

2015 Annual Monitoring Report South Cass Lake Pumping Station Mile Post 952.98



Enbridge Energy

Contents

1.0	Background & Introduction.....	1
2.0	LNAPL Results & Characteristics.....	1
3.0	Groundwater Monitoring & Sampling Results	2
	<i>Groundwater Flow Results</i>	<i>2</i>
	<i>Groundwater Analytical Results.....</i>	<i>2</i>
	<i>Benzene Results.....</i>	<i>2</i>
	<i>ERDRO Results.....</i>	<i>3</i>
	<i>Natural Attenuation Results</i>	<i>3</i>
	<i>Potable Well Results.....</i>	<i>4</i>
	<i>Trend Analysis</i>	<i>4</i>
4.0	Conclusions.....	5

List of Tables

Table 1 – Groundwater Elevations/Crude Oil Thickness Measurements
Table 2 – Vertical Groundwater Gradient Table
Table 3 – Groundwater Sampling Results
Table 4 – Biodegradation Evaluation Results

List of Figures

Figure 1 – Site Location Map
Figure 2 – Site Layout Map
Figure 3A – September 2015 Groundwater Contour Map
Figure 3B – December 2015 Groundwater Contour Map
Figure 4 – Groundwater Contamination Map

List of Appendices

Appendix A – Analytical Laboratory Reports
Appendix B – Groundwater Trend Graphs

1.0 Background & Introduction

AECOM has prepared this letter report to document the groundwater sampling and monitoring activities conducted at the Enbridge Energy (Enbridge) South Cass Lake Pumping Station (Site) during 2015. This report includes the results of the third (September) and fourth (December) quarterly groundwater monitoring events completed in 2015. **Figure 1** shows the Site location and **Figure 2** depicts the pumping station layout, property boundaries, and the monitoring well network.

In 2001, as part of Enbridge's voluntary Groundwater Monitoring Program, four monitoring wells (MW-1 through MW-4) were installed at the Site and petroleum compounds were detected in site groundwater samples. In February 2002, a leaking flange was discovered through which crude oil had released to the subsurface. The flange was repaired and approximately 304 cubic yards of petroleum contaminated soil were removed at that time.

Since 2001, a series of investigations have been conducted to determine the extent and magnitude of the release. Several feasibility studies have also been completed to better understand the free-phase petroleum body (contamination source area) and groundwater plume characteristics in order to determine the best path forward to remediate the release in soil and groundwater.

In September of 2014, AECOM and its subcontractors installed a bioventing remediation system at the site with the goal of increasing oxygen concentration in the subsurface and to enhance degradation of residual free-phase product at the Site. Details pertaining to the bioventing system performance will be presented in a separate report.

2.0 LNAPL Results & Characteristics

Light non-aqueous phase liquid (LNAPL) has previously been observed at monitoring wells MW-3, MW-5, MW-11 and MW-13 during this investigation. However, over the years the consistency of the product in the wells has become so viscous and tarry that measurements of LNAPL depth and thickness are no longer practical using an oil-water interface probe. Therefore, On August 26, 2015, Stevens Drilling Company was subcontracted by AECOM to re-develop these wells that have historically contained LNAPL. Scrubbing the well screen with a bottle brush and air jetting followed by pumping were utilized to attempt redevelopment of well MW-11 and MW-5; however, these methods failed to establish fluid flow of any significance. Therefore, redevelopment activities were ceased. During the September and December 2015 groundwater monitoring events, LNAPL was difficult to measure in these wells, suggesting that despite re-development efforts, the LNAPL present in these wells continues to exhibit high viscosity. The high viscosity continues to limit the collection of accurate product thickness measurements. One difference that was observed during the last two rounds of monitoring was the presence of vapors in the well casing causing the product interface meter to continuously alarm upon insertion into the well casing and before contacting any liquid petroleum product. The presence of vapor in these wells may be related to operation of the bioventing system.

3.0 Groundwater Monitoring & Sampling Results

Quarterly groundwater monitoring activities were conducted on September 8-9, 2015 and December 8-9, 2015. Prior to monitoring well purging and sample collection, the depth to groundwater was measured at each monitoring well location using a water level meter. Water table elevations for the monitoring wells exhibit seasonal variability as has been previously documented for this release site. A summary of the groundwater elevation data is included in **Table 1**.

