244 | **1,280** | -- | 81.3 | <10.0 | <10.0 | **2,560** | 8.62 | 0.00 | 18.65 | -- |
| | 11/20/12 | **35,500** | **15,500** | <100 | **306** | 471 | **1,520** | **10,700** | -- | **342** | 5.8 | <3.0 | **20,500** | 5.11 | 0.00 | 22.16 | -- |
| | 11/06/13 | **3,820** | <400 | <400 | **23.0** | <1.0 | 150 | 286 | <1.0 | -- | <10.0 | <10.0 | **1,100** | 9.45 | 0.00 | 17.82 | -- |
| **MWR-6** | 11/16/10 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <77.7 | 10.10 | 0.00 | 19.15 | -- |
| 29.25 | 02/28/11 | <50.0 | <77.7 | <388 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | -- | <77.7 | 10.89 | 0.00 | 18.36 | -- |
| | 06/14/11 | <50.0 | <80.8 | <404 | <1.0 | <1.0 | <1.0 | <3.0 | -- | -- | 1.3 | <0.10 | -- | 10.11 | 0.00 | 19.14 | -- |
| | 08/29/11 | <50.0 | <87.0 | <435 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | 0.3 | <0.10 | -- | 10.75 | 0.00 | 18.50 | -- |
| | 12/05/11 | <50.0 | <82.5 | <412 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <10.0 | 0.54 | 0.11 | <82.5 | 9.48 | 0.00 | 19.77 | -- |
| | 02/16/12 | <50.0 | <75.5 | <377 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 2.8 | <10.0 | <10.0 | <75.5 | 11.90 | 0.00 | 17.35 | -- |
| | 05/15/12 | <50.0 | <81.6 | <408 | <1.0 | <1.0 | <1.0 | <3.0 | -- | 3.8 | <10.0 | <10.0 | <81.6 | 10.26 | 0.00 | 18.99 | -- |
| | 08/14/12 | <50.0 | <85.1 | <426 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <1.0 | <10.0 | <10.0 | <85.1 | 10.45 | 0.00 | 18.80 | -- |
| | 11/20/12 | <100 | <100 | <100 | <1.0 | <1.0 | <1.0 | <3.0 | -- | <4.0 | <3.0 | <3.0 | <100 | 9.59 | 0.00 | 19.66 | |
| | 11/06/13 | <400 | <400 | <400 | <1.0 | <1.0 | <1.0 | <3.0 | <1.0 | -- | <10.0 | <10.0 | <400 | 11.77 | 0.00 | 17.48 | -- |
| | | | | | | | | | | | | | | | | | -- |
| **MTCA Method A Cleanup Level for Groundwater** | | **1000/800[k]** | **500** | **500** | **5** | **1,000** | **700** | **1,000** | **20** | **160** | **15** | **15** | **500** | **--** | **--** | **--** | **--** |

# Table 1
## Summary of Historical Groundwater Gauging and Laboratory Analytical Data

Phillips 66 Site No. 255353 (AOC 1396)
600 Westlake Avenue N.
Seattle, Washington

**NOTES:**

µg/L = micrograms per liter
mg/L = milligrams per liter
TOC = Relative top of casing elevation
DTW = Depth to water
SPH = Separate-phase hydrocarbon thickness
GWE = Groundwater table elevation relative to DTW data; corrected for SPH where applicable using a specific gravity of 0.80
<n = Below the detection limit
"--" = Not analyzed, sampled, or reported
NM = Not Measured
TPH as Gasoline - Analysis by Northwest Method NWTPH-Gx
TPH as Diesel and Oil - Analysis by Northwest Method NWTPH-Dx
BTEX Compounds - Analysis by EPA Method 8020A, 8021B or 8260B
Total Lead Analysis via EPA Method 6020.
Values in **BOLD** are detectable concentrations exceeding the MTCA Method A groundwater cleanup level.

[a] Top of casing elevations shown prior to November 2005 based on information provided by a previous consultant. All TOC elevations were re-surveyed between November 1 and November 15, 2005 relative to N.A.V.D. 1988 using a City of Seattle benchmark by Delta Environmental Consultants.

[b] Well was not purged prior to sample collection.

[c] TPH-Diesel and TPH-Oil did not resemble chromatogram used for quantitation.

[d] Well casing was trimmed down during monument replacement in December 2004. New TOC elevation surveyed on January 27, 2005.

[e] Quality control failed due to laboratory error. Quantitative analytical results not reported.

[f] Contaminant does not appear to be "typical" product.

[g] Chromatogram suggests that this may be overlap from the gasoline range.

[h] Chromatogram suggests that this may be overlap from the motor oil range.

[H] Anlaysis was performed outside of the method specified holding time

[j] Surrogate recovery outside advisory QC limits due to matrix interference.

[k] MTCA Method A Cleanup Level for TPH-Gasoline is 1,000 ug/L if benzene is not detectable in the groundwater sample. Otherwisxe, the action level is 800 ug/L.

[l] Samples analyzed using Northwest Method NWTPH-Dx without acid/silica gel cleanup.

[m] Surogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present.

[n] Detected hydrocarbons due mainly to cleanup artifact. There is no diesel present.

[o] DO meter was unavailable.

[p] The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

[q] Analyte had a high bias in the associated calibration verification standard.

[r] Laboratory Control Sample and/or Sample Duplicate recovery was above the laboratory control limits. Analyte not detected, data not impacted.

[s] Dilluted due to matrix effect.

[t] The total hydrocarbon result in this sample is primarily due to an individual compound eluting in the volatile hydrocarbon range.

[u] Due to laboratory error, the samples were not analyzed for EPA 8260B compounds.

[v] Possible field error.

[w] DTW not recorded prior to sampling. Approximate value based on last quarter's initial DTW and when sampling began

[x] The benzene and ethyl benzene concentrations were outside the calibration range of the instrument. A new concentration was measured during a second run, but this run was outside of the holding time for the sample. The laboratory still considers this value to be more accurate than the original estimated value listed in the lab report.

[Y] The Chromatogram response resembles a typical fuel pattern

[z] Well casings for MW-45 and MW-54 were compromised and repaired during installation of remediation conveyance piping. Wells will be re-surveyed in 2014.

"--[u]" = Due to laboratory error, the samples were not analyzed for EPA 8260B compounds.

**FIGURE**

# GROUNDWATER CONDITIONS MAP
# (11/06/13 - 11/07/13)

PHILLIPS 66 FACILITY NO. 255353 (AOC 1396)
600 WESTLAKE AVENUE N
SEATTLE, WA

| | |
|---|---|
| PROJECT NUMBER: | 76.75118.1396 |
| APPROVED BY: | KS |
| DATE: | 2/26/14 |
| DRAWN BY: | BK |
| FIGURE | 1 |

Cardno ATC Shaping the Future
6347 Seaview Avenue NW
Seattle, Washington 98107
Ph: (206) 781-1449 *** Fax: (206) 781-1543

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

SMW-3** 17.30

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

MW-209** 17.34

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

MW-210** 17.28

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

MW-211** 17.10

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | 3,820 |
| TPHd | <400 |
| TPHo | <400 |
| B | 23 |
| T | <1.0 |
| E | 150 |
| X | 286 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | 1,100 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

Former auto servicing building (removed)

| | |
|---|---|
| TPHg | 281 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | 1.3 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

Former Lumber Building (Demolished)

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

CI-3

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

CI-2

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

CI-1

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | 185 |
| TPHd | 540 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | 530 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

| | |
|---|---|
| TPHg | <100 |
| TPHd | <400 |
| TPHo | <400 |
| B | <1.0 |
| T | <1.0 |
| E | <1.0 |
| X | <3.0 |
| TOTAL Pb | <10.0 |
| DISS Pb | <10.0 |
| KEROSENE | <400 |
| EDB | <0.01 |
| EDC | <1.0 |
| MTBE | <1.0 |

MWR-1 17.87
MWR-2 17.92
MWR-3 18.24
MWR-4 17.86
MWR-5 17.82
MWR-6 17.48
MW-50 16.77
MW-45* MW-54* EFR-1 EFR-2 EFR-3
MW-(NO I.D)
SMW-2S SMW-4 SMW-5 MW-X (NO. I.D.)
MW-41 20.56

18.00 18.00 17.50 18.50 19.00 19.50 20.00 20.50

CITY INVESTORS PROPERTY
Former Denny's Restaurant (Demolished)
SDOT 70' EASEMENT AREA
COP 255353 Station Building
Dispenser Islands
PAVED PARKING
BILLBOARD
KEROSENE
FORMER USTs
SIDEWALK
WALKING TRAIL
VALLEY STREET
MERCER STREET
WESTLAKE AVENUE N.
TERRY AVENUE N.

## LEGEND

MW-71 GROUNDWATER MONITORING WELL
CI-1 CITY INVESTORS' GROUNDWATER MONITORING WELL
MW-24 ABANDONED OR DAMAGED WELL
EFR-1 DUAL PHASE EXTRACTION WELL LOCATION
APPROXIMATE PROPERTY BOUNDARY

| | |
|---|---|
| TPHg | TOTAL PETROLEUM HYDROCARBONS AS GASOLINE |
| TPHd | TOTAL PETROLEUM HYDROCARBONS AS DIESEL |
| TPHo | TOTAL PETROLEUM HYDROCARBONS AS HEAVY OIL |
| B | BENZENE |
| T | TOLUENE |
| E | ETHYLBENZENE |
| X | TOTAL XYLENES |
| TOTAL Pb | TOTAL LEAD |
| DISS Pb | DISSOLVED LEAD |
| KEROSENE | KEROSENE |
| EDB | ETHYLENEDIBROMIDE |
| EDC | ETHYLENEDICHLORIDE |
| MTBE | METHYL TERT BUTYL ETHENE |

ALL ANALYTICAL RESULTS REPORTED IN MICROGRAMS PER LITER (µg/L)
BOLD = CONCENTRATION EQUAL OR EXCEEDS MTCA METHOD-A CLEANUP LEVEL
17.82 GROUNDWATER ELEVATION (FEET)
18.00 GROUNDWATER ELEVATION CONTOUR (FEET)
INFERRED GROUNDWATER FLOW DIRECTION
0.003 GROUNDWATER GRADIENT, FT/FT
** NOT USED FOR CONTOURING
* GROUNDWATER ELEVATIONS COULD NOT BE DETERMINED, WELL CASING ELEVATIONS TO BE RESURVEYED IN 2014.

0 50 100
SCALE, FT

NOTE: 1. ALL LOCATIONS ARE APPROXIMATE
2. MW-45 & MW-54 TO BE SURVEYED

S:\Projects\76\75000 COP\1396\GWC\110613.dwg

# APPENDIX A

# LABORATORY ANALYTICAL DATA REPORT AND CHAIN OF CUSTODY DOCUMENT

March 06, 2014

Kyle Sattler
Cardno ATC
7070 SW Fir Loop
Suite 100
Portland, OR 97223

RE: Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

Dear Kyle Sattler:
Enclosed are the analytical results for sample(s) received by the laboratory on November 08, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Revised Report, REV-1 03/06/14. Review of the chromatogram indicates that the hydrocarbon pattern in sample 10248776-009 is similar in appearance to a form of 'weathered' gasoline. The hydrocarbon pattern in sample 10248766-005 is also similar in appearance to a form of 'weathered' gasoline; however, since the detected diesel- and kerosene concentrations are just above the method reporting limits, it is difficult to draw a conclusion. The gasoline will weather in several ways - the more volatile fractions are lost through the soil, the more water-soluble fractions (low molecular aromatics and oxygenates) are dissolved out. The less stable hydrocarbons (olefins and aromatics) also degrade faster. Depending on the length of time the material has been exposed to the environment the chromatographic appearance will be different.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jennifer Gross
jennifer.gross@pacelabs.com
Project Manager

March 06, 2014
Page 2

Enclosures

## CERTIFICATIONS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Minnesota Certification IDs**

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alabama Certification #40770
Alabama Certification #40770
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nebraska Certification #: Pace
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia TO-15 Approval
West Virginia DHHR #:9952C

## SAMPLE SUMMARY

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | Matrix | Date Collected | Date Received |
|---|---|---|---|---|
| **10248776001** | **SMW-3** | Water | 11/06/13 10:50 | 11/08/13 10:20 |
| **10248776002** | **MW-209** | Water | 11/06/13 11:30 | 11/08/13 10:20 |
| **10248776003** | **MW-210** | Water | 11/06/13 12:20 | 11/08/13 10:20 |
| **10248776004** | **MW-211** | Water | 11/06/13 13:00 | 11/08/13 10:20 |
| **10248776005** | **MW-50** | Water | 11/06/13 14:00 | 11/08/13 10:20 |
| **10248776006** | **MW-45** | Water | 11/06/13 15:30 | 11/08/13 10:20 |
| **10248776007** | **MW-41** | Water | 11/07/13 09:30 | 11/08/13 10:20 |
| **10248776008** | **MWR-6** | Water | 11/07/13 10:25 | 11/08/13 10:20 |
| **10248776009** | **MWR-5** | Water | 11/07/13 11:10 | 11/08/13 10:20 |
| **10248776010** | **MWR-4** | Water | 11/07/13 11:50 | 11/08/13 10:20 |
| **10248776011** | **MWR-3** | Water | 11/07/13 12:30 | 11/08/13 10:20 |
| **10248776012** | **MWR-1** | Water | 11/07/13 13:10 | 11/08/13 10:20 |
| **10248776013** | **MWR-2** | Water | 11/07/13 13:50 | 11/08/13 10:20 |
| **10248776014** | **MWR-54** | Water | 11/07/13 14:50 | 11/08/13 10:20 |
| **10248776015** | **TRIP BLANK** | Water | 11/06/13 07:00 | 11/08/13 10:20 |

## SAMPLE ANALYTE COUNT

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| **10248776001** | **SMW-3** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776002** | **MW-209** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776003** | **MW-210** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776004** | **MW-211** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776005** | **MW-50** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776006** | **MW-45** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | SH2 | 9 | PASI-M |
| **10248776007** | **MW-41** | EPA 8011 | XV1 | 2 | PASI-M |

## SAMPLE ANALYTE COUNT

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776008** | **MWR-6** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776009** | **MWR-5** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | SH2 | 9 | PASI-M |
| **10248776010** | **MWR-4** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776011** | **MWR-3** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776012** | **MWR-1** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776013** | **MWR-2** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |

## SAMPLE ANALYTE COUNT

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | Method | Analysts | Analytes Reported | Laboratory |
|---|---|---|---|---|---|
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776014** | **MWR-54** | EPA 8011 | XV1 | 2 | PASI-M |
| | | NWTPH-Dx | JRH, MT | 5 | PASI-M |
| | | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 6010 | IP | 1 | PASI-M |
| | | EPA 8260 | LPM | 9 | PASI-M |
| **10248776015** | **TRIP BLANK** | NWTPH-Gx/8021 | LLC | 2 | PASI-M |
| | | EPA 8260 | LPM | 7 | PASI-M |

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: SMW-3** **Lab ID: 10248776001** Collected: 11/06/13 10:50 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 02:53 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 140 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 02:53 | 460-00-4 | S3 |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 14:51 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 17:17 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 14:51 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 92 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 14:51 | 84-15-1 | |
| n-Triacontane (S) | 107 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 14:51 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/14/13 22:52 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 78 | %. | 75-125 | 1 | | 11/14/13 22:52 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 21:45 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 15:26 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 08:53 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:53 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:53 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 08:53 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:53 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 08:53 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 92 | %. | 75-125 | 1 | | 11/17/13 08:53 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | %. | 75-125 | 1 | | 11/17/13 08:53 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | %. | 75-125 | 1 | | 11/17/13 08:53 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-209** **Lab ID: 10248776002** Collected: 11/06/13 11:30 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 03:19 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 112 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 03:19 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 15:13 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 17:39 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 15:13 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 88 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 15:13 | 84-15-1 | |
| n-Triacontane (S) | 104 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 15:13 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/14/13 23:13 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 79 | %. | 75-125 | 1 | | 11/14/13 23:13 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 21:49 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 15:30 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 09:17 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:17 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:17 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 09:17 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:17 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 09:17 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 94 | %. | 75-125 | 1 | | 11/17/13 09:17 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | %. | 75-125 | 1 | | 11/17/13 09:17 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | %. | 75-125 | 1 | | 11/17/13 09:17 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-210** **Lab ID: 10248776003** Collected: 11/06/13 12:20 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 03:45 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 104 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 03:45 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 15:36 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 18:01 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 15:36 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 83 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 15:36 | 84-15-1 | |
| n-Triacontane (S) | 99 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 15:36 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/14/13 23:33 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 78 | %. | 75-125 | 1 | | 11/14/13 23:33 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 21:55 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 15:33 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 09:41 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:41 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 09:41 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 09:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 09:41 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 09:41 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 09:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | %. | 75-125 | 1 | | 11/17/13 09:41 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-211** **Lab ID: 10248776004** Collected: 11/06/13 13:00 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 04:11 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 104 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 04:11 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 17:07 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 19:29 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 17:07 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 80 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 17:07 | 84-15-1 | |
| n-Triacontane (S) | 97 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 17:07 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/14/13 23:53 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 78 | %. | 75-125 | 1 | | 11/14/13 23:53 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 21:59 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 15:37 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 10:05 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:05 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:05 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 10:05 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:05 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 10:05 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 10:05 | 17060-07-0 | |
| Toluene-d8 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 10:05 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | %. | 75-125 | 1 | | 11/17/13 10:05 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-50** **Lab ID: 10248776005** Collected: 11/06/13 14:00 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 04:37 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 84 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 04:37 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | **0.54** | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 16:44 | 68334-30-5 | |
| Kerosene SG | **0.53** | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 19:07 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 16:44 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 84 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 16:44 | 84-15-1 | |
| n-Triacontane (S) | 102 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 16:44 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | **185** | ug/L | 100 | 1 | | 11/15/13 00:13 | | M1 |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 82 | %. | 75-125 | 1 | | 11/15/13 00:13 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:02 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 15:41 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 08:05 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:05 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:05 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 08:05 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 08:05 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 08:05 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 94 | %. | 75-125 | 1 | | 11/17/13 08:05 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 08:05 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | %. | 75-125 | 1 | | 11/17/13 08:05 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-45** **Lab ID: 10248776006** Collected: 11/06/13 15:30 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 05:55 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 81 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 05:55 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 18:15 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 20:34 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 18:15 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 76 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 18:15 | 84-15-1 | |
| n-Triacontane (S) | 93 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 18:15 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | **281** | ug/L | 100 | 1 | | 11/15/13 01:13 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 81 | %. | 75-125 | 1 | | 11/15/13 01:13 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:31 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:18 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/19/13 05:31 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/19/13 05:31 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/19/13 05:31 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/19/13 05:31 | 1634-04-4 | |
| Toluene | **1.3** | ug/L | 1.0 | 1 | | 11/19/13 05:31 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/19/13 05:31 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 93 | %. | 75-125 | 1 | | 11/19/13 05:31 | 17060-07-0 | |
| Toluene-d8 (S) | 95 | %. | 75-125 | 1 | | 11/19/13 05:31 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | %. | 75-125 | 1 | | 11/19/13 05:31 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MW-41** **Lab ID: 10248776007** Collected: 11/07/13 09:30 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 06:21 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 69 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 06:21 | 460-00-4 | 3M,S0 |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 18:37 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 20:56 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 18:37 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 85 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 18:37 | 84-15-1 | |
| n-Triacontane (S) | 100 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 18:37 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 01:33 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 82 | %. | 75-125 | 1 | | 11/15/13 01:33 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:35 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:22 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 10:30 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:30 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:30 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 10:30 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:30 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 10:30 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 94 | %. | 75-125 | 1 | | 11/17/13 10:30 | 17060-07-0 | |
| Toluene-d8 (S) | 96 | %. | 75-125 | 1 | | 11/17/13 10:30 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | %. | 75-125 | 1 | | 11/17/13 10:30 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-6** **Lab ID: 10248776008** Collected: 11/07/13 10:25 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 07:39 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 79 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 07:39 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:00 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 21:18 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:00 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 52 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:00 | 84-15-1 | |
| n-Triacontane (S) | 63 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:00 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 01:53 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 78 | %. | 75-125 | 1 | | 11/15/13 01:53 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:40 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:28 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 12:54 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:54 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 12:54 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 12:54 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 12:54 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | %. | 75-125 | 1 | | 11/17/13 12:54 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | %. | 75-125 | 1 | | 11/17/13 12:54 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-5** **Lab ID: 10248776009** Collected: 11/07/13 11:10 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 08:05 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 76 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 08:05 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:22 | 68334-30-5 | |
| Kerosene SG | **1.1** | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 21:40 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:22 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 60 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:22 | 84-15-1 | |
| n-Triacontane (S) | 76 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:22 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | **3820** | ug/L | 500 | 5 | | 11/15/13 03:53 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 85 | %. | 75-125 | 5 | | 11/15/13 03:53 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:44 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:40 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/19/13 05:55 | 107-06-2 | |
| Benzene | **23.0** | ug/L | 1.0 | 1 | | 11/19/13 05:55 | 71-43-2 | |
| Ethylbenzene | **150** | ug/L | 1.0 | 1 | | 11/19/13 05:55 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/19/13 05:55 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/19/13 05:55 | 108-88-3 | |
| Xylene (Total) | **286** | ug/L | 3.0 | 1 | | 11/19/13 05:55 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 92 | %. | 75-125 | 1 | | 11/19/13 05:55 | 17060-07-0 | |
| Toluene-d8 (S) | 94 | %. | 75-125 | 1 | | 11/19/13 05:55 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | %. | 75-125 | 1 | | 11/19/13 05:55 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-4** **Lab ID: 10248776010** Collected: 11/07/13 11:50 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0097 | 1 | 11/14/13 07:15 | 11/19/13 08:30 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 80 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 08:30 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:45 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 22:02 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 19:45 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 60 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:45 | 84-15-1 | |
| n-Triacontane (S) | 75 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 19:45 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 02:13 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 77 | %. | 75-125 | 1 | | 11/15/13 02:13 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:48 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:44 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 10:54 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:54 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:54 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 10:54 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 10:54 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 10:54 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 94 | %. | 75-125 | 1 | | 11/17/13 10:54 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 10:54 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 99 | %. | 75-125 | 1 | | 11/17/13 10:54 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-3** **Lab ID: 10248776011** Collected: 11/07/13 12:30 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 08:56 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 85 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 08:56 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:08 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 22:24 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:08 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 59 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:08 | 84-15-1 | |
| n-Triacontane (S) | 78 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:08 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 02:33 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 81 | %. | 75-125 | 1 | | 11/15/13 02:33 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:52 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:48 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 11:18 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:18 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:18 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 11:18 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:18 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 11:18 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 11:18 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 11:18 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | %. | 75-125 | 1 | | 11/17/13 11:18 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-1** **Lab ID: 10248776012** Collected: 11/07/13 13:10 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0099 | 1 | 11/14/13 07:15 | 11/19/13 09:22 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 80 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 09:22 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:30 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 22:46 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:30 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 93 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:30 | 84-15-1 | |
| n-Triacontane (S) | 110 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:30 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 02:53 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 84 | %. | 75-125 | 1 | | 11/15/13 02:53 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 22:57 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:53 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 11:42 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:42 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:42 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 11:42 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 11:42 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 11:42 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 11:42 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 11:42 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | %. | 75-125 | 1 | | 11/17/13 11:42 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-2** **Lab ID: 10248776013** Collected: 11/07/13 13:50 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 09:48 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 78 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 09:48 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:53 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 23:08 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 20:53 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 94 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:53 | 84-15-1 | |
| n-Triacontane (S) | 113 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 20:53 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 03:13 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 80 | %. | 75-125 | 1 | | 11/15/13 03:13 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 23:01 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 16:58 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 12:06 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:06 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:06 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 12:06 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:06 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 12:06 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 12:06 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | %. | 75-125 | 1 | | 11/17/13 12:06 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 96 | %. | 75-125 | 1 | | 11/17/13 12:06 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: MWR-54** **Lab ID: 10248776014** Collected: 11/07/13 14:50 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **8011 GCS EDB and DBCP** | Analytical Method: EPA 8011 Preparation Method: EPA 8011 | | | | | | | |
| 1,2-Dibromoethane (EDB) | ND | ug/L | 0.0098 | 1 | 11/14/13 07:15 | 11/19/13 10:14 | 106-93-4 | |
| ***Surrogates*** | | | | | | | | |
| 4-Bromofluorobenzene (S) | 79 | %. | 70-130 | 1 | 11/14/13 07:15 | 11/19/13 10:14 | 460-00-4 | |
| **NWTPH-Dx GCS Silica Gel LV** | Analytical Method: NWTPH-Dx Preparation Method: EPA 3510 | | | | | | | |
| Diesel Fuel Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 21:16 | 68334-30-5 | |
| Kerosene SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/18/13 23:30 | 8008-20-6 | |
| Motor Oil Range SG | ND | mg/L | 0.40 | 1 | 11/14/13 09:29 | 11/16/13 21:16 | 64742-65-0 | |
| ***Surrogates*** | | | | | | | | |
| o-Terphenyl (S) | 91 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 21:16 | 84-15-1 | |
| n-Triacontane (S) | 107 | %. | 30-125 | 1 | 11/14/13 09:29 | 11/16/13 21:16 | 638-68-6 | |
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/15/13 03:33 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 83 | %. | 75-125 | 1 | | 11/15/13 03:33 | 98-08-8 | |
| **6010 MET ICP** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead | ND | ug/L | 10.0 | 1 | 11/17/13 07:39 | 11/18/13 23:14 | 7439-92-1 | |
| **6010 MET ICP, Dissolved** | Analytical Method: EPA 6010 Preparation Method: EPA 3010 | | | | | | | |
| Lead, Dissolved | ND | ug/L | 10.0 | 1 | 11/16/13 10:30 | 11/19/13 17:02 | 7439-92-1 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| 1,2-Dichloroethane | ND | ug/L | 1.0 | 1 | | 11/17/13 12:30 | 107-06-2 | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:30 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:30 | 100-41-4 | |
| Methyl-tert-butyl ether | ND | ug/L | 1.0 | 1 | | 11/17/13 12:30 | 1634-04-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 12:30 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 12:30 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 95 | %. | 75-125 | 1 | | 11/17/13 12:30 | 17060-07-0 | |
| Toluene-d8 (S) | 98 | %. | 75-125 | 1 | | 11/17/13 12:30 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 98 | %. | 75-125 | 1 | | 11/17/13 12:30 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## ANALYTICAL RESULTS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**Sample: TRIP BLANK** **Lab ID: 10248776015** Collected: 11/06/13 07:00 Received: 11/08/13 10:20 Matrix: Water

| Parameters | Results | Units | Report Limit | DF | Prepared | Analyzed | CAS No. | Qual |
|---|---|---|---|---|---|---|---|---|
| **NWTPH-Gx GCV** | Analytical Method: NWTPH-Gx/8021 | | | | | | | |
| TPH as Gas | ND | ug/L | 100 | 1 | | 11/14/13 22:32 | | |
| ***Surrogates*** | | | | | | | | |
| a,a,a-Trifluorotoluene (S) | 79 | %. | 75-125 | 1 | | 11/14/13 22:32 | 98-08-8 | |
| **8260 MSV UST** | Analytical Method: EPA 8260 | | | | | | | |
| Benzene | ND | ug/L | 1.0 | 1 | | 11/17/13 07:41 | 71-43-2 | |
| Ethylbenzene | ND | ug/L | 1.0 | 1 | | 11/17/13 07:41 | 100-41-4 | |
| Toluene | ND | ug/L | 1.0 | 1 | | 11/17/13 07:41 | 108-88-3 | |
| Xylene (Total) | ND | ug/L | 3.0 | 1 | | 11/17/13 07:41 | 1330-20-7 | |
| ***Surrogates*** | | | | | | | | |
| 1,2-Dichloroethane-d4 (S) | 94 | %. | 75-125 | 1 | | 11/17/13 07:41 | 17060-07-0 | |
| Toluene-d8 (S) | 97 | %. | 75-125 | 1 | | 11/17/13 07:41 | 2037-26-5 | |
| 4-Bromofluorobenzene (S) | 97 | %. | 75-125 | 1 | | 11/17/13 07:41 | 460-00-4 | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: GCV/11455 Analysis Method: NWTPH-Gx/8021
QC Batch Method: NWTPH-Gx/8021 Analysis Description: NWTPH-Gx/8021B Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014, 10248776015

METHOD BLANK: 1575624 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014, 10248776015

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| TPH as Gas | ug/L | ND | 100 | 11/14/13 22:12 | |
| a,a,a-Trifluorotoluene (S) | %. | 77 | 75-125 | 11/14/13 22:12 | |

LABORATORY CONTROL SAMPLE & LCSD: 1575625 1575626

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gas | ug/L | 1000 | 940 | 976 | 94 | 98 | 75-126 | 4 | 20 | |
| a,a,a-Trifluorotoluene (S) | %. | | | | 90 | 92 | 75-125 | | | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1575627 1575628

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Gas | ug/L | 185 | 1000 | 1000 | 831 | 971 | 65 | 79 | 75-137 | 16 | 30 | M1 |
| a,a,a-Trifluorotoluene (S) | %. | | | | | | 88 | 84 | 75-125 | | | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: MPRP/43241 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

METHOD BLANK: 1574618 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Lead | ug/L | ND | 10.0 | 11/18/13 21:37 | |

LABORATORY CONTROL SAMPLE: 1574619

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Lead | ug/L | 1000 | 1000 | 100 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1574620 1574621

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead | ug/L | ND | 1000 | 1000 | 994 | 952 | 99 | 95 | 75-125 | 4 | 20 | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: MPRP/43269 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

METHOD BLANK: 1575470 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Lead, Dissolved | ug/L | ND | 10.0 | 11/19/13 15:12 | |

LABORATORY CONTROL SAMPLE: 1575471

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| Lead, Dissolved | ug/L | 1000 | 978 | 98 | 80-120 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1575472 1575473

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lead, Dissolved | ug/L | ND | 1000 | 1000 | 948 | 951 | 94 | 95 | 75-125 | .2 | 20 | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: MSV/25639 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776007, 10248776008, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014, 10248776015

METHOD BLANK: 1577798 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776007, 10248776008, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014, 10248776015

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | ND | 1.0 | 11/17/13 07:17 | |
| Benzene | ug/L | ND | 1.0 | 11/17/13 07:17 | |
| Ethylbenzene | ug/L | ND | 1.0 | 11/17/13 07:17 | |
| Methyl-tert-butyl ether | ug/L | ND | 1.0 | 11/17/13 07:17 | |
| Toluene | ug/L | ND | 1.0 | 11/17/13 07:17 | |
| Xylene (Total) | ug/L | ND | 3.0 | 11/17/13 07:17 | |
| 1,2-Dichloroethane-d4 (S) | %. | 93 | 75-125 | 11/17/13 07:17 | |
| 4-Bromofluorobenzene (S) | %. | 98 | 75-125 | 11/17/13 07:17 | |
| Toluene-d8 (S) | %. | 98 | 75-125 | 11/17/13 07:17 | |

LABORATORY CONTROL SAMPLE: 1577799

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | 20 | 17.7 | 88 | 74-125 | |
| Benzene | ug/L | 20 | 17.0 | 85 | 75-125 | |
| Ethylbenzene | ug/L | 20 | 17.5 | 88 | 75-125 | |
| Methyl-tert-butyl ether | ug/L | 20 | 16.6 | 83 | 74-126 | |
| Toluene | ug/L | 20 | 18.0 | 90 | 75-125 | |
| Xylene (Total) | ug/L | 60 | 54.6 | 91 | 75-125 | |
| 1,2-Dichloroethane-d4 (S) | %. | | | 94 | 75-125 | |
| 4-Bromofluorobenzene (S) | %. | | | 98 | 75-125 | |
| Toluene-d8 (S) | %. | | | 97 | 75-125 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1577800 1577801

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | ND | 20 | 20 | 17.9 | 18.2 | 89 | 90 | 74-128 | 2 | 30 | |
| Benzene | ug/L | ND | 20 | 20 | 18.4 | 18.3 | 91 | 91 | 70-135 | .05 | 30 | |
| Ethylbenzene | ug/L | ND | 20 | 20 | 19.2 | 19.2 | 96 | 96 | 75-125 | .008 | 30 | |
| Methyl-tert-butyl ether | ug/L | ND | 20 | 20 | 16.8 | 17.3 | 84 | 86 | 70-132 | 3 | 30 | |
| Toluene | ug/L | ND | 20 | 20 | 19.6 | 19.4 | 97 | 96 | 75-125 | .8 | 30 | |
| Xylene (Total) | ug/L | ND | 60 | 60 | 59.6 | 59.3 | 99 | 99 | 75-125 | .6 | 30 | |
| 1,2-Dichloroethane-d4 (S) | %. | | | | | | 93 | 94 | 75-125 | | | |
| 4-Bromofluorobenzene (S) | %. | | | | | | 98 | 97 | 75-125 | | | |
| Toluene-d8 (S) | %. | | | | | | 97 | 97 | 75-125 | | | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: MSV/25666
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 10248776006, 10248776009

METHOD BLANK: 1579220 Matrix: Water
Associated Lab Samples: 10248776006, 10248776009

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | ND | 1.0 | 11/19/13 00:20 | |
| Benzene | ug/L | ND | 1.0 | 11/19/13 00:20 | |
| Ethylbenzene | ug/L | ND | 1.0 | 11/19/13 00:20 | |
| Methyl-tert-butyl ether | ug/L | ND | 1.0 | 11/19/13 00:20 | |
| Toluene | ug/L | ND | 1.0 | 11/19/13 00:20 | |
| Xylene (Total) | ug/L | ND | 3.0 | 11/19/13 00:20 | |
| 1,2-Dichloroethane-d4 (S) | %. | 93 | 75-125 | 11/19/13 00:20 | |
| 4-Bromofluorobenzene (S) | %. | 96 | 75-125 | 11/19/13 00:20 | |
| Toluene-d8 (S) | %. | 96 | 75-125 | 11/19/13 00:20 | |

LABORATORY CONTROL SAMPLE: 1579221

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | 20 | 16.7 | 84 | 74-125 | |
| Benzene | ug/L | 20 | 16.4 | 82 | 75-125 | |
| Ethylbenzene | ug/L | 20 | 17.7 | 89 | 75-125 | |
| Methyl-tert-butyl ether | ug/L | 20 | 16.3 | 82 | 74-126 | |
| Toluene | ug/L | 20 | 17.9 | 89 | 75-125 | |
| Xylene (Total) | ug/L | 60 | 55.1 | 92 | 75-125 | |
| 1,2-Dichloroethane-d4 (S) | %. | | | 91 | 75-125 | |
| 4-Bromofluorobenzene (S) | %. | | | 97 | 75-125 | |
| Toluene-d8 (S) | %. | | | 98 | 75-125 | |

MATRIX SPIKE SAMPLE: 1580174

| Parameter | Units | 10249502003 Result | Spike Conc. | MS Result | MS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | ND | 20 | 17.2 | 86 | 74-128 | |
| Benzene | ug/L | ND | 20 | 17.6 | 88 | 70-135 | |
| Ethylbenzene | ug/L | ND | 20 | 19.0 | 95 | 75-125 | |
| Methyl-tert-butyl ether | ug/L | ND | 20 | 16.8 | 84 | 70-132 | |
| Toluene | ug/L | ND | 20 | 18.7 | 94 | 75-125 | |
| Xylene (Total) | ug/L | ND | 60 | 58.4 | 97 | 75-125 | |
| 1,2-Dichloroethane-d4 (S) | %. | | | | 91 | 75-125 | |
| 4-Bromofluorobenzene (S) | %. | | | | 96 | 75-125 | |
| Toluene-d8 (S) | %. | | | | 98 | 75-125 | |

## REPORT OF LABORATORY ANALYSIS

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

SAMPLE DUPLICATE: 1580175

| Parameter | Units | 10249502004 Result | Dup Result | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2-Dichloroethane | ug/L | ND | ND | | 30 | |
| Benzene | ug/L | ND | ND | | 30 | |
| Ethylbenzene | ug/L | ND | ND | | 30 | |
| Methyl-tert-butyl ether | ug/L | ND | ND | | 30 | |
| Toluene | ug/L | ND | ND | | 30 | |
| Xylene (Total) | ug/L | ND | ND | | 30 | |
| 1,2-Dichloroethane-d4 (S) | %. | 94 | 94 | .4 | | |
| 4-Bromofluorobenzene (S) | %. | 96 | 96 | .1 | | |
| Toluene-d8 (S) | %. | 97 | 98 | .7 | | |

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: OEXT/23661 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

METHOD BLANK: 1576580 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ug/L | ND | 0.010 | 11/19/13 02:27 | |
| 4-Bromofluorobenzene (S) | %. | 117 | 70-130 | 11/19/13 02:27 | |

LABORATORY CONTROL SAMPLE: 1576581

| Parameter | Units | Spike Conc. | LCS Result | LCS % Rec | % Rec Limits | Qualifiers |
|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ug/L | .11 | 0.11 | 104 | 60-140 | |
| 4-Bromofluorobenzene (S) | %. | | | 102 | 70-130 | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1576582 1576583

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dibromoethane (EDB) | ug/L | ND | .1 | .11 | 0.12 | 0.11 | 111 | 101 | 60-140 | 9 | 20 | |
| 4-Bromofluorobenzene (S) | %. | | | | | | 97 | 59 | 70-130 | | | C0,S0 |

## QUALITY CONTROL DATA

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

QC Batch: OEXT/23664 Analysis Method: NWTPH-Dx
QC Batch Method: EPA 3510 Analysis Description: NWTPH-Dx GCS LV SG
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

METHOD BLANK: 1576623 Matrix: Water
Associated Lab Samples: 10248776001, 10248776002, 10248776003, 10248776004, 10248776005, 10248776006, 10248776007, 10248776008, 10248776009, 10248776010, 10248776011, 10248776012, 10248776013, 10248776014

| Parameter | Units | Blank Result | Reporting Limit | Analyzed | Qualifiers |
|---|---|---|---|---|---|
| Diesel Fuel Range SG | mg/L | ND | 0.40 | 11/16/13 12:13 | |
| Kerosene SG | mg/L | ND | 0.40 | 11/18/13 16:12 | |
| Motor Oil Range SG | mg/L | ND | 0.40 | 11/16/13 12:13 | |
| n-Triacontane (S) | %. | 85 | 30-125 | 11/16/13 12:13 | |
| o-Terphenyl (S) | %. | 78 | 30-125 | 11/16/13 12:13 | |

LABORATORY CONTROL SAMPLE & LCSD: 1576624 1576625

| Parameter | Units | Spike Conc. | LCS Result | LCSD Result | LCS % Rec | LCSD % Rec | % Rec Limits | RPD | Max RPD | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Fuel Range SG | mg/L | 2 | 1.9 | 1.4 | 94 | 69 | 50-150 | 31 | 20 | R1 |
| Motor Oil Range SG | mg/L | 2 | 2.1 | 1.6 | 106 | 80 | 50-150 | 28 | 20 | R1 |
| n-Triacontane (S) | %. | | | | 97 | 73 | 30-125 | | | |
| o-Terphenyl (S) | %. | | | | 99 | 73 | 30-125 | | | |

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1576626 1576627

| Parameter | Units | 10248776005 Result | MS Spike Conc. | MSD Spike Conc. | MS Result | MSD Result | MS % Rec | MSD % Rec | % Rec Limits | RPD | Max RPD | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Diesel Fuel Range SG | mg/L | 0.54 | 2 | 2 | 0.48 | 0.58 | -3 | 2 | 50-150 | 20 | 30 | 2M |
| Kerosene SG | mg/L | 0.53 | 10 | 10 | 0.48 | 0.57 | -.5 | .4 | 50-150 | 17 | 30 | 1M |
| Motor Oil Range SG | mg/L | ND | 2 | 2 | .14J | .17J | -.9 | .5 | 50-150 | | 30 | 2M |
| n-Triacontane (S) | %. | | | | | | 92 | 102 | 30-125 | | | |
| o-Terphenyl (S) | %. | | | | | | 73 | 82 | 30-125 | | | |

## REPORT OF LABORATORY ANALYSIS

# QUALIFIERS

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

**DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

**LABORATORIES**

| | |
|---|---|
| PASI-M | Pace Analytical Services - Minneapolis |

**ANALYTE QUALIFIERS**

| | |
|---|---|
| 1M | Matrix spike recovery not evaluated due to no kerosene present in matrix spike. |
| 2M | Not spiked with matrix spike due to extraction error. Insufficient sample for re-extraction with MS/MSD. Batch accepted based off LCS/LCSD recoveries. |
| 3M | The sample was re-extracted and the result was confirmed. |
| C0 | Result confirmed by second analysis. |
| M1 | Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery. |
| R1 | RPD value was outside control limits. |
| S0 | Surrogate recovery outside laboratory control limits. |
| S3 | Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias. |

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10248776001** | **SMW-3** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776002** | **MW-209** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776003** | **MW-210** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776004** | **MW-211** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776005** | **MW-50** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776006** | **MW-45** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776007** | **MW-41** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776008** | **MWR-6** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776009** | **MWR-5** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776010** | **MWR-4** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776011** | **MWR-3** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776012** | **MWR-1** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776013** | **MWR-2** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776014** | **MWR-54** | EPA 8011 | OEXT/23661 | EPA 8011 | GCSV/12454 |
| **10248776001** | **SMW-3** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776002** | **MW-209** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776003** | **MW-210** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776004** | **MW-211** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776005** | **MW-50** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776006** | **MW-45** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776007** | **MW-41** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776008** | **MWR-6** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776009** | **MWR-5** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776010** | **MWR-4** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776011** | **MWR-3** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776012** | **MWR-1** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776013** | **MWR-2** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776014** | **MWR-54** | EPA 3510 | OEXT/23664 | NWTPH-Dx | GCSV/12441 |
| **10248776001** | **SMW-3** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776002** | **MW-209** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776003** | **MW-210** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776004** | **MW-211** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776005** | **MW-50** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776006** | **MW-45** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776007** | **MW-41** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776008** | **MWR-6** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776009** | **MWR-5** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776010** | **MWR-4** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776011** | **MWR-3** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776012** | **MWR-1** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776013** | **MWR-2** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776014** | **MWR-54** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776015** | **TRIP BLANK** | NWTPH-Gx/8021 | GCV/11455 | | |
| **10248776001** | **SMW-3** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776002** | **MW-209** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776003** | **MW-210** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776004** | **MW-211** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |

## QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 76.75118.1396 P66-1396 REV1
Pace Project No.: 10248776

| Lab ID | Sample ID | QC Batch Method | QC Batch | Analytical Method | Analytical Batch |
|---|---|---|---|---|---|
| **10248776005** | **MW-50** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776006** | **MW-45** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776007** | **MW-41** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776008** | **MWR-6** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776009** | **MWR-5** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776010** | **MWR-4** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776011** | **MWR-3** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776012** | **MWR-1** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776013** | **MWR-2** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776014** | **MWR-54** | EPA 3010 | MPRP/43241 | EPA 6010 | ICP/18217 |
| **10248776001** | **SMW-3** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776002** | **MW-209** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776003** | **MW-210** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776004** | **MW-211** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776005** | **MW-50** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776006** | **MW-45** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776007** | **MW-41** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776008** | **MWR-6** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776009** | **MWR-5** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776010** | **MWR-4** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776011** | **MWR-3** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776012** | **MWR-1** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776013** | **MWR-2** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776014** | **MWR-54** | EPA 3010 | MPRP/43269 | EPA 6010 | ICP/18214 |
| **10248776001** | **SMW-3** | EPA 8260 | MSV/25639 | | |
| **10248776002** | **MW-209** | EPA 8260 | MSV/25639 | | |
| **10248776003** | **MW-210** | EPA 8260 | MSV/25639 | | |
| **10248776004** | **MW-211** | EPA 8260 | MSV/25639 | | |
| **10248776005** | **MW-50** | EPA 8260 | MSV/25639 | | |
| **10248776006** | **MW-45** | EPA 8260 | MSV/25666 | | |
| **10248776007** | **MW-41** | EPA 8260 | MSV/25639 | | |
| **10248776008** | **MWR-6** | EPA 8260 | MSV/25639 | | |
| **10248776009** | **MWR-5** | EPA 8260 | MSV/25666 | | |
| **10248776010** | **MWR-4** | EPA 8260 | MSV/25639 | | |
| **10248776011** | **MWR-3** | EPA 8260 | MSV/25639 | | |
| **10248776012** | **MWR-1** | EPA 8260 | MSV/25639 | | |
| **10248776013** | **MWR-2** | EPA 8260 | MSV/25639 | | |
| **10248776014** | **MWR-54** | EPA 8260 | MSV/25639 | | |
| **10248776015** | **TRIP BLANK** | EPA 8260 | MSV/25639 | | |

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1127-1866, 25309

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10248776

Page: 1 of 2

1649288

| Section A Required Client Information: | Section B Required Project Information: | Section C Invoice Information: |
|---|---|---|
| Company: Cardno ATC | Report To: Mark Newman | Attention: |
| Address: 6347 Seaview Seattle, WA | Copy To: Kyle.Sattler@cardno.com | Company Name: |
| Email To: Mark.newman@cardno.com | Purchase Order No.: | Address: |
| Phone: 206-781-1449 Fax: | Project Name: PBG-1386 | Pace Quote Reference: |
| Requested Due Date/TAT: Standard | Project Number: 76.75118.1386 | Pace Project Manager: |
| | | Pace Profile #: |

REGULATORY AGENCY: ☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Requested Analysis Filtered (Y/N)

| ITEM # | Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N | Analysis Test ↓ | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | SMW-3 | WT | G | 11/6/13 | 10:50 | | | | 10 | | | 2 | 8 | | | | | X | Pb, Hardness, BTEX, EDB, EDC, low level Total Pb, Dissolved Pb, MTBE | | 001 |
| 2 | MW-209 | WT | G | 11/6/13 | 11:30 | | | | 10 | | | 2 | 8 | | | | | X | | | 002 |
| 3 | MW-210 | WT | G | 11/6/13 | 12:20 | | | | 10 | | | 2 | 8 | | | | | X | | | 003 |
| 4 | MW-211 | WT | G | 11/6/13 | 13:00 | | | | 10 | | | 2 | 8 | | | | | X | | | 004 |
| 5 | MW-50 | WT | G | 11/6/13 | 14:00 | | | | 18 | | | 2 | 16 | | | | | X | | QC | 005 |
| 6 | MW-45 | WT | G | 11/6/13 | 15:30 | | | | 10 | | | 2 | 8 | | | | | X | | | 006 |
| 7 | MW-44 | WT | G | 11/7/13 | 9:30 | 11/7/13 | | | 10 | | | 2 | 8 | | | | | X | | | 007 |
| 8 | MWR-6 | WT | G | 11/7/13 | 10:25 | | | | 10 | | | 2 | 8 | | | | | X | | | 008 |
| 9 | MWR-5 | WT | G | 11/7/13 | 11:10 | | | | 10 | | | 2 | 8 | | | | | X | | | 009 |
| 10 | MWR-4 | WT | G | 11/7/13 | 11:50 | | | | 10 | | | 2 | 8 | | | | | X | | | 010 |
| 11 | MWR-3 | WT | G | 11/7/13 | 12:30 | | | | 10 | | | 2 | 8 | | | | | X | | | 011 |
| 12 | MWR-1 | WT | G | 11/7/13 | 13:10 | | | | 10 | | | 2 | 8 | | | | | X | | | 012 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME |
|---|---|---|---|---|---|---|
| | Cardno ATC | 11/7/13 | 16:30 | ~~Jean Cross~~ / Pace | 11/8/13 | |
| | | | | / CATC | 11/08/13 | 1630 |
| | | 11/08/13 | 10:20 | Jenn Cross / Pace | 11/8/13 | 10:20 |
| | | | | CSI Pace | 11/8/13 | 827 |

SAMPLE CONDITIONS

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| * | Y | N | Y |
| X | | | |
| | | | |
| | Y | Y | Y |

*1.8, 3.3, 0.4

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Mark Newman

SIGNATURE of SAMPLER:

DATE Signed (MM/DD/YY): 11/7/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

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1127 1136, 1259

# CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10248776

Page: 2 of 2

1649288

| Section A Required Client Information: | Section B Required Project Information: | Section C Invoice Information: |
|---|---|---|
| Company: Cardno ATC | Report To: | Attention: |
| Address: | Copy To: | Company Name: |
| | | Address: |
| Email To: | Purchase Order No.: | Pace Quote Reference: |
| Phone: Fax: | Project Name: | Pace Project Manager: |
| Requested Due Date/TAT: | Project Number: | Pace Profile #: |

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location STATE:

Section D Required Client Information

**SAMPLE ID**
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

| ITEM # | MATRIX CODE (see valid codes to left) | SAMPLE TYPE (G=GRAB C=COMP) | COLLECTED: COMPOSITE START DATE | COMPOSITE START TIME | COMPOSITE END/GRAB DATE | COMPOSITE END/GRAB TIME | SAMPLE TEMP AT COLLECTION | # OF CONTAINERS | Preservatives: Unpreserved | $H_2SO_4$ | $HNO_3$ | HCl | NaOH | $Na_2S_2O_3$ | Methanol | Other | Y/N | Analysis Test ↓ | Residual Chlorine (Y/N) | Pace Project No./ Lab I.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | MW | G | 11/7/13 | 13:50 | | | | | | | 2 | 0 | | | | | | Dissolved Pb, Cadmium, BTEX, EDB, EDC, Lowlevel Total Pb, Diss Pb, Lead, MTBE | | 013 |
| 2 | MW-54 | WT | G | 11/7/13 | 14:50 | | | | | | 2 | 8 | | | | | | | | 014 |
| 3 | Trip Blank | WT | G | 11/6/13 | 7:00 | | | | | | | | | | | | | | | 015 |
| 4 | | | | | | | | | | | | | | | | | | | | 016 |
| 5 | | | | | | | | | | | | | | | | | | | | 001 |
| 6 | | | | | | | | | | | | | | | | | | | | 002 |
| 7 | | | | | | | | | | | | | | | | | | | | 003 |
| 8 | | | | | | | | | | | | | | | | | | | | 004 |
| 9 | | | | | | | | | | | | | | X | | | | | X | 005 |
| 10 | | | | | | | | | | | | | | | | | | | | 006 |
| 11 | | | | | | | | | | | | | | | | | | | | 007 |
| 12 | | | | | | | | | | | | | | | | X | 3 | 3 | | 008 |

| ADDITIONAL COMMENTS | RELINQUISHED BY / AFFILIATION | DATE | TIME | ACCEPTED BY / AFFILIATION | DATE | TIME | SAMPLE CONDITIONS | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Dissolved Pb. is Field Filtered | CATC | 11/08/13 | 10:20 | Jenn Gross/PACE | 11/8/13 | 10:20 | * | Y | N | Y |
| | | | | EST/Pace | 11/9/13 | 827 | X | Y | Y | Y |
| | | | | | | | | | | |
| | | | | | | | | | | |

*1.8, 3.3, 0.4

3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Andy McLennan

SIGNATURE of SAMPLER: [signature] Pace

DATE Signed (MM/DD/YY): 11/7/13

| Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N) |
|---|---|---|---|
| | | | |

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.