Due to the presence of LNAPL, groundwater samples were not collected from wells MW-3, MW-5, MW-11 or MW-13.

Groundwater Flow Results

Groundwater flow at the site has been determined to be to the east and southeast. Based on the September and December 2015 groundwater level measurements, the groundwater flow direction remains to the southeast. **Figure 3A** and **Figure 3B** depict the September and December 2015 groundwater elevations and groundwater flow direction, respectively.

Vertical groundwater flow at nested wells has been estimated using the following calculation: Vertical Gradient (DH/DL) = (difference in head elevation)/(vertical difference in screened intervals) $(H_2 - H_1) / (Z_2 - Z_1)$. The results of the vertical gradient calculations indicate that a slight downward groundwater flow gradient was present at the MW-16A/MW-16B well nest in 2015. Downward gradient ranged from 0.0007 to 0.0014. No vertical gradient was calculated to be present during the September 2015 monitoring event because the groundwater elevations in this well nest were equivalent. Please see **Table 2** for the vertical groundwater gradient calculation results. Downward vertical gradients are generally consistent with recharge areas.

Groundwater Analytical Results

Groundwater samples were submitted to Pace Analytical Laboratories in Minneapolis for analysis of Benzene, Toluene, Ethylbenzene and Xylenes (BTEX), Extended Range Diesel Range Organics (ERDRO), methane, nitrate + nitrite and sulfate. Dissolved oxygen, specific conductivity, pH and oxidation reduction potential were measured in the field and are documented in this report. **Table 3** and **Table 4** provide cumulative summaries of the groundwater data collected as part of this investigation. The analytical laboratory reports for the September and December 2015 sampling events are provided in **Appendix A**.

Benzene Results

The highest dissolved benzene concentration recorded since the start of site investigation activities in 2001 is 2,600 micrograms per Liter ($\mu\text{g/L}$) from MW-10 in August 2004. The benzene concentrations at MW-10 were 31.1 $\mu\text{g/L}$ and 12.4 $\mu\text{g/L}$, respectively, in the September and December 2015 groundwater samples. **Figure 4** depicts the approximate lateral extent of dissolved phase benzene over the last four groundwater sampling events.

The following table summarizes dissolved benzene concentrations down-gradient of the source area at monitoring wells for the last four groundwater monitoring events.

Dissolved Benzene Concentrations – Previous Four Quarters*
 (Micrograms per Liter)

Event	MW-10	MW-9	USGS-1A	USGS-2A	USGS-3A	USGS-4A	MW-16A
03/15	23.8	103	30.5	22.3	< 1.0	< 1.0	< 1.0
06/15	128	326	120	137.0	3.7	< 1.0	< 1.0
9/15	31.1	240	474	< 1.0	4.5	< 1.0	< 1.0
12/15	12.4	13	247	1.2	< 1.0	< 1.0	< 1.0

*Wells presented up-gradient to down-gradient from left to right.

ERDRO Results

Detections of ERDRO were documented at monitoring wells: MW-9, MW-10, MW-16A, MW-16B, MW-19, MW-22, USGS-1A, USGS-2A, USGS-3A, and USGS-4A during the third and fourth quarter 2015 monitoring events. Concentrations at these locations range from 230 - µg/L at MW-22 in September to 11,900-µg/L at USGS-1A in December 2015. ERDRO was detected in MW-22 for the first time since the well was installed in 2013. This well is located furthest downgradient of the source area and samples collected from this well have not contained selected analytes above laboratory detection limits. In general, the ERDRO concentrations generally decrease down gradient of the source area. The following table summarizes ERDRO concentrations at the selected monitoring wells for the last four groundwater monitoring events.

ERDRO Concentrations at Select Down-gradient Wells – Previous Four Quarters*
 (Micrograms per Liter)

Event	MW-10	MW-9	USGS-1A	USGS-2A	USGS-3A	USGS-4A	MW-16A
03/15	6,900	2,500	4,900	4,900	1,900	1,000	1,200
06/15	6,400	2,700	2,900	3,700	3,200	2,200	1,300
9/15	5,200	5,000	11,700	4,300	4,600	1,900	1,900
12/15	6,000	7,300	11,900	4,000	2,200	2,400	1,900

*Wells presented up-gradient to down-gradient from left to right.

Natural Attenuation Results

Natural attenuation field parameters and samples were collected during the September and December 2015 groundwater monitoring events. Analytical samples were submitted to the laboratory for methane, nitrate/nitrite and sulfate analysis. Additionally, oxidation-reduction potential (ORP) and dissolved oxygen (DO) were measured as part of the biodegradation evaluation. **Table 4** presents both the analytical results and field measurements collected during these groundwater monitoring events.

The 2015 natural attenuation data indicate the presence of varying biogeochemical conditions across the Site. Dissolved oxygen (and ORP) data indicate that DO is likely the electron acceptor at locations outside or near the plume margin. Nitrate and sulfate data are less conclusive but can be found in lower concentrations near the groundwater plume, suggesting conversion of these species through microbial respiration to nitrogen and

hydrogen sulfide gas. Methane appears to be produced at locations near the source area and down gradient of the dissolved groundwater plume.

Potable Well Results

AECOM sampled the South Cass Lake active potable well (SCDW) for the above-listed compounds during the September and December 2015 field events. The potable well samples did not contain petroleum compounds above the minimum laboratory detection limits. Potable water from this location has historically contained low-level concentrations of nitrogen and sulfate. Results from the September 2015 sample documented 1.1-milligrams per Liter (mg/L) of nitrogen and 3.1-mg/L of sulfate; results of the December and June 2015 sample documented 1.2-mg/L of nitrogen and 4.1-mg/L of sulfate, respectively.

Trend Analysis

During 2015, water levels at the Site increased from a seasonal low observed in March 2015 to a seasonal peak observed in September 2015 before then decreasing (as illustrated by the plot of water levels in **Graph B1**). A similar seasonal water level trend, although lower in amplitude, was observed in 2014. Similar to seasonal water level rises that occurred during the summers of 2011 and 2014, water level rise during the summer of 2015 is associated with significant increasing dissolved benzene concentrations/spikes at downgradient wells MW-10, MW-9, USGS-1A and USGS-2A with increases at USGS-2A lagging those at MW-9 and USGS-1A (see **Graph B3**). A change to the long-term benzene concentration trend is noted during 2015, characterized by a much lower (1 order of magnitude less) seasonal increase in the dissolved benzene concentration at well MW-10 (benzene concentration of 128.0 µg/L in June 2015 vs. 1,180 µg/L in June 2014). For the first time in the monitoring record, the peak benzene concentration at MW-10 during 2015 was less than that detected at down-gradient wells MW-9 and USGS-1A. Well MW-10 is proximal to the Site bioventing system, so the apparent reduction in dissolved benzene at this location may be due to increased microbial metabolism of benzene at this location.

Dissolved concentrations of ERDRO at well MW-10 continued a decreasing trend through 2015 (see **Graph B4**); however, dissolved ERDRO concentrations at several further downgradient wells appear to show recent increasing trends. The historically highest groundwater detections of dissolved ERDRO were detected at wells MW-9 (7,300 µg/L in December 2015), USGS-1A (11,700 µg/L and 11,900 µg/L in September and December 2015) and MW-16A (1,900 µg/L in September and December 2015) within the last two quarters of 2015. For the first time since monitoring began, dissolved ERDRO was observed at far downgradient well MW-22 in September (230 µg/L) and December (340 µg/L) 2015. Neither benzene nor ERDRO were detected in far downgradient wells MW-20 or MW-21 during 2015, with the exception of one detection of ERDRO at well MW-21 in June 2015 (150 µg/L).

The recent increasing ERDRO trends at wells MW-9, USGS-1A, USGS-2A, USGS-3A, USGS-4A, MW-16A, and MW-16B began in September 2014, coincident with a significant increase in the water table elevation and prior to the installation of the bioventing system. Recent increasing ERDRO concentrations are also observed at far down-gradient wells MW-19 and MW-22. These observations suggest that hydrocarbon stranded in the smear zone

above the “normal” high water table may have been dissolved as the seasonally high water table of 2014 rose through the smear zone. Another hypothesized possibility of the increased ERDRO concentrations is the potential increase in hydrocarbon “metabolites” resulting from operation of the bioventing system. Biodegradation of petroleum, both aerobically and anaerobically, results in polar byproducts referred to as “metabolites”. The bioventing system is meant to increase biodegradation rates which could in turn affect the levels of metabolites in the groundwater.