F-ALL-Q-020rev.07, 15-May-2007

| Pace Analytical | Document Name: Sample Condition Upon Receipt Form | Document Revised: 19Sep2013 Page 1 of 1 |
|---|---|---|
| | Document No.: F-MN-L-213-rev.07 | Issuing Authority: Pace Minnesota Quality Office |

**Sample Condition Upon Receipt**

**Client Name:** CWJNO

**Project #:** WO# : 10248776

10248776

**Courier:** ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

**Tracking Number:** 5779 5330 6992, 7017, 7006, 7028

**Custody Seal on Cooler/Box Present?** ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

**Optional:** Proj. Due Date: Proj. Name:

**Packing Material:** ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

**Thermom. Used:** ☐ 80512447 ☐ 72337080 ☐ 888A912167504 ☐ 888A9132521491 **Type of Ice:** ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

**Cooler Temp Read (°C):** 0.5, 3.3, 1.4, 0.3 **Cooler Temp Corrected (°C):** 0.9, 3.7, 1.4, 0.7 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** 0.4 **Date and Initials of Person Examining Contents:** CJ 11/09/13

**Comments:**

| | | | | |
|---|---|---|---|---|
| Chain of Custody Present? | ☑ Yes | ☐ No | ☐ N/A | 1. |
| Chain of Custody Filled Out? | ☑ Yes | ☐ No | ☐ N/A | 2. |
| Chain of Custody Relinquished? | ☑ Yes | ☐ No | ☐ N/A | 3. |
| Sampler Name and/or Signature on COC? | ☑ Yes | ☐ No | ☐ N/A | 4. |
| Samples Arrived within Hold Time? | ☑ Yes | ☐ No | ☐ N/A | 5. |
| Short Hold Time Analysis (<72 hr)? | ☐ Yes | ☑ No | ☐ N/A | 6. |
| Rush Turn Around Time Requested? | ☐ Yes | ☑ No | ☐ N/A | 7. |
| Sufficient Volume? | ☑ Yes | ☐ No | ☐ N/A | 8. |
| Correct Containers Used? | ☑ Yes | ☐ No | ☐ N/A | 9. |
| -Pace Containers Used? | ☑ Yes | ☐ No | ☐ N/A | |
| Containers Intact? | ☑ Yes | ☐ No | ☐ N/A | 10. |
| Filtered Volume Received for Dissolved Tests? | ☑ Yes | ☐ No | ☐ N/A | 11. |
| Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT | ☑ Yes | ☐ No | ☐ N/A | 12. |
| All containers needing acid/base preservation have been checked? Noncompliances are noted in 13. | ☑ Yes | ☐ No | ☐ N/A | 13. ☑ $HNO_3$ ☐ $H_2SO_4$ ☐ NaOH ☐ HCl Sample # 2.2 All Sample 001-014 |
| All containers needing preservation are found to be in compliance with EPA recommendation? ($HNO_3$, $H_2SO_4$, HCl<2; NaOH>12) | ☑ Yes | ☐ No | ☐ N/A | |
| Exceptions: VOA, Coliform, TOC, Oil and Grease, WI-DRO (water) | ☑ Yes | ☐ No | | Initial when completed: CJ Lot # of added preservative: |
| Headspace in VOA Vials ( >6mm)? | ☐ Yes | ☑ No | ☐ N/A | 14. |
| Trip Blank Present? | ☑ Yes | ☐ No | ☐ N/A | 15. |
| Trip Blank Custody Seals Present? | ☐ Yes | ☐ No | ☐ N/A | 12TB |
| Pace Trip Blank Lot # (if purchased): | | | | |

**CLIENT NOTIFICATION/RESOLUTION** **Field Data Required?** ☐ Yes ☐ No

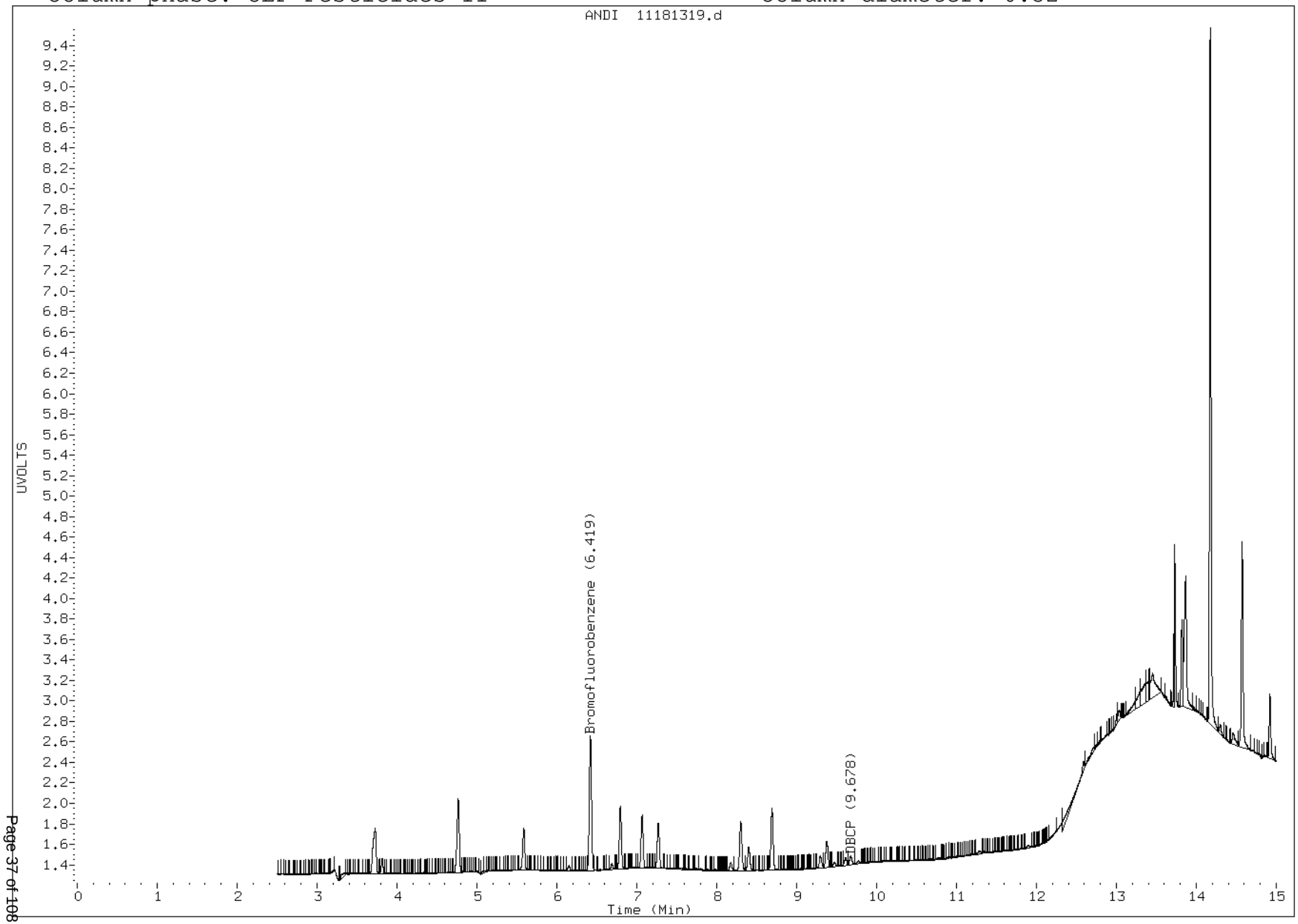
Person Contacted: Date/Time:

Comments/Resolution:

**Project Manager Review:** Erin Gross **Date:** 11/11/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office ( i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Data File: \\192.168.10.12\chem\10gcsA.i\111813-8011-1.b/11181319.d
Report Date: 11/19/2013
Sample ID: 10248776001
Client ID: Instrument: 10gcsA.i
Sample Information: 10248776001
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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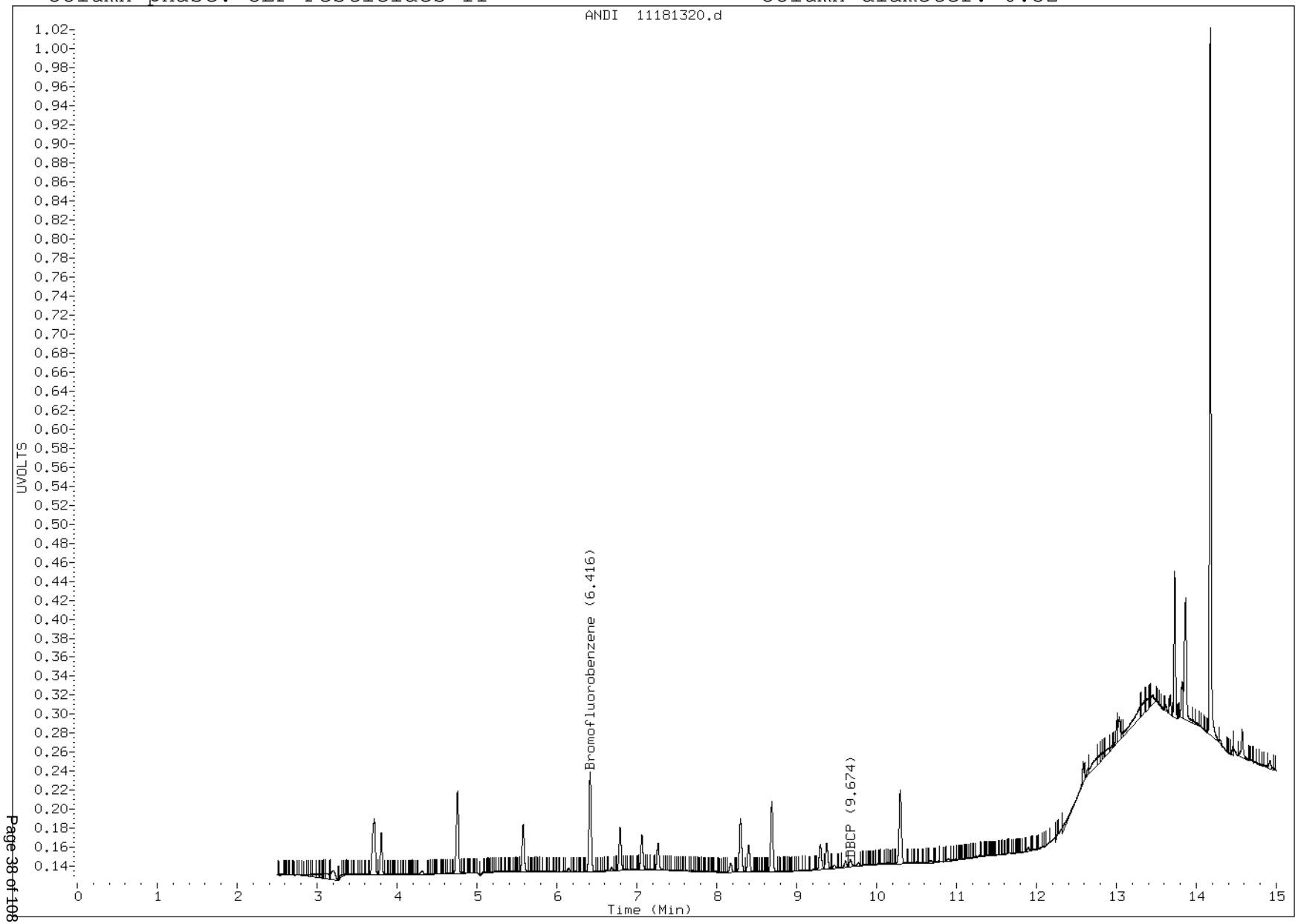
Sample ID: 10248776002
Client ID: Instrument: 10gcsA.i
Sample Information: 10248776002
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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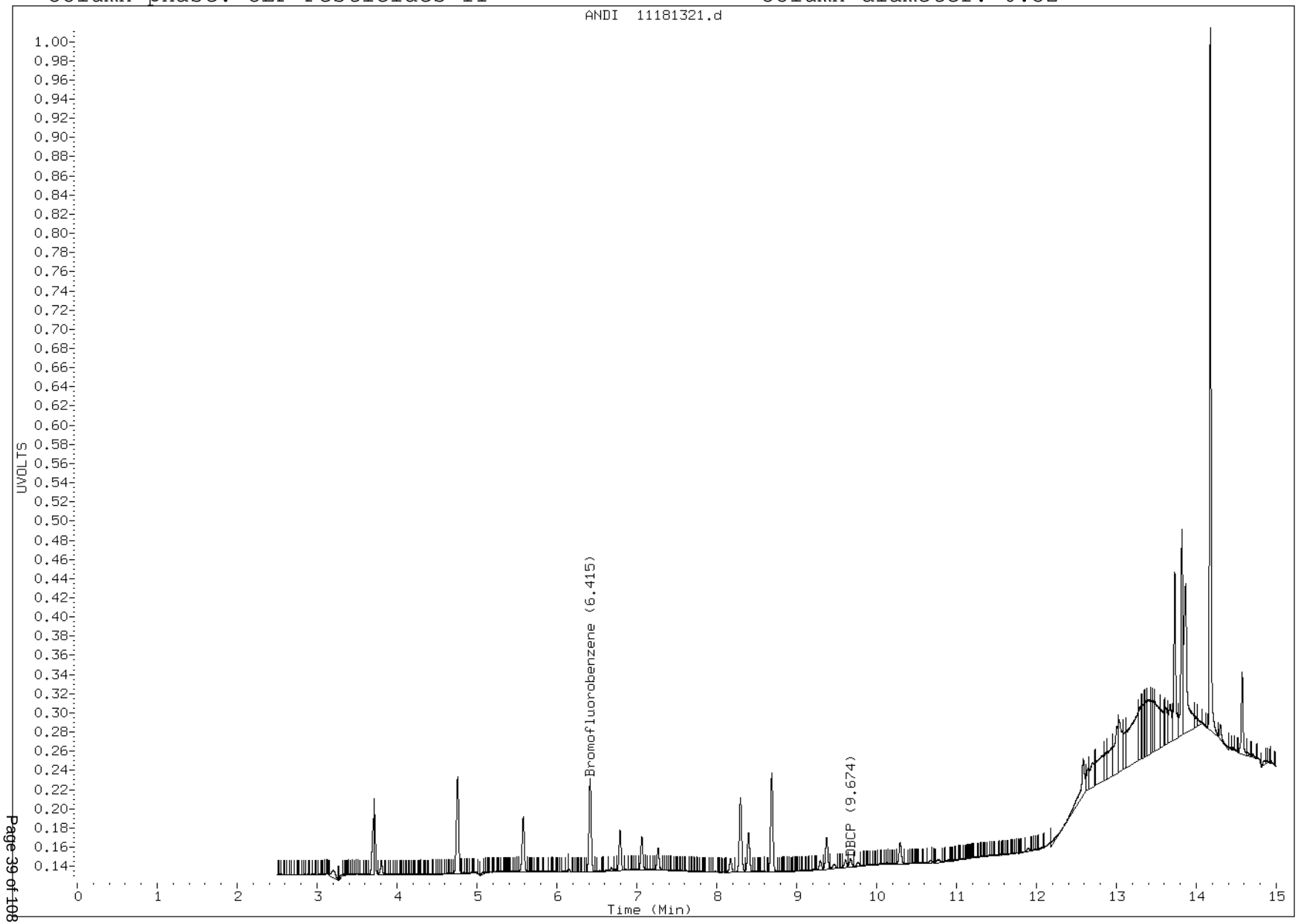
Sample Information: 10248776003
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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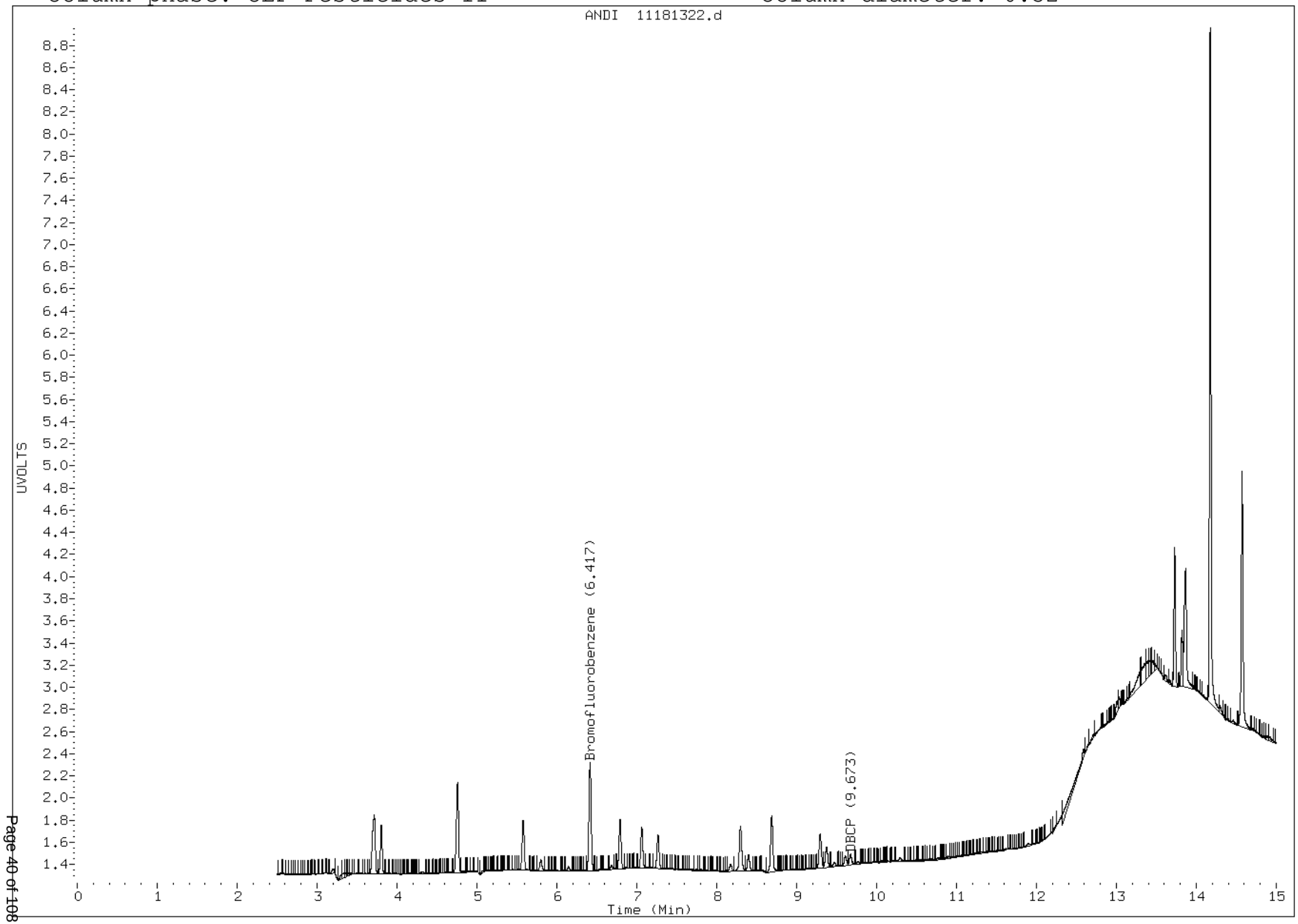
Sample Information: 10248776004
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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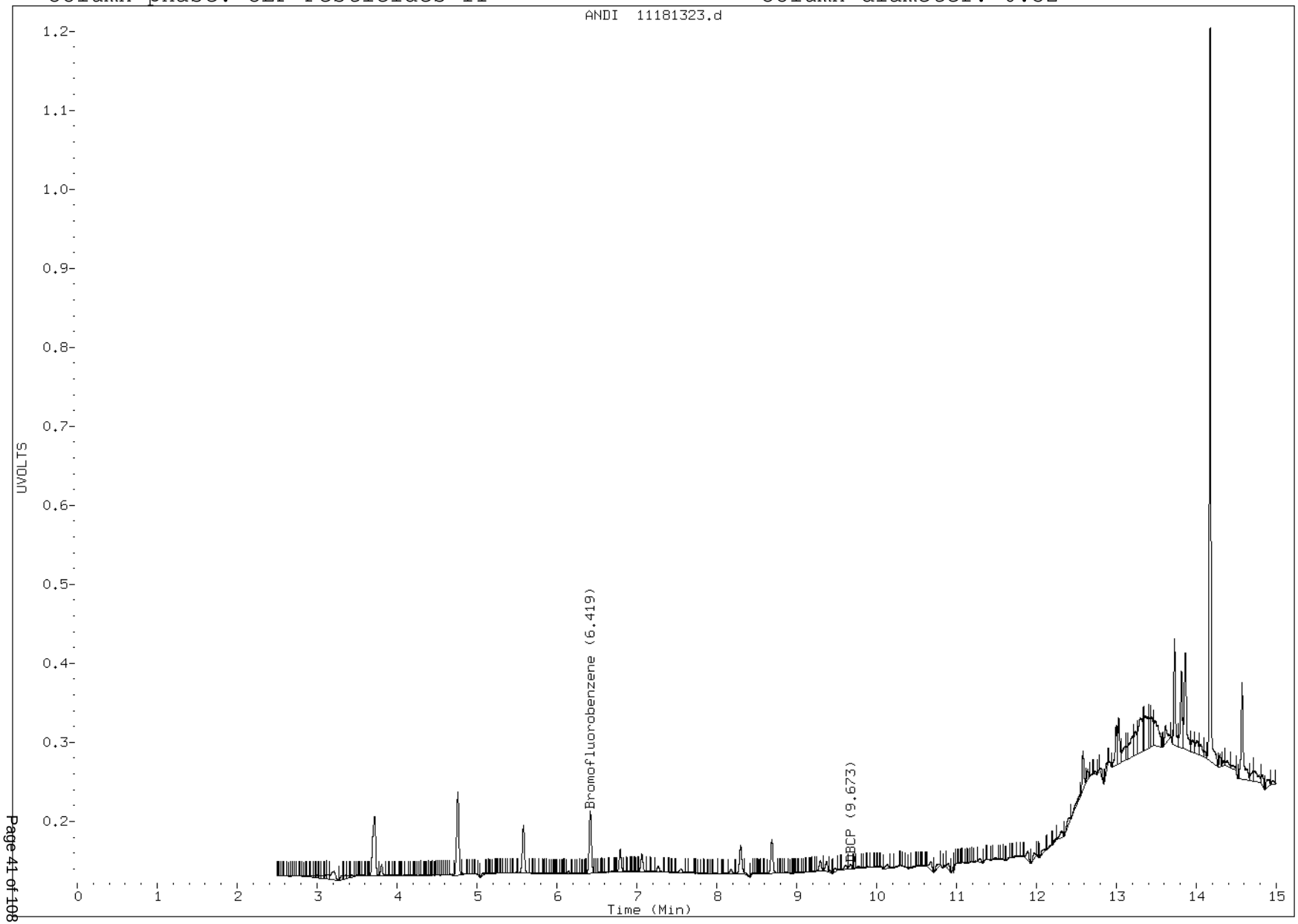
Sample Information: 10248776005
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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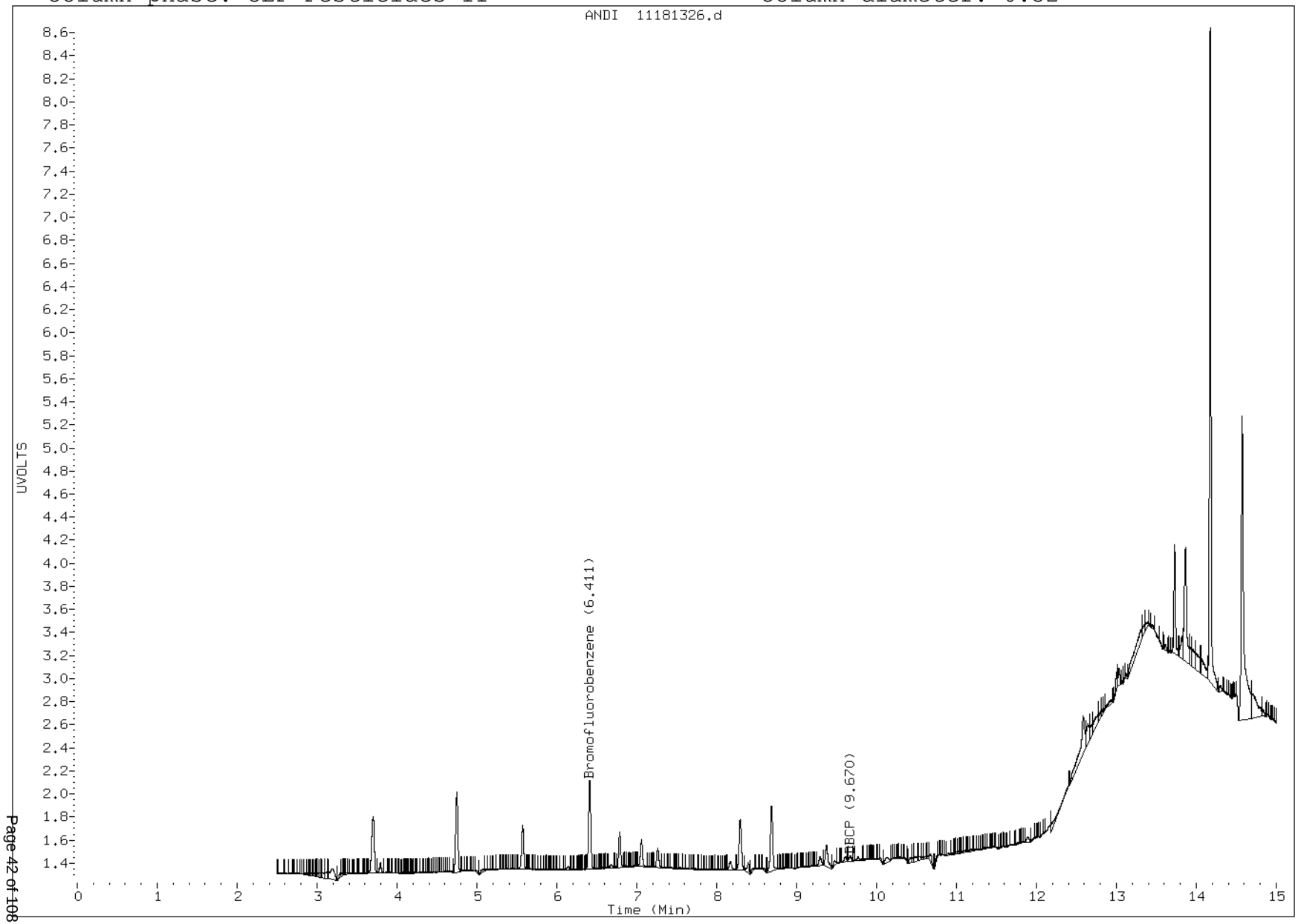
Sample Information: 10248776006
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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Report Date: 11/20/2013

Sample ID: 10248776007

Client ID:

Instrument: 10gcsA.i

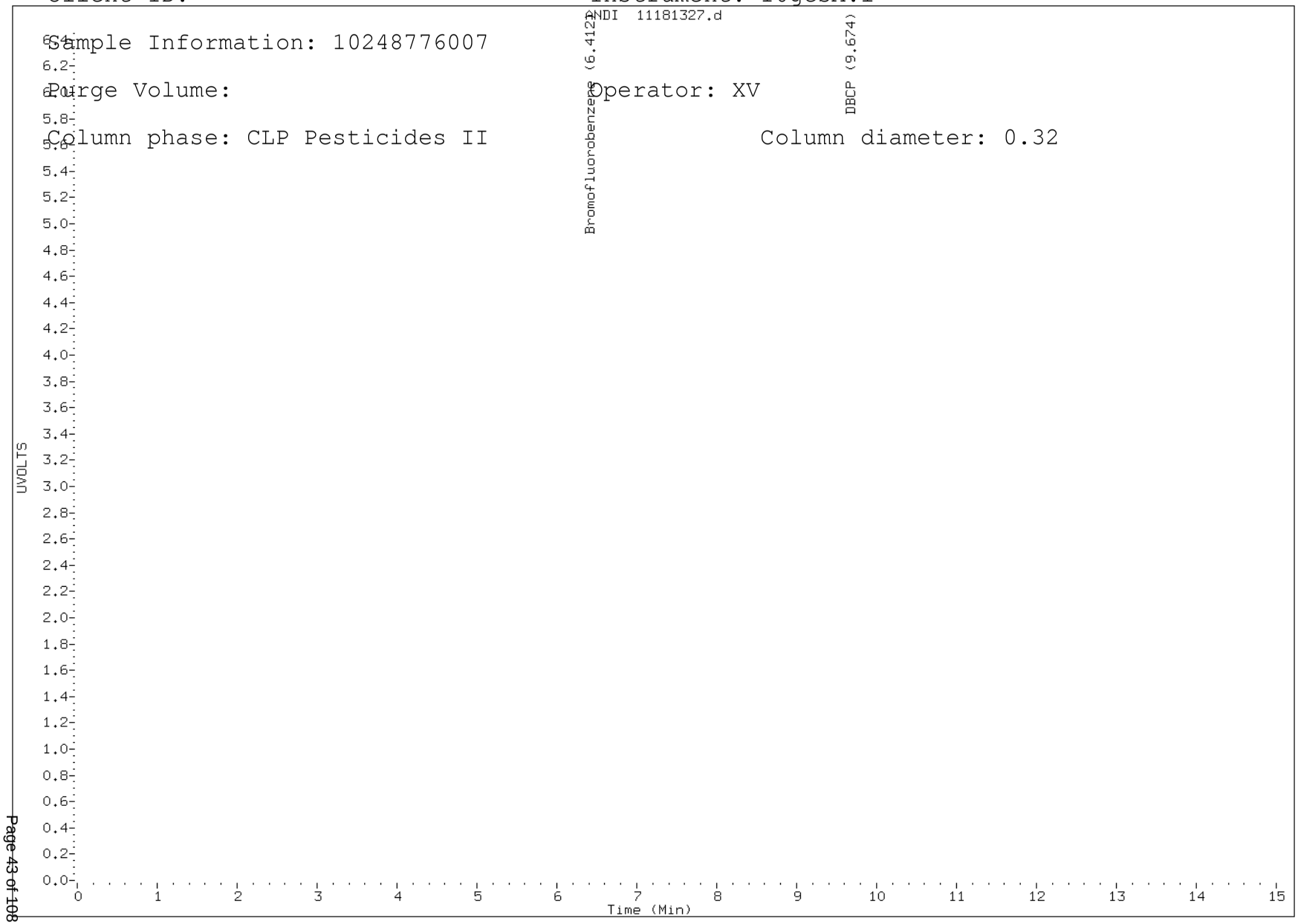
Sample Information: 10248776007

Purge Volume:

Operator: XV

Column phase: CLP Pesticides II

Column diameter: 0.32



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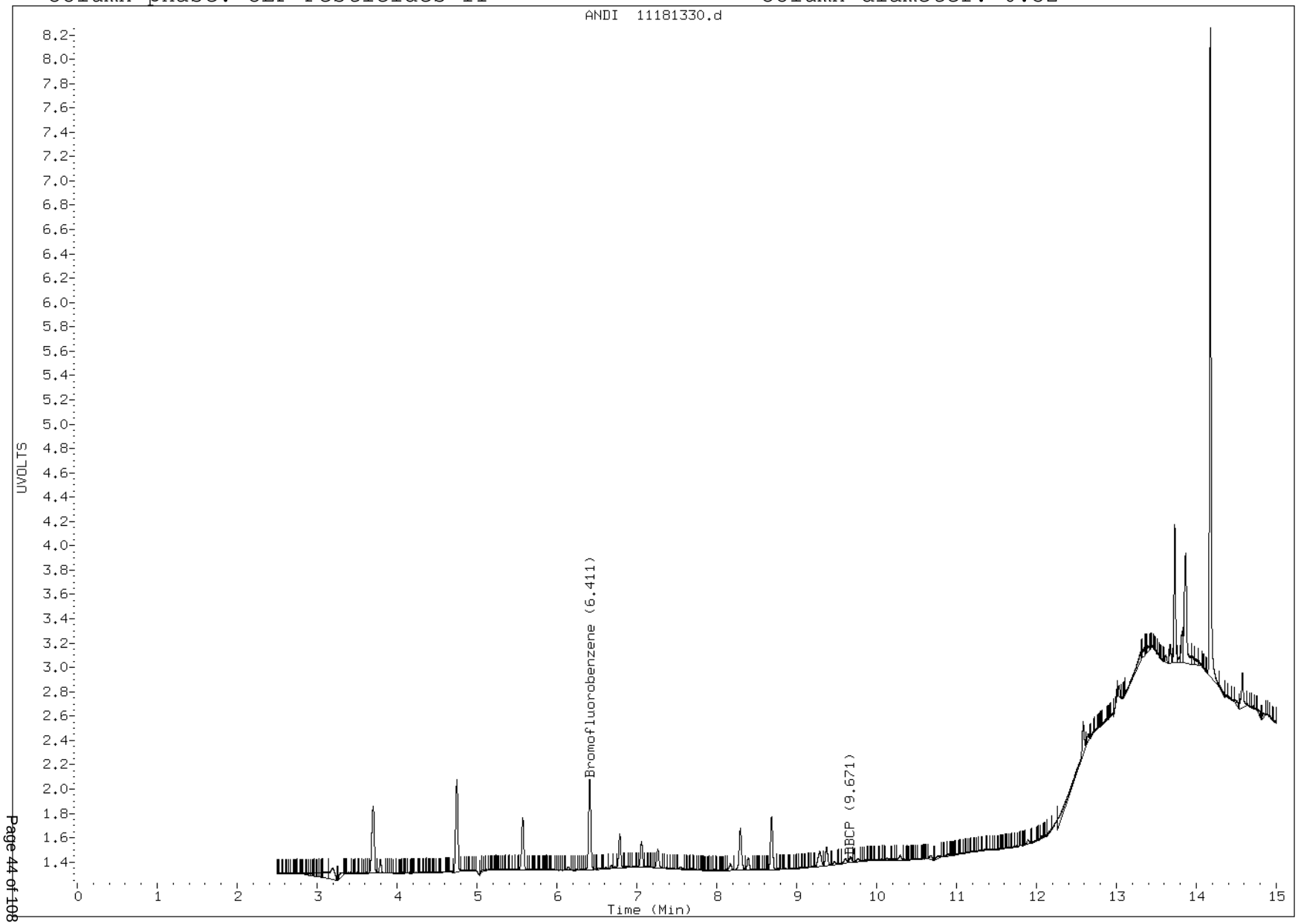
Sample Information: 10248776008
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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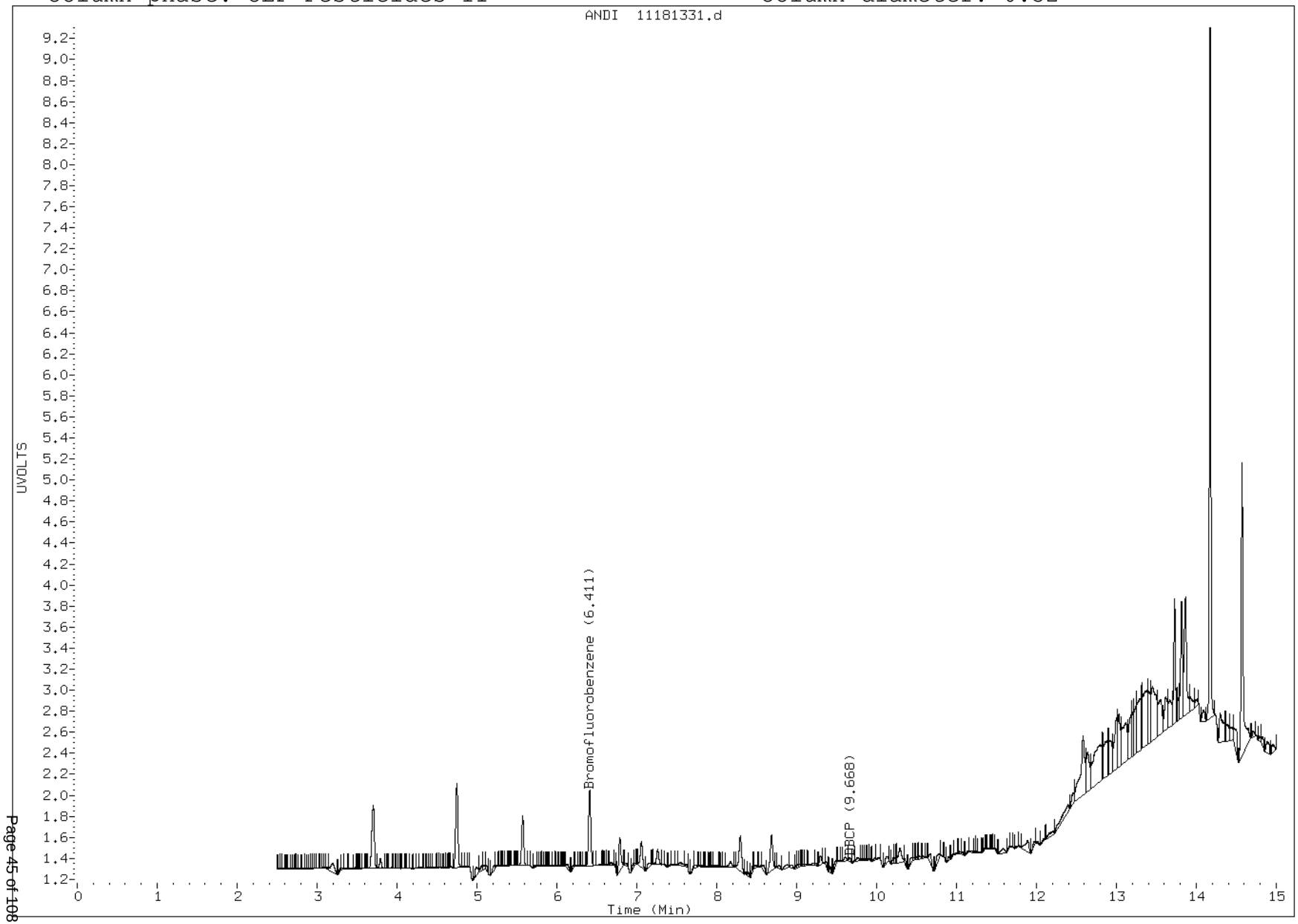
Sample Information: 10248776009
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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Sample Information: 10248776010
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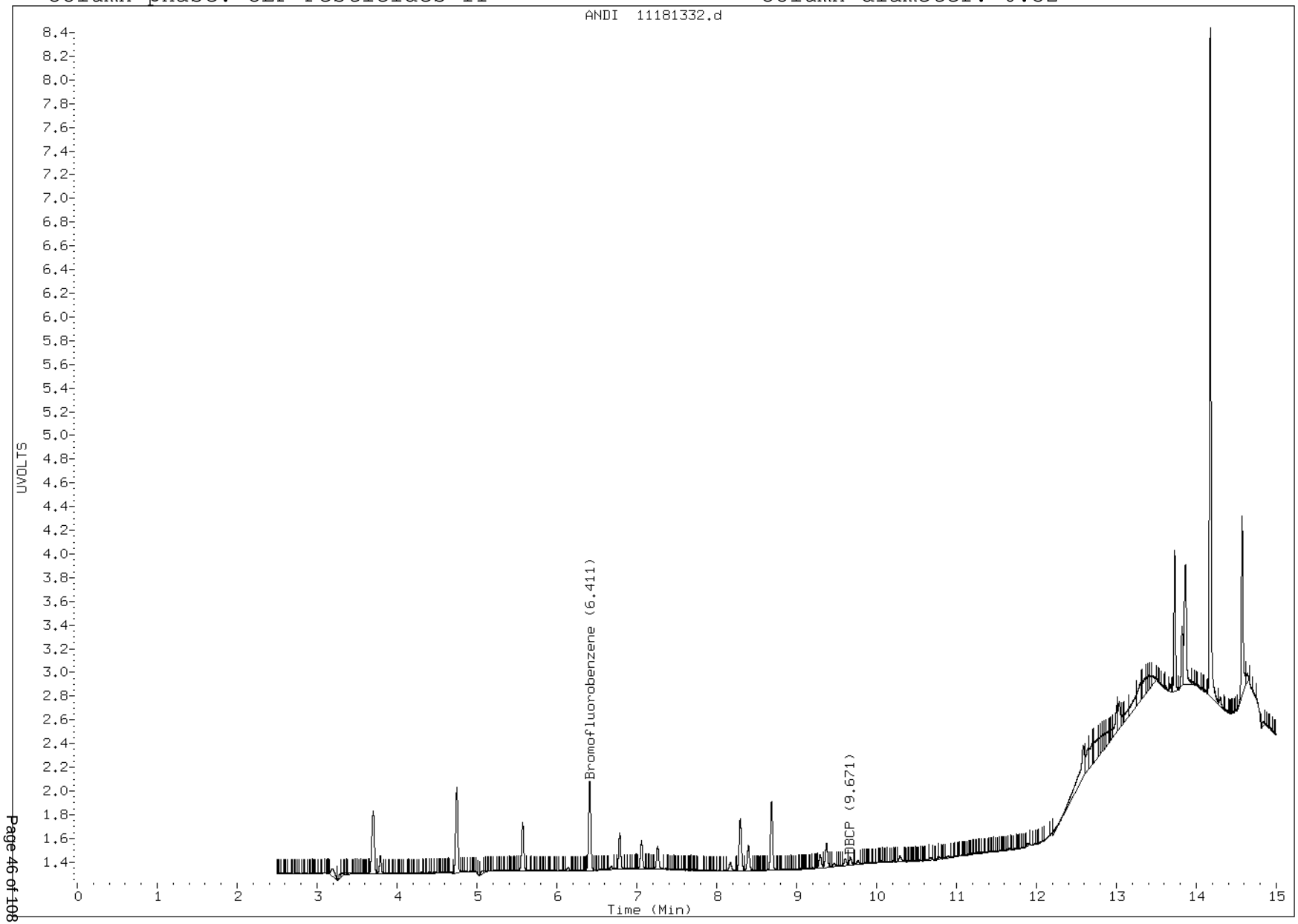

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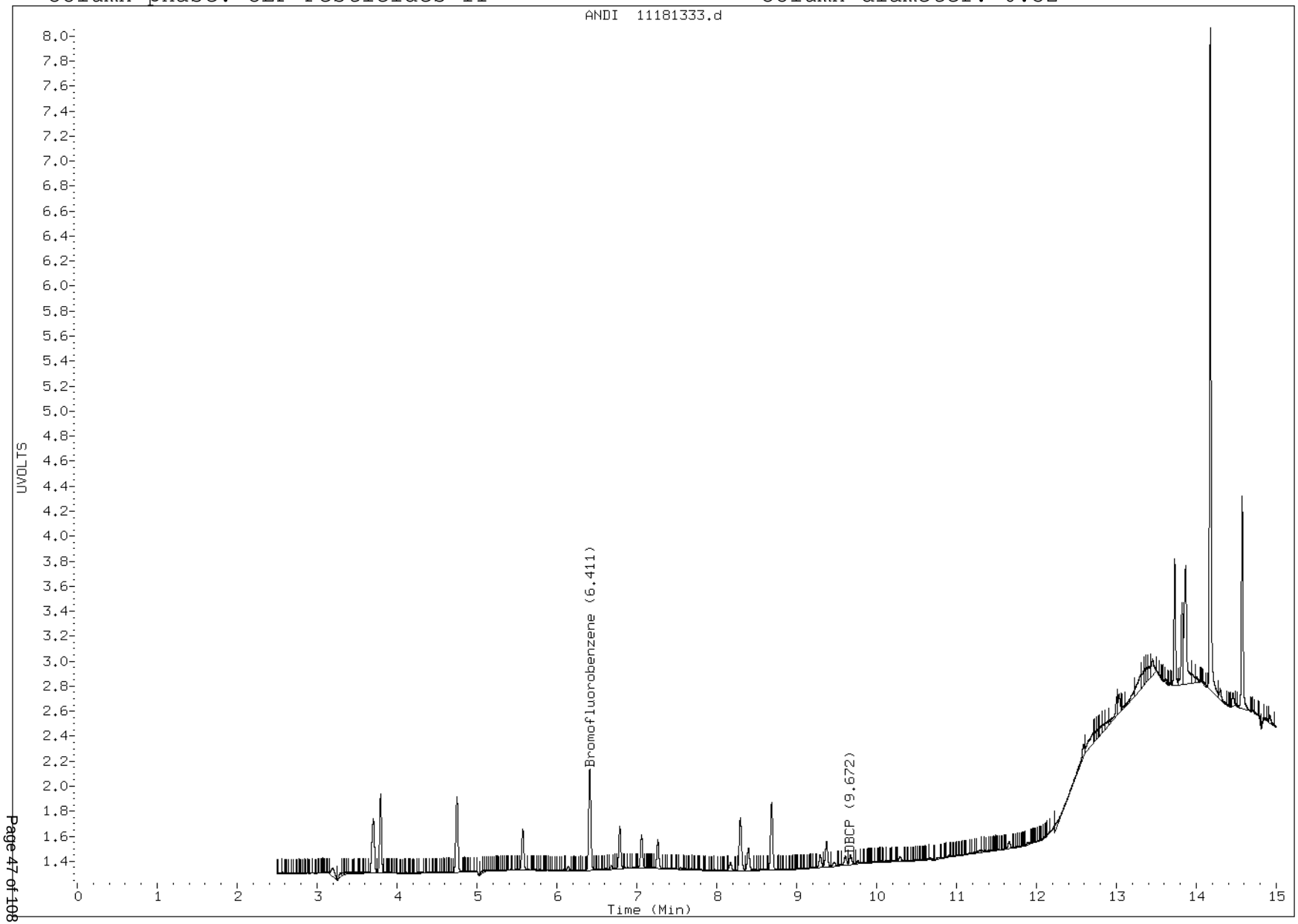
Sample Information: 10248776011
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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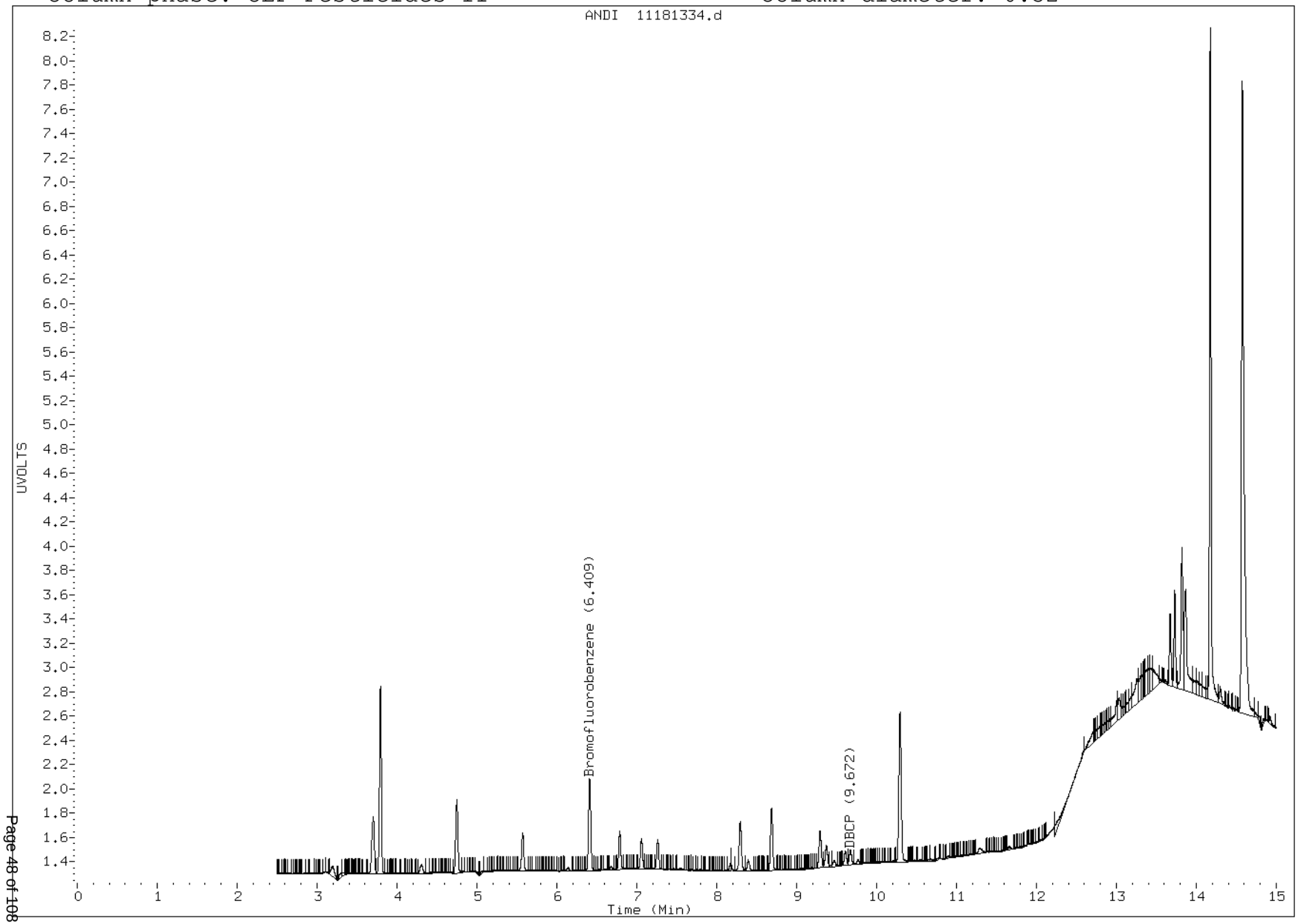

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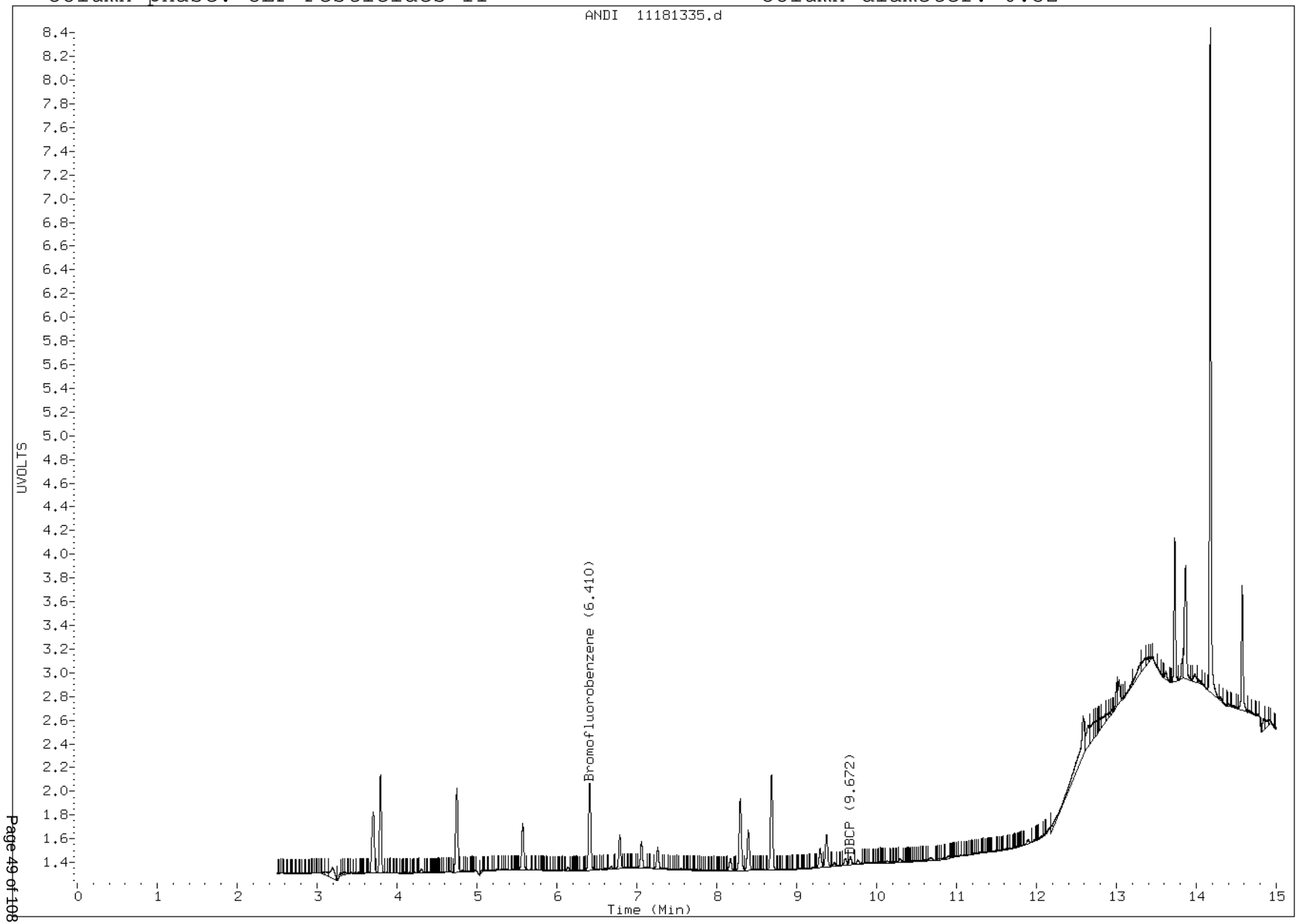
Client ID: Instrument: 10gcsA.i
Sample Information: 10248776013
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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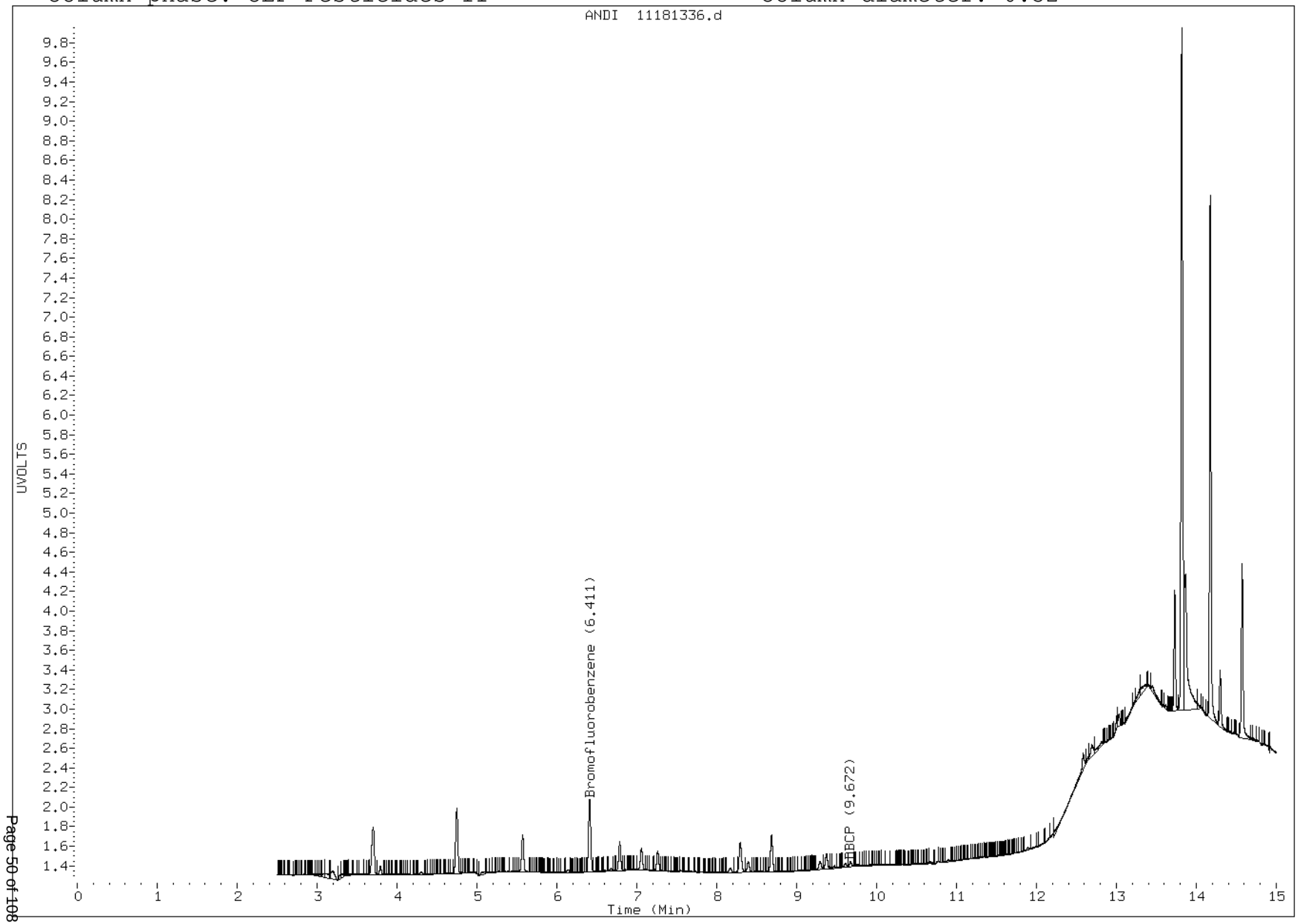
Report Date: 11/19/2013
Sample ID: 10248776014
Client ID: Instrument: 10gcsA.i
Sample Information: 10248776014
Purge Volume: Operator: XV
Column phase: CLP Pesticides II Column diameter: 0.32



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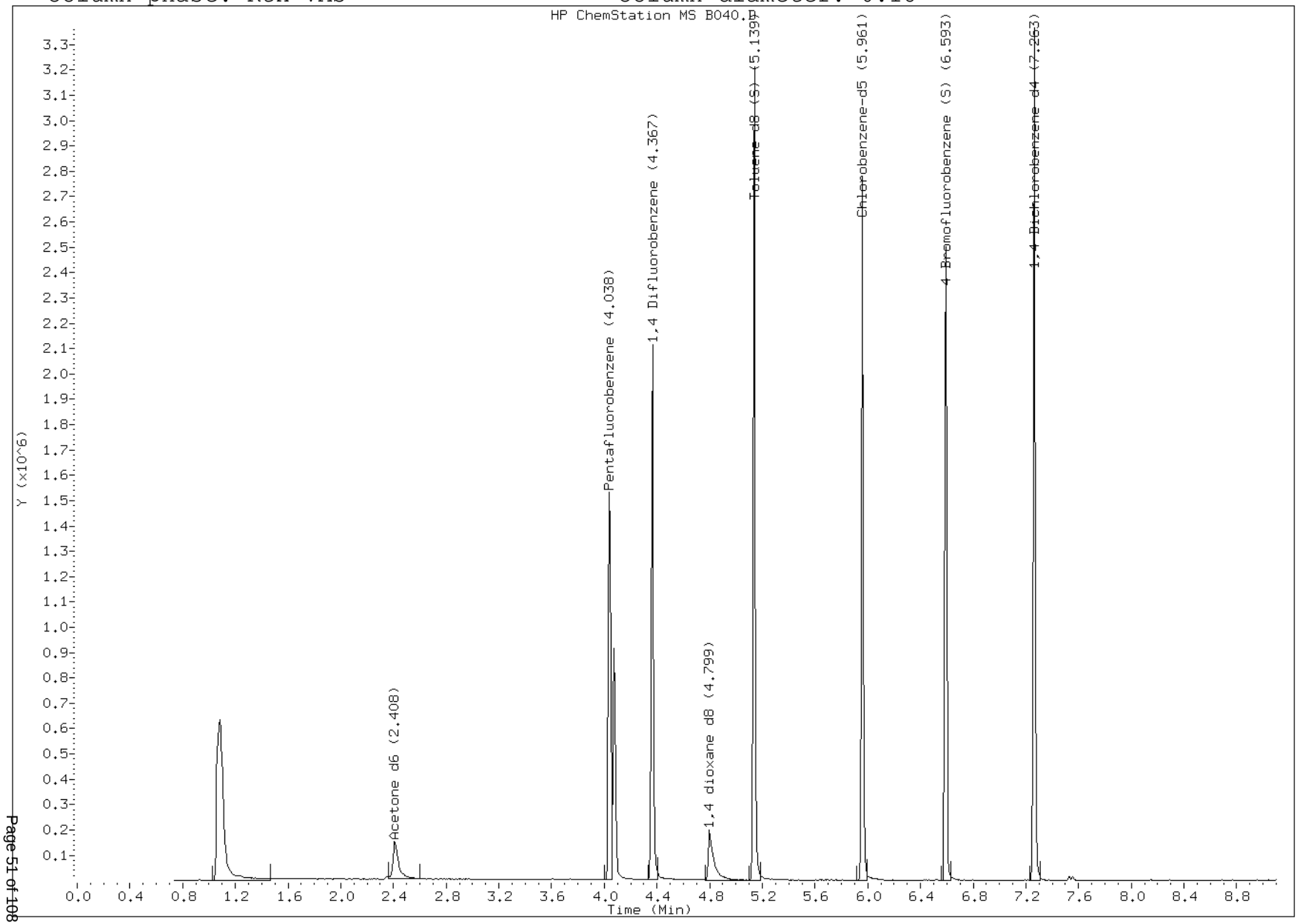
Report Date: 11/19/2013
Sample ID: 10248776001
Client ID: Instrument: 10msv9.i
Sample Information: 10248776001
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



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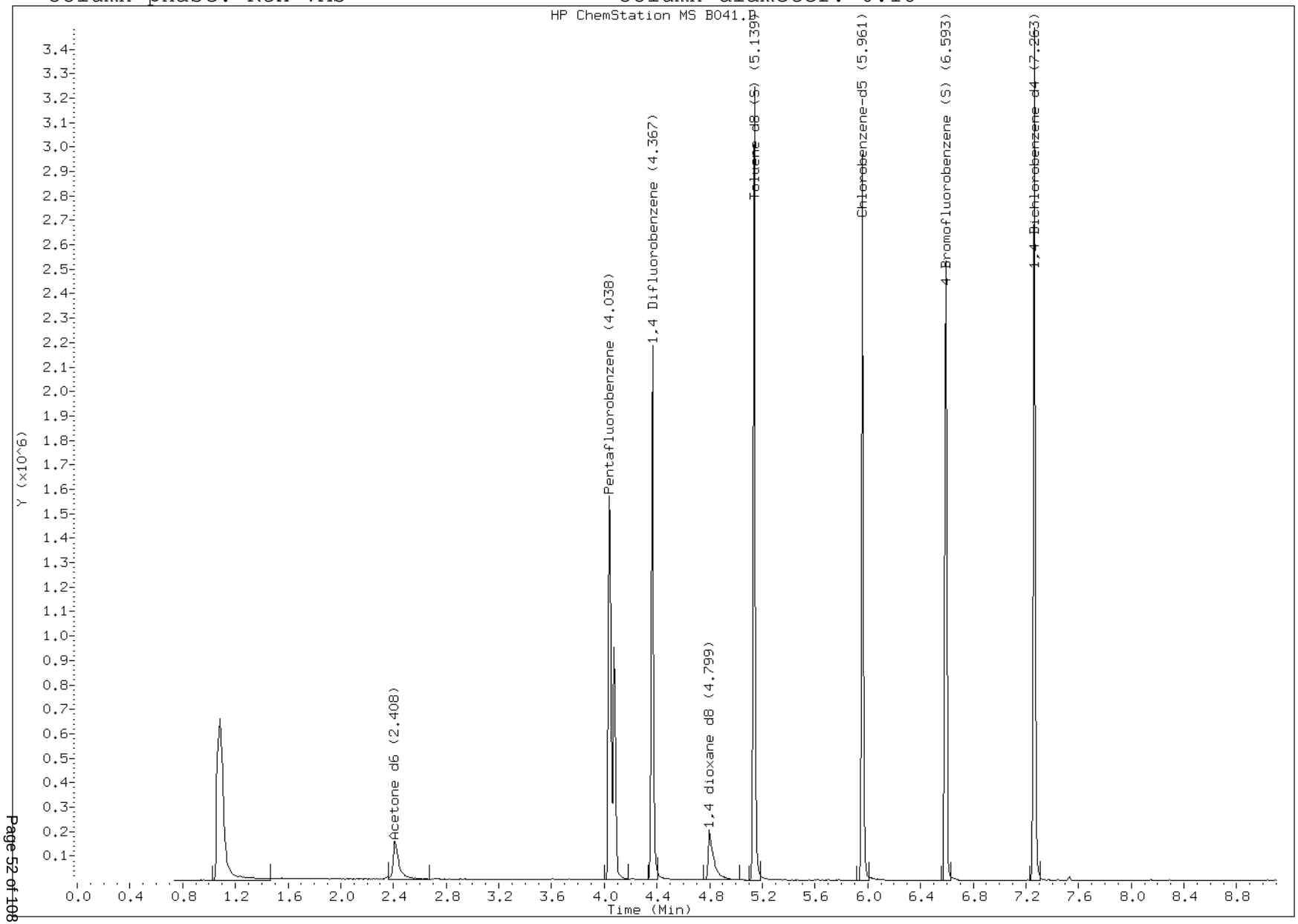
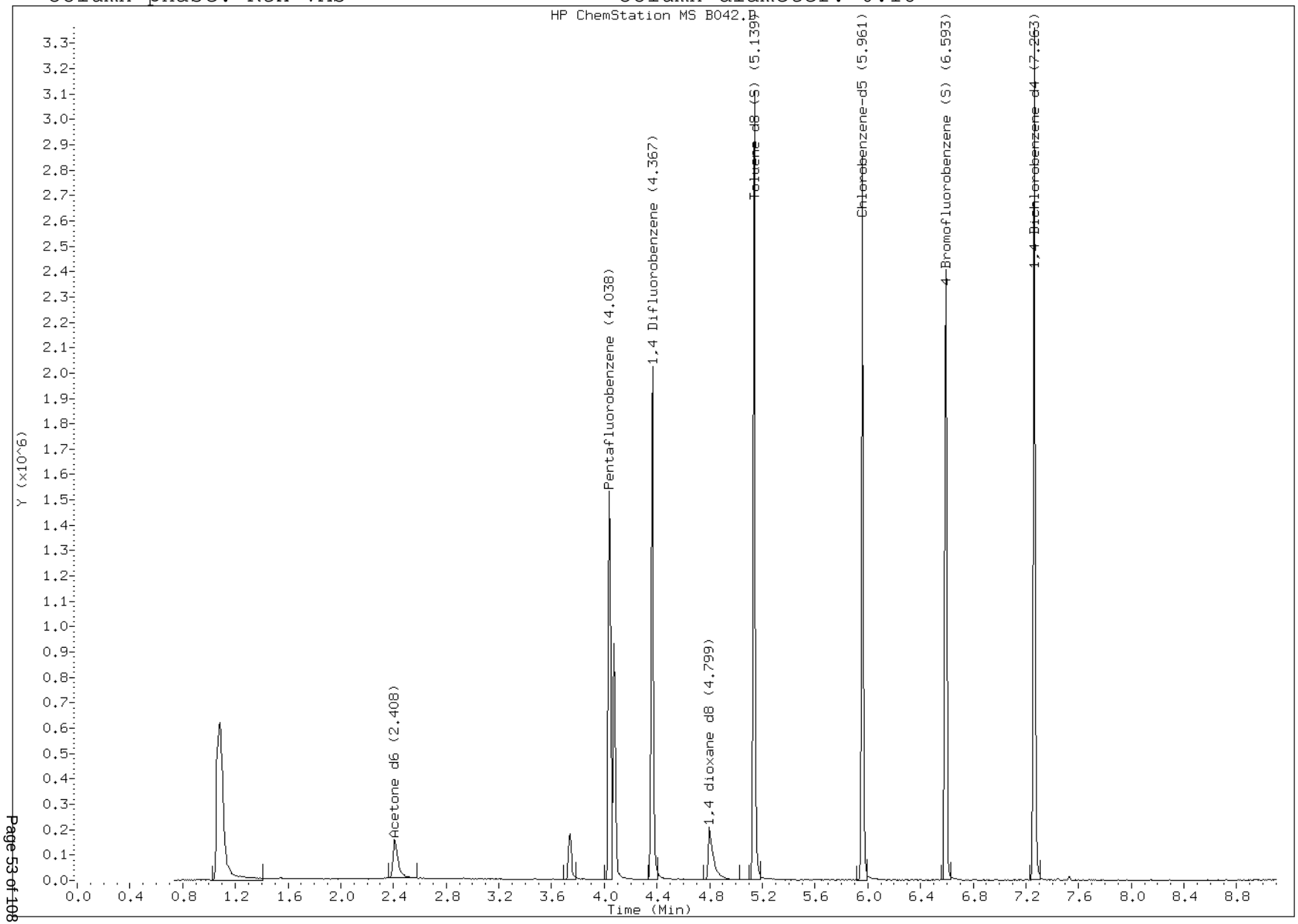
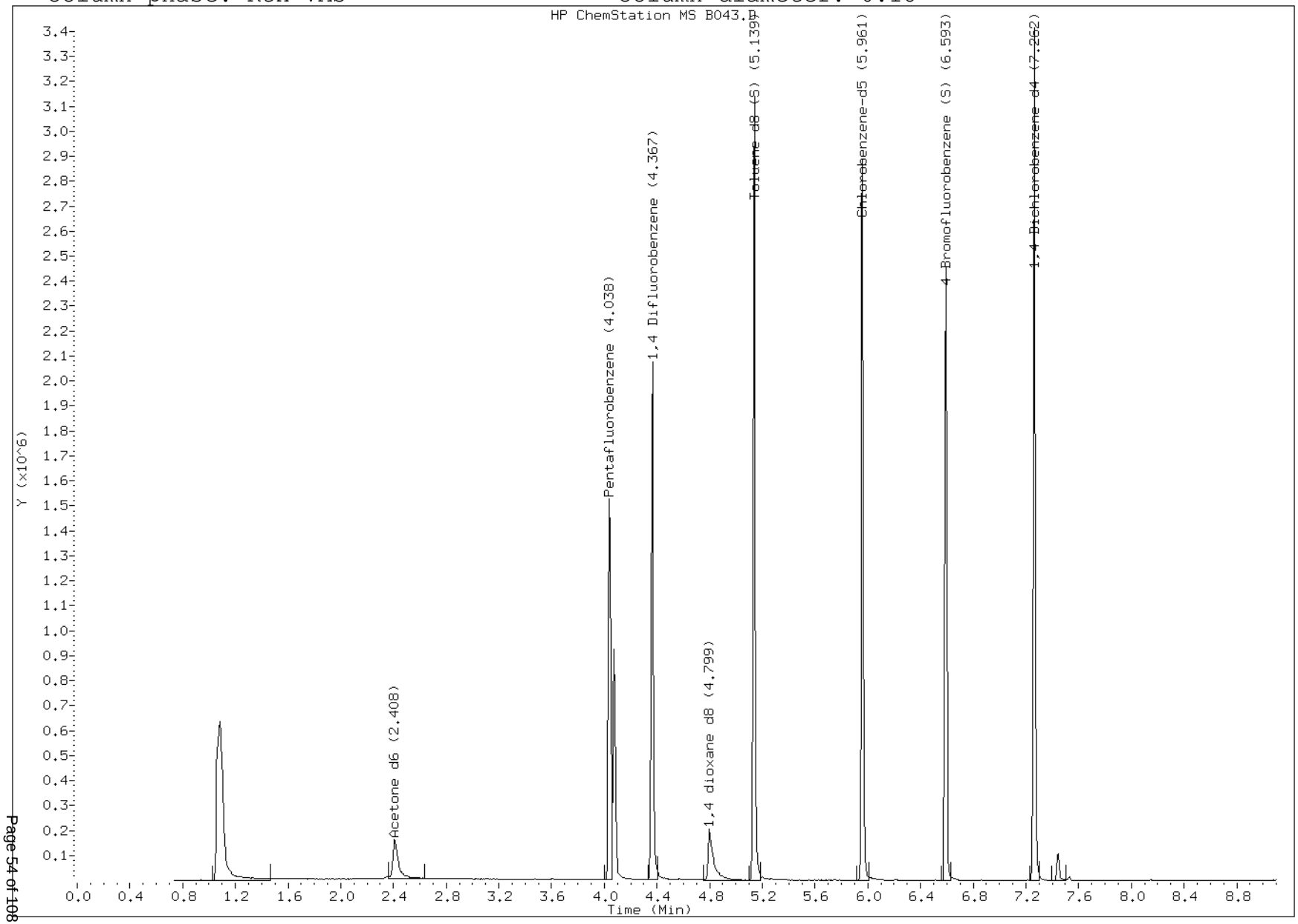
Sample ID: 10248776002
Client ID: Instrument: 10msv9.i
Sample Information: 10248776002
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



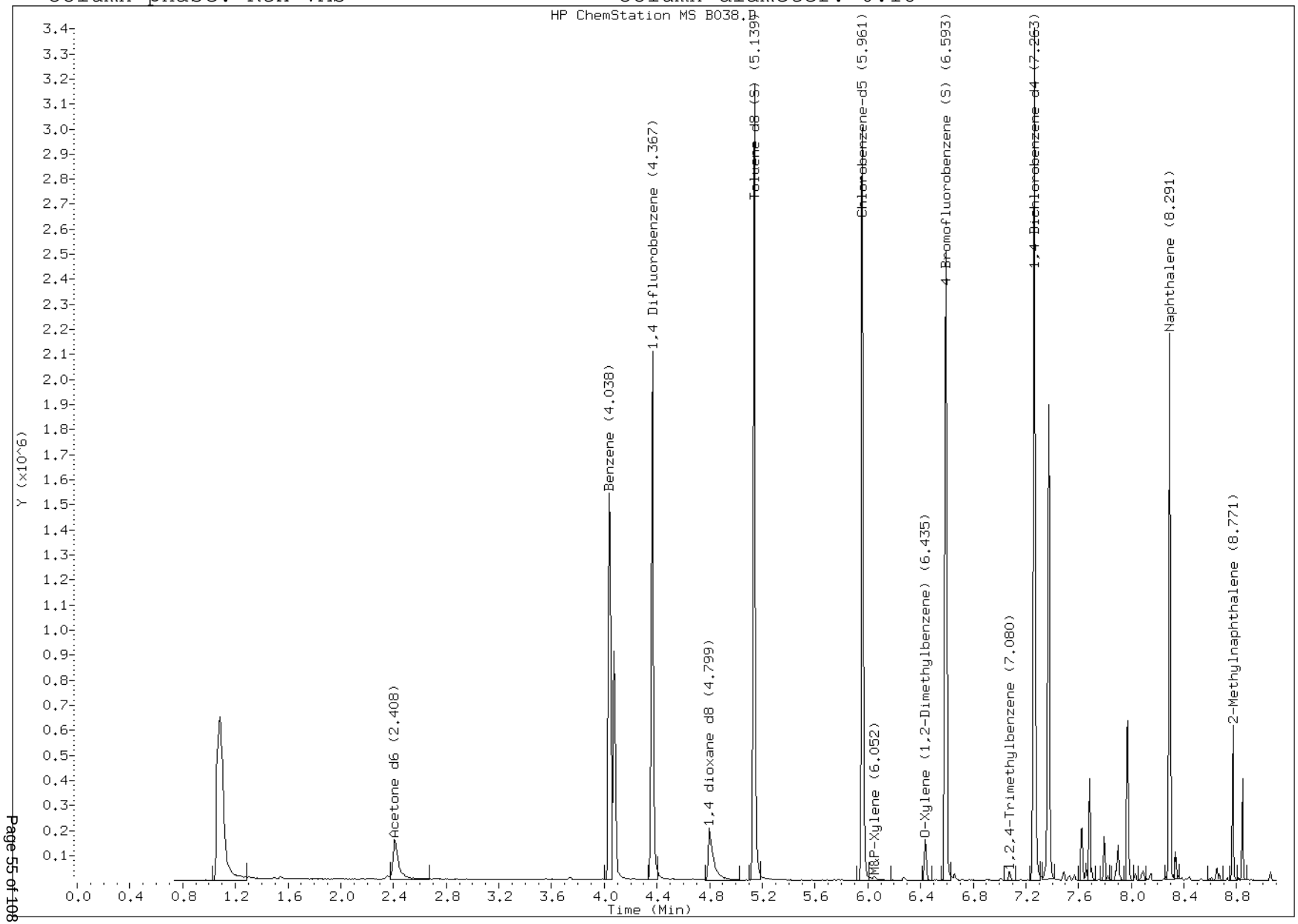
Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B042.D
Report Date: 11/19/2013
Sample ID: 10248776003
Client ID: Instrument: 10msv9.i
Sample Information: 10248776003
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B043.D
Report Date: 11/19/2013
Sample ID: 10248776004
Client ID: Instrument: 10msv9.i
Sample Information: 10248776004
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B038.D
Report Date: 11/19/2013
Sample ID: 10248776005
Client ID: Instrument: 10msv9.i
Sample Information: 10248776005,MS PARENT
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111813b.b/B047.D

Report Date: 11/19/2013

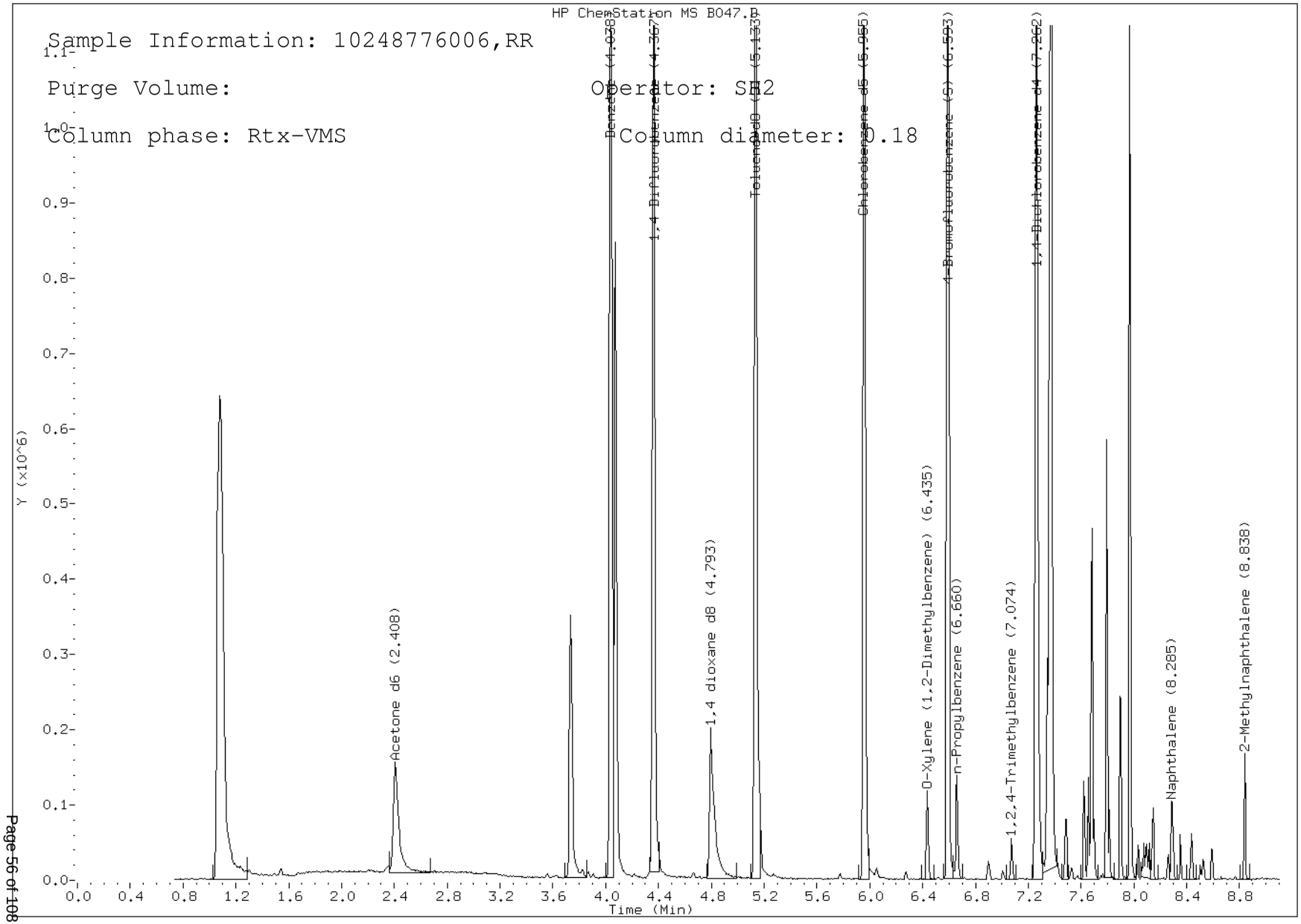
Sample ID: 10248776006

Client ID: Instrument: 10msv9.i

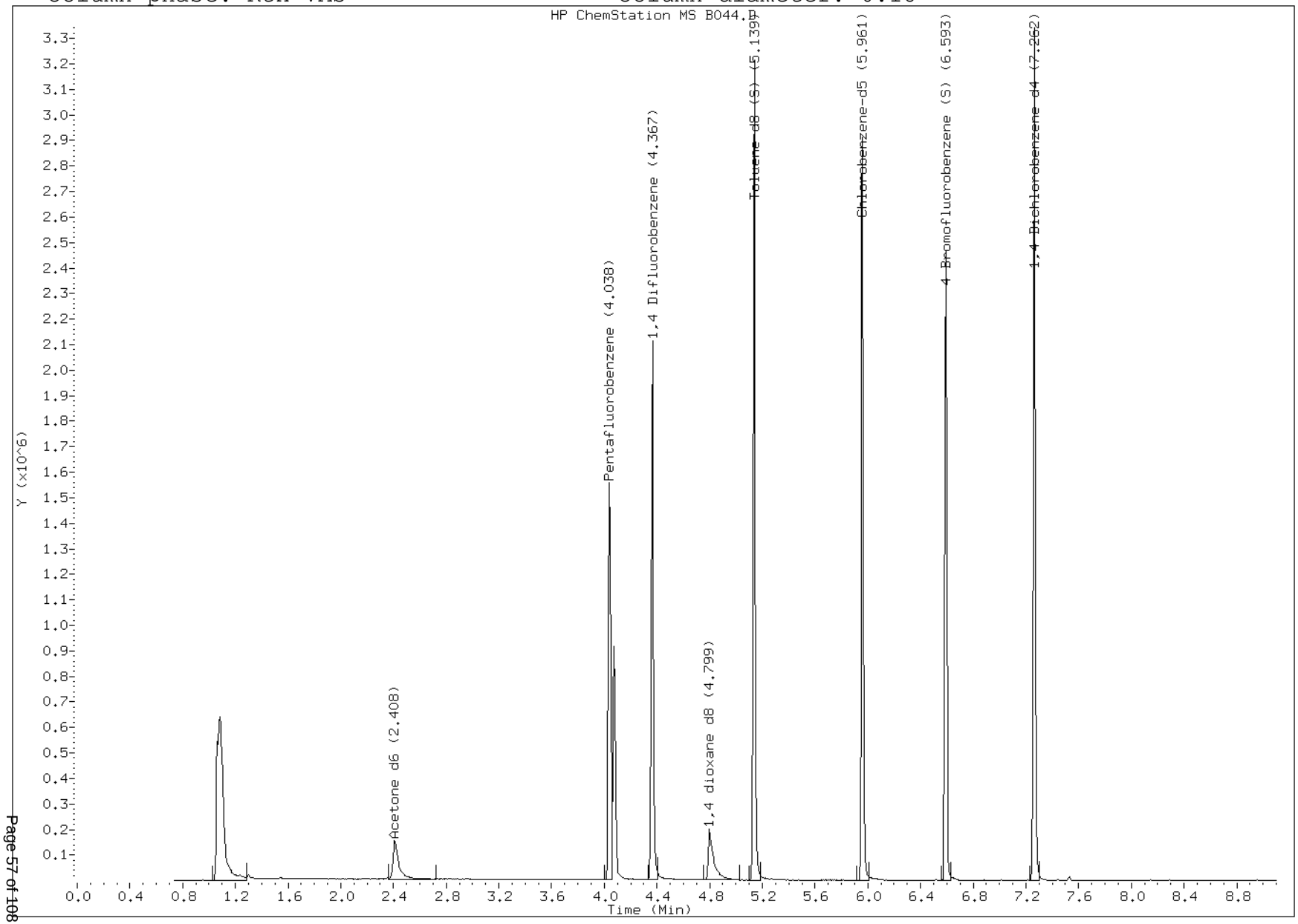
Sample Information: 10248776006,RR

Purge Volume: Operator: SB2

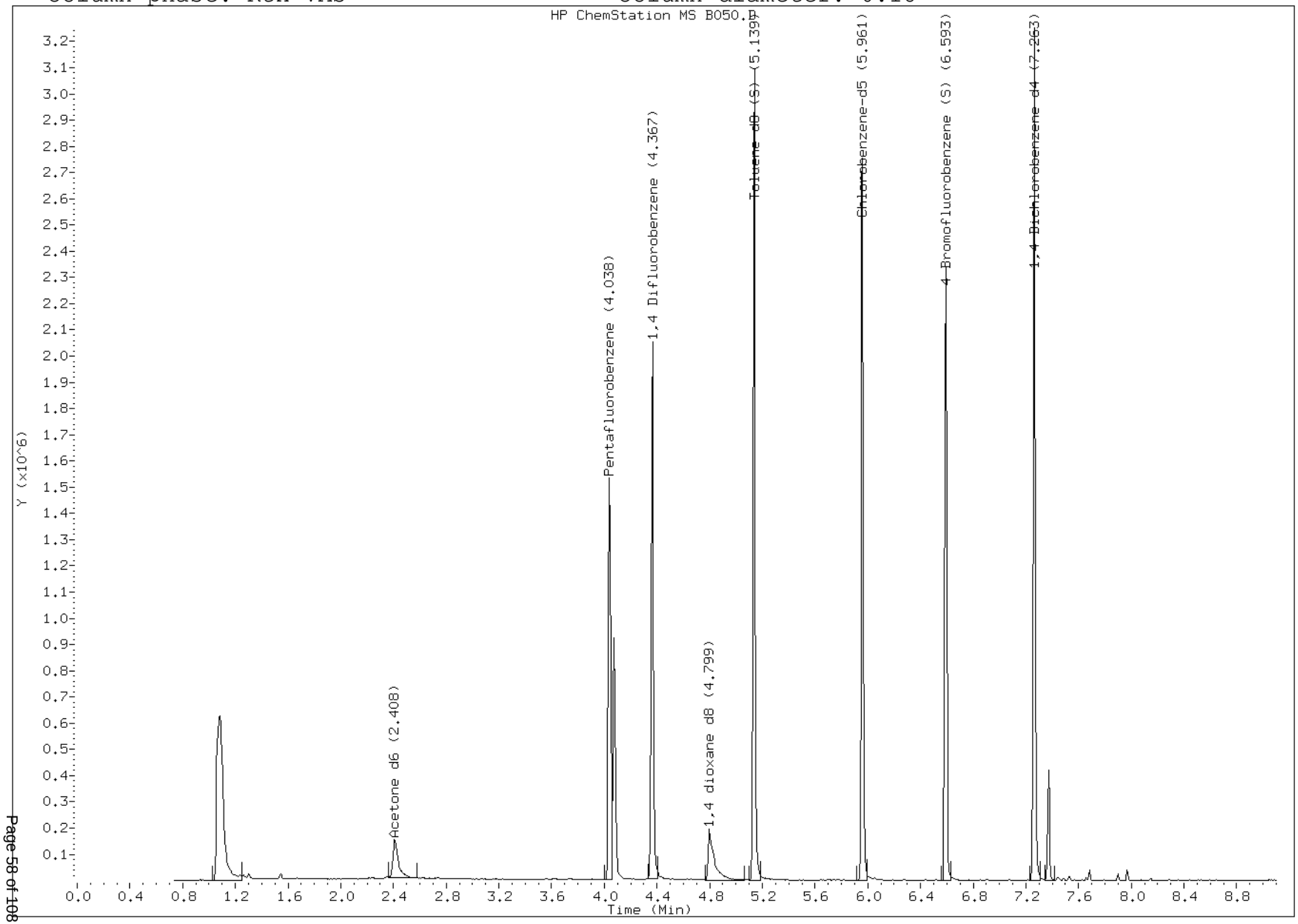
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B044.D
Report Date: 11/19/2013
Sample ID: 10248776007
Client ID: Instrument: 10msv9.i
Sample Information: 10248776007
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B050.D
Report Date: 11/19/2013
Sample ID: 10248776008
Client ID: Instrument: 10msv9.i
Sample Information: 10248776008
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111813b.b/B048.D