4.0 Conclusions

Seasonal groundwater fluctuation was observed at the Site in 2015 with water level rising through the summer to an observed peak in September and then decreasing through the fall into winter (December). However, seasonal water table fluctuation in 2015 was less than half the amplitude of the difference between the water table low and high points during 2014. Groundwater flow direction remains consistently southeasterly at the Site. The vertical groundwater gradient is slightly downward, indicating that the Site is in a groundwater recharge area.

The increase in groundwater elevation during the summer of 2014 was associated with increasing concentrations of dissolved benzene and ERDRO downgradient from the residual oil body. During 2015, seasonal increases in dissolved benzene concentrations associated with an increasing water table were significantly less than those detected in 2014. However, concentrations of dissolved ERDRO at numerous down-gradient wells show an increasing trend since September 2014, including at far downgradient perimeter wells MW-19 and MW-22. This trend may suggest that a pulse of dissolved, mobile long-chain hydrocarbon is propagating down-gradient following the historic rise of the water table in 2014, which apparently mobilized miscible hydrocarbon constituents stranded in the smear zone at the source area. Alternatively, operation of the bioventing system may be increasing biodegradation of residual hydrocarbon at rates resulting in significant increases in metabolites in dissolved groundwater and detected in the ERDRO range. This hypothesis may be tested by analyzing select groundwater samples for ERDRO both with and without silica gel cleanup. Silica gel is a polar medium that adsorbs the polar metabolites in a laboratory sample extract but does not adsorb the non-polar hydrocarbons. Samples analyzed with silica gel cleanup do not contain polar compounds and are more representative of the actual petroleum hydrocarbon dissolved in groundwater. Irrespective of the cause(s) of the increasing trend in ERDRO, concentrations of dissolved ERDRO detected down-gradient from the release Site remain relatively low (< 12 milligrams per liter).

Tables

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-1	662109	06-Jun-01	100.00	26.29				73.71	77.00	3.29
		10-May-02	100.00	27.57				72.43	77.00	4.57
		14-May-02	100.00	27.60				72.40	77.00	4.60
		21-Jul-03	100.00	28.07				71.93	77.00	5.07
		06-Jan-04	100.00	28.50				71.50	77.00	5.50
		02-Apr-04	100.00	28.53				71.47	77.00	5.53
		12-May-04	100.00	28.55				71.45	77.00	5.55
		26-Aug-04	100.00	27.97				72.03	77.00	4.97
		30-Dec-04	100.00	27.00				73.00	77.00	4.00
		06-Apr-05	100.00	27.35				72.65	77.00	4.35
		26-Jun-08	100.00	27.33				72.67	77.00	4.33
		25-Nov-08	100.00	27.22				72.78	77.00	4.22
		04-Jun-09	100.00	26.75				73.25	77.00	3.75
		26-Oct-09	1340.19	27.25				1312.94	1317.19	4.25
		29-Jun-10	1340.19	27.52				1312.67	1317.19	4.52
		01-Dec-10	1340.19	27.10				1313.09	1317.19	4.10
		01-Dec-11	1340.19	27.18				1313.01	1317.19	4.18
		07-Jun-12	1340.19	27.80				1312.39	1317.19	4.80
		03-Dec-12	1340.19	28.26				1311.93	1317.19	5.26
		17-Jun-13	1340.19	27.43				1312.76	1317.19	4.43
18-Sep-13	1340.19	27.50				1312.69	1317.19	4.50		
16-Dec-13	1340.19	27.87				1312.32	1317.19	4.87		
17-Mar-14	1340.19	28.31				1311.88	1317.19	5.31		
17-Jun-14	1340.19	27.12				1313.07	1317.19	4.12		
3-Sep-14	1340.19	25.95				1314.24	1317.19	2.95		
15-Dec-14	1340.19	26.95				1313.24	1317.19	3.95		
10-Mar-15	1340.19	27.55				1312.64	1317.19	4.55		
15-Jun-15	1340.19	27.14				1313.05	1317.19	4.14		
8-Sep-15	1340.19	27.17				1313.02	1317.19	4.17		
8-Dec-15	1340.19	27.35				1312.84	1317.19	4.35		
MW-2	662110	06-Jun-01	99.57	25.87				73.70	77.07	3.37
		10-May-02	99.57	Not Recorded						
		14-May-02	99.57	27.25				72.32	77.07	4.75
		21-Jul-03	99.57	27.71				71.86	77.07	5.21
		06-Jan-04	99.57	28.12				71.45	77.07	5.62
		02-Apr-04	99.57	28.11				71.46	77.07	5.61
		12-May-04	99.57	28.28				71.29	77.07	5.78
		26-Aug-04	99.57	27.60				71.97	77.07	5.10
		30-Dec-04	99.57	26.62				72.95	77.07	4.12
		06-Apr-05	99.57	26.92				72.65	77.07	4.42
26-Jun-08	99.57	27.13				72.44	77.07	4.63		
25-Nov-08	99.57	26.86				72.71	77.07	4.36		
04-Jun-09	99.57	26.52				73.05	77.07	4.02		
WELL ABANDONED										