Report Date: 11/19/2013

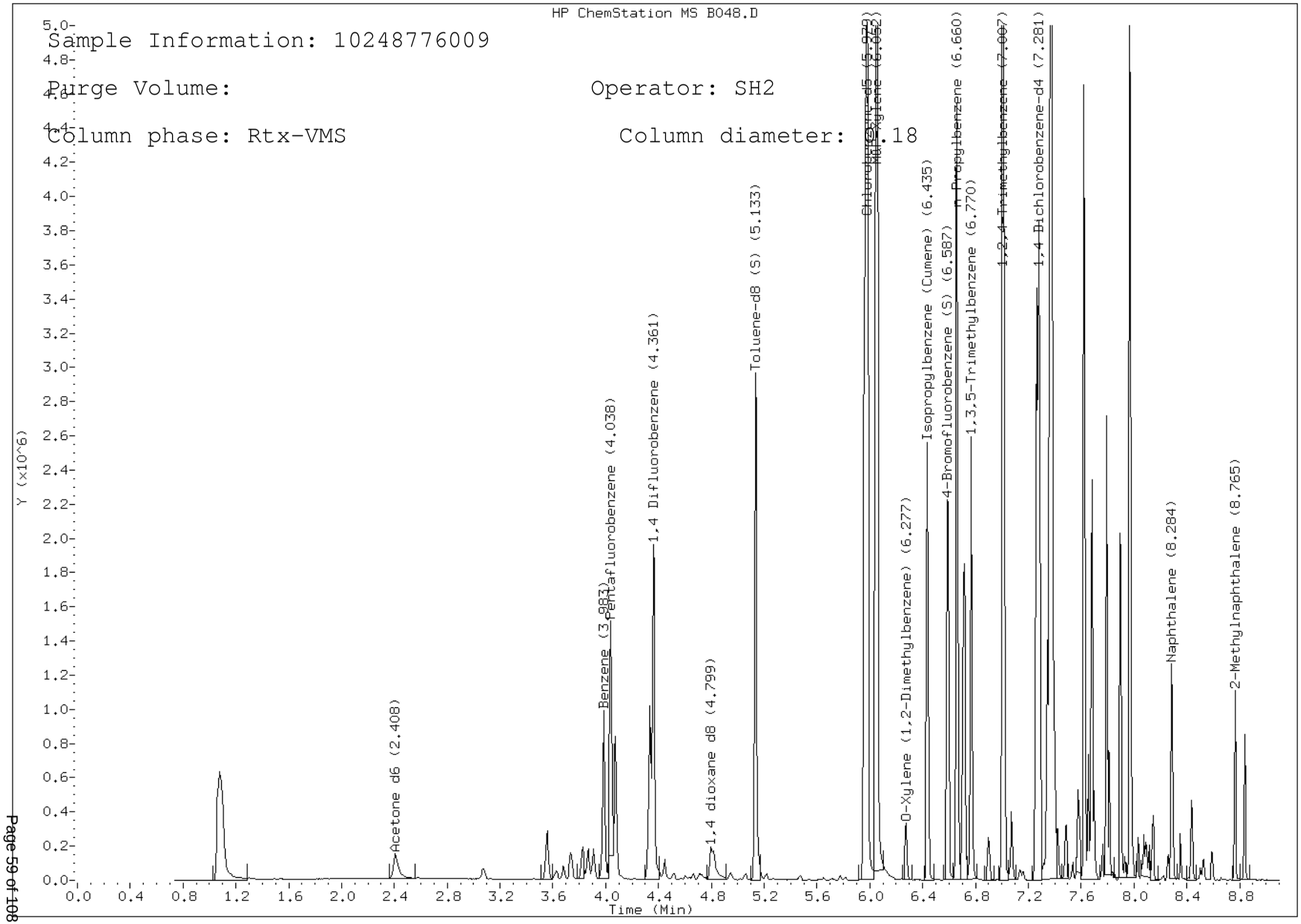
Sample ID: 10248776009

Client ID: Instrument: 10msv9.i

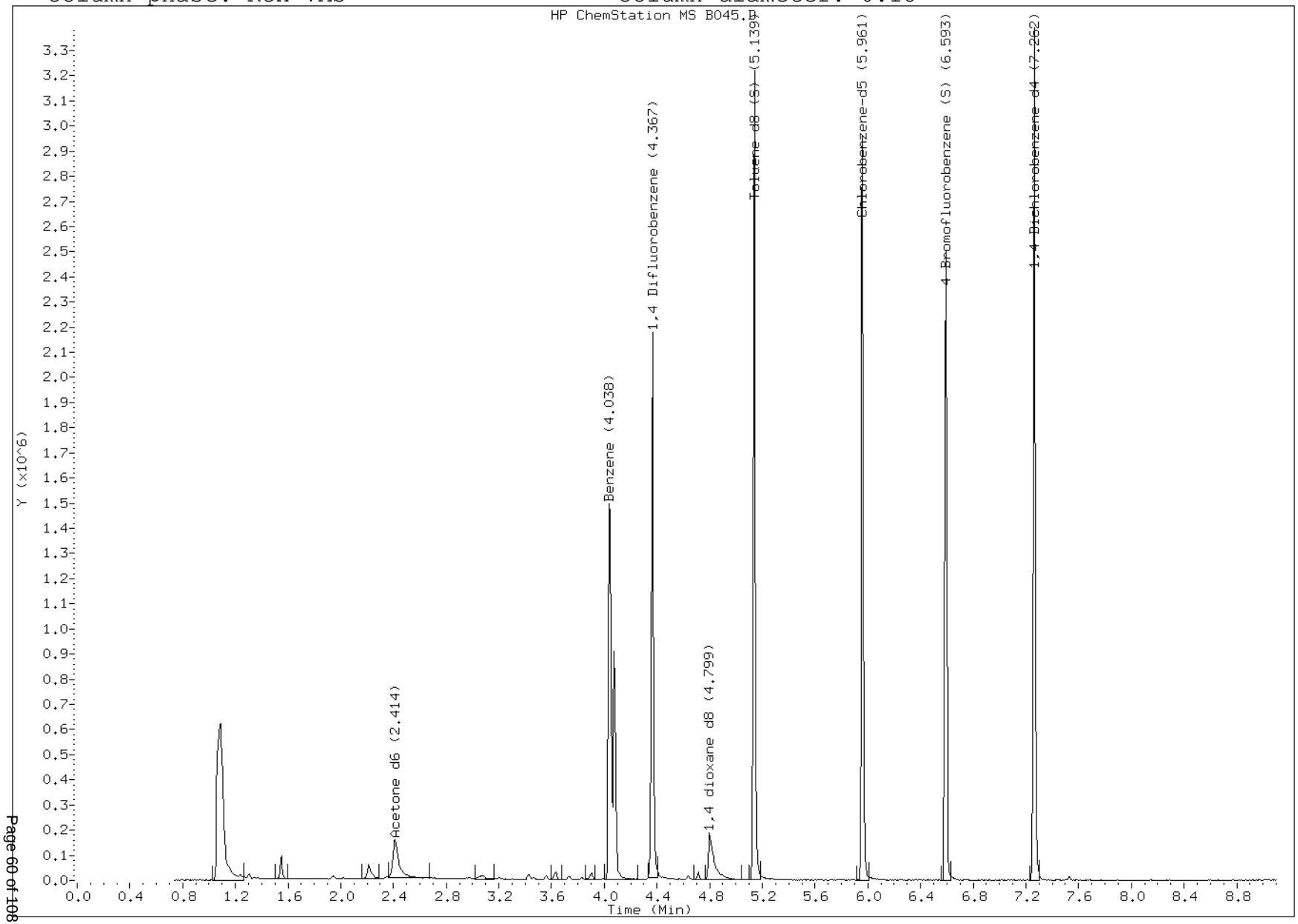
Sample Information: 10248776009

Purge Volume: Operator: SH2

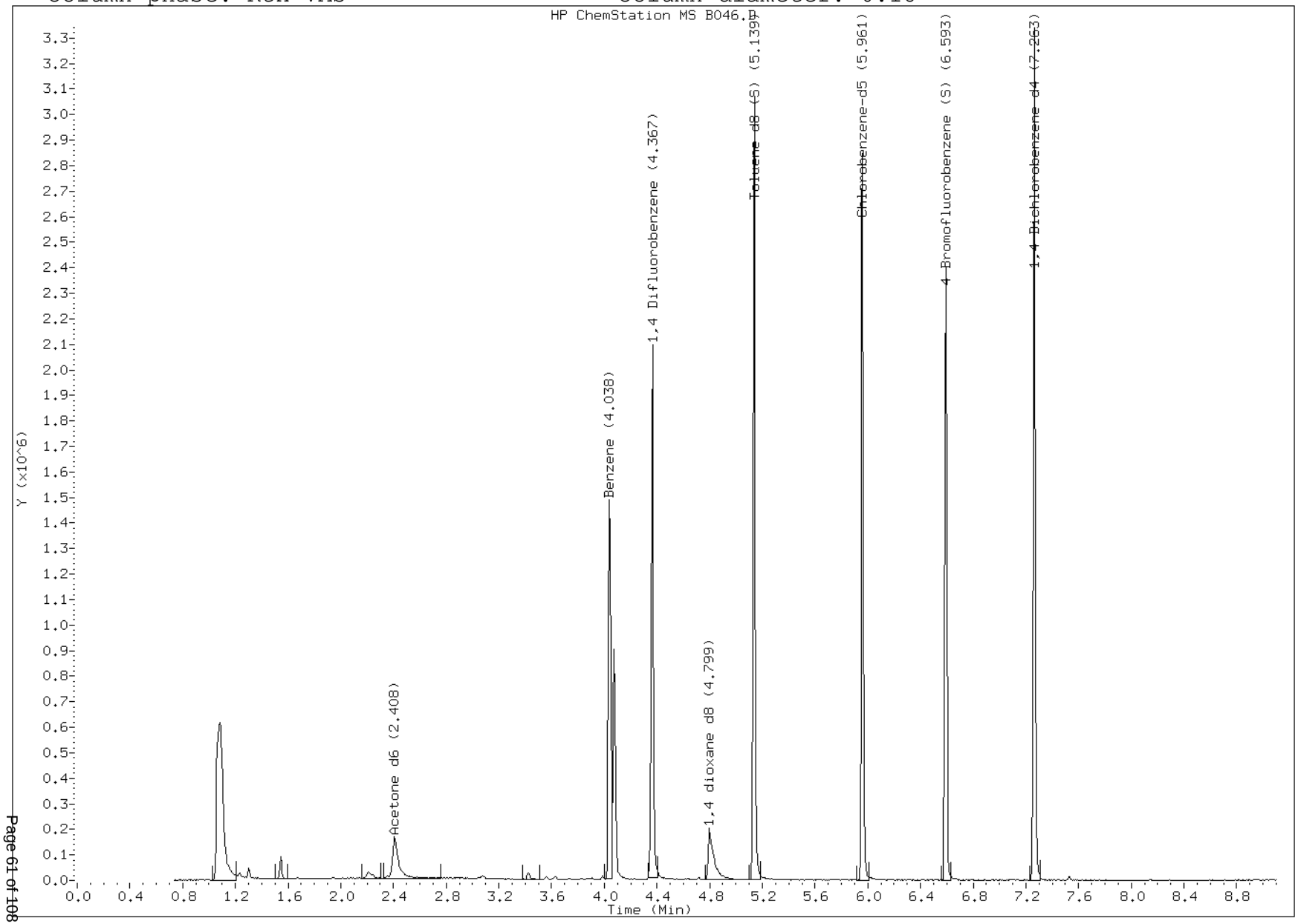
Column phase: Rtx-VMS Column diameter: 0.18



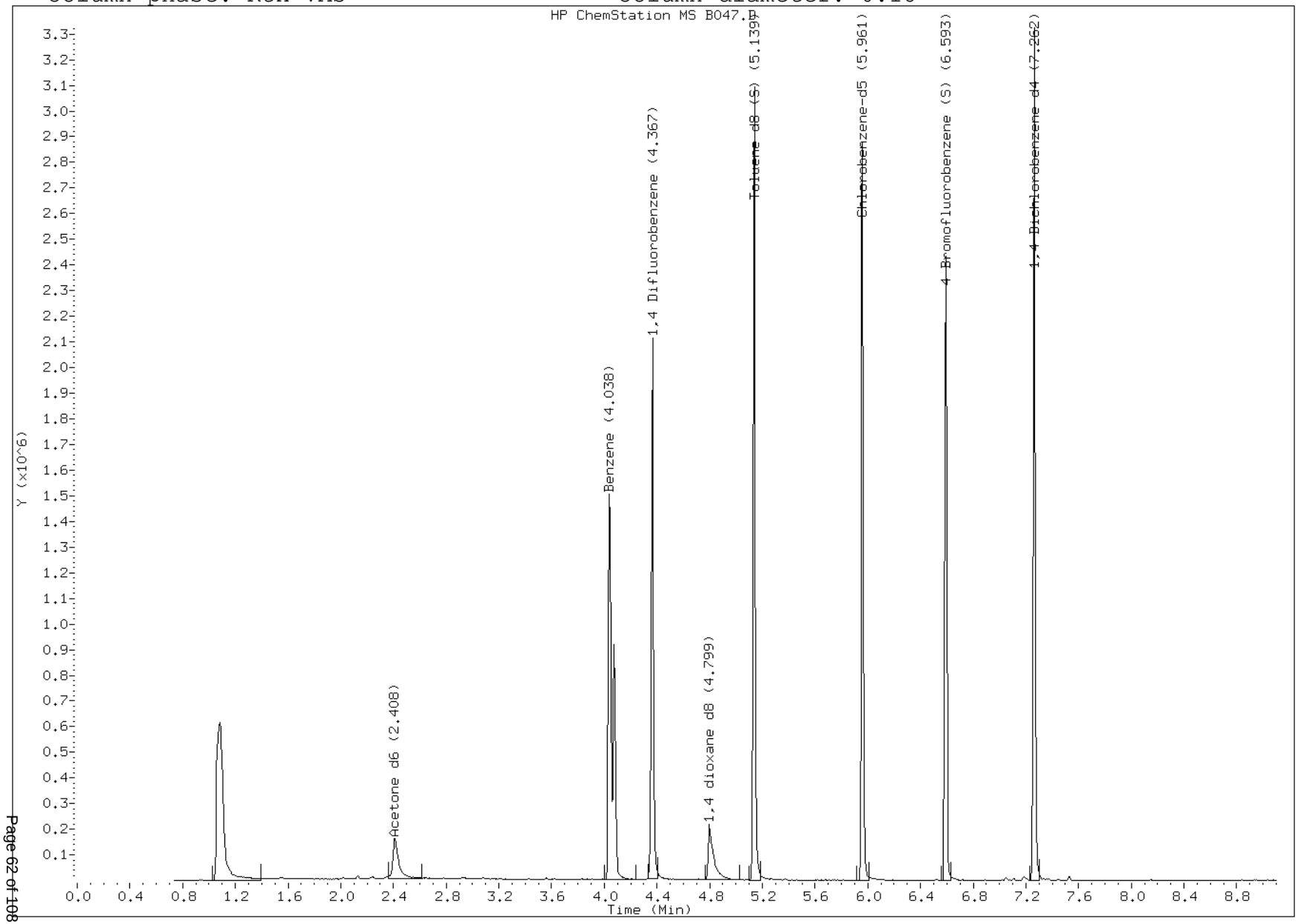
Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B045.D
Report Date: 11/19/2013
Sample ID: 10248776010
Client ID: Instrument: 10msv9.i
Sample Information: 10248776010
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



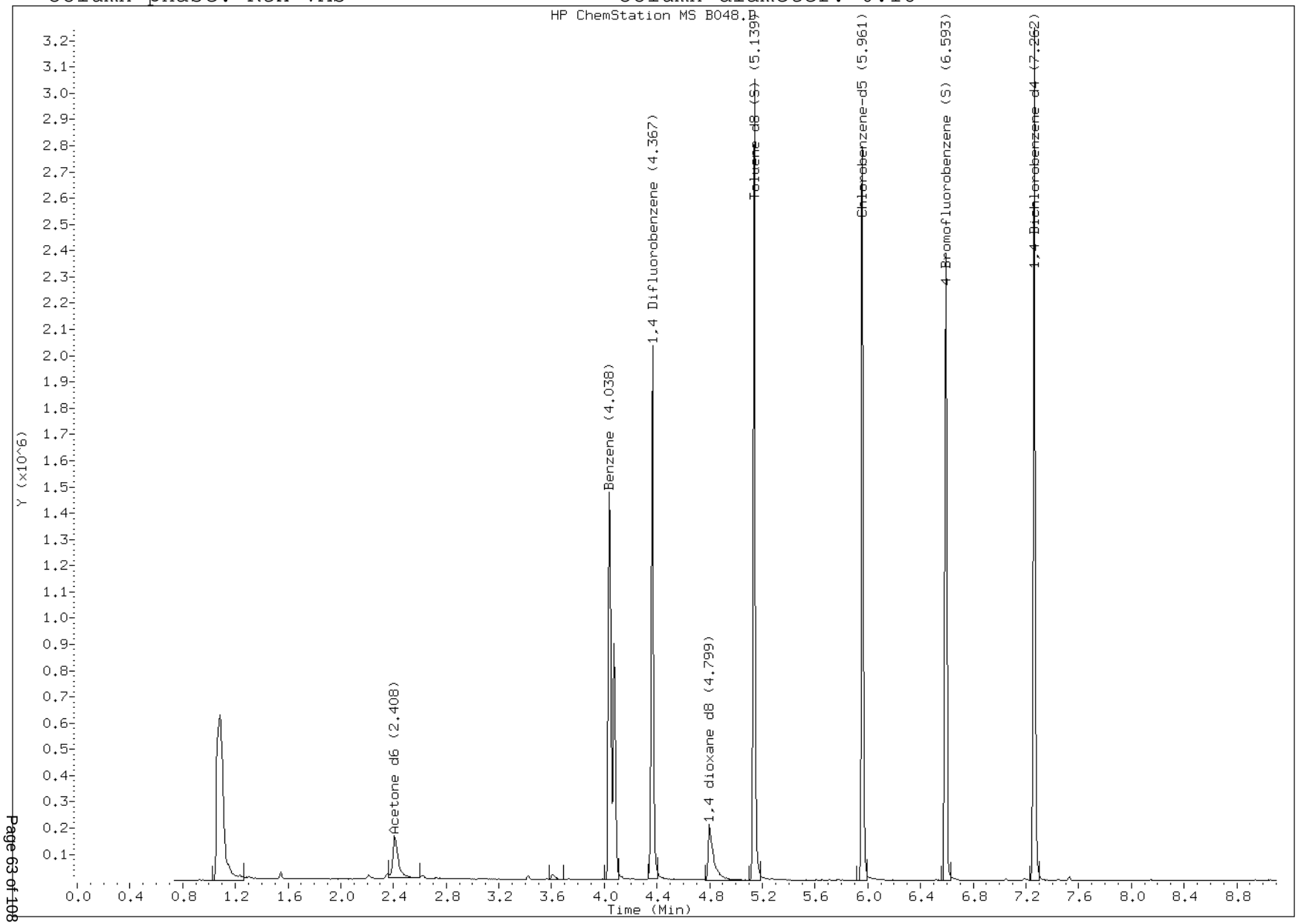
Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B046.D
Report Date: 11/19/2013
Sample ID: 10248776011
Client ID: Instrument: 10msv9.i
Sample Information: 10248776011
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B047.D
Report Date: 11/19/2013
Sample ID: 10248776012
Client ID: Instrument: 10msv9.i
Sample Information: 10248776012
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10msv9.i\111613b.b/B048.D
Report Date: 11/19/2013
Sample ID: 10248776013
Client ID: Instrument: 10msv9.i
Sample Information: 10248776013
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



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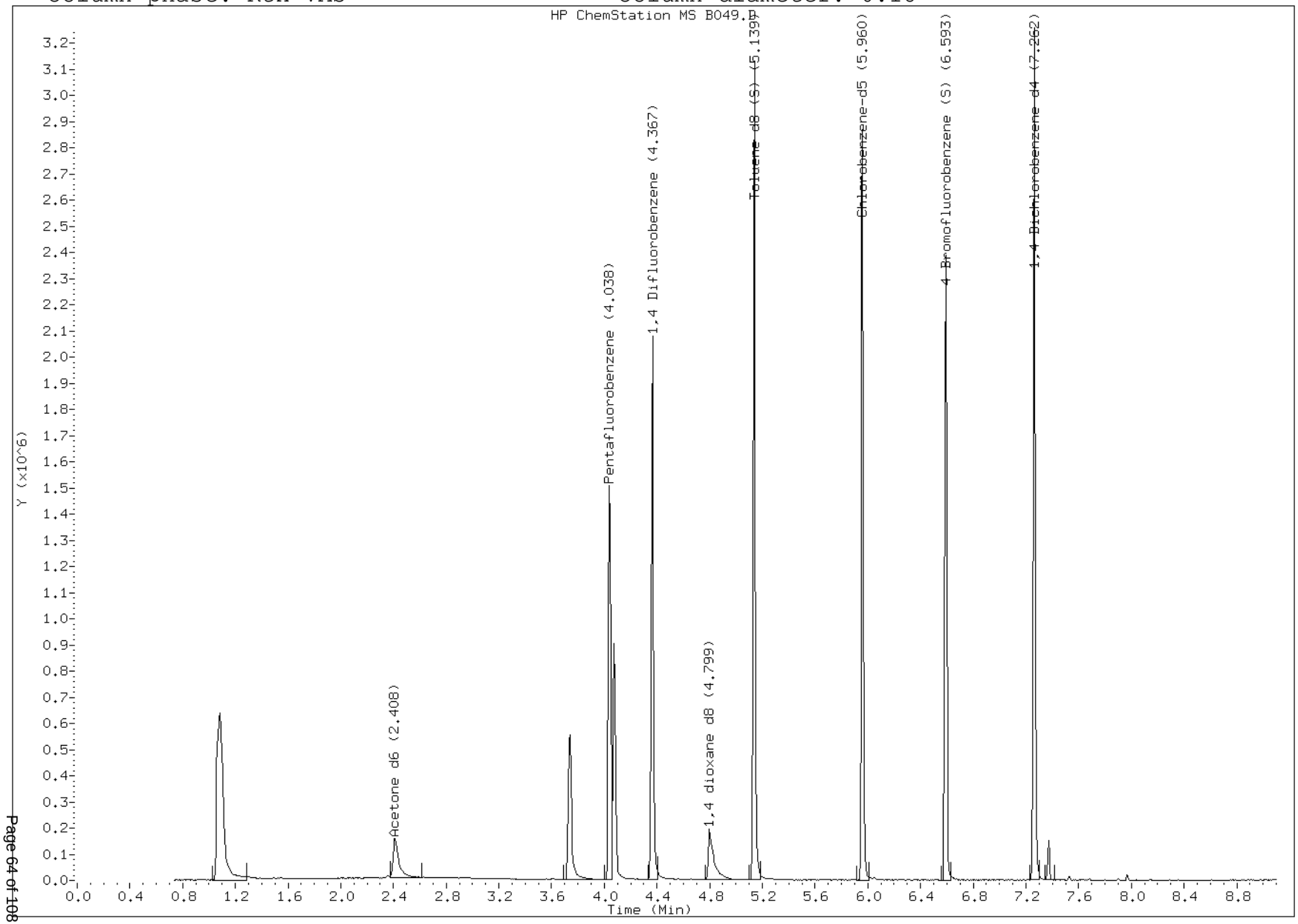
Report Date: 11/19/2013
Sample ID: 10248776014
Client ID: Instrument: 10msv9.i
Sample Information: 10248776014
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



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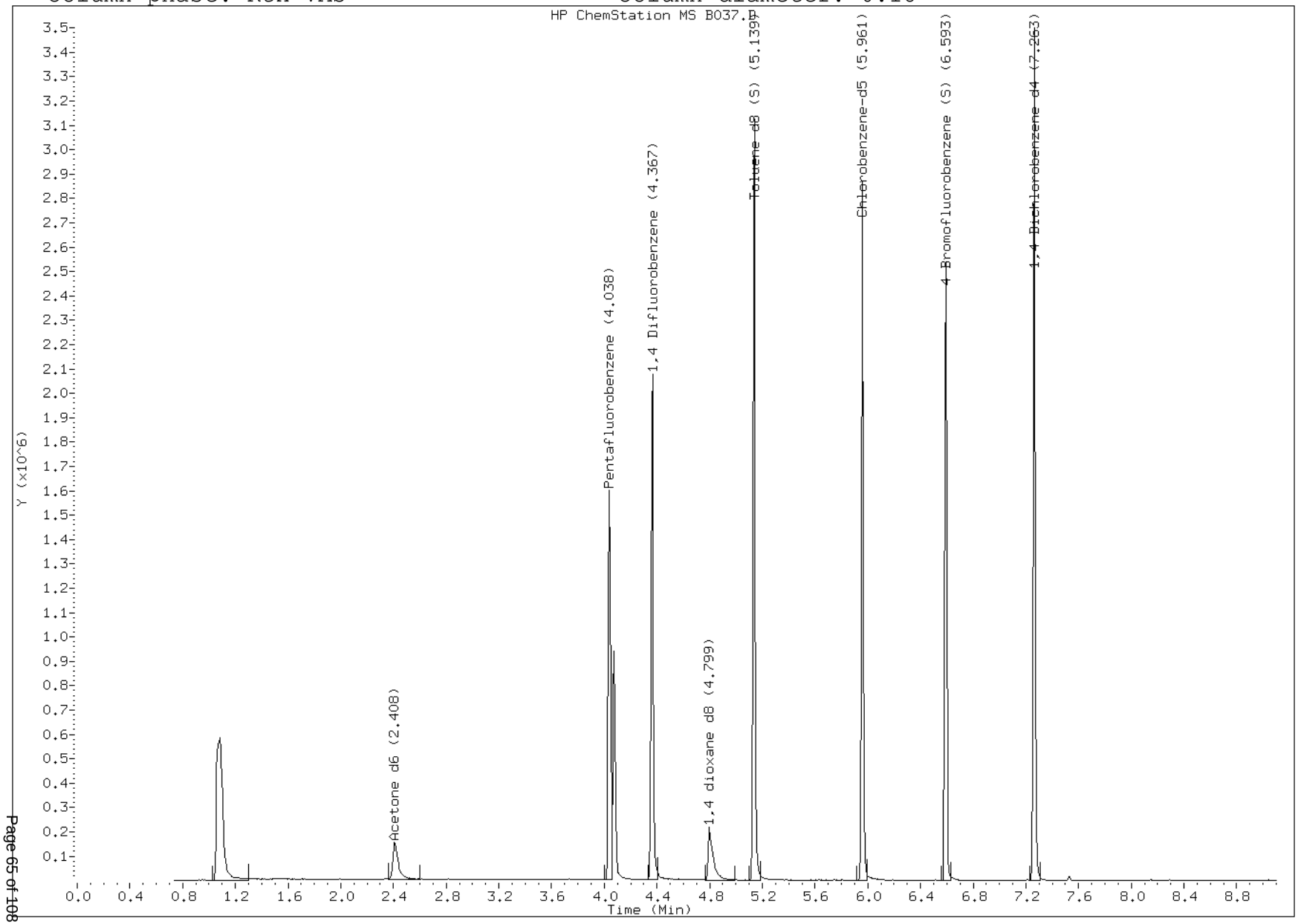
Report Date: 11/19/2013
Sample ID: 10248776015
Client ID: Instrument: 10msv9.i
Sample Information: 10248776015,TB
Purge Volume: Operator: LPM
Column phase: Rtx-VMS Column diameter: 0.18



Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160011.D

Report Date: 11/17/2013

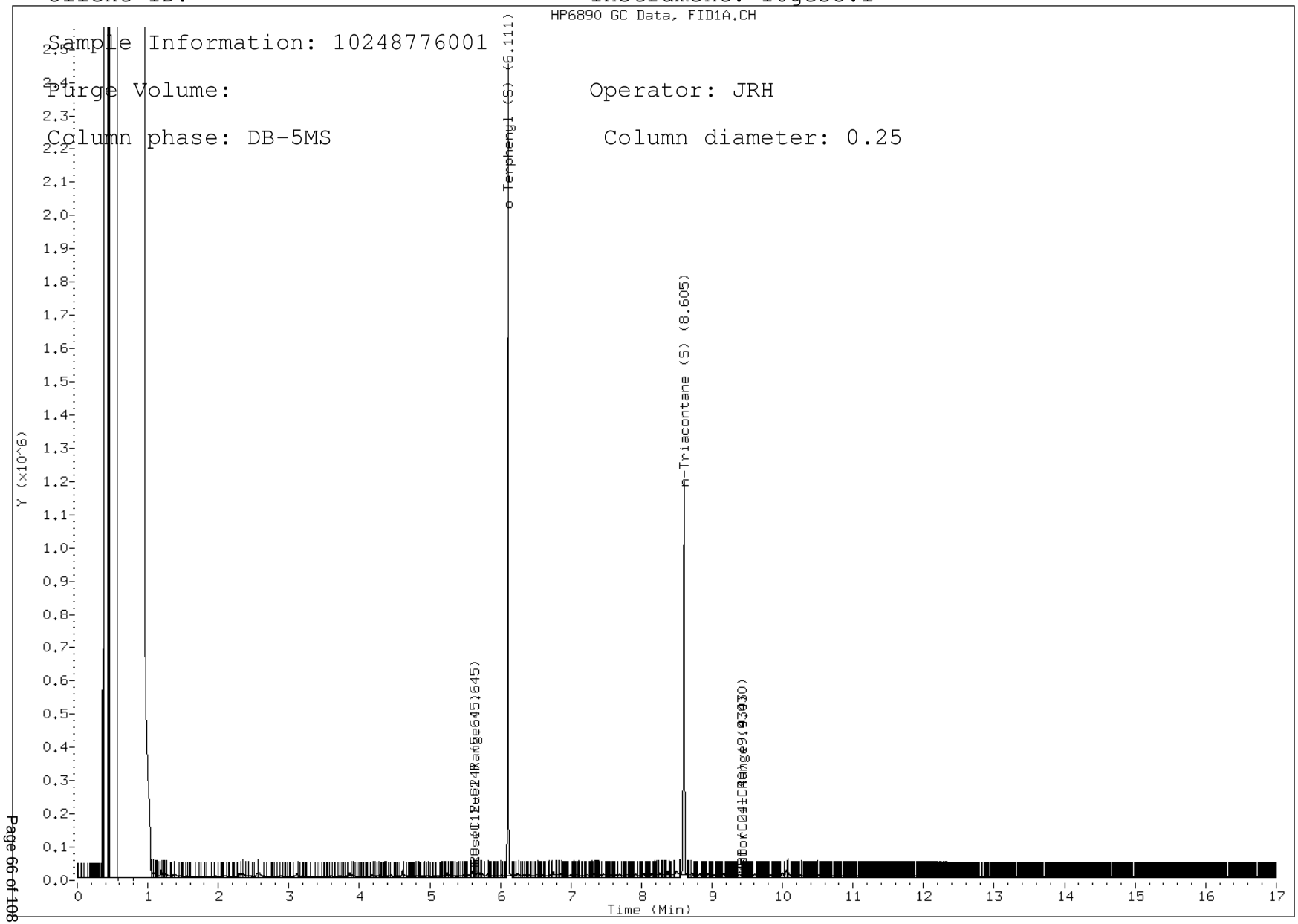
Sample ID: 10248776001

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776001

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/22/2013

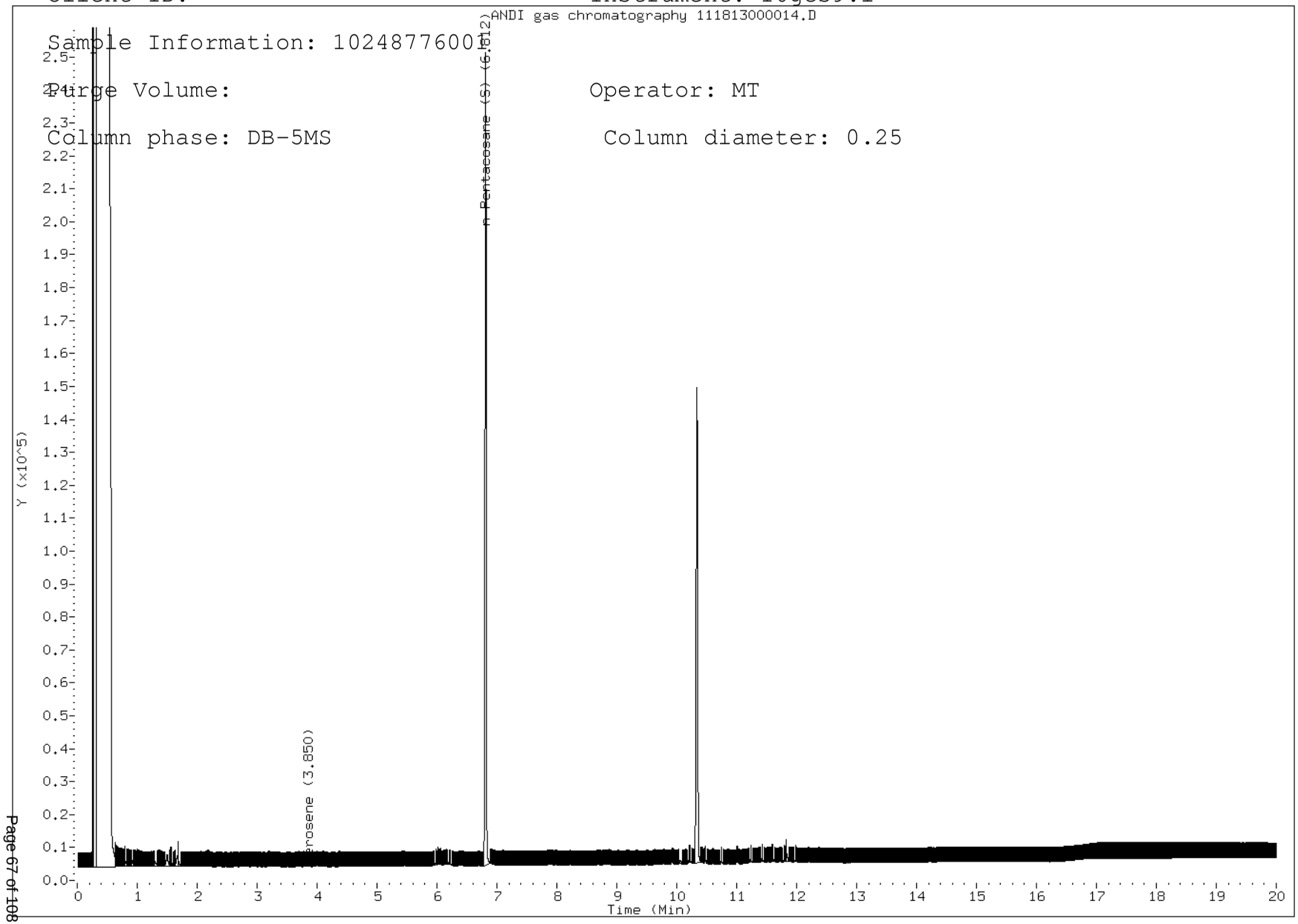
Sample ID: 10248776001

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776001

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

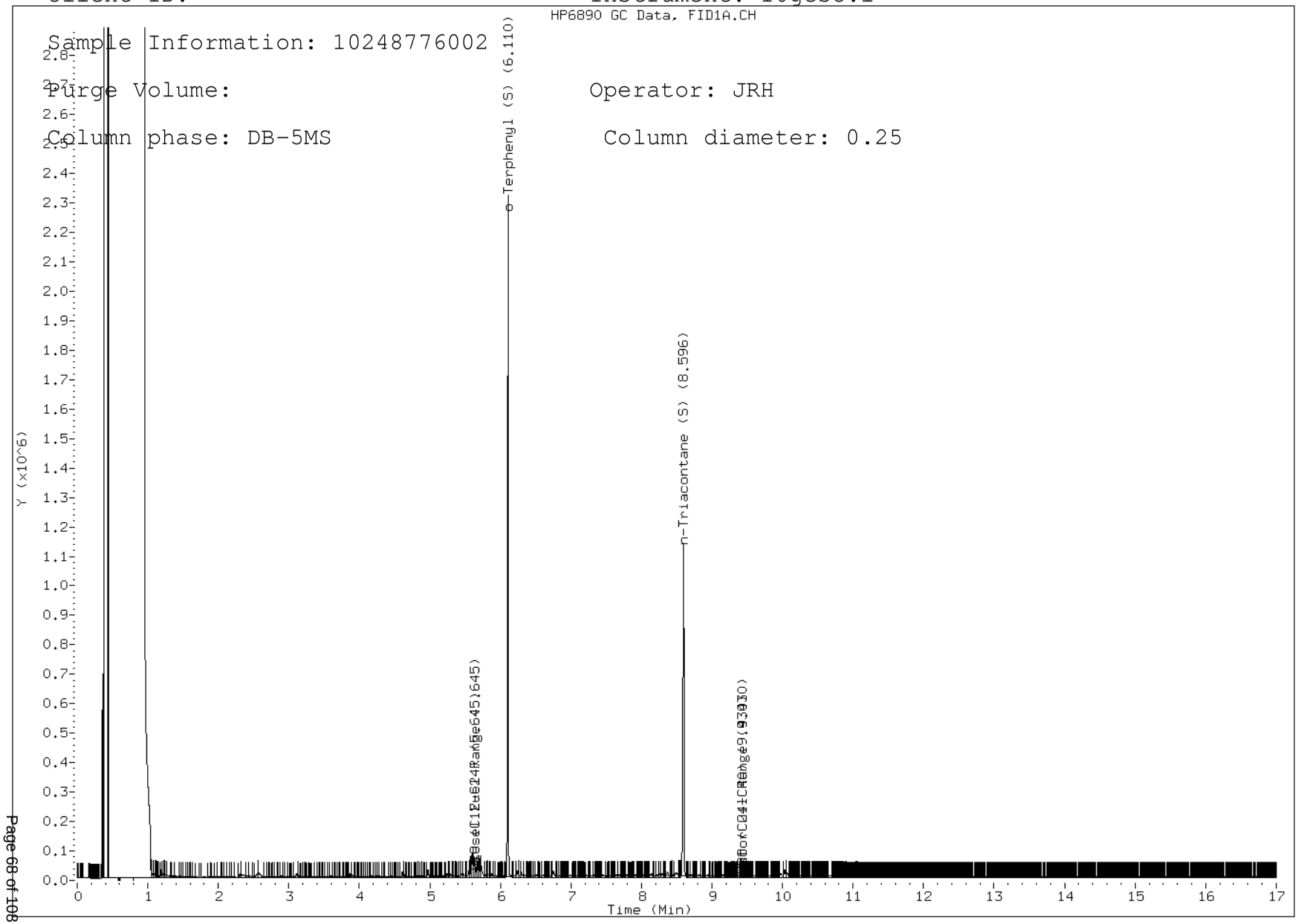
Sample ID: 10248776002

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776002

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/22/2013

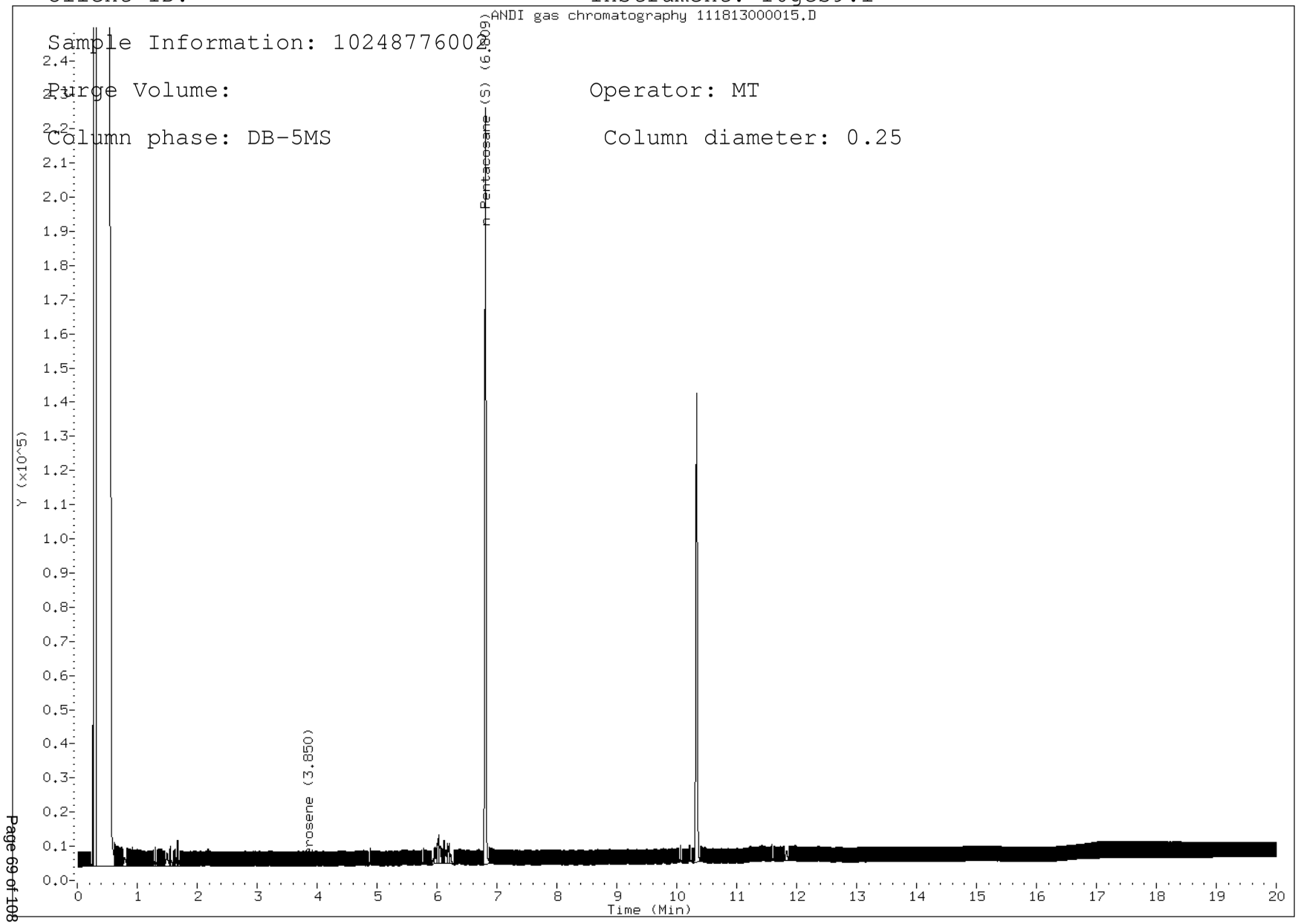
Sample ID: 10248776002

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776002

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

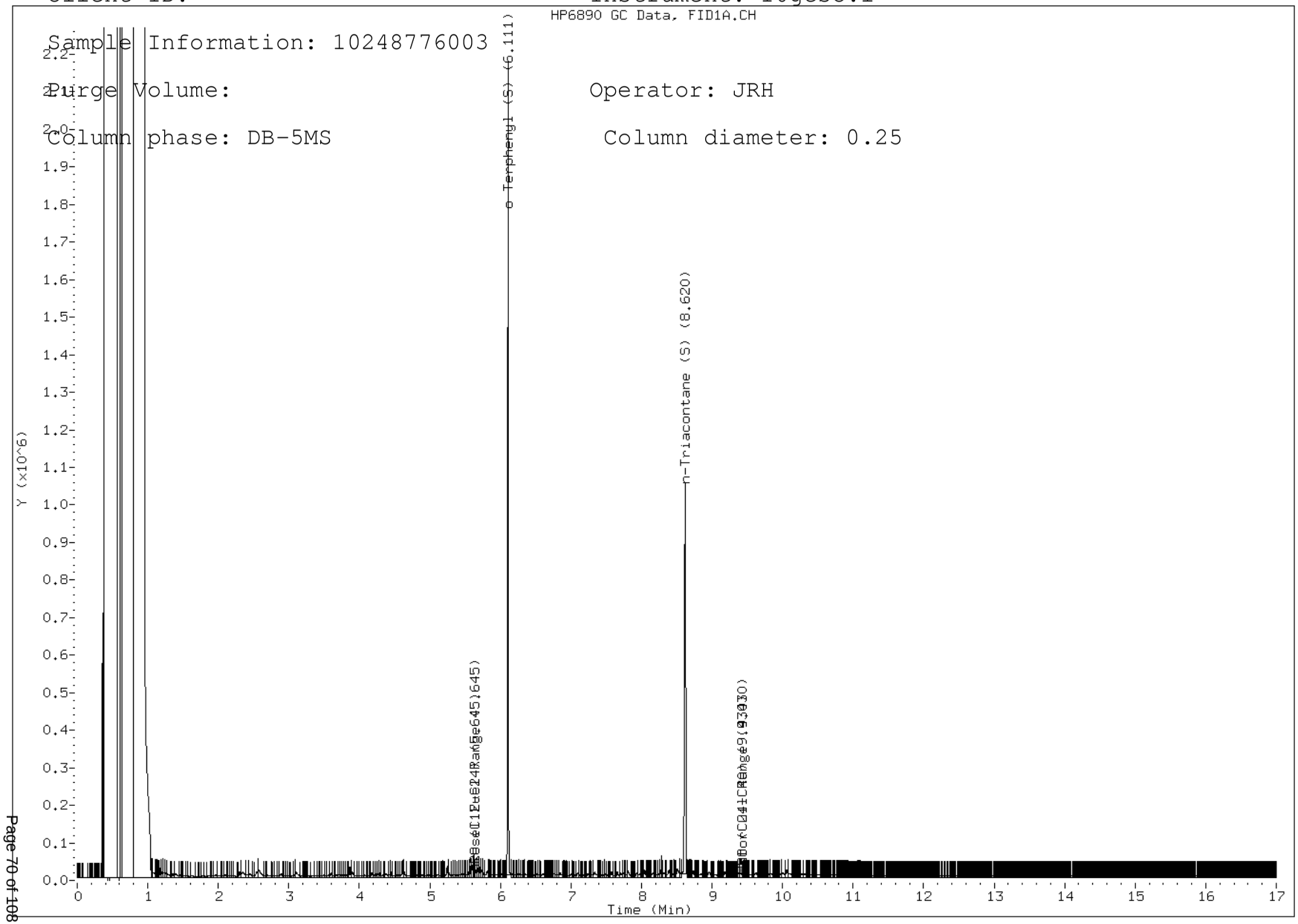
Sample ID: 10248776003

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776003

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/22/2013

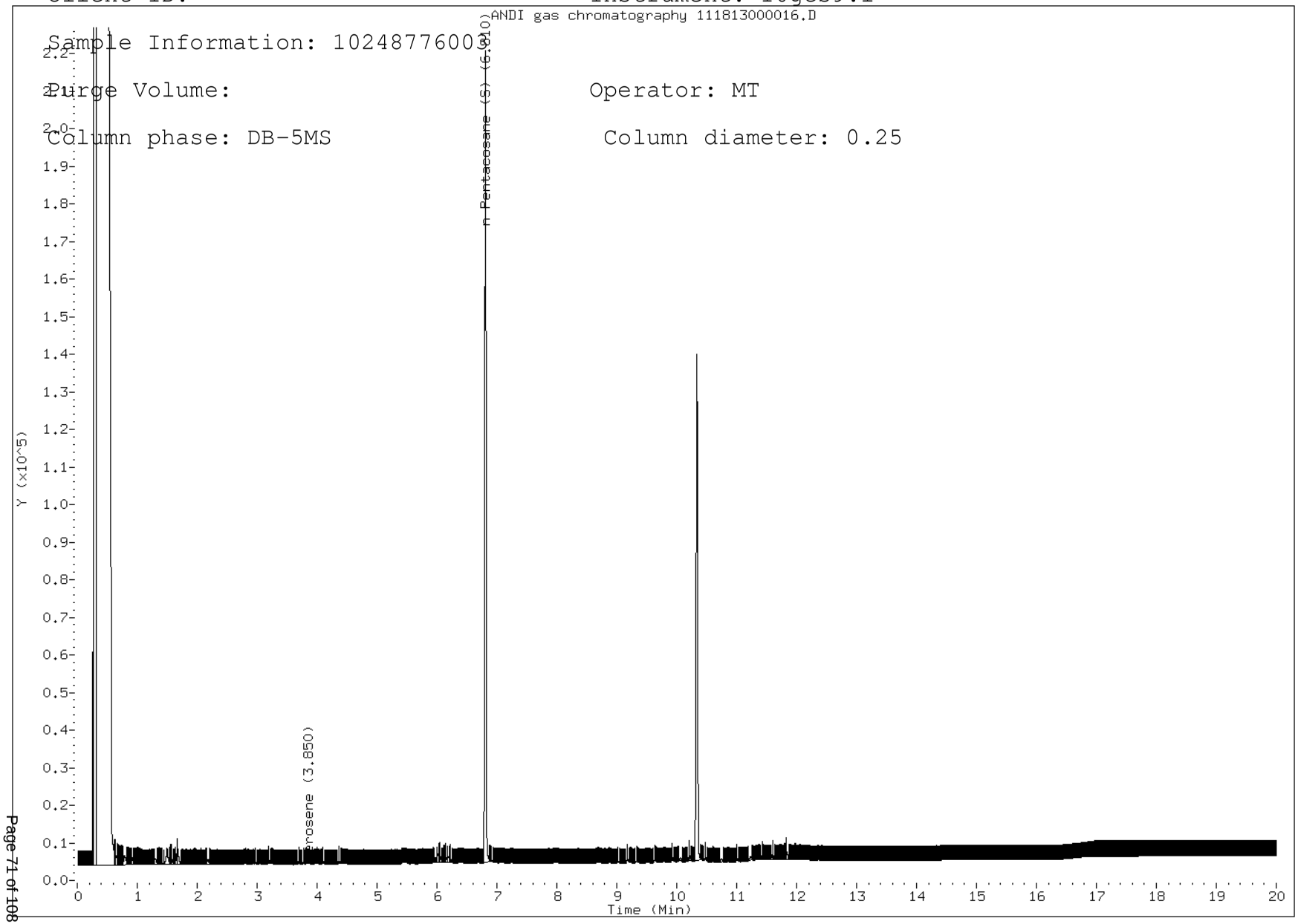
Sample ID: 10248776003

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776003

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

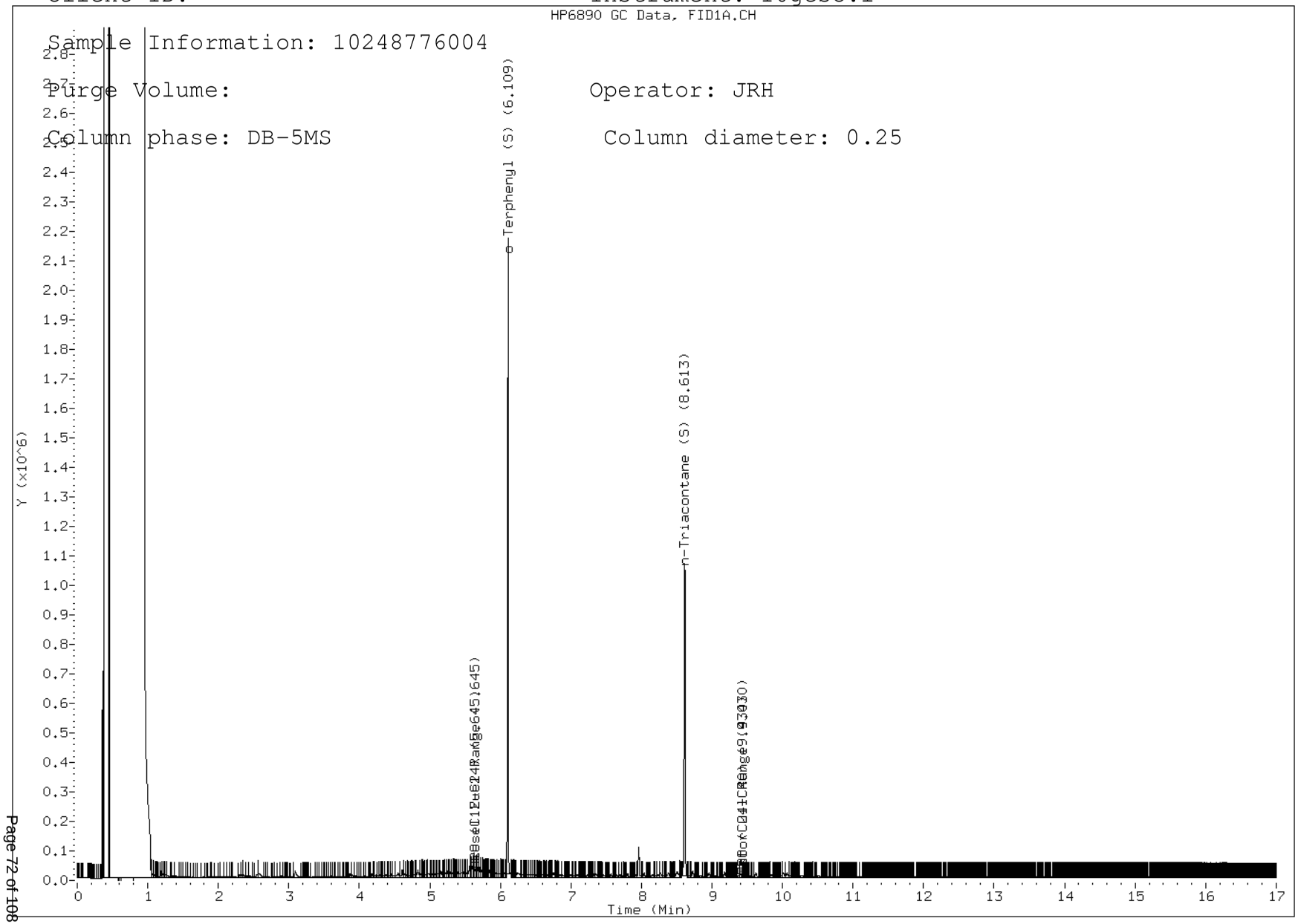
Sample ID: 10248776004

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776004

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/22/2013

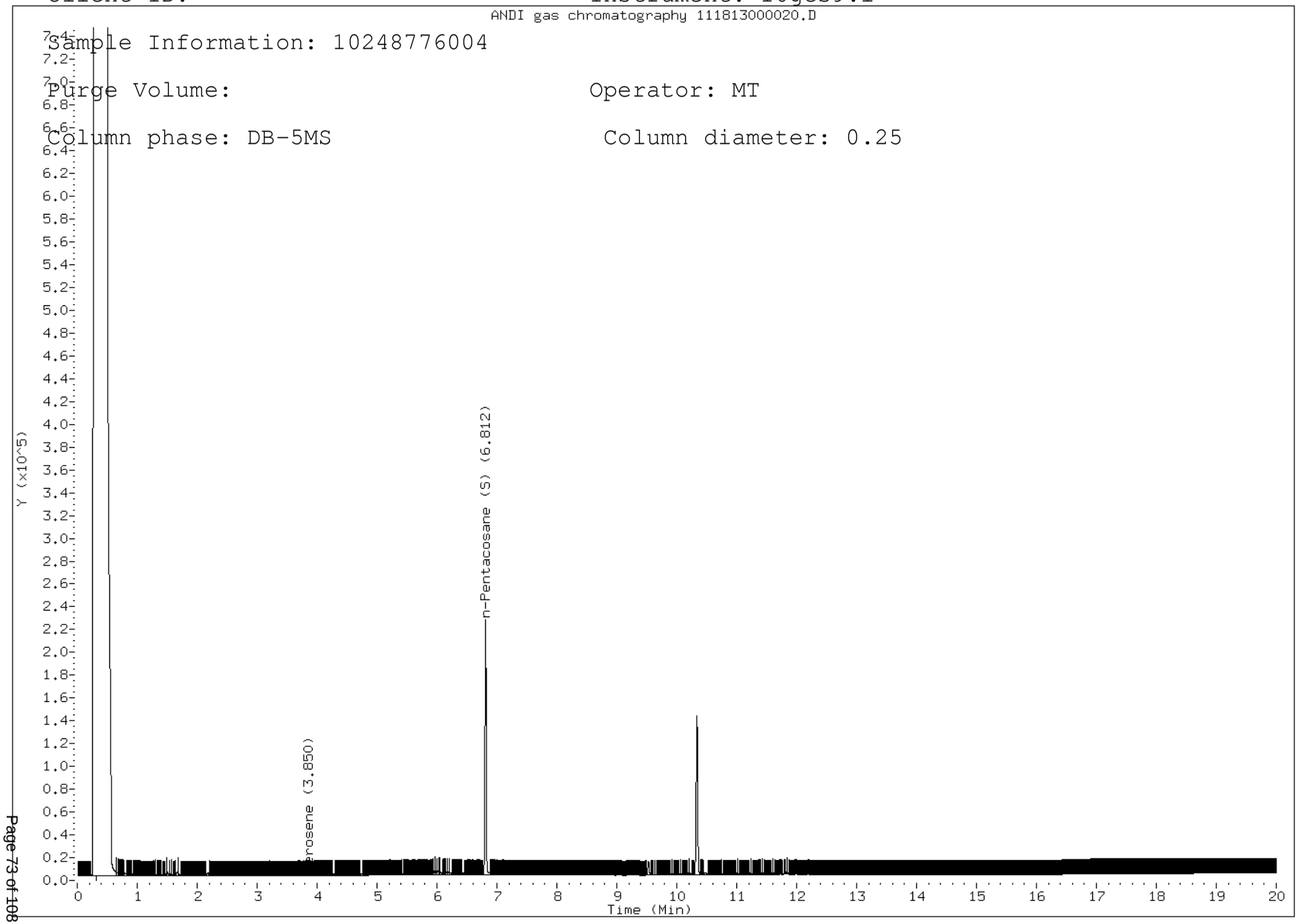
Sample ID: 10248776004

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776004

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

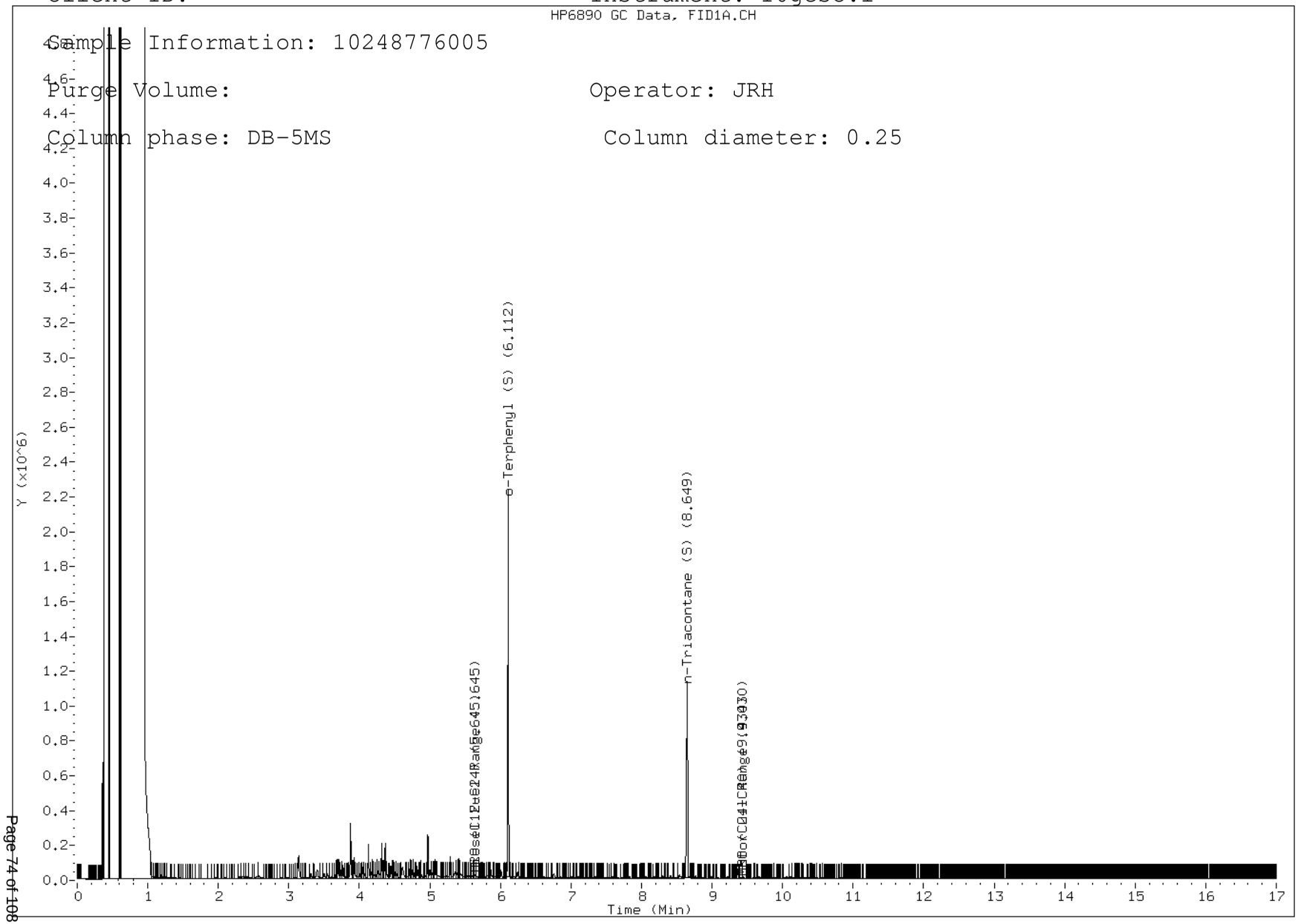
Sample ID: 10248776005

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776005

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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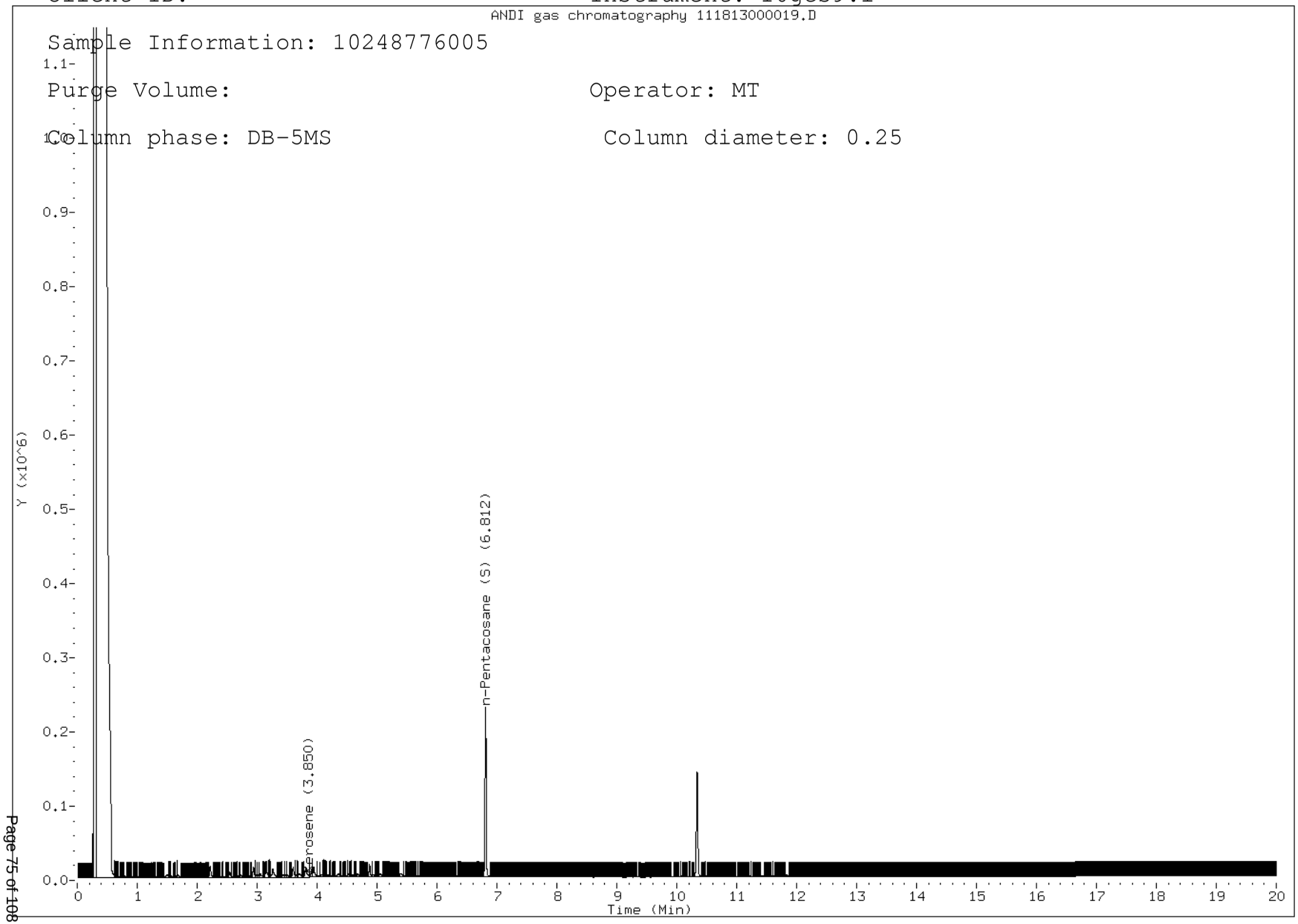
Report Date: 11/22/2013