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)		
MW-3	662111	06-Jun-01	99.60	25.92	25.32	0.60	25.37	74.23	78.10	3.87		
		10-May-02	99.60	27.19	26.51	0.68	26.57	73.03	78.10	5.07		
		14-May-02	99.60	27.22	26.6	0.62	26.66	72.94	78.10	5.16		
		21-Jul-03	99.60	28.30	27.77	0.53	27.82	71.78	78.10	6.32		
		5-Jan-04	99.60	29.12	28.05	1.07	28.15	71.45	78.10	6.65		
		2-Apr-04	99.60	28.77	28.09	0.68	28.15	71.45	78.10	6.65		
		12-May-04	99.60	29.15	28.2	0.95	28.29	71.31	78.10	6.79		
		26-Aug-04	99.60	28.05	27.62	0.43	27.66	71.94	78.10	6.16		
		30-Dec-04	99.60	26.99	26.7	0.29	26.73	72.87	78.10	5.23		
		06-Apr-05	99.60	27.51	26.97	0.54	27.02	72.58	78.10	5.52		
		26-Jun-08	99.60	27.29	27.15	0.14	27.16	72.44	78.10	5.66		
		25-Nov-08	99.60	27.10	26.87	0.23	26.89	72.71	78.10	5.39		
		06-Feb-09	99.60	27.92	27.67	0.25	27.69	71.91	78.10	6.19		
		04-Jun-09	99.60	26.57	26.56	0.01	26.56	73.04	78.10	5.06		
		26-Oct-09	1339.79	26.92	26.91	0.01	26.91	1312.88	1318.29	5.41		
		29-Jun-10	1339.79	27.95	27.25	0.70	27.31	1312.48	1318.29	5.81		
		02-Dec-10	1339.79	27.19	26.8	0.39	26.83	1312.96	1318.29	5.33		
		02-Dec-11	1339.79	26.68	26.68	0.00	26.68	1313.11	1318.29	5.18		
		07-Jun-12	1339.79	29.38	27.2	2.18	27.40	1312.39	1318.29	5.90		
		03-Dec-12	1339.79	28.47	27.52	0.95	27.61	1312.18	1318.29	6.11		
		17-Jun-13	1339.79	27.27	27.07	0.20	27.09	1312.70	1318.29	5.59		
		19-Dec-13		The well was dry. No level was obtained.								
		19-Mar-14	1339.79	30.45	27.82	2.63	28.06	1311.73	1318.29	6.56		
17-Jun-14	1339.79	31.04	26.82	4.22	27.20	1312.59	1318.29	5.70				
04-Sep-14	1339.79	25.90	25.58	0.32	25.61	1314.18	1318.29	4.11				
15-Dec-14	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well											
10-Mar-15	Not Measured - Bailer Frozen in Well											
15-Jun-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well											
10-Sep-15	No readings/Probe responded to product vapors as it was lowered inside the well casing											
8-Dec-15	No readings/Probe responded to product vapors as it was lowered inside the well casing											
MW-4	662112	06-Jun-01	100.39	26.68				73.71	77.89	4.18		
		10-May-02	100.39	27.92				72.47	77.89	5.42		
		14-May-02	100.39	27.96				72.43	77.89	5.46		
		21-Jul-03	100.39	28.35				72.04	77.89	5.85		
		06-Jan-04	100.39	28.75				71.64	77.89	6.25		
		02-Apr-04	100.39	28.80				71.59	77.89	6.30		
		12-May-04	100.39	28.85				71.54	77.89	6.35		
		26-Aug-04	100.39	28.22				72.17	77.89	5.72		
		30-Dec-04	100.39	27.36				73.03	77.89	4.86		
		06-Apr-05	100.39	27.71				72.68	77.89	5.21		
		26-Jun-08	100.39	27.76				72.63	77.89	5.26		
		25-Nov-08	100.39	27.56				72.83	77.89	5.06		
		04-Jun-09	100.39	27.21				73.18	77.89	4.71		
		26-Oct-09	1340.58	27.59				1312.99	1318.08	5.09		
		29-Jun-10	1340.58	27.90				1312.68	1318.08	5.40		
		01-Dec-10	1340.58	27.45				1313.13	1318.08	4.95		
		01-Dec-11	1340.58	27.53				1313.05	1318.08	5.03		
		07-Jun-12	1340.58	28.10				1312.48	1318.08	5.60		
		03-Dec-12	1340.58	28.55				1312.03	1318.08	6.05		
		17-Jun-13	1340.58	27.79				1312.79	1318.08	5.29		
		18-Sep-13	1340.58	27.80				1312.78	1318.08	5.30		
		16-Dec-13	1340.58	28.17				1312.41	1318.08	5.67		
		17-Mar-14	1340.58	28.59				1311.99	1318.08	6.09		
14-Jun-14	1340.58	27.59				1312.99	1318.08	5.09				
3-Sep-14	1340.58	26.32				1314.26	1318.08	3.82				