Sample ID: 10248776005

Client ID: Instrument: 10gcs9.i




Sample Information: 10248776005

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25

Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160020.D

Report Date: 11/17/2013

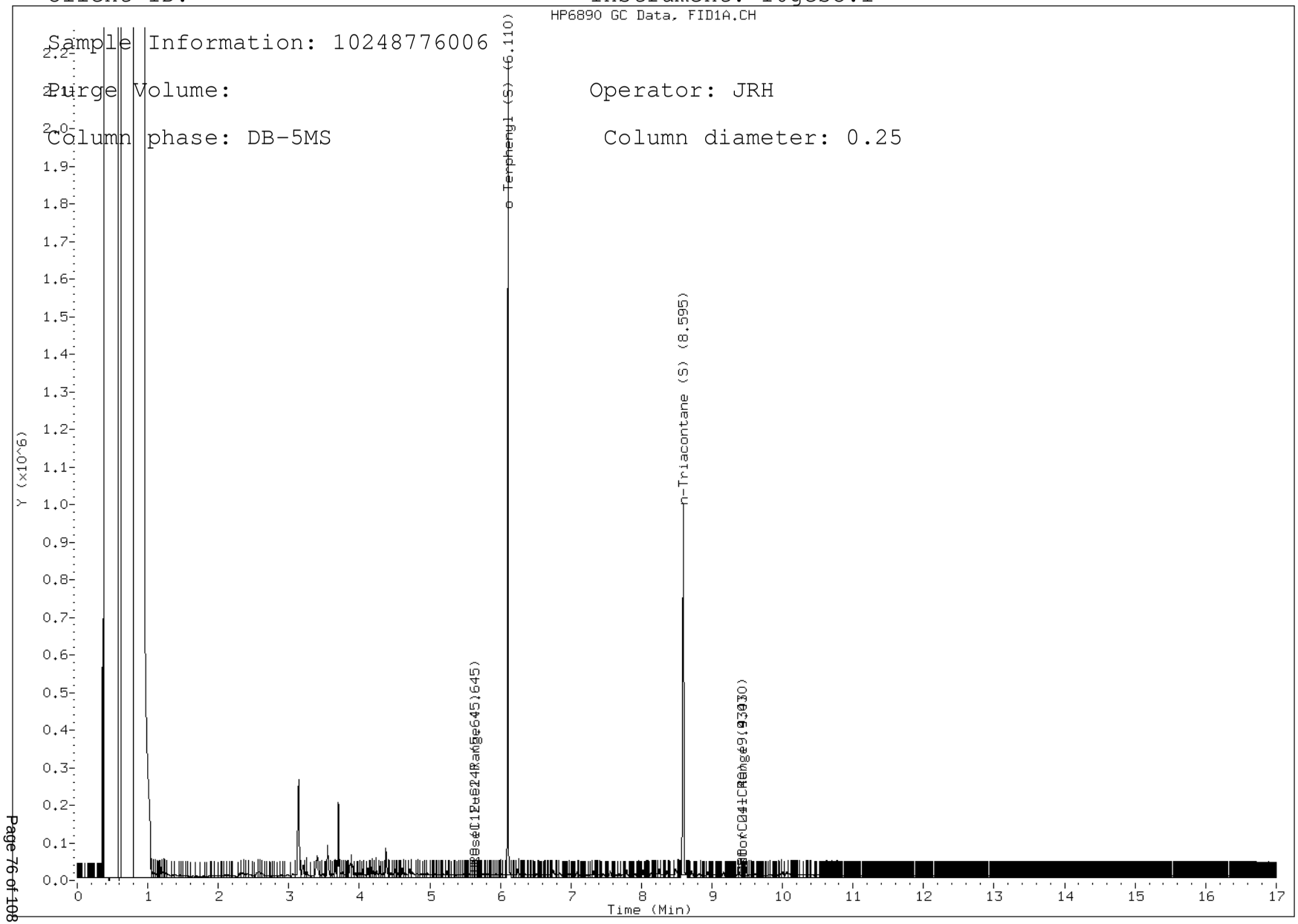
Sample ID: 10248776006

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776006

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/22/2013

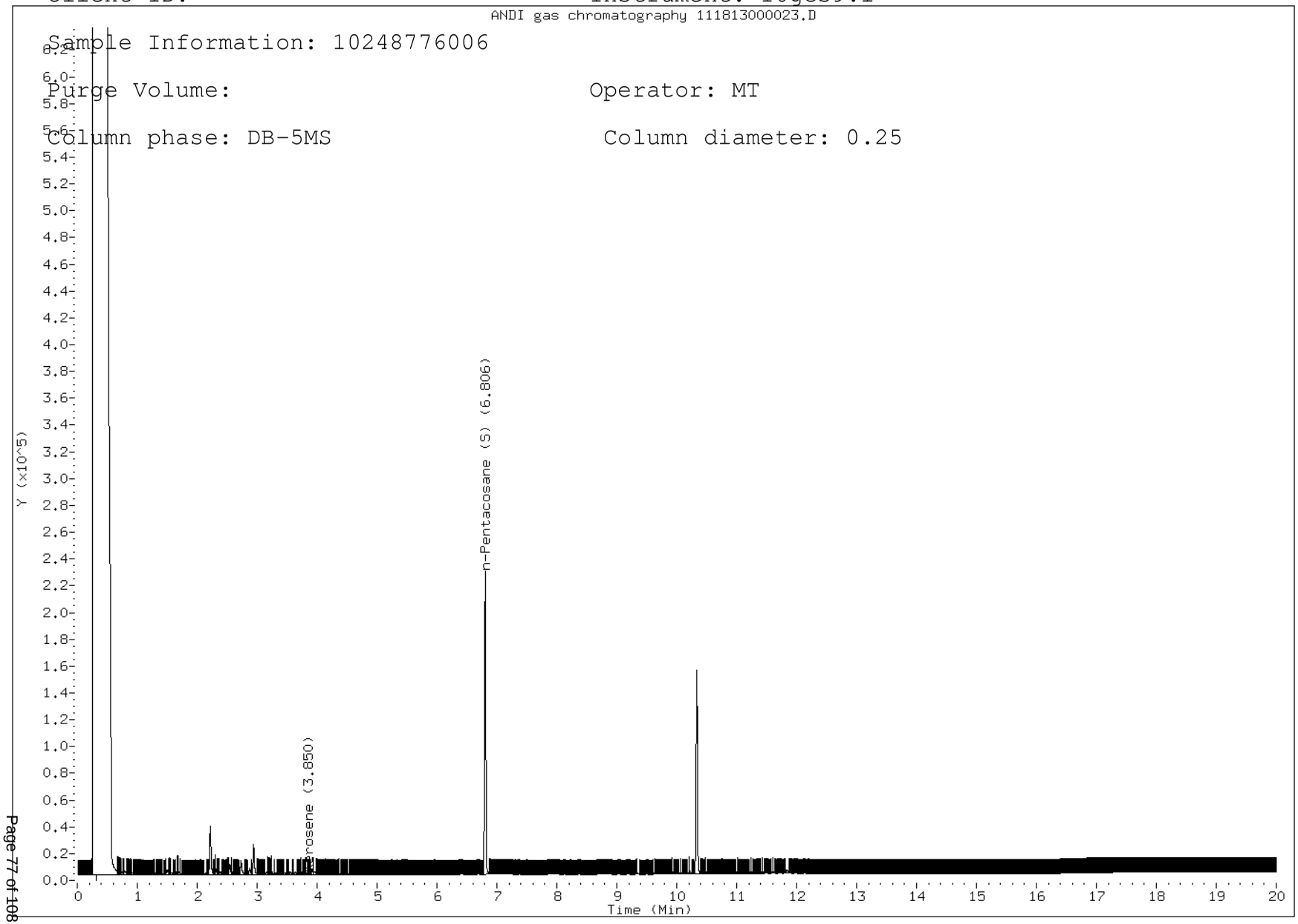
Sample ID: 10248776006

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776006

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

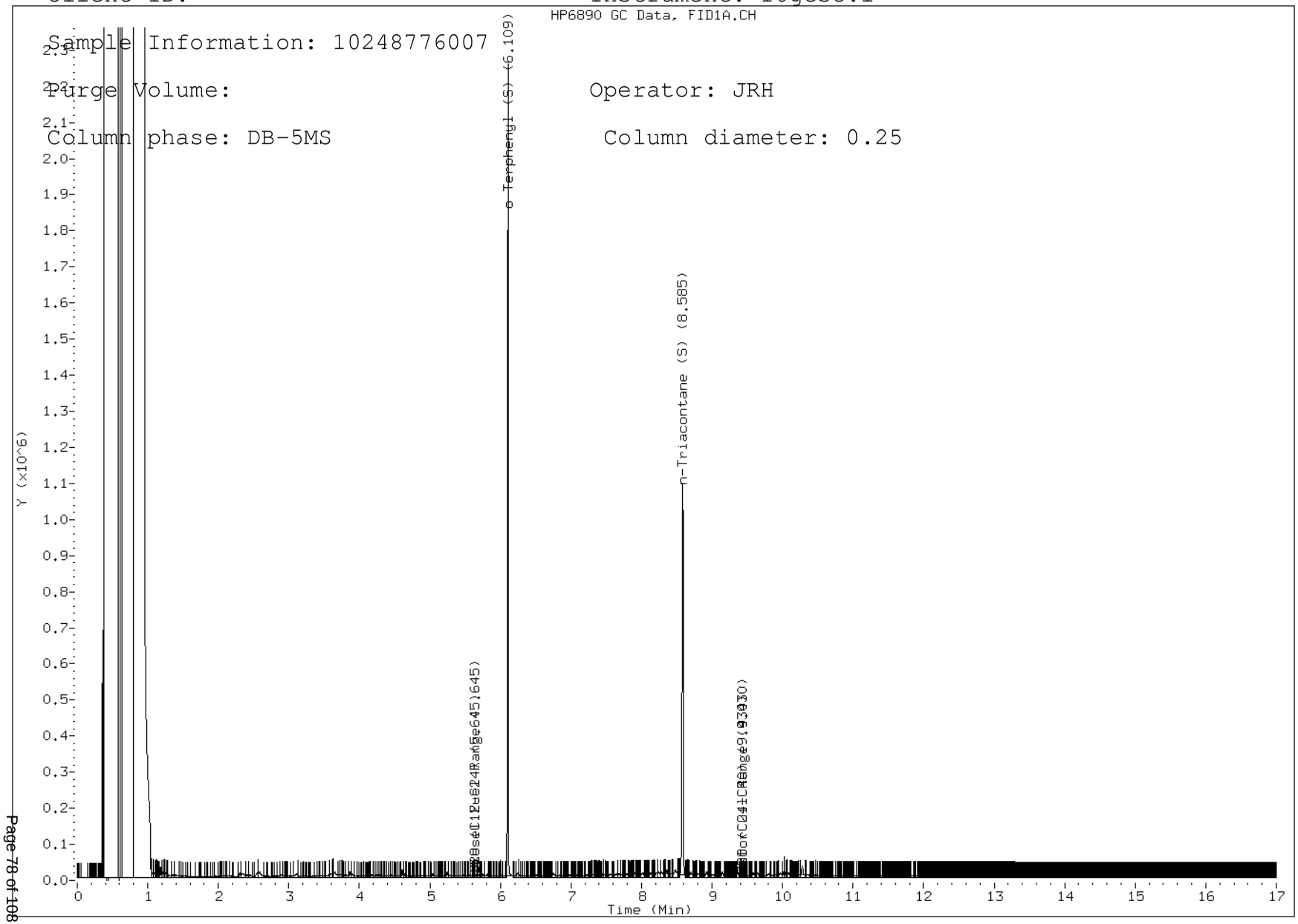
Sample ID: 10248776007

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776007

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000024.D

Report Date: 11/22/2013

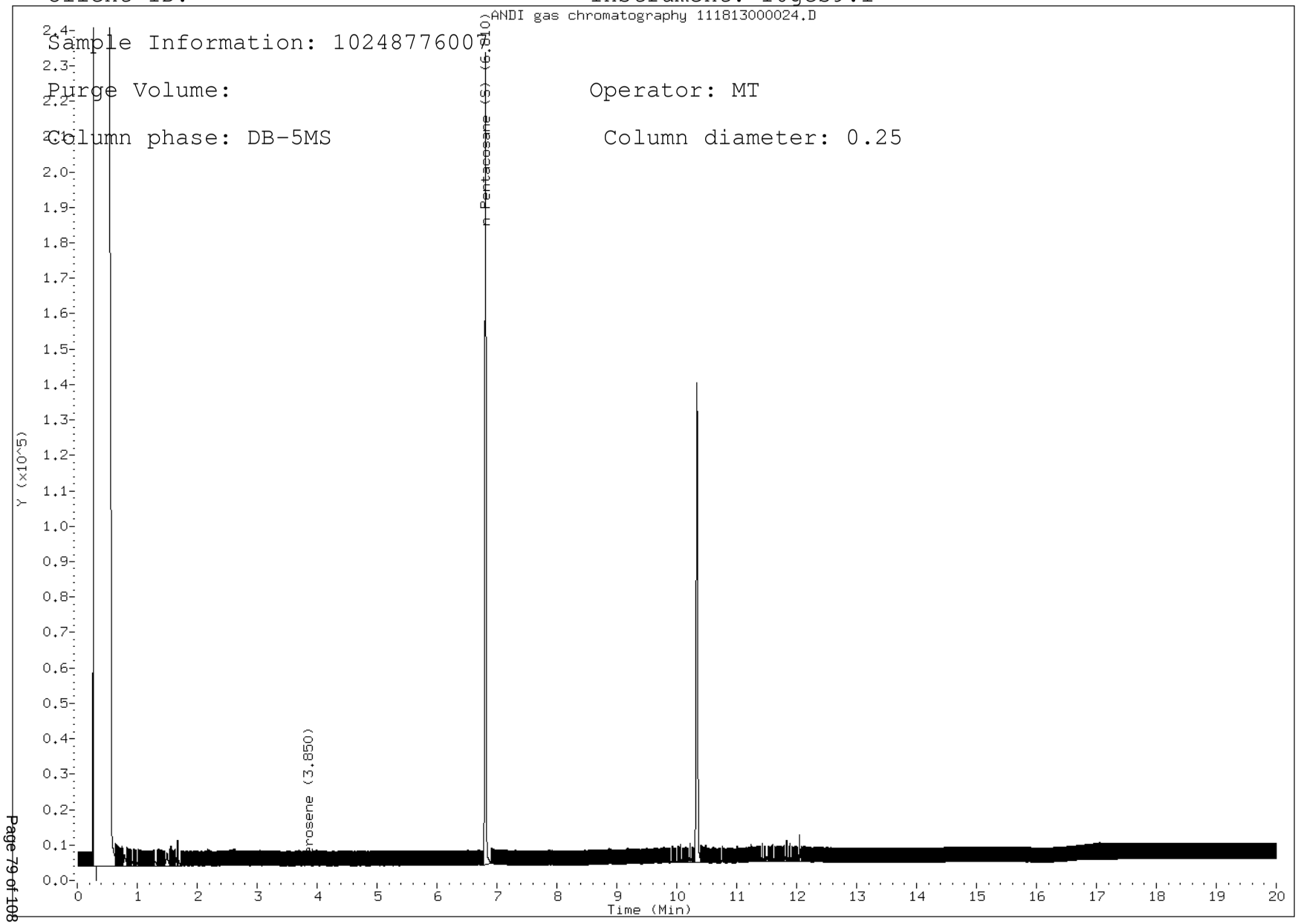
Sample ID: 10248776007

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776007

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

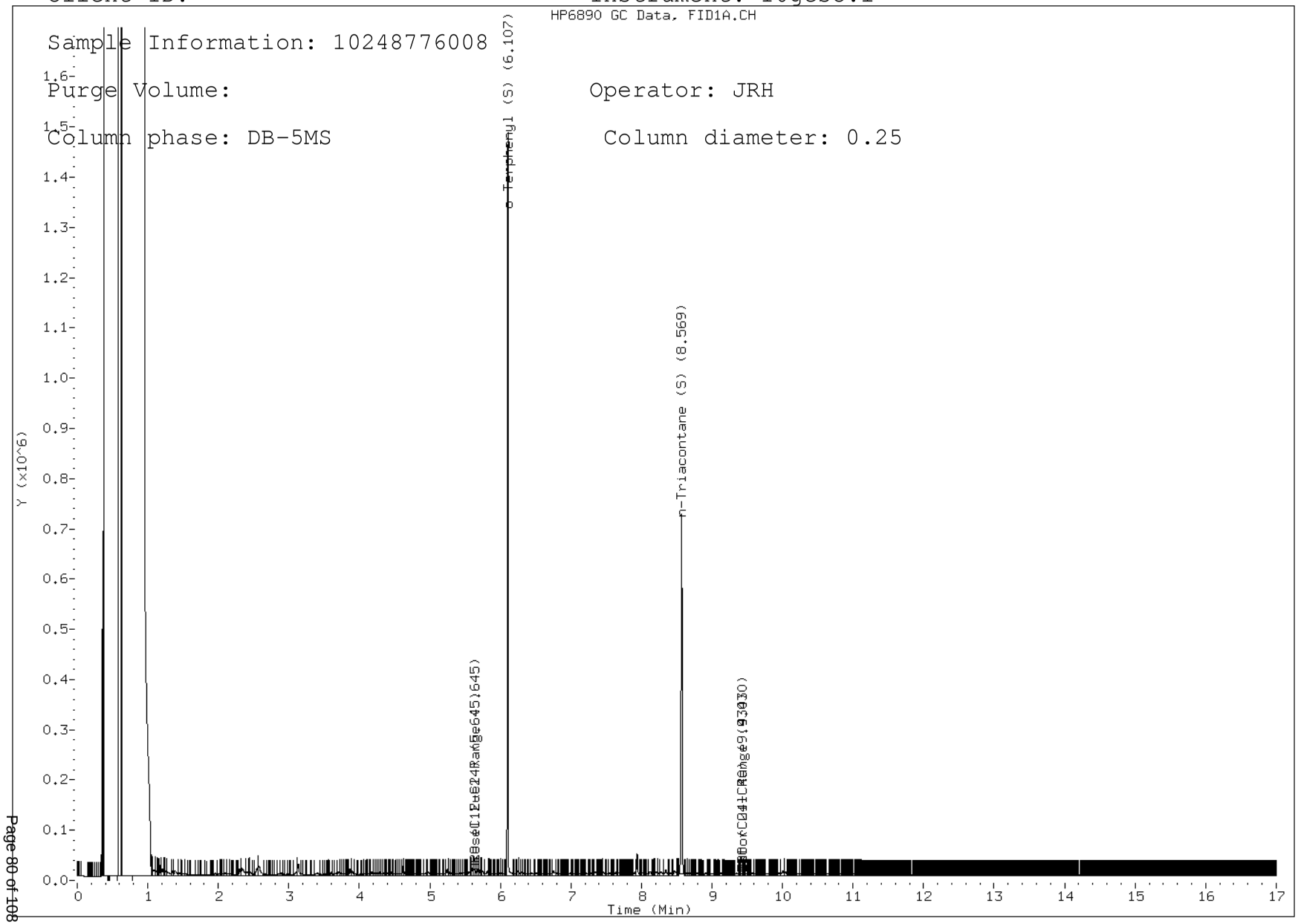
Sample ID: 10248776008

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776008

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000025.D

Report Date: 11/22/2013

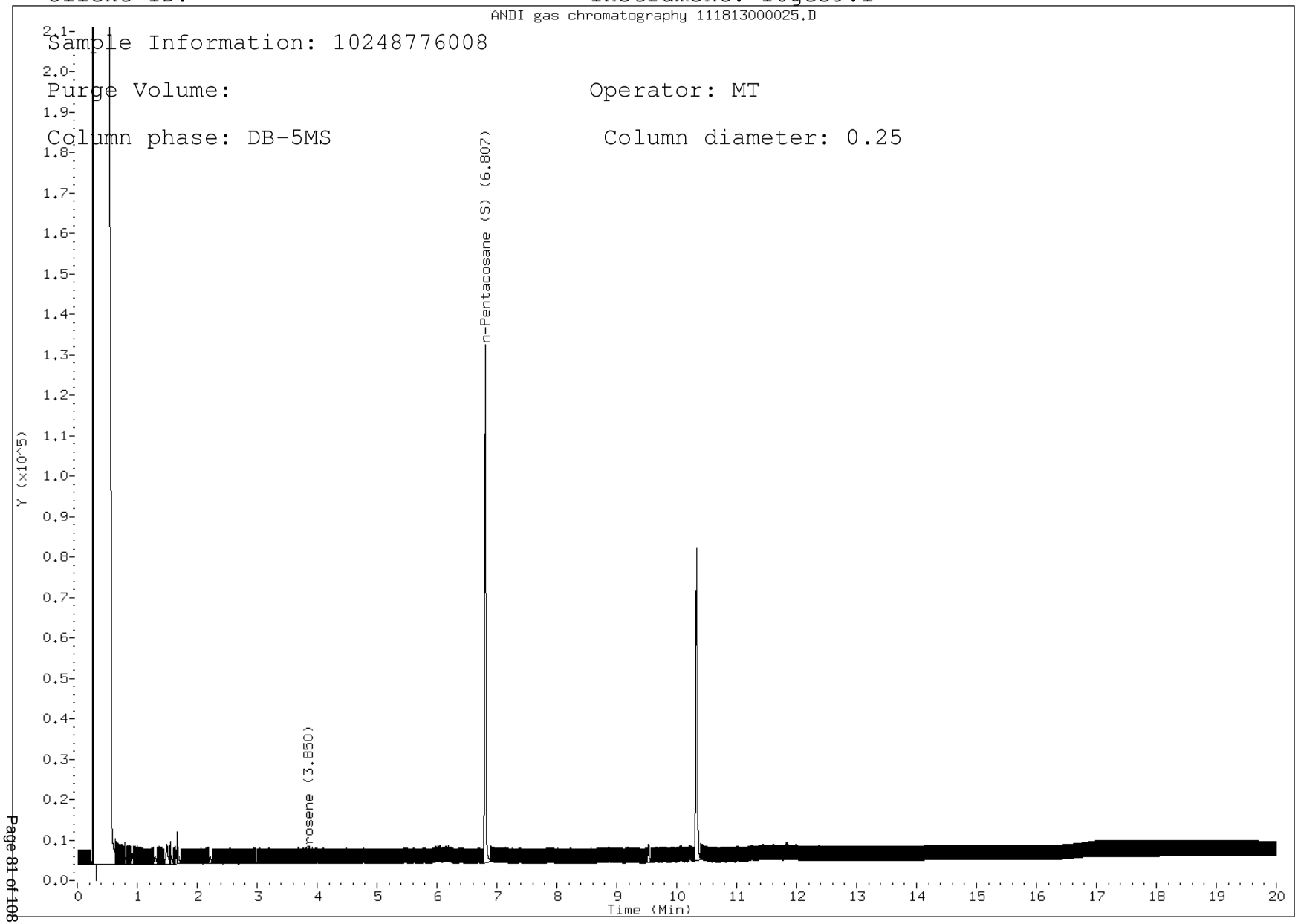
Sample ID: 10248776008

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776008

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

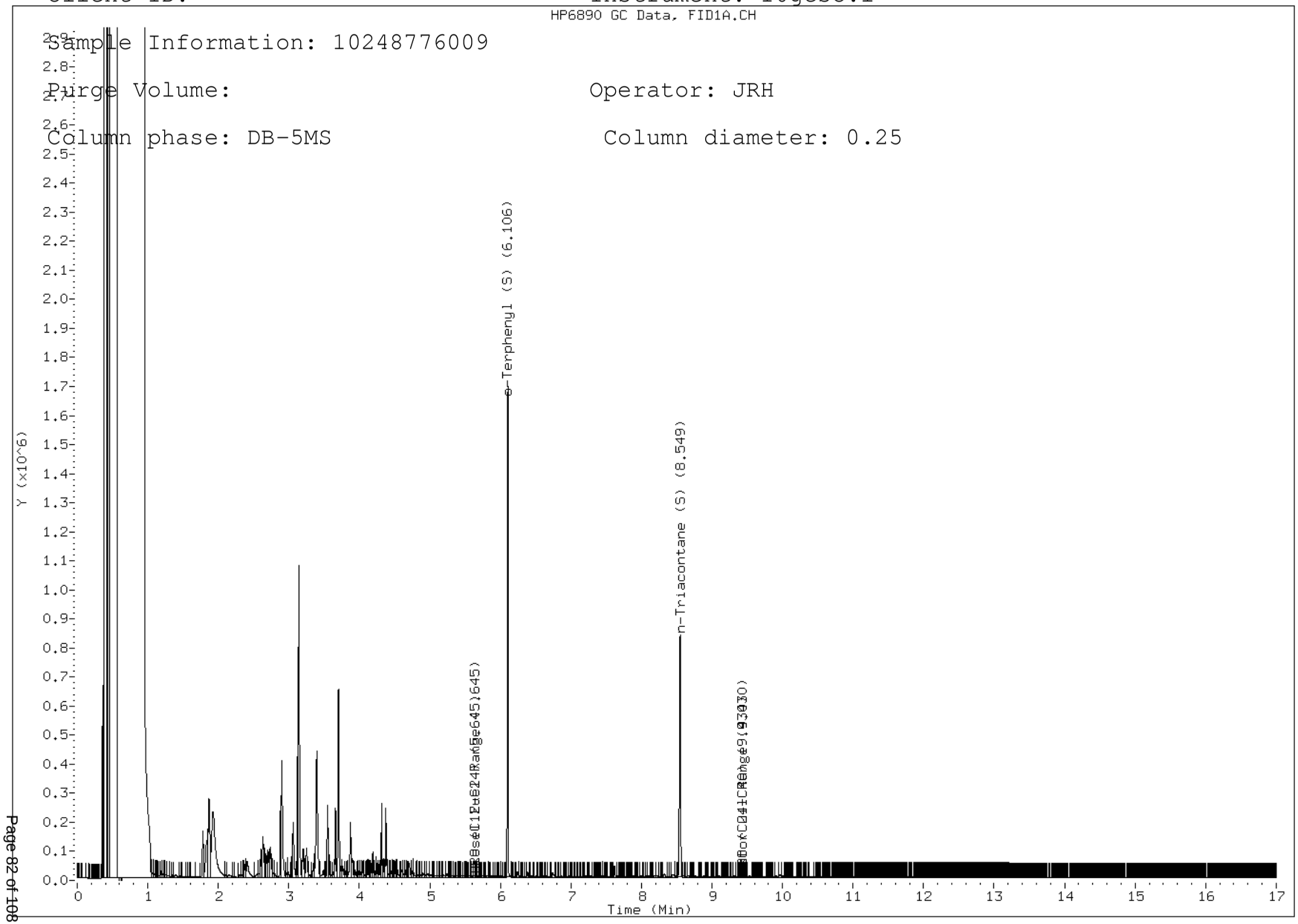
Sample ID: 10248776009

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776009

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000026.D

Report Date: 11/22/2013

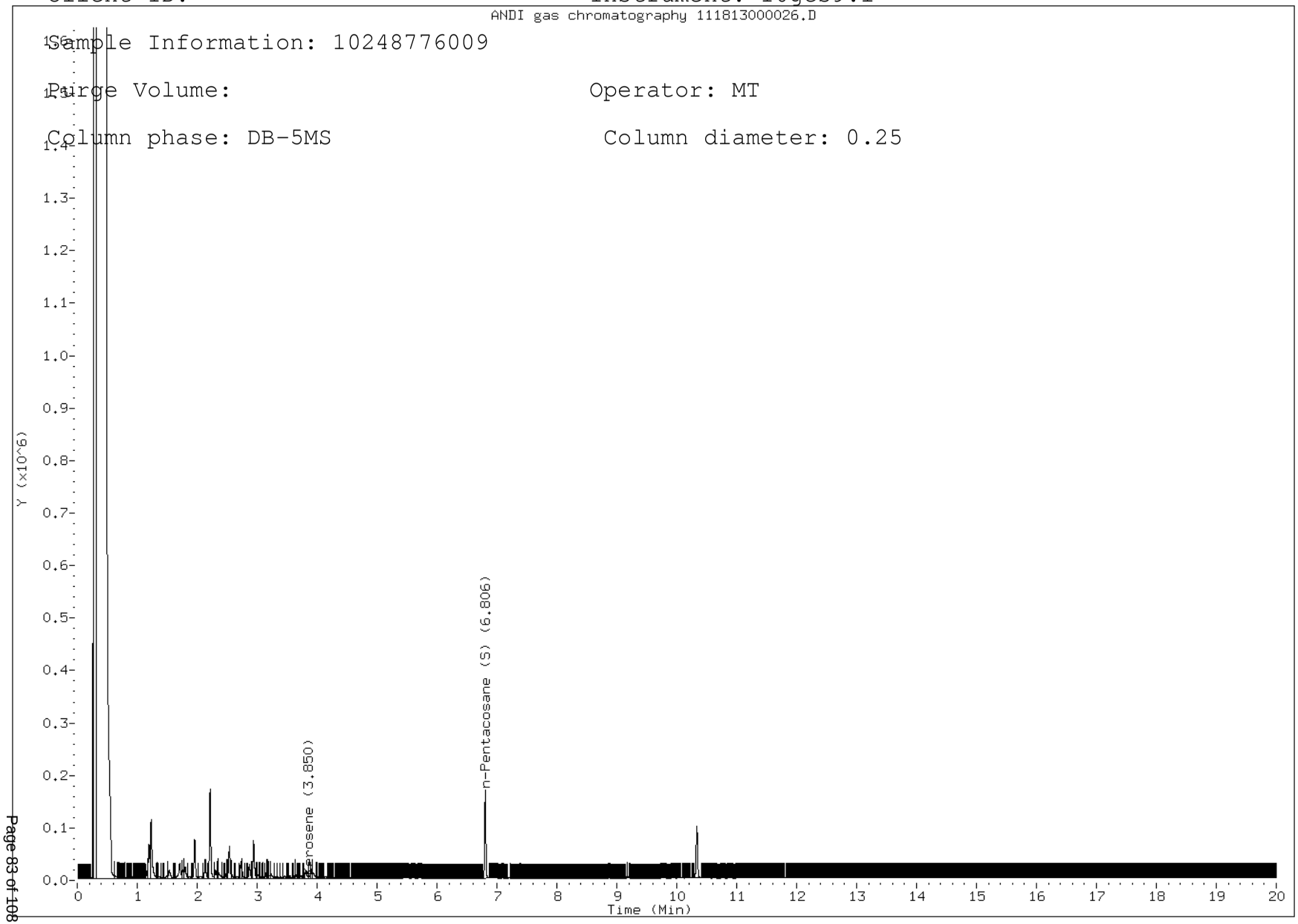
Sample ID: 10248776009

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776009

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160024.D

Report Date: 11/17/2013

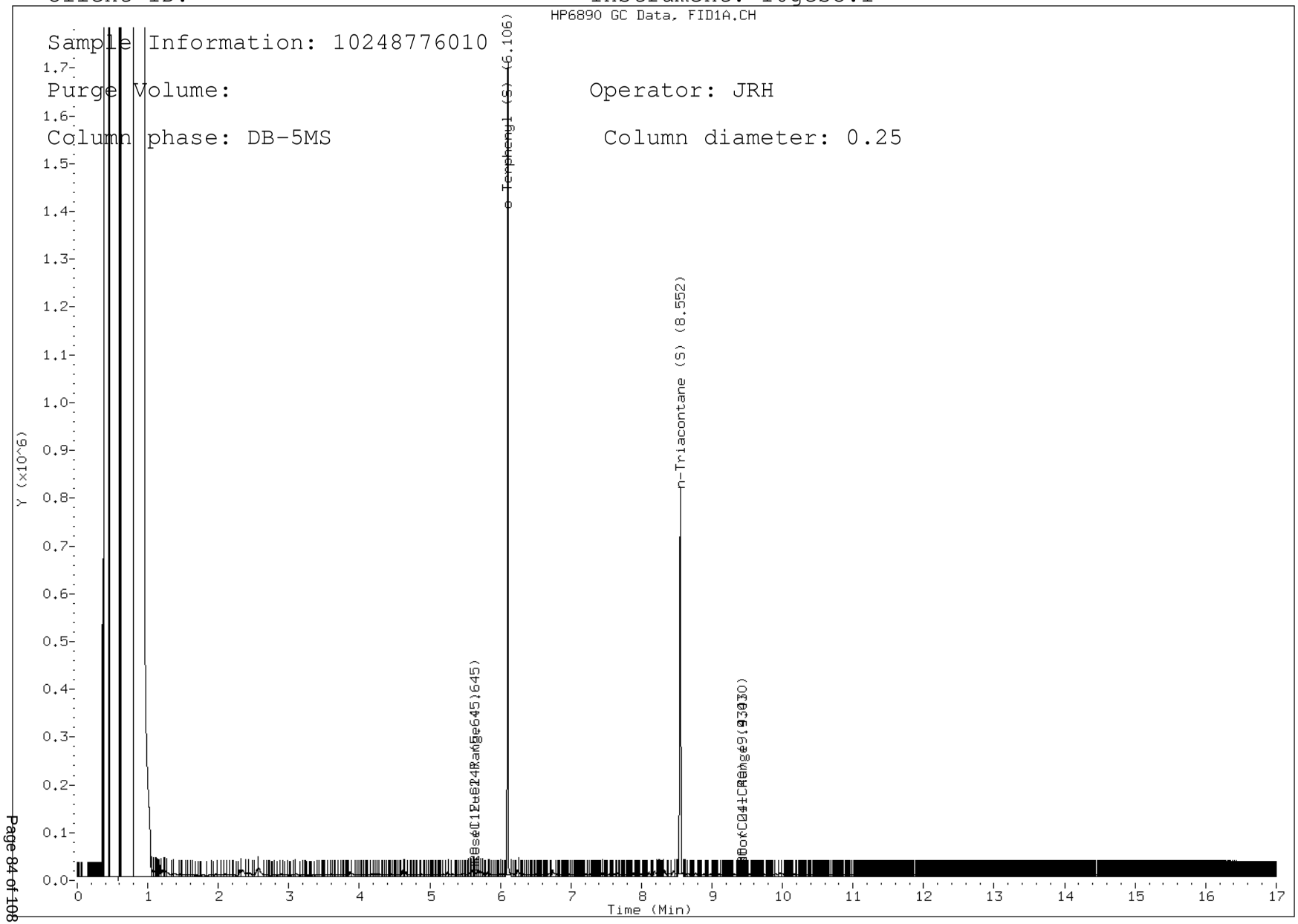
Sample ID: 10248776010

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776010

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000027.D

Report Date: 11/22/2013

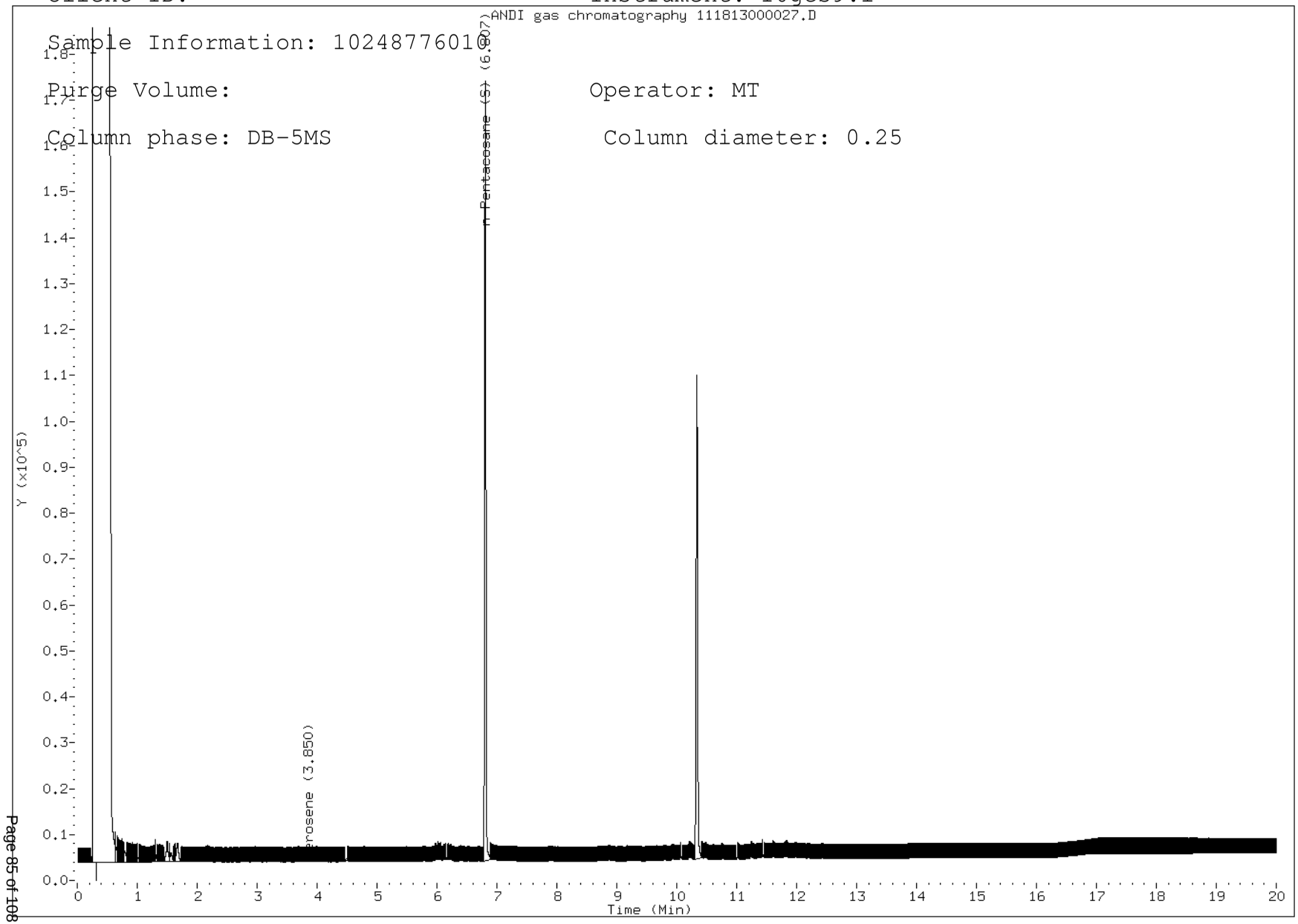
Sample ID: 10248776010

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776010

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



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Report Date: 11/17/2013

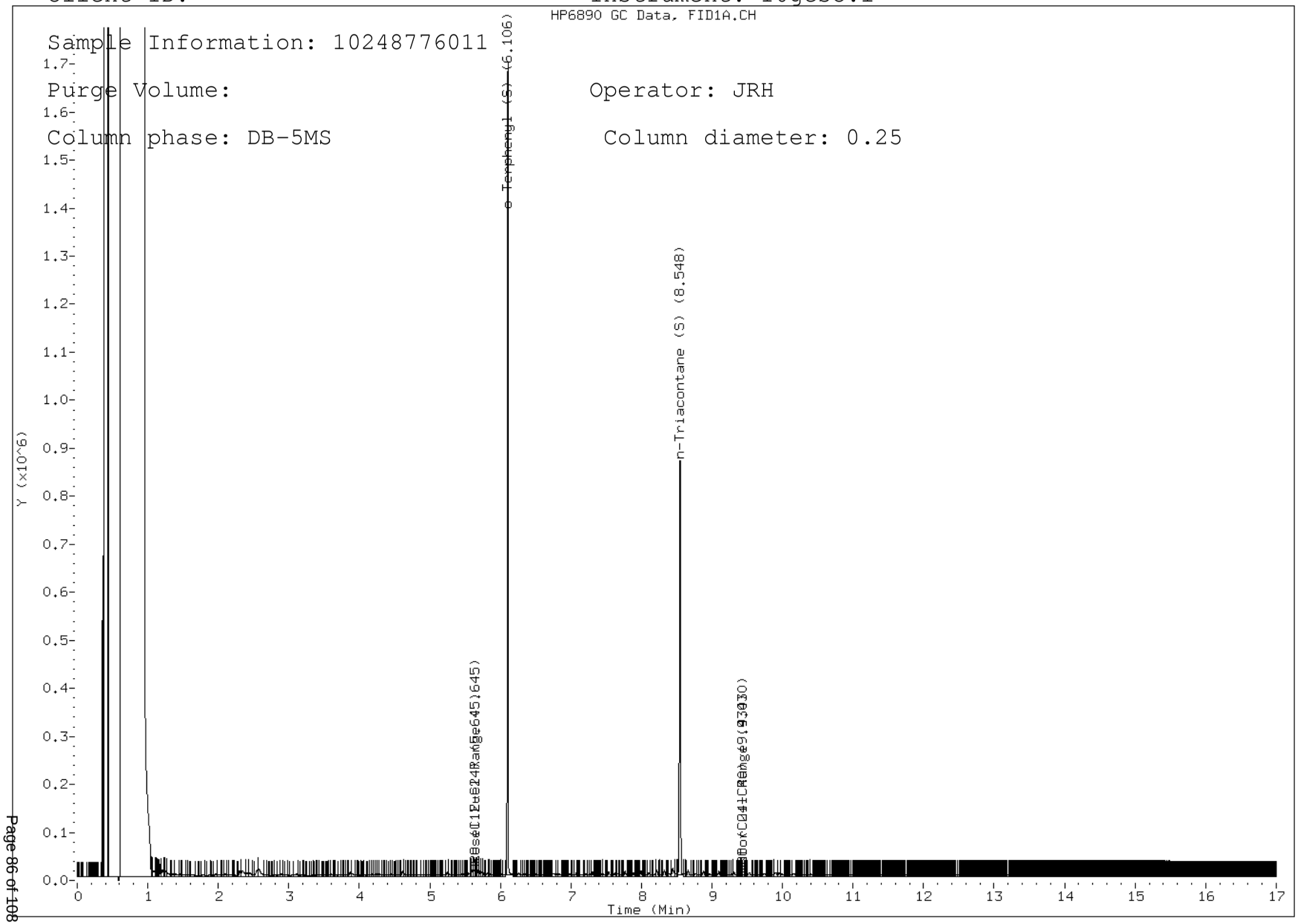
Sample ID: 10248776011

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776011

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000028.D

Report Date: 11/22/2013

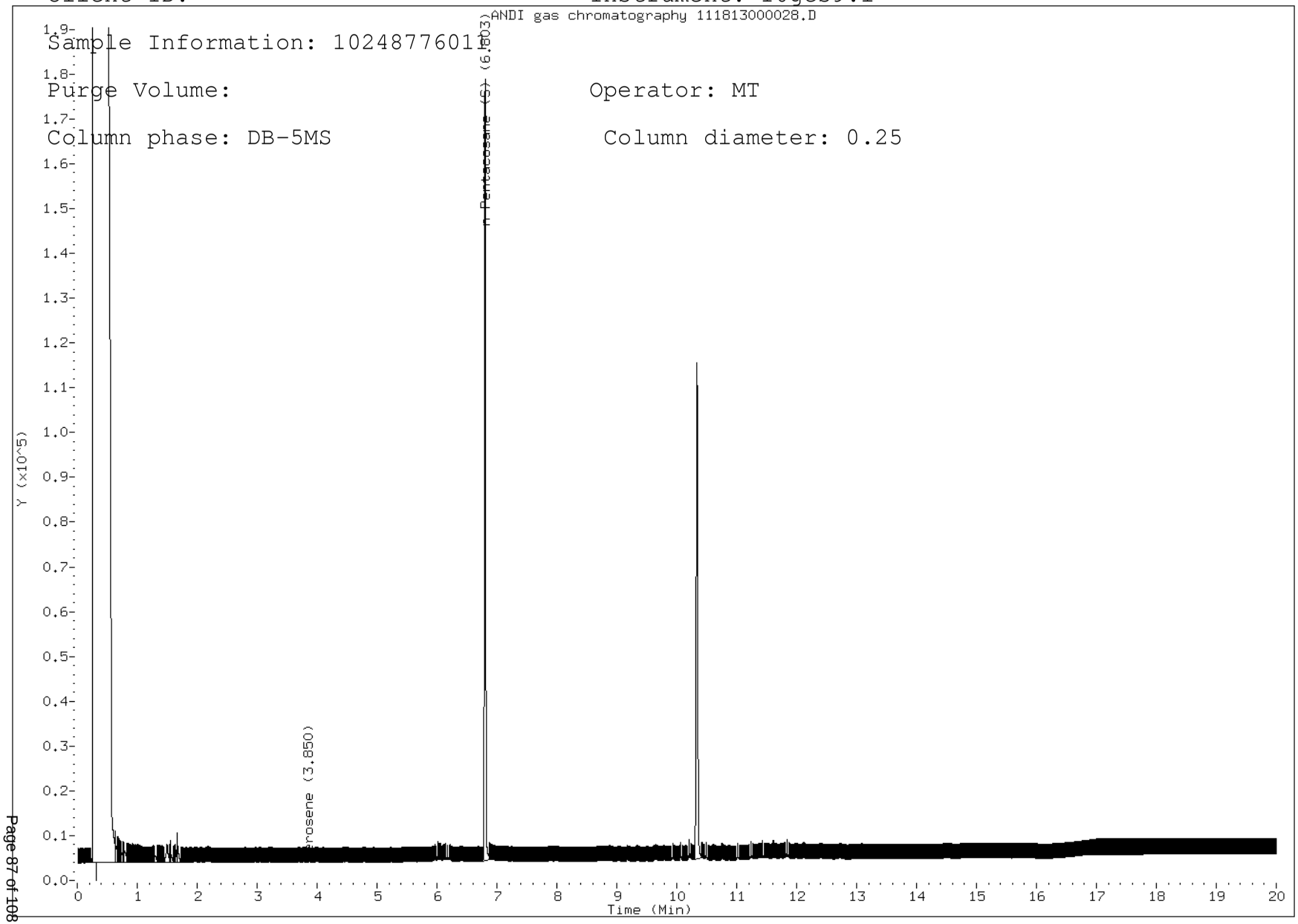
Sample ID: 10248776011

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776011

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160026.D

Report Date: 11/17/2013

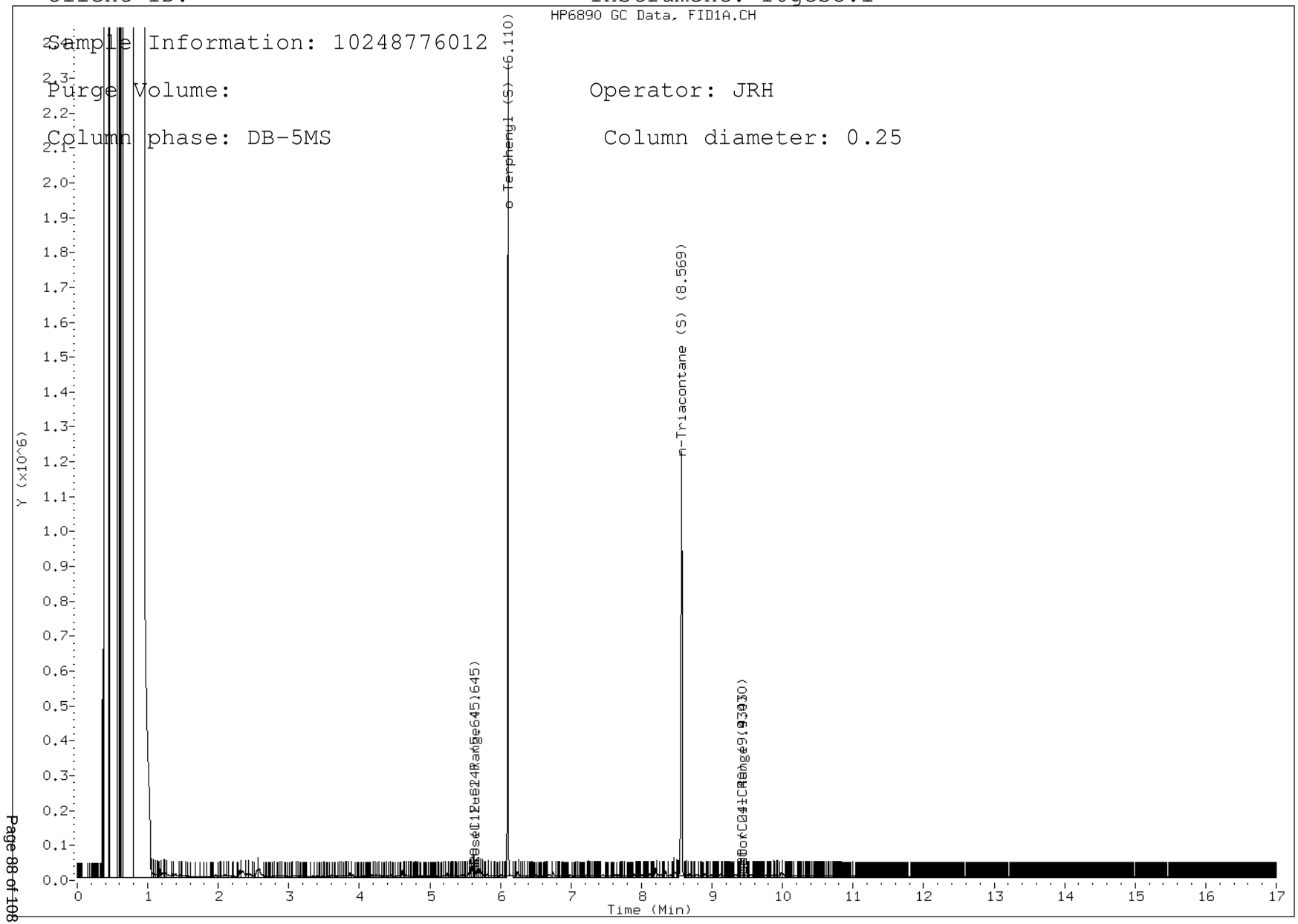
Sample ID: 10248776012

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776012

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000029.D

Report Date: 11/22/2013

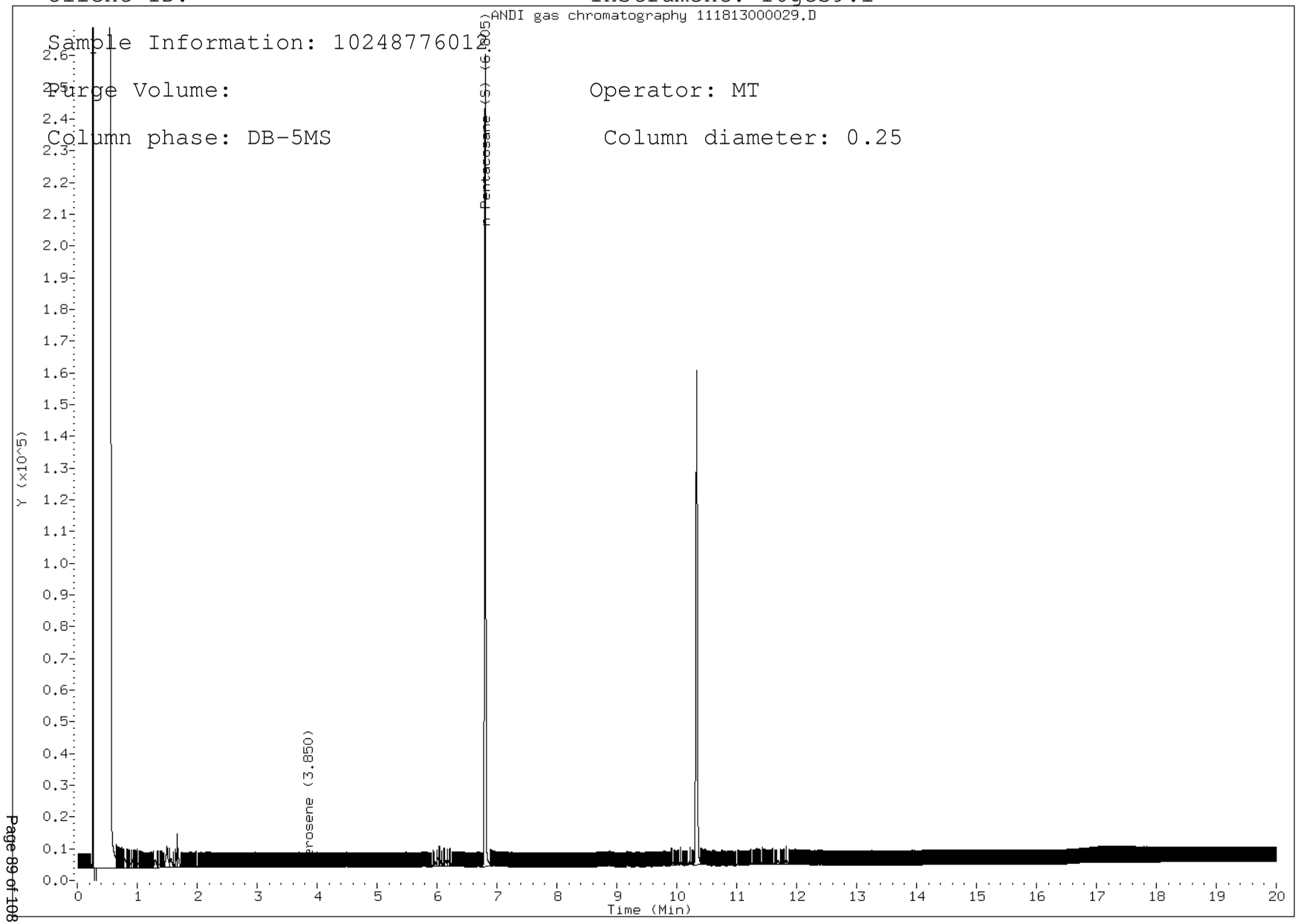
Sample ID: 10248776012

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776012

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160027.D

Report Date: 11/17/2013

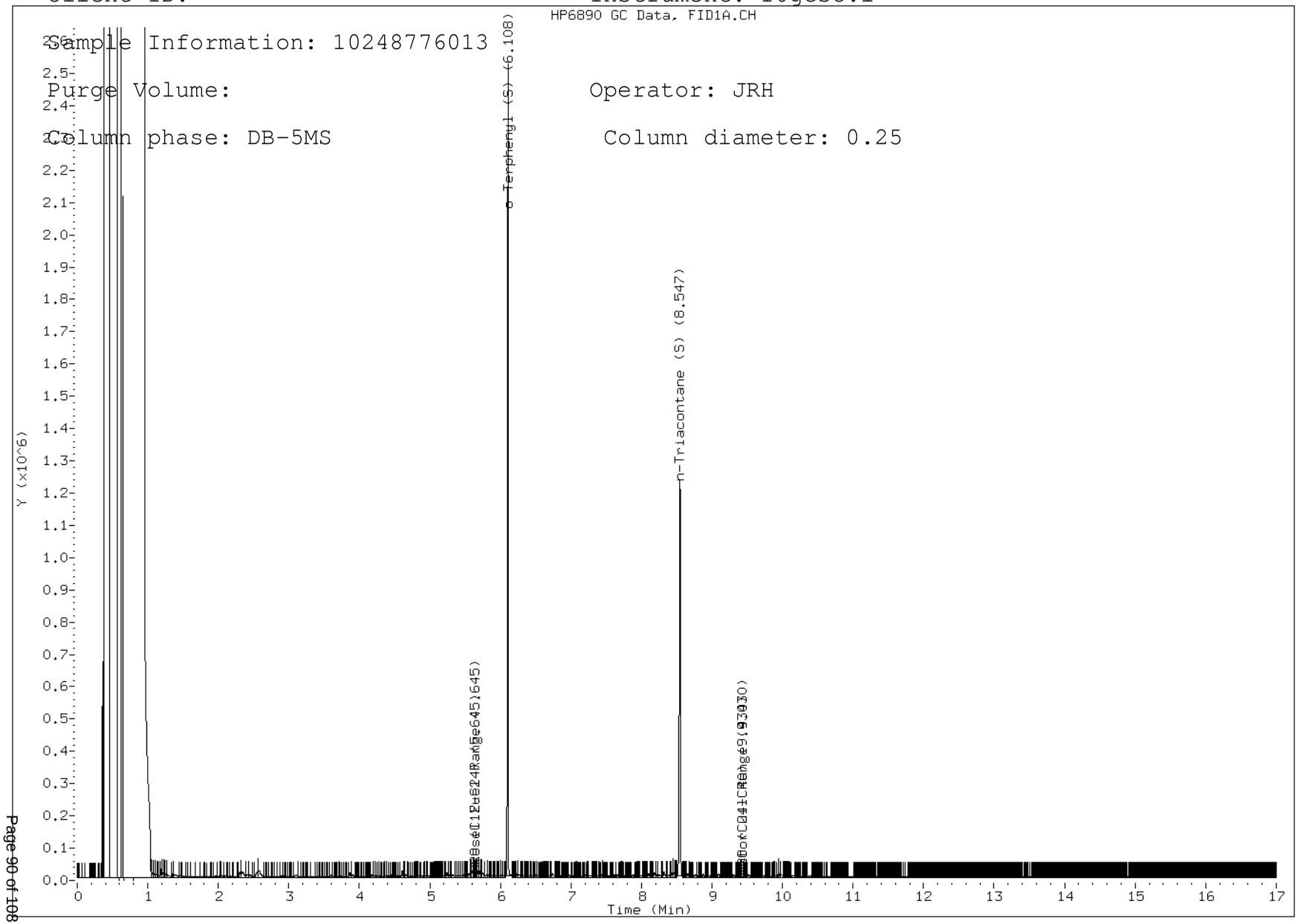
Sample ID: 10248776013

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776013

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000030.D

Report Date: 11/22/2013

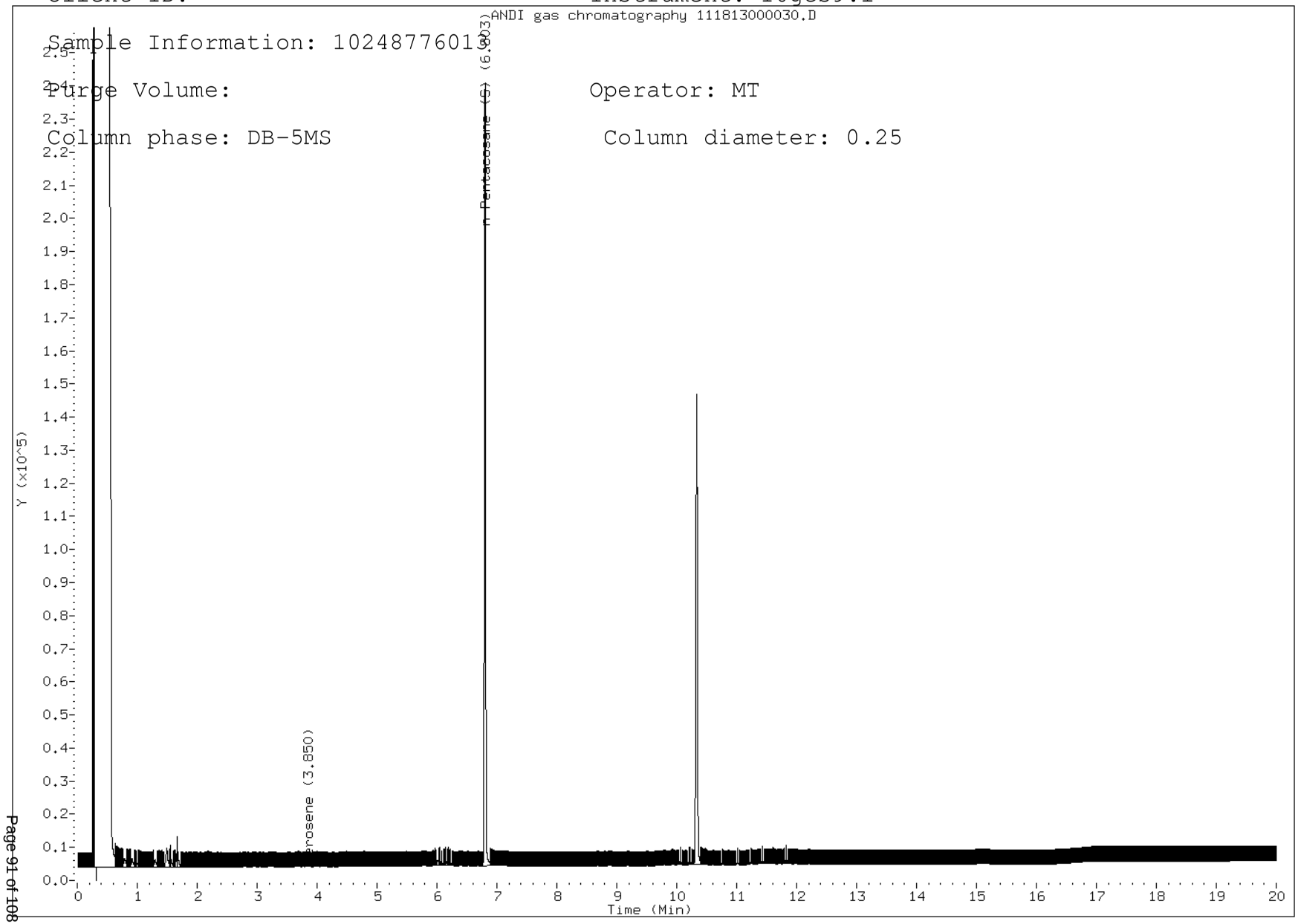
Sample ID: 10248776013

Client ID: Instrument: 10gcs9.i

Sample Information: 10248776013

Purge Volume: Operator: MT

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcsC.i\111613.b/11160028.D

Report Date: 11/17/2013

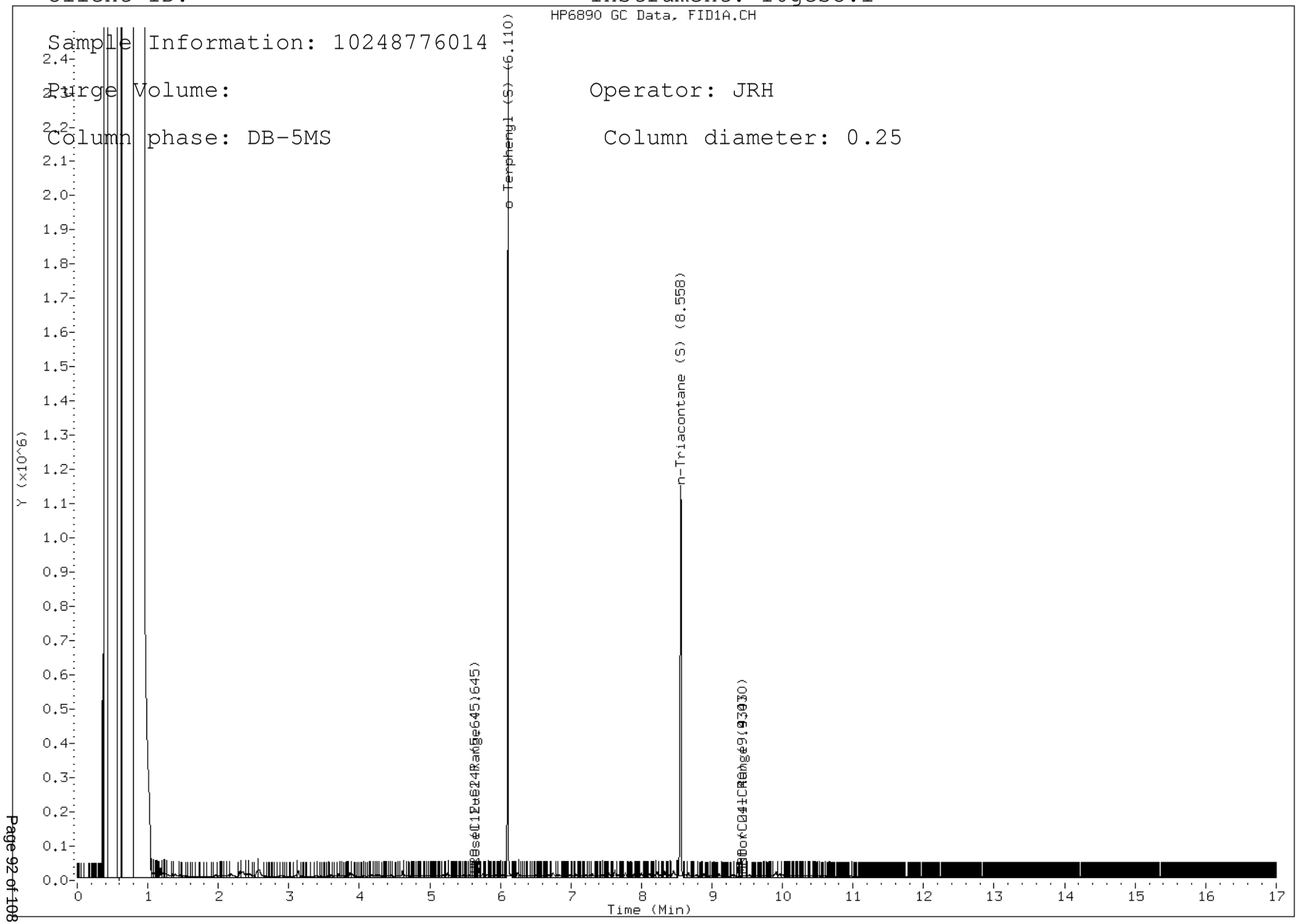
Sample ID: 10248776014

Client ID: Instrument: 10gcsC.i

Sample Information: 10248776014

Purge Volume: Operator: JRH

Column phase: DB-5MS Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\111813kero.b/111813000031.D

Report Date: 11/22/2013

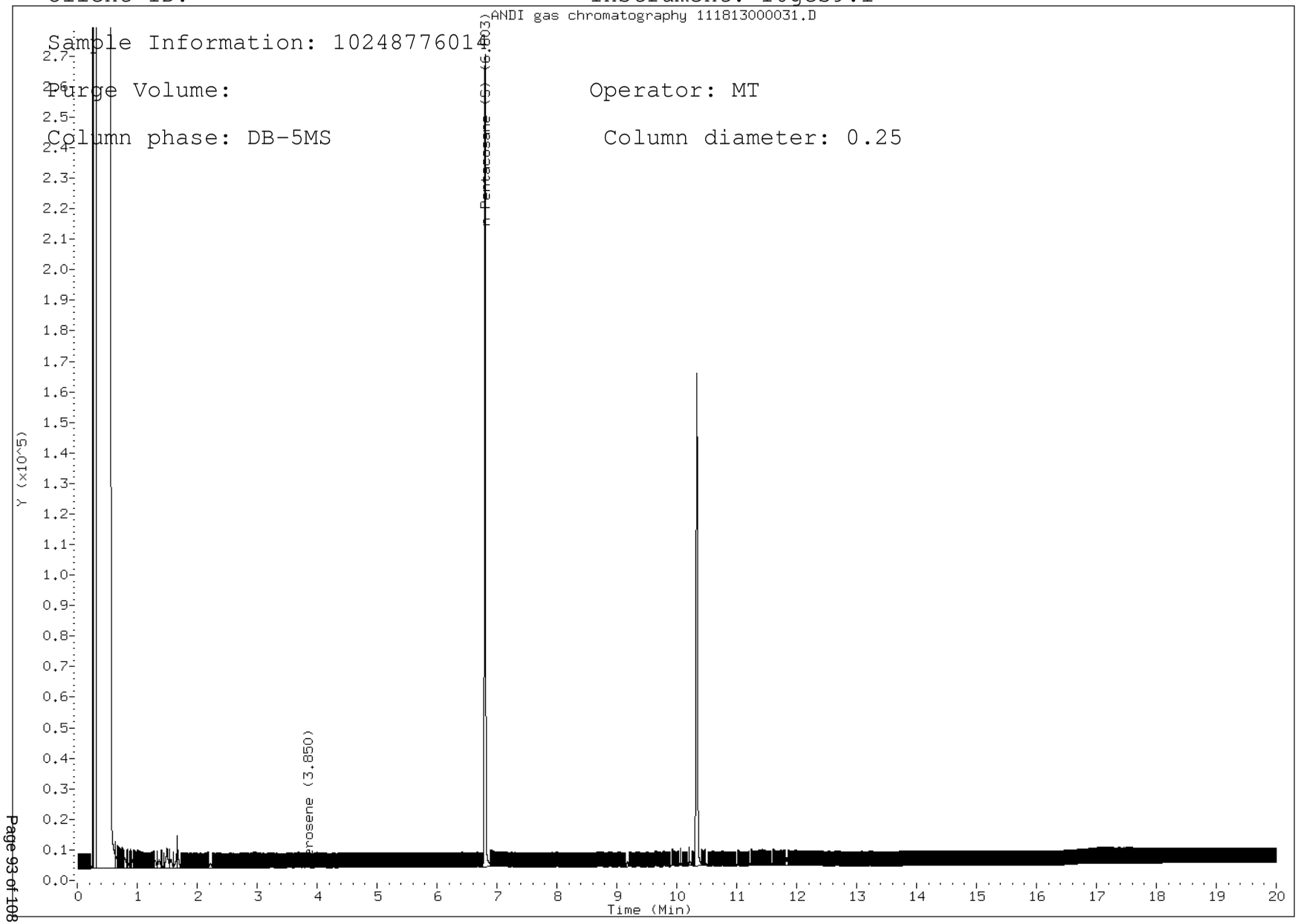
Sample ID: 10248776014

Client ID: Instrument: 10gcs9.i

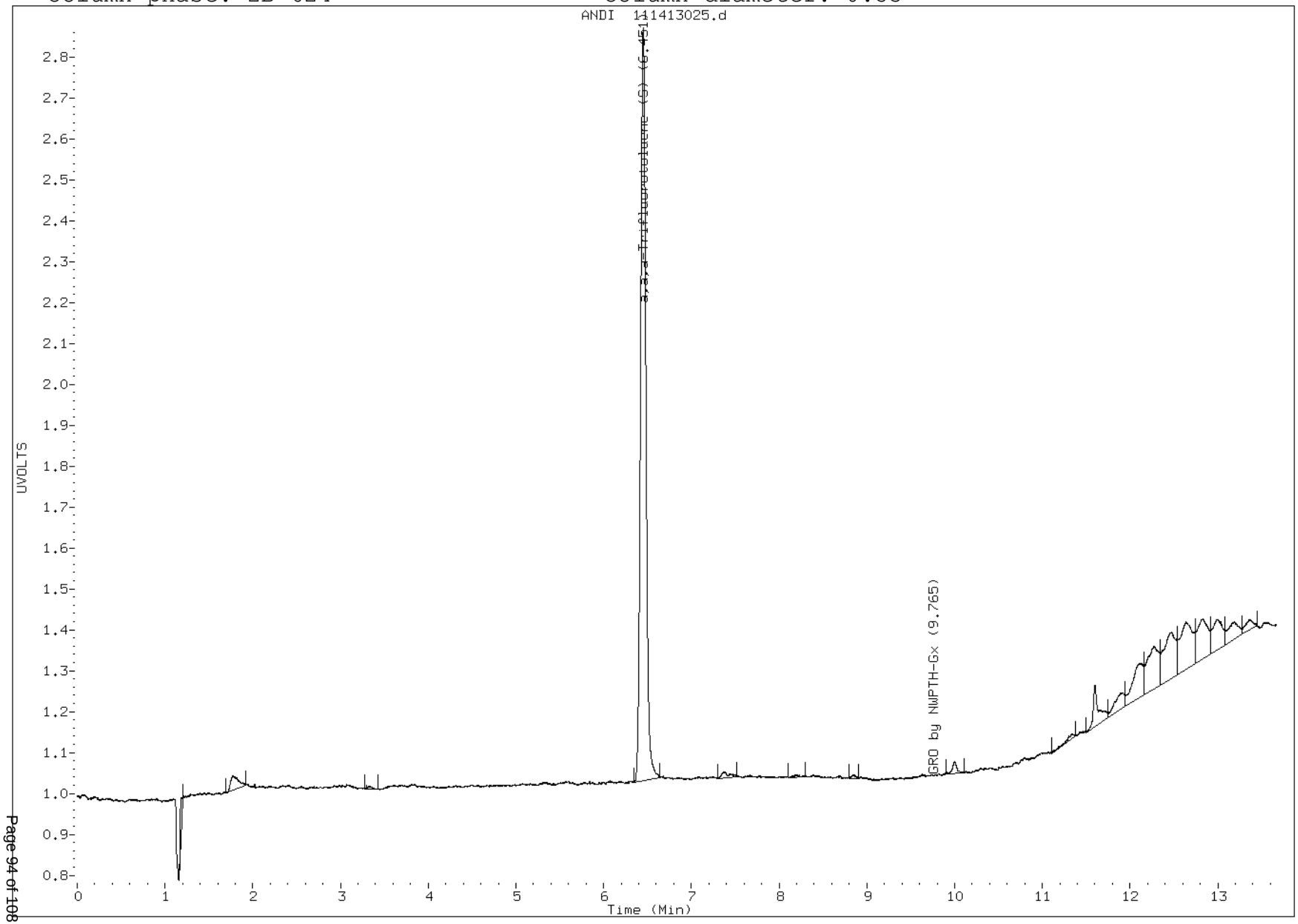
Sample Information: 10248776014

Purge Volume: Operator: MT

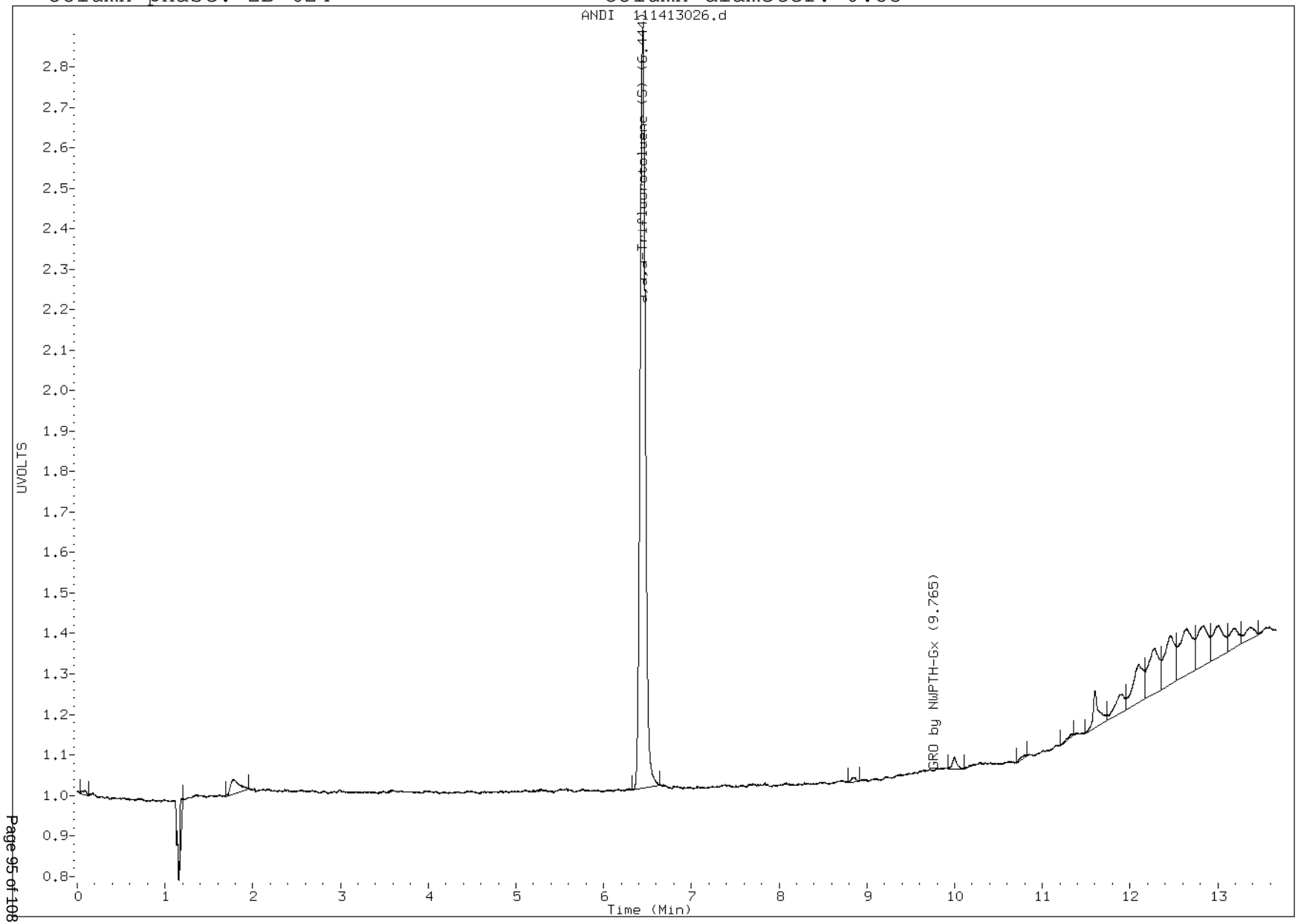
Column phase: DB-5MS Column diameter: 0.25



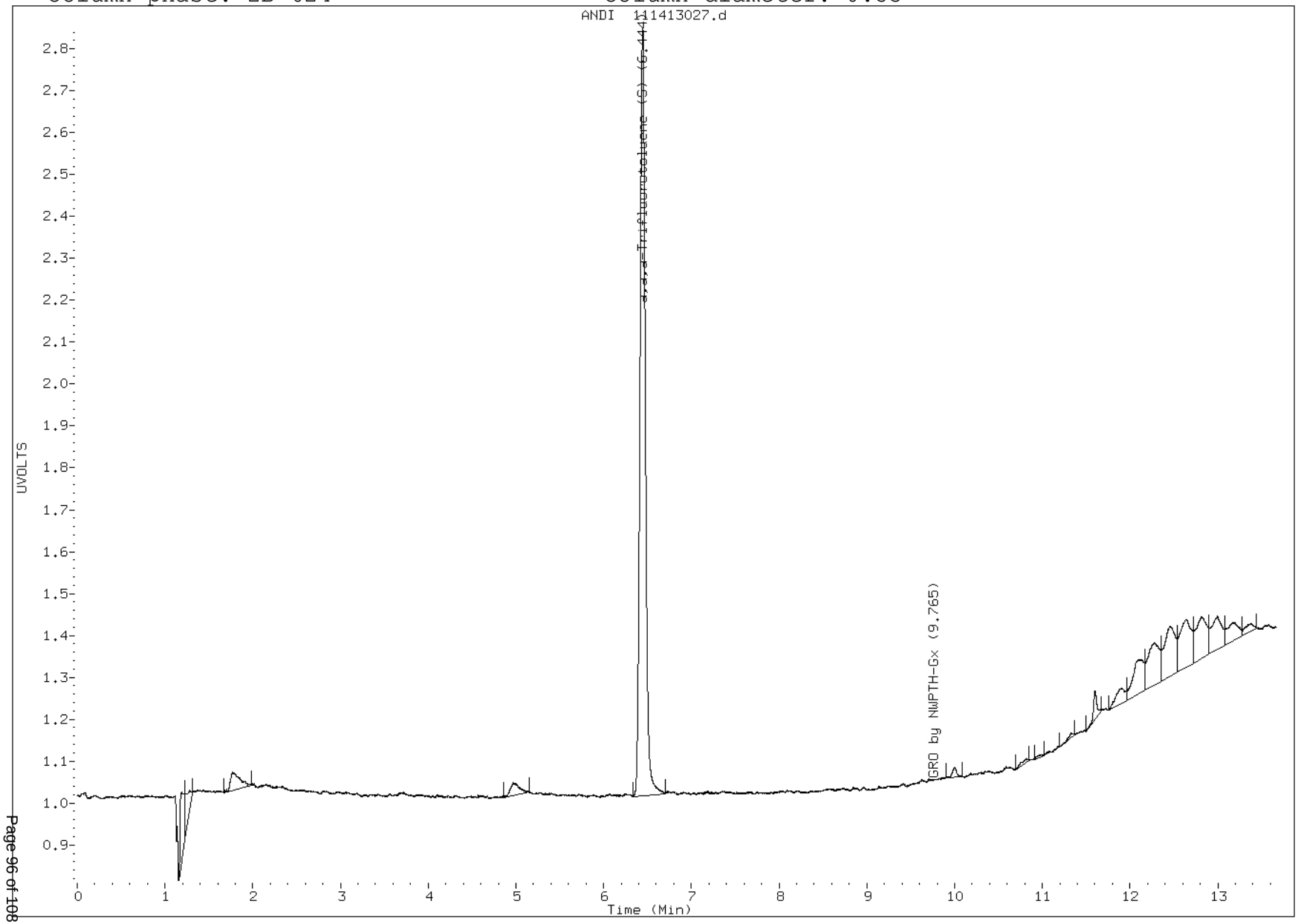
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413025.d
Report Date: 11/20/2013
Sample ID: 10248776001
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776001
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



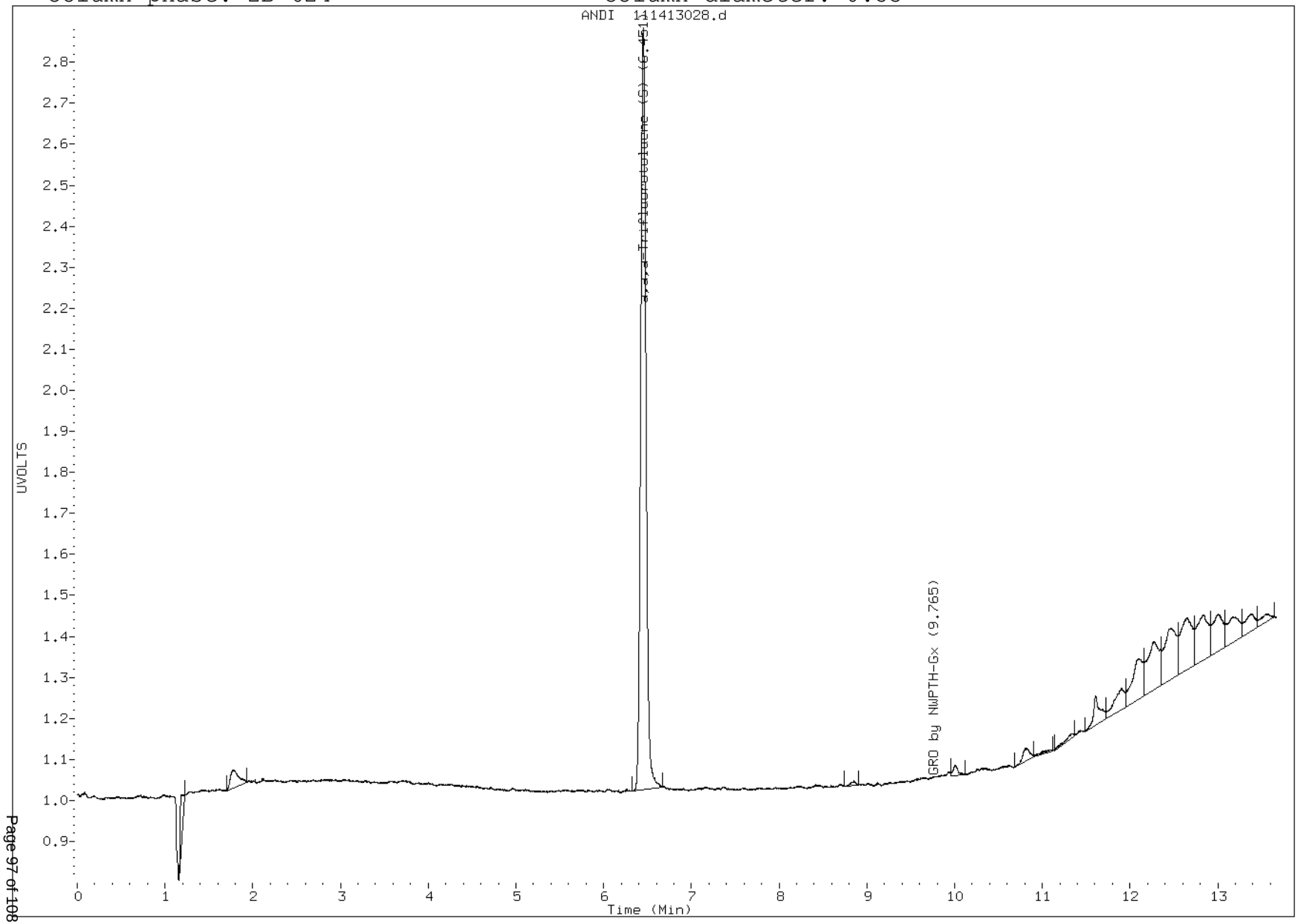
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413026.d
Report Date: 11/20/2013
Sample ID: 10248776002
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776002
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



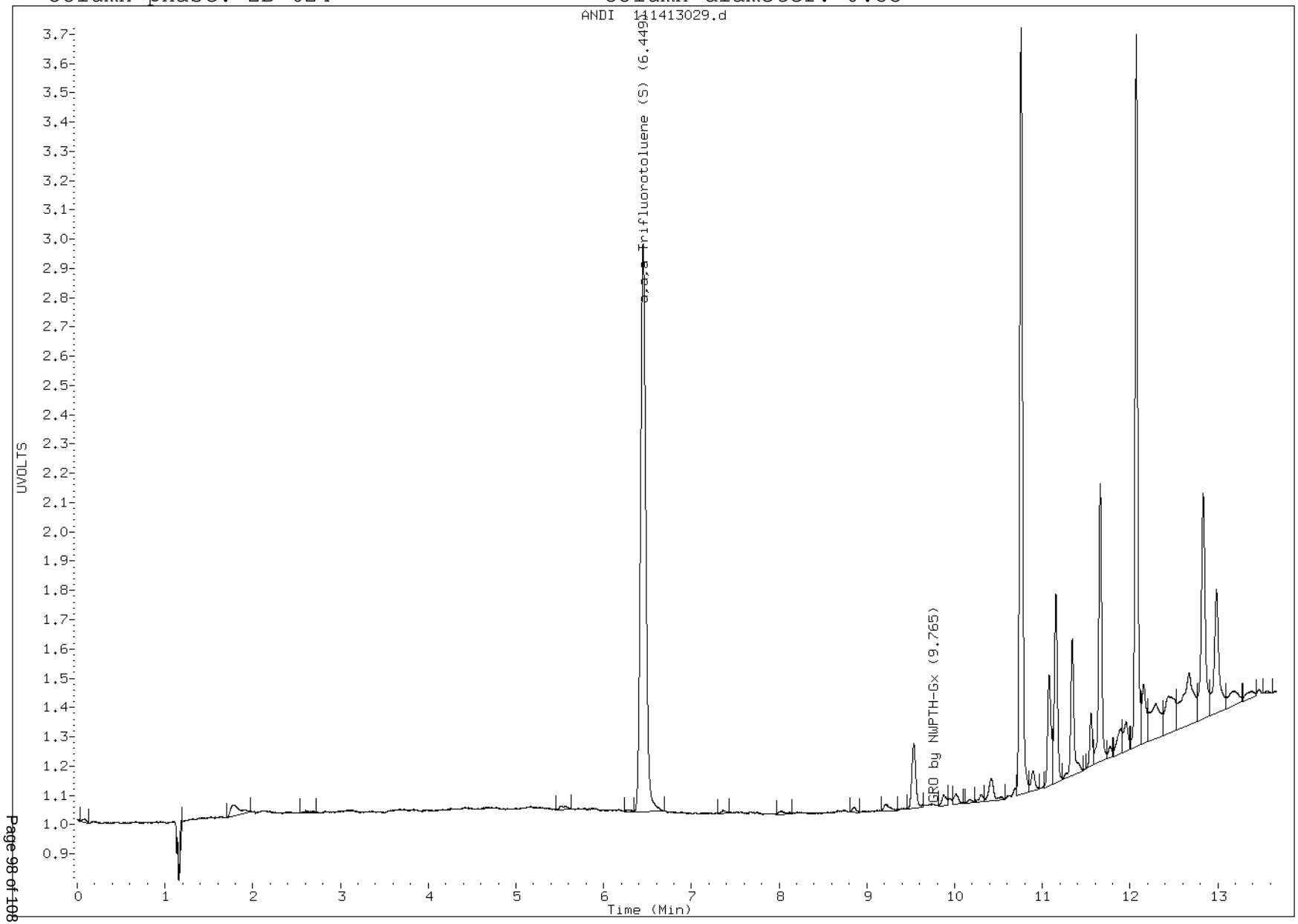
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413027.d
Report Date: 11/20/2013
Sample ID: 10248776003
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776003
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



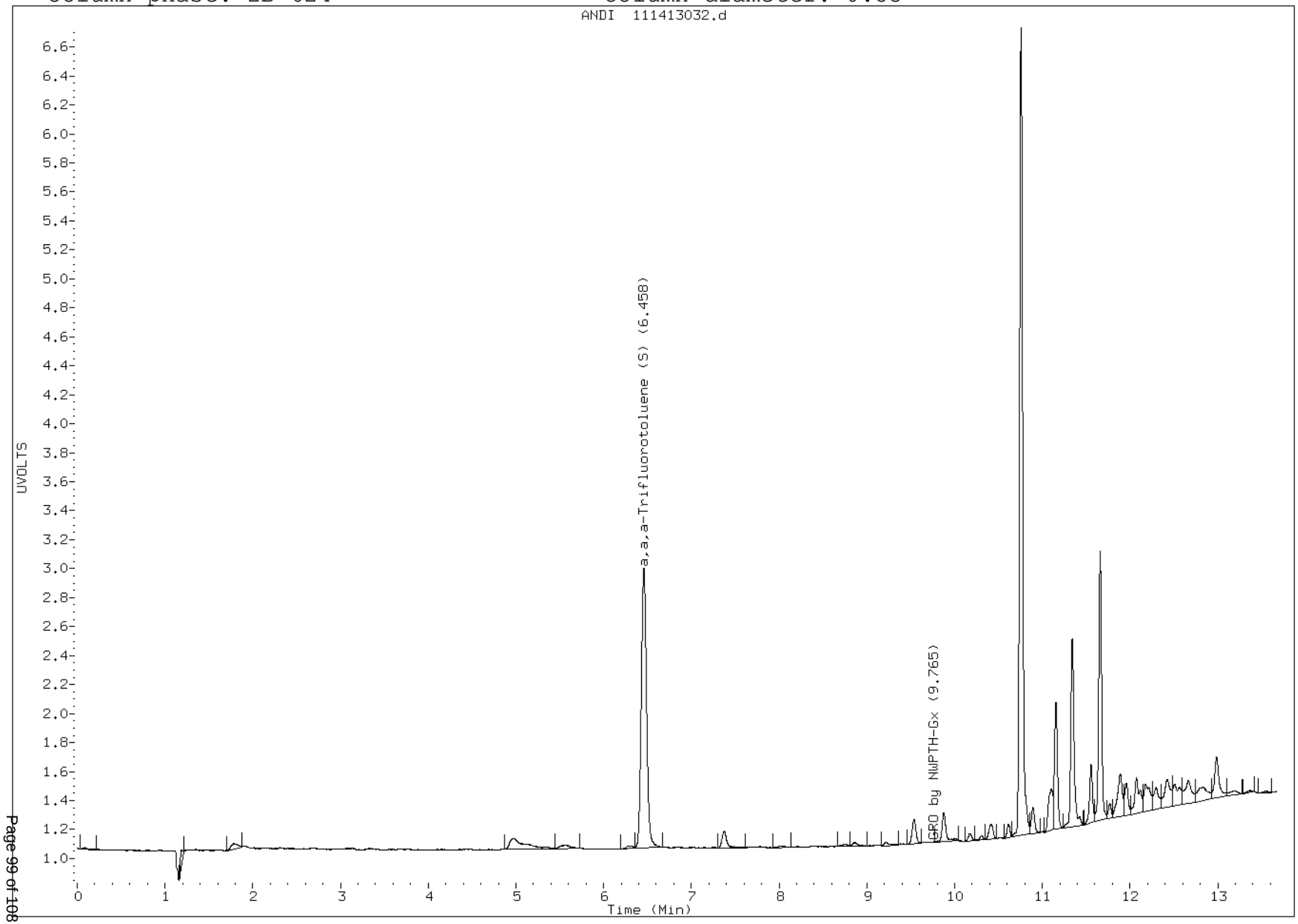
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413028.d
Report Date: 11/20/2013
Sample ID: 10248776004
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776004
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



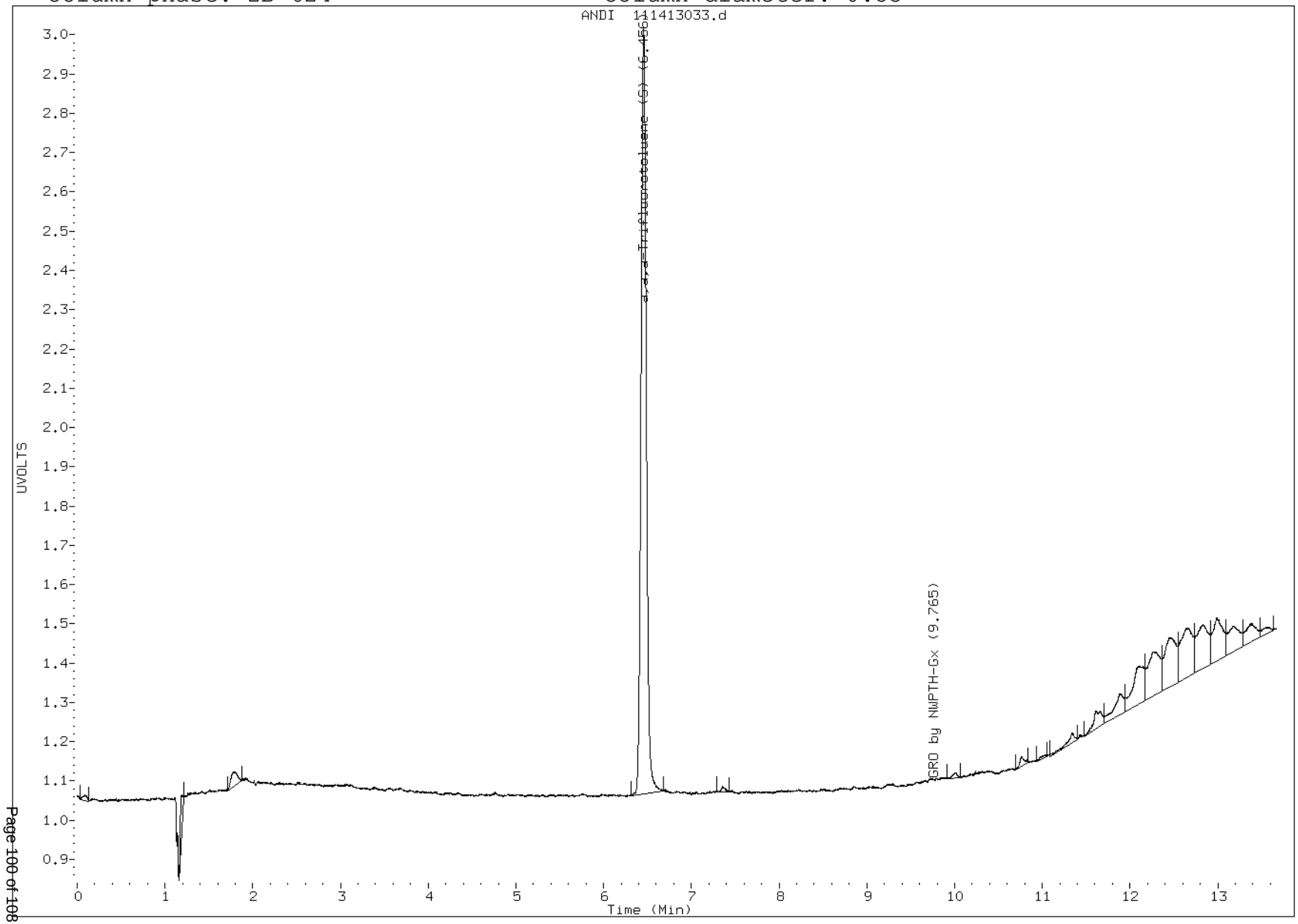
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413029.d
Report Date: 11/20/2013
Sample ID: 10248776005
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776005
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



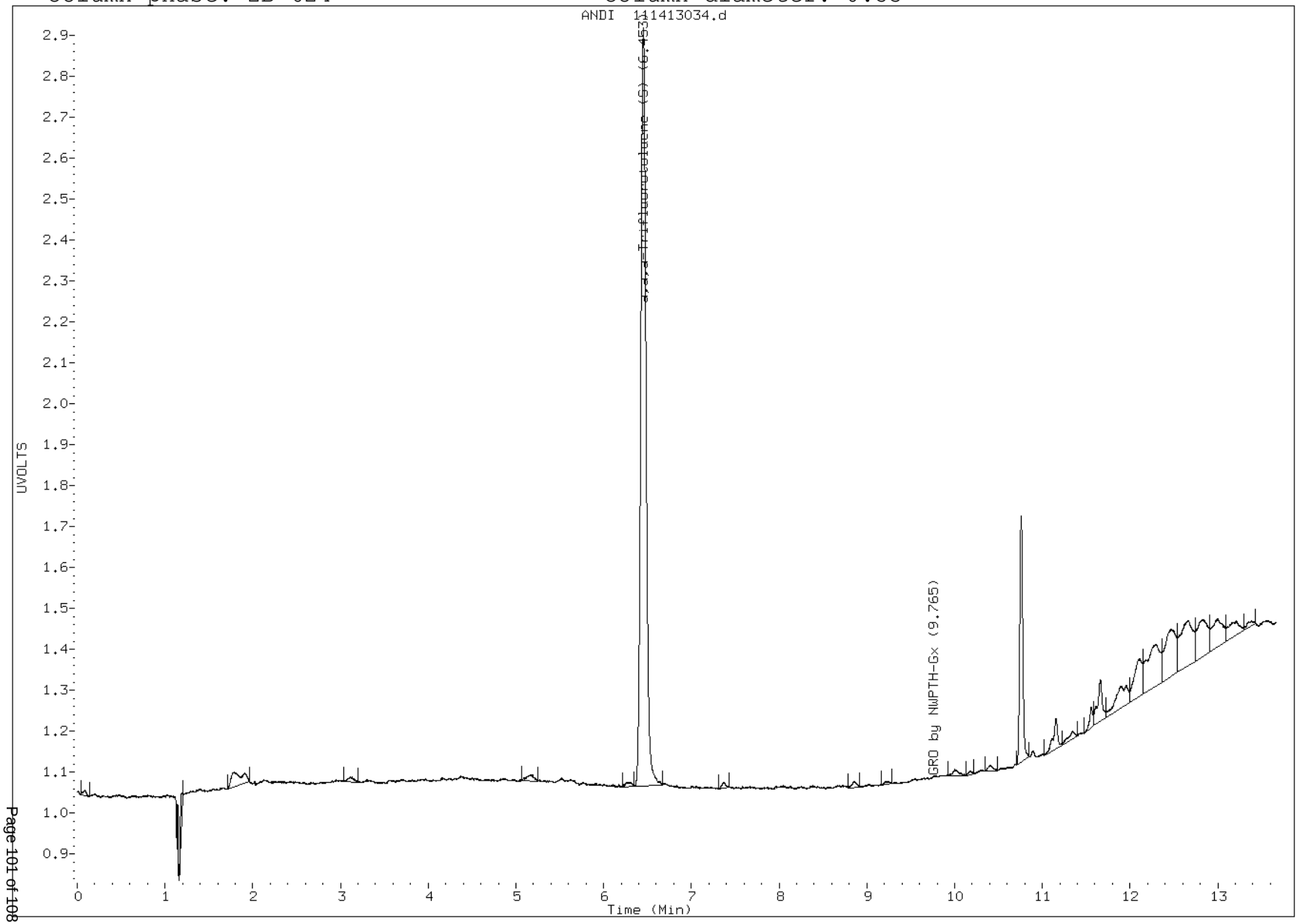
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413032.d
Report Date: 11/20/2013
Sample ID: 10248776006
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776006
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



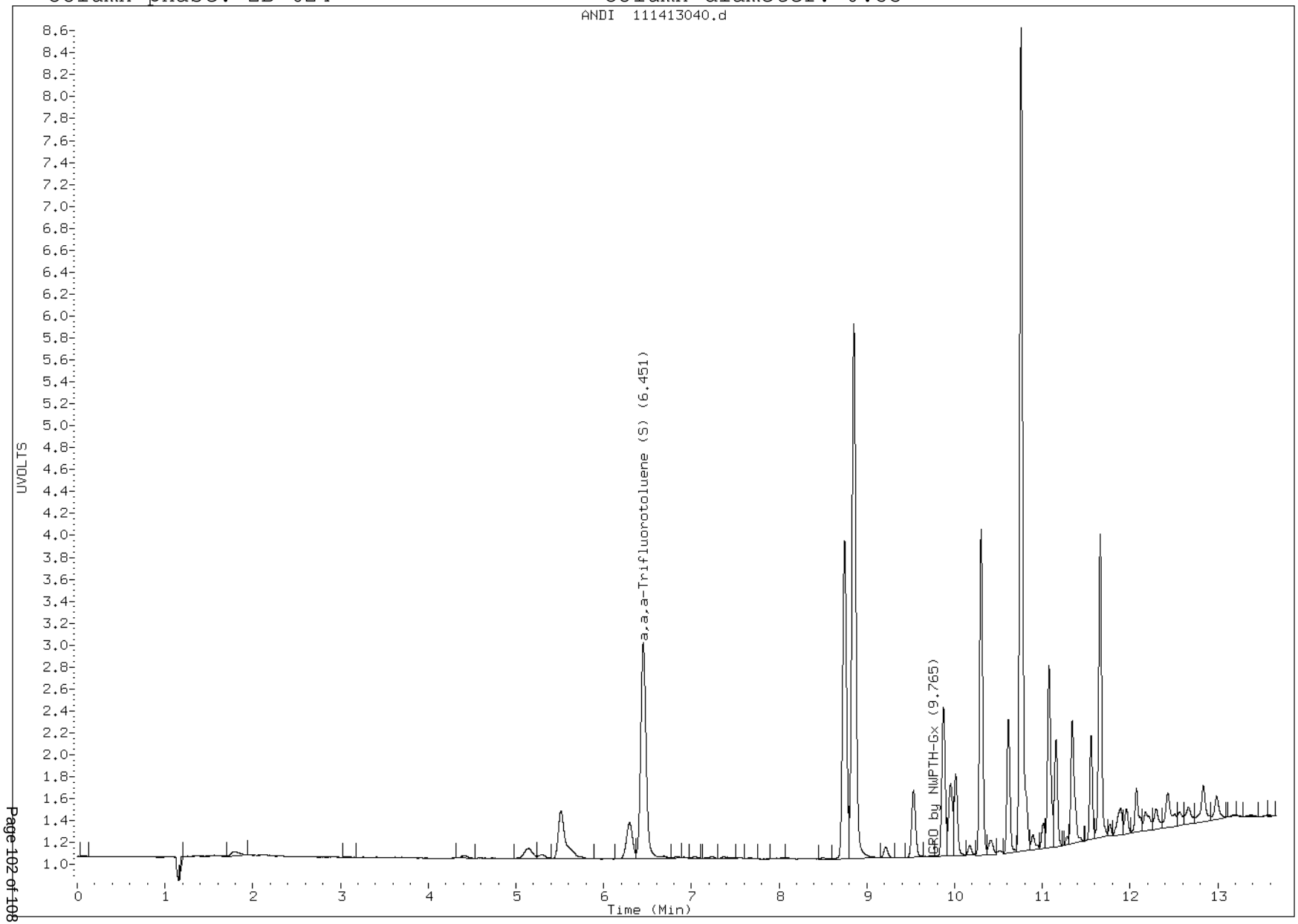
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413033.d
Report Date: 11/20/2013
Sample ID: 10248776007
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776007
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



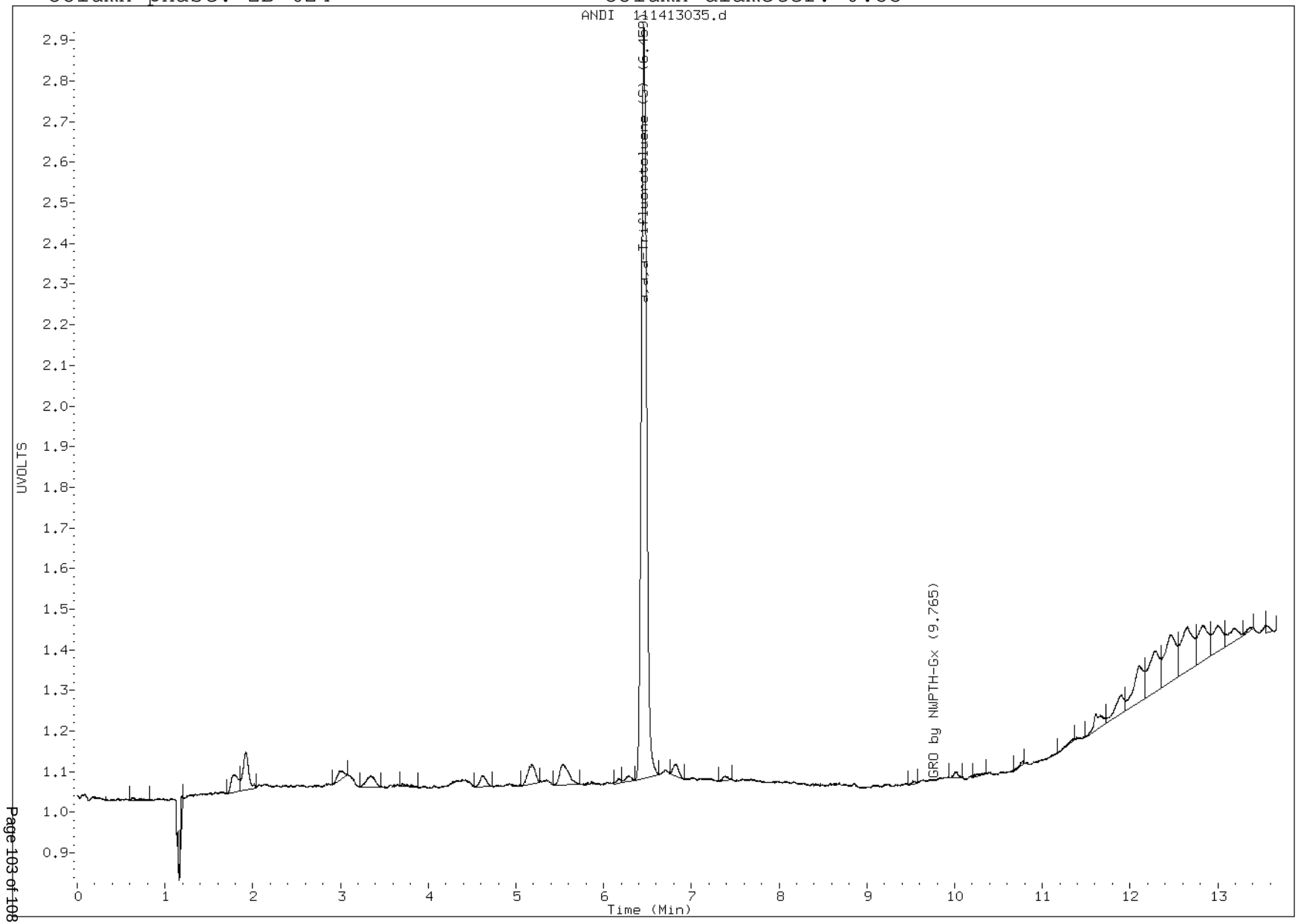
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413034.d
Report Date: 11/20/2013
Sample ID: 10248776008
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776008
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



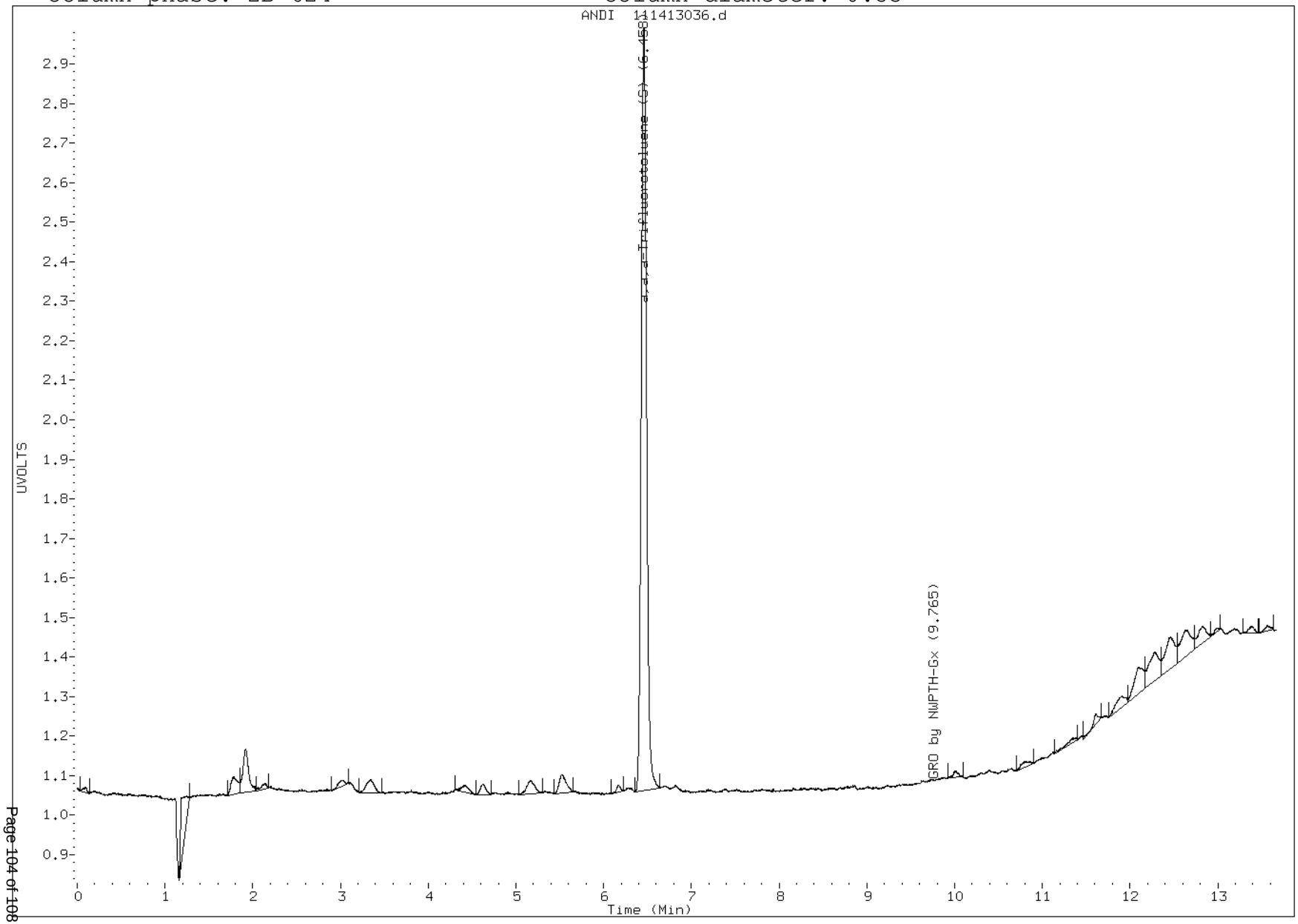
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413040.d
Report Date: 11/20/2013
Sample ID: 10248776009
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776009,5
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