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-4	662112	15-Dec-14	1340.58	27.31				1313.27	1318.08	4.81
(cont)		10-Mar-15	1340.58	27.88				1312.70	1318.08	5.38
		15-Jun-15	1340.58	27.58				1313.00	1318.08	5.08
		8-Sep-15	1340.58	27.48				1313.10	1318.08	4.98
		8-Dec-15	1340.58	27.71				1312.87	1318.08	5.21
MW-5	705515	05-Jan-04	99.58	29.65	28.18	1.47	28.27	71.31	76.08	4.77
		2-Apr-04	99.58	29.72	28.47	1.25	28.55	71.03	76.08	5.05
		12-May-04	99.58	29.75	28.14	1.61	28.24	71.34	76.08	4.74
		26-Aug-04	99.58	28.05	27.6	0.45	27.63	71.95	76.08	4.13
		30-Dec-04	99.58	27.20	26.65	0.55	26.68	72.90	76.08	3.18
		06-Apr-05	99.58	28.03	26.94	1.09	27.01	72.57	76.08	3.51
		26-Jun-08	99.58	28.05	27.1	0.95	27.16	72.42	76.08	3.66
		25-Nov-08	99.58	27.17	26.9	0.27	26.92	72.66	76.08	3.42
		06-Feb-09	99.58	28.90	28.56	0.34	28.58	71.00	76.08	5.08
		04-Jun-09	99.58	26.82	26.56	0.26	26.58	73.00	76.08	3.08
		26-Oct-09	1339.78	27.11	26.9	0.21	26.91	1312.87	1316.28	3.41
		29-Jun-10	1339.78	28.86	27.24	1.62	27.34	1312.44	1316.28	3.84
		01-Dec-10	1339.78	26.95						
		02-Dec-11	1339.78	27.05	26.67	0.38	26.69	1313.09	1316.28	3.19
		07-Jun-12	1339.78	28.88	27.1	1.78	27.21	1312.57	1316.28	3.71
		03-Dec-12	1339.78	28.98	27.74	1.24	27.82	1311.96	1316.28	4.32
		17-Jun-13	1339.78	28.18	27.05	1.13	27.12	1312.66	1316.28	3.62
		18-Sep-13	1339.78	26.89			26.89	1312.89	1316.28	3.39
		19-Dec-13	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		19-Mar-14	1339.