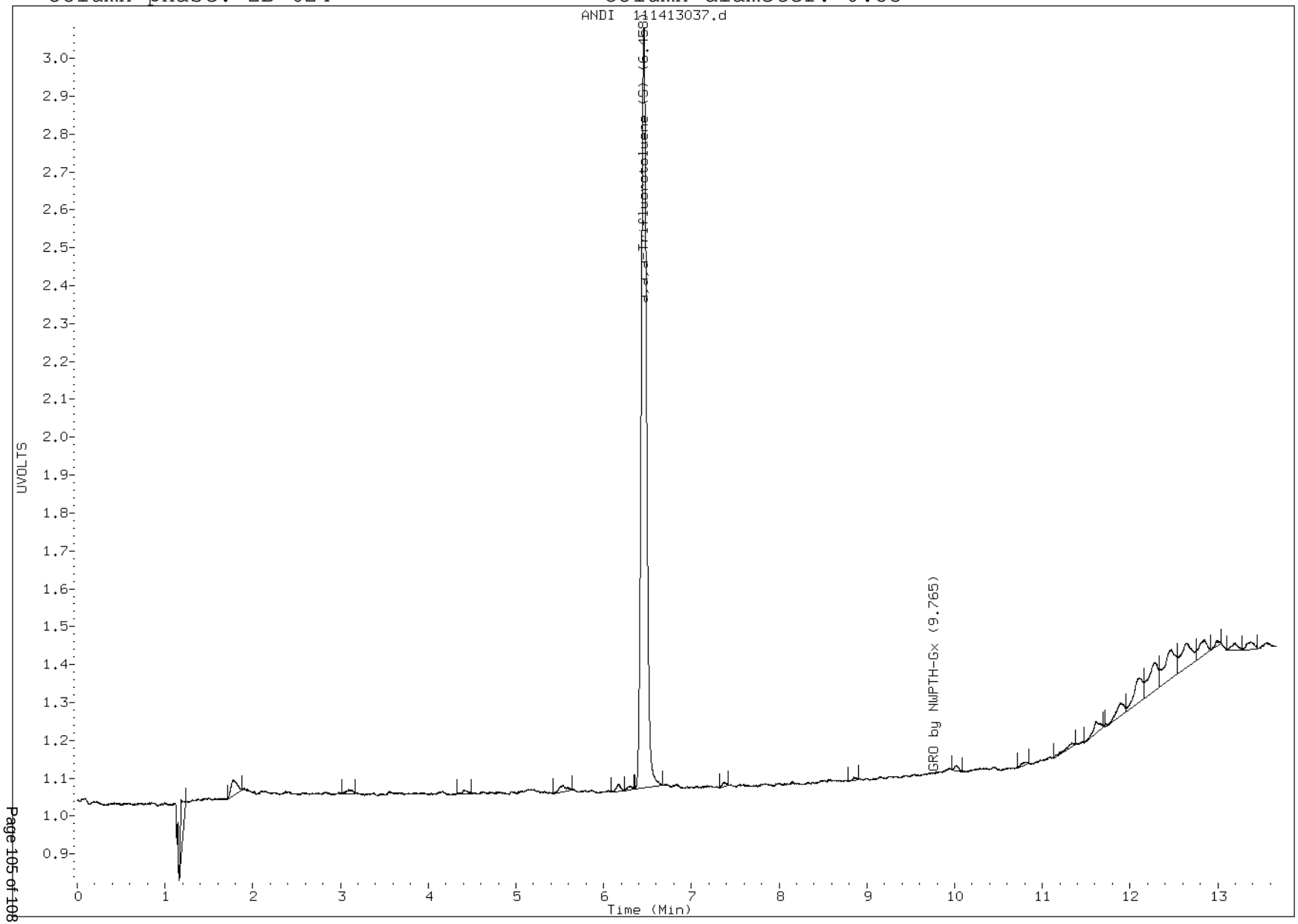
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413035.d
Report Date: 11/20/2013
Sample ID: 10248776010
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776010
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



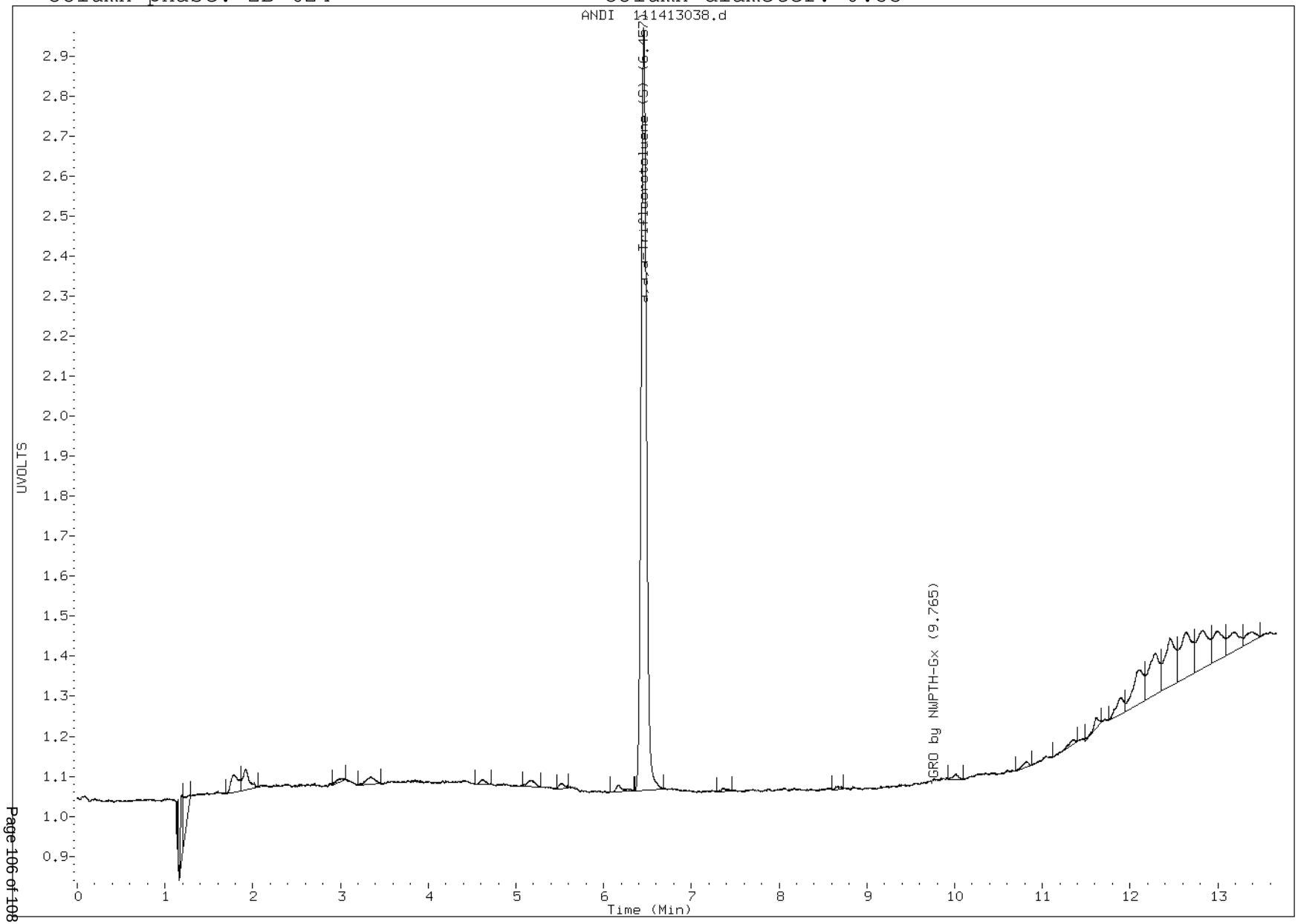
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413036.d
Report Date: 11/20/2013
Sample ID: 10248776011
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776011
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



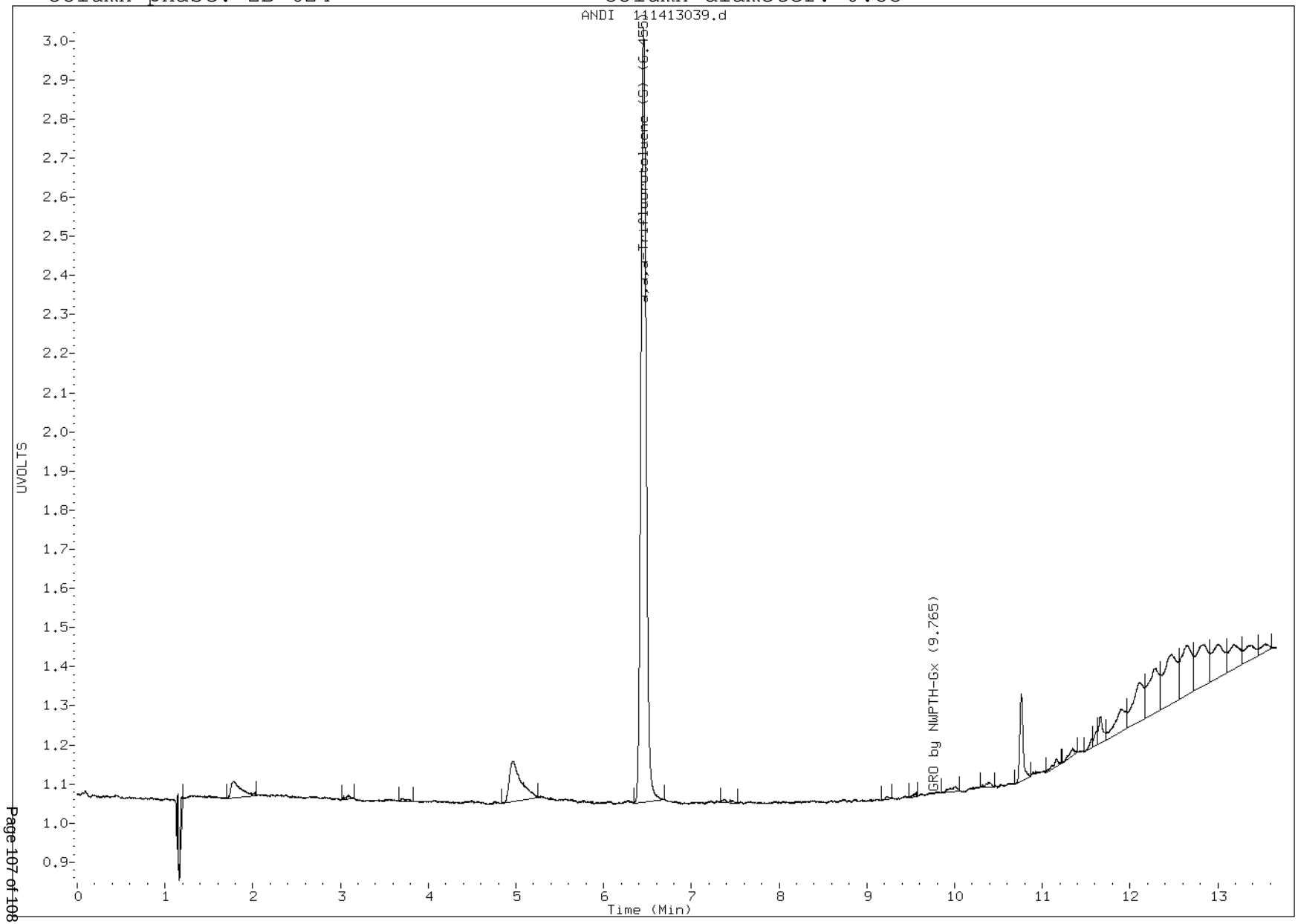
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413037.d
Report Date: 11/20/2013
Sample ID: 10248776012
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776012
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



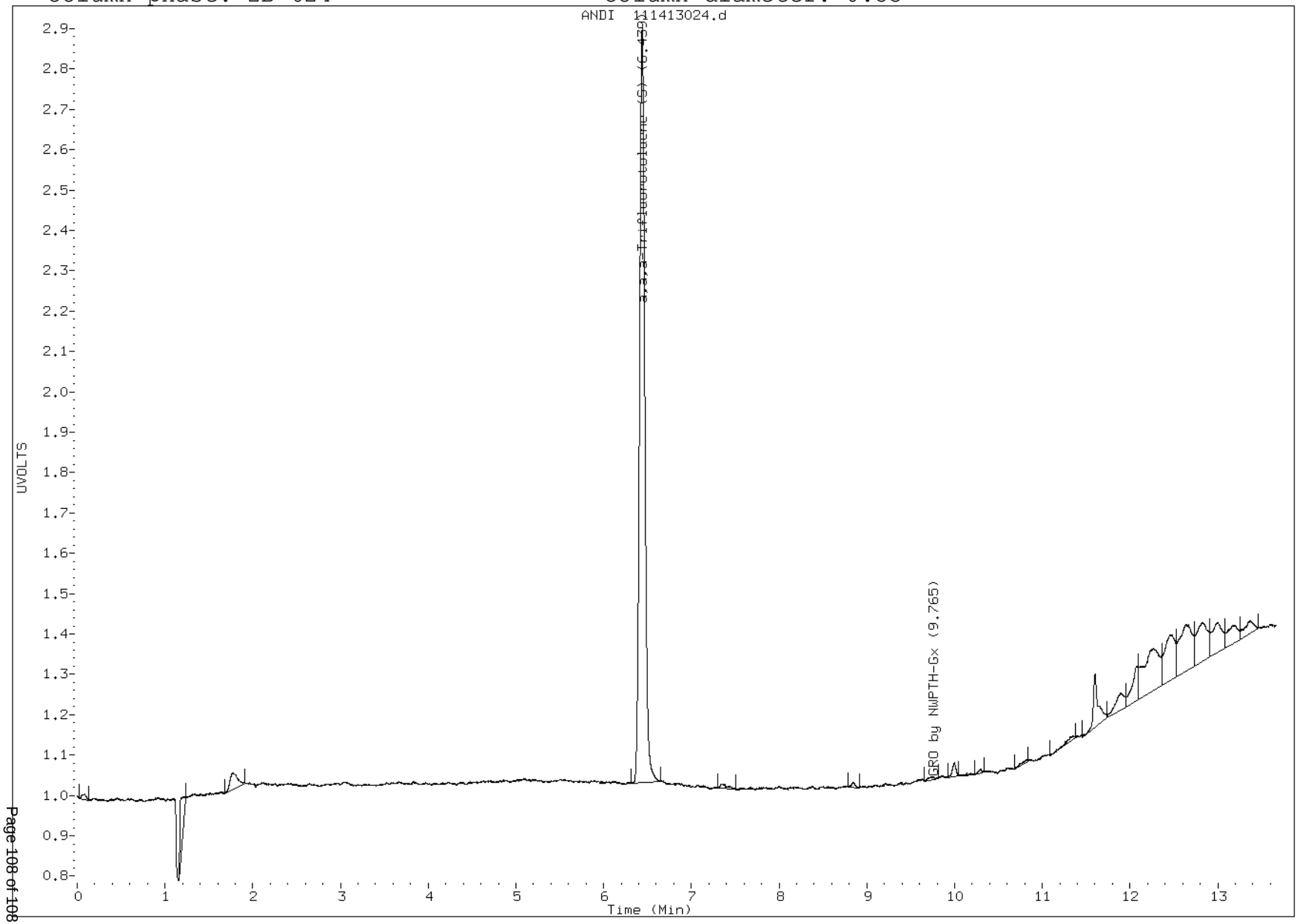
Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413038.d
Report Date: 11/20/2013
Sample ID: 10248776013
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776013
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413039.d
Report Date: 11/20/2013
Sample ID: 10248776014
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776014
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



Data File: \\192.168.10.12\chem\10gcv6.i\111413b-2.b/111413024.d
Report Date: 11/20/2013
Sample ID: 10248776015
Client ID: Instrument: 10gcv6.i
Sample Information: 10248776015,TB
Purge Volume: Operator: LLC
Column phase: ZB-624 Column diameter: 0.53



# APPENDIX B

# FIELD REPORT/GROUNDWATER GAUGING & SAMPLING LOGS

| Cardno ATC Shaping the Future | Field Report | FLD-100 |
|---|---|---|
| | | Revision 0.0 |
| | | Jan-13 |

| | | |
|---|---|---|
| ATC Branch: **Seattle** | Date: 11/6/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: **Phillips 66 AOC #1396** | |
| Role: Scientist | Location: **Westlake and Mercer Ave. Seattle, WA** | |
| Contact Information: **206-781-1449** | Project No: **76.751181396** | Task No: |
| Scope of Work: | Weather: | Temperature: |
| X Monitoring ___ Assessment ___ Remediation ___ Closure | Contractor: | |

| Time: | Comments: |
|---|---|
| 9:00 | Begin guaging all wells on site. Health and safety |
| | meeting was conducted before work with Simon Payne. |
| 9:15 | Calibrate YSI and then load all equipment to sample |
| | wells along Valley Street. |
| 10:15 | Mob to Valley Street wells and sample wells: |
| | SMW-3, MW-209 through MW-211. Simon Payne on site |
| | to oversee Clear Creek contractors. |
| 13:10 | Return to project site area. Simon Payne departs site. |
| | Conduct ground water sampling near Remediation System |
| | installation. |
| 16:30 | Depart site for office. |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

| | | |
|---|---|---|
| Equipment Used: | | |
| Contractor Hours (per Person): | Staff / Technician Hours: | Mileage: |
| Copies To: | Project Manager: | |
| | Reviewed By: | |

Cardno ATC
Shaping the Future

# Field Report

FLD-100
Revision 0.0
Jan-13

| | | |
|---|---|---|
| ATC Branch: Seattle | Date: 11/7/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: Phillips 66 AOC #1396 | |
| Role: Scientist | Location: Westlake and Mercer Ave. Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.751181396 | Task No: |
| Scope of Work: | Weather: Cloudy | Temperature: 45 |
| ___ Monitoring ___ Assessment ___ Remediation ___ Closure | Contractor: NA | |

| Time: | Comments: |
|---|---|
| 8:40 | Meet with Traffic Control Services to begin blocking |
| | lane and creating exclusion zone around MW-41. |
| 8:50 | Begin Sampling MW-41. |
| 9:50 | Return to project site area. Begin Sampling on SE |
| | area of project site. Simon Payne is on-site for oversight. |
| | Sample remaining wells. |
| 15:20 | Finish sampling, begin decon and pack up of sampling |
| | equipment. Label and photograph wastewater drum. |
| 16:30 | Depart site for office. |
| | |
| | * Groundwater from purging wells in wastewater drum was emptied |
| | into holding tank associated with the remediation system |
| | and will be treated by carbon units. |

| | | |
|---|---|---|
| Equipment Used: | | |
| Contractor Hours (per Person): | Staff / Technician Hours: | Mileage: |
| Copies To: | Project Manager: | |
| | Reviewed By: | |

Cardno ATC
Shaping the Future

# Monitor Well Gauging Log

FLD-102
Revision 0.0
Jul-08

ATC Branch:

Date: 11/6/13

Page 1 of

ATC Representative(s):
M. Newman

Project: P66-1396

Location: 600 Westlake Avenue, Seattle, WA

Contact Information: 206-781-1449

Project No: 76.75118.1396

Task No:

Weather: Cloudy

Temperature: 48

Water Level Meter Model/ID: Envriotech Water Level Meter

Interface Probe Model/ID: N/A

| | Well ID | Casing Diameter (inches) / Type | Time of Well Cap Removal* | Time of Gauging* | Depth To LNAPL (feet) | Depth To Water (feet) | LNAPL Thickness (feet) | Total Well Depth (feet) | Other (DTW, DO, ORP,Temp, etc) |
|---|---|---|---|---|---|---|---|---|---|
| 1 | SMW-3 | 2 | 10:25 | 10:28 | — | 10.10 | — | 14.20 | |
| 2 | MW-209 | 2 | 11:05 | 11:07 | — | 9.66 | — | 19.70 | |
| 3 | MW-210 | 2 | 11:55 | 11:57 | — | 9.42 | — | 19.35 | |
| 4 | MW-211 | 2 | 12:35 | 12:37 | — | 9.45 | — | 20.10 | |
| 5 | MW-50 | 2 | 13:30 | 13:32 | — | 12.55 | — | 16.50 | |
| 6 | MW-45 | 2 | 14:40 | 14:42 | — | 10.50 | — | 18.45 | |
| 11/7/13 7 | MW-41 | 2 | 8:50 | 8:55 | — | 15.69 | — | 19.80 | |
| 8 | MWA-6 | 2 | 15:50 | 15:51 | — | 11.77 | — | 16.50 | |
| 9 | MWA-5 | 2 | 15:53 | 15:54 | — | 9.45 | — | 16.50 | |
| 10 | MWB-1 | 2 | 15:58 | 15:59 | — | 12.04 | — | 15.75 | |
| 11 | MWB-2 | 2 | 16:00 | 16:01 | — | 10.33 | — | 16.44 | |
| 12 | MWB-3 | 2 | 16:02 | 16:04 | — | 11.52 | — | 15.41 | |
| 13 | MWB-4 | 2 | 16:04 | 16:05 | — | 11.02 | — | 15.75 | |
| 14 | MW-54 | 2 | 16:06 | 16:06 | — | 10.43 | — | 19.80 | |
| | | | | | | | | | |
| | | | | | | | | | |

Comments:

Notes:

* If top of screen is submerged, allow at least 15 minutes for well equilibration following well cap removal.
All measurements to be reported to nearest 0.01 ft.

ID = Identification.
LNAPL = Light Non-Aqueous Phase Liquid.
Sheen = Discontinuous, non-measurable thickness of LNAPL (less than 0.01 ft).
Trace = Continuous, non-measurable thickness of LNAPL.

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Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| SMW-3 | Contractor: N/A | |
| | Weather: Cloudy | Temperature: 45 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ~~X~~ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 11.5

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): (0.16) 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 14.20 |
| Depth to Water (DTW)(feet): 10.10 | Water Column (WC)(feet): 4.10 |
| LNAPL Thickness (ft): — | Purging Start Time: 10:30 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:40 | 10.13 | 0.10 | 16.15 | 906 | clear | 1.19 | 8.09 | 4.7 | |
| 10:43 | 10.18 | 0.13 | 16.15 | 903 | " | 1.09 | 8.11 | 5.9 | |
| 10:46 | 10.21 | 0.16 | 16.12 | 900 | " | 0.99 | 8.12 | 6.8 | |
| 10:49 | 10.22 | 0.19 | 16.13 | 899 | " | 0.93 | 8.14 | 7.8 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: SMW-3 | Time of Sample: 10:50 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 2-250 ml Amber, 6-40 ml VOA | | N | HCl | BTEX, EDB, DO |
| 2-250 ml PE | | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTW*m*)(feet): 10.22 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-209 | Contractor: N/A | |
| | Weather: cloudy | Temperature: 48 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump Y Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 11.00

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): (0.16) 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 19.70 |
| Depth to Water (DTW)(feet): 9.66 | Water Column (WC)(feet): 10.04 |
| LNAPL Thickness (ft): — | Purging Start Time: 11:10 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:20 | 9.71 | 0.10 | 14.90 | 1666 | clear | 1.18 | 8.01 | 6.6 | |
| 11:23 | 9.73 | 0.13 | 14.92 | 1660 | " | 1.10 | 7.98 | 7.4 | |
| 11:26 | 9.74 | 0.16 | 14.93 | 1660 | " | 1.01 | 7.98 | 8.4 | |
| 11:29 | 9.75 | 0.19 | 14.93 | 1660 | " | 0.93 | 7.98 | 8.9 | |
| | | | | | | | | | |

## Sample Data

Sample ID: MW-209 Time of Sample: 11:30

| Container Types, Volumes, & Quantities: | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|
| 2-250 ml Amber 6-40ml VOA | N | HCl | Dx, BTEX |
| 2-250 ml PE | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTW*m*)(feet): 9.75 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: Y Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW - 210 | Contractor: N/A | |
| | Weather: Cloudy | Temperature: |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ___ PVC Bailer ___ Vacuum Truck ___ Submersible Pump X Peristaltic Pump Other: ___

3 Well Volumes ___ Low Flow X Micro Purge ___ Intake Depth (feet below TOC) ___ 10.5

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Dedicated Tubing Other: ___

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV):

WC ___ x CM ___ = ___ (CV)(gal) x 3.0 CV (gal) = ___ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 19.35 |
| Depth to Water (DTW)(feet): 9.42 | Water Column (WC)(feet): 9.97 |
| LNAPL Thickness (ft): — | Purging Start Time: 12:00 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:10 | 9.50 | 0.10 | 14.91 | 704 | Clear | 1.21 | 7.48 | -40.6 | |
| 12:13 | 9.54 | 0.13 | 14.90 | 701 | " | 1.08 | 7.48 | -42.4 | |
| 12:16 | 9.58 | 0.16 | 14.90 | 702 | " | ~~1.03~~ 1.03 | 7.49 | -43.3 | |
| 12:19 | 9.60 | 0.19 | 14.91 | 703 | " | 1.01 | 7.49 | -46.0 | |
| | | | | | | | | | |

## Sample Data

Sample ID: MW-210 Time of Sample: 12:20

| Container Types, Volumes, & Quantities: | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|
| 6 - 40ml VOA, 2 - 250ml Amber | N | HCl | Dx, BTEX |
| 2 - 250ml PE | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 9.60 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ___ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-211 | Contractor: N/A | |
| | Weather: Cloudy | Temperature: |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump ✓ Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow ✓ Micro Purge ____ Intake Depth (feet below TOC) ____ 11.0

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer ____ Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): (0.16) 0.65 1.47

## Purging Calculations

Casing Volumes (CV):

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 20.10 |
| Depth to Water (DTW)(feet): 9.45 | Water Column (WC)(feet): 10.65 |
| LNAPL Thickness (ft): — | Purging Start Time: 12:40 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:50 | 9.51 | 0.10 | 14.40 | 918 | Clear | 1.51 | 7.68 | -194.8 | |
| 12:53 | 9.53 | 0.13 | 14.39 | 919 | " | 1.24 | 7.65 | -234.4 | |
| 12:56 | 9.55 | 0.16 | 14.38 | 920 | " | 1.14 | 7.64 | -242.3 | |
| 12:59 | 9.58 | 0.19 | 14.38 | 919 | " | 1.09 | 7.63 | -246.3 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MW-211 | Time of Sample: 13:00 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 2-250 ml Amber, 6-40ml VOA | | N | HCl | BTEX |
| 2-250 ml PE | | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 9.58 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: ✓ Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-50 | Contractor: N/A | |
| | Weather: Cloudy | Temperature: — |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 13.5

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): (2") 4" 6" Other

Casing Multiplier (CM)(gallons/foot): (0.16) 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 16.50 |
| Depth to Water (DTW)(feet): 12.55 | Water Column (WC)(feet): 3.95 |
| LNAPL Thickness (ft): — | Purging Start Time: 13:35 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:50 | 12.63 | 0.15 | 17.27 | 1146 | clear | 1.16 | 7.15 | -165.4 | |
| 13:53 | 12.68 | 0.18 | 17.29 | 1147 | " | 1.01 | 7.16 | -169.8 | |
| 13:56 | 12.71 | 0.21 | 17.29 | 1147 | " | 0.97 | 7.17 | -178.4 | |
| 13:59 | 12.73 | 0.24 | 17.31 | 1147 | " | 0.94 | 7.17 | -185.3 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MW-50 | Time of Sample: 14:00 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 12-VOA, 4-250 ml Amber | | N | HCl | BTEX |
| 2-250ml PE | | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTW*m*)(feet): | Approximate Flow Rate (GPM): |
| Recovery Type: ____ Fast ____ Slow | % Recovery = |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/6/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-45 | Contractor: N/A | |
| | Weather: | Temperature: |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

| Casing Volume Information | Purging Calculations |
|---|---|
| Casing Diameter (Circle): 2" 4" 6" Other | Casing Volumes (CV): |
| Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47 | WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV |

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 18.45 |
| Depth to Water (DTW)(feet): 10.50 | Water Column (WC)(feet): 7.95 |
| LNAPL Thickness (ft): — | Purging Start Time: 15:00 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 15:20 | 10.54 | 0.90 | 15.10 | 583 | Clear | 1.01 | 6.58 | -227.1 | |
| 15:23 | 10:58 | 0.93 | 15.11 | 592 | " | 0.85 | 6.59 | -229.6 | |
| 15:26 | 10:62 | 0.86 | 15.12 | 582 | " | 0.75 | 6.59 | -230.1 | |
| 15:29 | 10:64 | 0.81 | 15.12 | 591 | " | 0.62 | 6.59 | -231.1 | |
| Purge | | | | | | | | | |

## Sample Data

| Sample ID: MW-45 | Time of Sample: 15:30 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| | | | | |
| | | | | |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): | Approximate Flow Rate (GPM): |
| Recovery Type: ____ Fast ____ Slow | % Recovery = |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments: well water was very turbid, had to purge for longer time for clarity.

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# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-41 | Contractor: N/A | |
| | Weather: Rainy | Temperature: 45° |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) 17.00

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer D Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 19.80 |
| Depth to Water (DTW)(feet): 15.69 | Water Column (WC)(feet): 4.11 |
| LNAPL Thickness (ft): — | Purging Start Time: 9:00 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 9:20 | 15.74 | 0.20 | 13.64 | 1017 | clear | 1.94 | 6.64 | -165.8 | |
| 9:23 | 15.78 | 0.23 | 13.84 | 1027 | " | 1.80 | 6.65 | -176.8 | |
| 9:26 | 15.81 | 0.26 | 13.91 | 1029 | " | 1.64 | 6.65 | -180.0 | |
| 9:29 | 15.84 | 0.29 | 13.85 | 1029 | " | 1.53 | 6.67 | -181.4 | |
| | | | | | | | | | |

## Sample Data

Sample ID: MW-41 Time of Sample: 9:30

| Container Types, Volumes, & Quantities: | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|
| 2-250 ml Amber, 6-40ml VOA | Y | HCl | Ox, BTEX |
| 2-250ml PE | Y/N | $HNO_3$ | PB |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 13.84 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page 1 of 1 |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW B-6 | Contractor: N/A | |
| | Weather: Rainy | Temperature: 45 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 13.00

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 16.50 |
| Depth to Water (DTW)(feet): 11.77 | Water Column (WC)(feet): 4.73 |
| LNAPL Thickness (ft): — | Purging Start Time: 10:00 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 10:15 | 11.79 | 0.15 | 14.53 | 970 | clear | 1.33 | 6.91 | -126.8 | |
| 10:18 | 11.82 | 0.18 | 14.48 | 972 | " | 1.16 | 6.80 | -129.5 | |
| 10:21 | 11.84 | 0.21 | 14.46 | 971 | " | 1.04 | 6.89 | -131.2 | |
| 10:24 | 11.86 | 0.24 | 14.49 | 975 | " | 1.02 | 6.87 | -132.5 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MWB-6 | Time of Sample: 10:25 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 2-250 ml Amber, 6-40 ml VOA | | N | HCl | DO, BTEX |
| 2-250 ml PE | | Y/N | $HNO_3$ | TOC |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 11.86 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

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Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page of |
| ATC Representative(s): M. NEWMAN | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW17-S | Contractor: N/A | |
| | Weather: Rainy | Temperature: 45 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) 10.5 ft.

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 16.50 |
| Depth to Water (DTW)(feet): 9.45 | Water Column (WC)(feet): 7.05 |
| LNAPL Thickness (ft): — | Purging Start Time: 10:45 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:00 | 9.53 | 0.15 | 15.02 | 591 | clear | 1.35 | 7.22 | -132.7 | |
| 11:03 | 9.58 | 0.18 | 15.00 | 591 | " | 1.21 | 7.22 | -134.2 | |
| 11:06 | 9.61 | 0.21 | 14.98 | 591 | " | 1.14 | 7.23 | -135.5 | |
| 11:09 | 9.63 | 0.24 | 14.96 | 592 | " | 1.12 | 7.23 | -136.4 | |
| | | | | | | | | | |

## Sample Data

Sample ID: MWR-5 Time of Sample: 11:10

| Container Types, Volumes, & Quantities: | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|
| 2-250 ml Amber 6-40 ml VOA | N | HCl | DX, BTEX |
| 2-250 ml PE | F/N | $HNO_3$ | PB |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 9.63 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 4/7/13 | Page of |
| ATC Representative(s): M. Newman | Project: P06-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MWR-4 | Contractor: N/A | |
| | Weather: Raining | Temperature: 45° |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump P Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow ____ Micro Purge ____ Intake Depth (feet below TOC) ____ 12.00

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer D Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 15.75 |
| Depth to Water (DTW)(feet): 11.02 | Water Column (WC)(feet): 4.73 |
| LNAPL Thickness (ft): — | Purging Start Time: 11:30 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 11:40 | 11.08 | 0.10 | 13.78 | 666 | Clear | 1.42 | 6.41 | -161.6 | |
| 11:43 | 11.11 | 0.13 | 13.78 | 666 | " | 1.21 | 6.41 | -164.1 | |
| 11:46 | 11.14 | 0.16 | 13.78 | 666 | " | 1.16 | 6.41 | -165.9 | |
| 11:49 | 11.15 | 0.19 | 13.78 | 666 | " | 1.06 | 6.42 | -167.0 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MWR-4 | Time of Sample: 11:50 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 6-40ml VOA, 2-250ml Amber | | N | HCl | Dx |
| 2-250 ml PE | | Y/N | $HNO_3$ | |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 11.15 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: P Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 4/7/13 | Page 1 of |
| ATC Representative(s): M. Mundy | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MWR-3 | Contractor: N/A | |
| | Weather: Rainy | Temperature: 45 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) 12.5

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 15.41 |
| Depth to Water (DTW)(feet): 11.52 | Water Column (WC)(feet): 3.89 |
| LNAPL Thickness (ft): — | Purging Start Time: 12:10 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 12:20 | 11.62 | 0.10 | 15.04 | 745 | clear | 1.21 | 7.28 | -132.9 | |
| 12:23 | 11.65 | 0.13 | 15.07 | 745 | " | 1.08 | 7.28 | -135.2 | |
| 12:26 | 11.68 | 0.16 | 15.01 | 745 | " | 0.96 | 7.28 | -137.4 | |
| 12:29 | 11.72 | 0.19 | 15.12 | 745 | " | 0.82 | 7.28 | -139.4 | |
| | | | | | | | | | |

## Sample Data

| | | | | |
|---|---|---|---|---|
| Sample ID: MWR-3 | Time of Sample: 12:30 | Filtered (yes/no) | Preservatives | Analytical Parameters |
| Container Types, Volumes, & Quantities: | | | | |
| 2 - 250 ml Amber 6 - 40 ml VOA | | N | HCl | BTEX, Dx |
| 2 - 250 ml PE | | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 11.72 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: Y Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page 1 of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW B-1 | Contractor: N/A | |
| | Weather: Rainy | Temperature: |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 13.00

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

| Casing Volume Information | | | | Purging Calculations |
|---|---|---|---|---|
| Casing Diameter (Circle): | 2" | 4" | 6" | Other | Casing Volumes (CV): — |
| Casing Multiplier (CM)(gallons/foot): | 0.16 | 0.65 | 1.47 | WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV |

## Monitoring Measurements

| | | | |
|---|---|---|---|
| Depth to LNAPL (feet): | — | Total Well Depth (feet): | 15.75 |
| Depth to Water (DTW)(feet): | 12.04 | Water Column (WC)(feet): | 3.71 |
| LNAPL Thickness (ft): | — | Purging Start Time: | 12:50 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:00 | 12.10 | 0.10 | 14.94 | 767 | Clear | 1.68 | 7.84 | -142.0 | |
| 13:03 | 12.14 | 0.13 | 14.95 | 767 | " | 1.42 | 7.85 | -143.3 | |
| 13:06 | 12.18 | 0.16 | 14.95 | 767 | " | 1.31 | 7.85 | -144.6 | |
| 13:09 | 12.22 | 0.19 | 14.95 | 768 | " | 1.27 | 7.86 | -146.0 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MW B-1 | Time of Sample: 13:10 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 2 - 250 ml Amber, 6 - 40 ml VOAs | | N | HCl | DRO, BTEX |
| 2 - 250 ml RG | | Y/N | $HNO_3$ | Pb |

## Well Recovery Data

| | | | |
|---|---|---|---|
| Maximum Drawdown (DTWm)(feet): | 12.22 | Approximate Flow Rate (GPM): | 0.09 |
| Recovery Type: X Fast ____ Slow | | % Recovery = | 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page of |
| ATC Representative(s): M. Nkuman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MWB-2 | Contractor: N/A | |
| | Weather: Rainy | Temperature: 65° |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ____ PVC Bailer ____ Vacuum Truck ____ Submersible Pump X Peristaltic Pump Other: ____

3 Well Volumes ____ Low Flow X Micro Purge ____ Intake Depth (feet below TOC) ____ 11.5

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer X Dedicated Tubing Other: ____

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ____ x CM ____ = ____ (CV)(gal) x 3.0 CV (gal) = ____ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 16.44 |
| Depth to Water (DTW)(feet): 10.33 | Water Column (WC)(feet): 6.11 |
| LNAPL Thickness (ft): — | Purging Start Time: 13:30 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 13:40 | 10.43 | 0.10 | 14.86 | 1280 | Clear | 1.23 | 7.33 | -174.9 | |
| 13:43 | 10.45 | 0.13 | 14.82 | 1273 | " | 1.13 | 7.34 | -177.4 | |
| 13:46 | 10.49 | 0.16 | 14.81 | 1280 | " | 1.03 | 7.35 | -179.7 | |
| 13:49 | 10.55 | 0.19 | 14.78 | 1268 | " | 0.95 | 7.35 | -181.2 | |
| | | | | | | | | | |

## Sample Data

| Sample ID: MWB-2 | Time of Sample: 13:50 | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|---|
| Container Types, Volumes, & Quantities: | | | | |
| 2 - 250 ml Amber, 6 - 40 ml VOA | | N | HCl | |
| 2 - 250 ml PE | | Y/N | $HNO_3$ | |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTW*m*)(feet): 10.55 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ____ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Purging and Sampling Log

FLD-103
Revision 1.0
Jul-08

| | | |
|---|---|---|
| ATC Branch: Seattle, WA | Date: 11/7/13 | Page of |
| ATC Representative(s): M. Newman | Project: P66-1396 | |
| | Location: 600 Westlake Avenue, Seattle, WA | |
| Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No: 7601 |
| MW-54 | Contractor: N/A | |
| | Weather: Rainy | Temperature: 45 |

## Purging & Sampling Instrumentation & Method

| | |
|---|---|
| Water Level Meter (Model/ID): Envirotech Water Level Meter | Interface Probe (Model/ID): NA |
| Water Quality Meter (Model/ID): YSI 556 MPS | Decontamination Method: Alconox/DI |

Purging Method: ___ PVC Bailer ___ Vacuum Truck ___ Submersible Pump Y Peristaltic Pump Other: ___

3 Well Volumes ___ Low Flow Y Micro Purge ___ Intake Depth (feet below TOC) 11.5

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer Y Dedicated Tubing Other: ___

## Casing Volume Information

Casing Diameter (Circle): 2" 4" 6" Other

Casing Multiplier (CM)(gallons/foot): 0.16 0.65 1.47

## Purging Calculations

Casing Volumes (CV): —

WC ___ x CM ___ = ___ (CV)(gal) x 3.0 CV (gal) = ___ PV

## Monitoring Measurements

| | |
|---|---|
| Depth to LNAPL (feet): — | Total Well Depth (feet): 19.80 |
| Depth to Water (DTW)(feet): 10.43 | Water Column (WC)(feet): 9.37 |
| LNAPL Thickness (ft): — | Purging Start Time: 14:30 |

## Purging Data

| Time (24 Hours) | DTW (Feet) | Cum. Vol. Purged (Gallons) | Temp (°C) (± 1°) | Specific Cond. (uS/cm) (± 5%) | Turbidity NTU | Dissolved Oxygen (mg/L) (± 10%) | pH (± 0.1) | ORP (mV) (± 10 mV) | Other |
|---|---|---|---|---|---|---|---|---|---|
| 14:40 | 10.49 | 0.10 | 15.44 | 721 | Clear | 1.91 | 6.66 | -168.2 | |
| 14:43 | 10.52 | 0.13 | 15.47 | 724 | " | 1.27 | 6.66 | -169.4 | |
| 14:46 | 10.54 | 0.16 | 15.49 | 727 | " | 1.14 | 6.67 | -169.8 | |
| 14:49 | 10.56 | 0.19 | 15.52 | 727 | " | 1.11 | 6.67 | -170.4 | |
| | | | | | | | | | |

## Sample Data

Sample ID: MW-54 Time of Sample: 14:50

| Container Types, Volumes, & Quantities: | Filtered (yes/no) | Preservatives | Analytical Parameters |
|---|---|---|---|
| 2-250 ml Amber, 6-40 ml VOA | N | HCl | Dx, BTEX |
| 2-250 ml PE | Y/N | $HNO_3$ | RS |

## Well Recovery Data

| | |
|---|---|
| Maximum Drawdown (DTWm)(feet): 10.56 | Approximate Flow Rate (GPM): 0.01 |
| Recovery Type: X Fast ___ Slow | % Recovery = 100 |

Purge Water Disposition (Attach Drum Inventory Log - FLD 108):

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Inspection Log

FLD-104
Revision 0.0
Jul-08

ATC Branch: Seattle, WA
Date: 4/6/13
Page 1 of 3

ATC Representative(s):
M. Newman

Project: **P66-1396**
Location: **600 Westlake, Seattle, WA**

Contact Information: **206-781-1449**
Project No: **76.75118.1396**
Task No:

Well ID: SMW-3 Type: Vault
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | Good |
| Surface Seal | Good |
| Locking Cap | Yes |
| ATC Lock | Yes |

Comments:

Well ID: MW-209 Type: FWB
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MW-210 Type: FWB
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | P |
| Surface Seal | P |
| Locking Cap | G |
| ATC Lock | Y |

Comments: Bolts are stripped and well box is corroded. Water in well

Well ID: MW-211 Type: FWB
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | P |
| Surface Seal | P |
| Locking Cap | G |
| ATC Lock | Y |

Comments: Bolts are stripped and corroded. Water in well box.

Well ID: MWR-1 Type: FWB
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MWR-2 Type: FWB
[flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Inspection Log

FLD-104
Revision 0.0
Jul-08

ATC Branch: Seattle
Date: 11/6/13


ATC Representative(s): M. Newman
Project: **P66-1396**
Location: **600 Westlake, Seattle, WA**
Contact Information: **206-781-1449**
Project No: **76.75118.1396**
Task No:

Well ID: MWR-3 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MWR-4 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MWR-5 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MWR-6 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MW-49 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MW-50 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Cardno ATC
Shaping the Future

# Monitoring Well Inspection Log

FLD-104
Revision 0.0
Jul-08

ATC Branch: Seattle | Date: 11/6/13 | Page 3 of 3

ATC Representative(s): M. Newman

Project: P66-1396

Location: 600 Westlake, Seattle, WA

Contact Information: 206-781-1449 | Project No: 76.75118.1396 | Task No:

Well ID: MW-54 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | G |
| Surface Seal | G |
| Locking Cap | Y |
| ATC Lock | Y |

Comments:

Well ID: MW-41 Type: FWB [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | Bad |
| Surface Seal | Bad |
| Locking Cap | Y |
| ATC Lock | Y |

Comments: Concrete around well box is cracked. Box is full of water and sediment. Needs to be replaced by drillers.

Well ID: Type: [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | |
| Surface Seal | |
| Locking Cap | |
| ATC Lock | |

Comments:

Well ID: Type: [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | |
| Surface Seal | |
| Locking Cap | |
| ATC Lock | |

Comments:

Well ID: Type: [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | |
| Surface Seal | |
| Locking Cap | |
| ATC Lock | |

Comments:

Well ID: Type: [flush well box, vault, or monument]

| Construction Detail | Condition [secure, good, poor, bad, yes, no, etc.] |
|---|---|
| Security Vault | |
| Surface Seal | |
| Locking Cap | |
| ATC Lock | |

Comments: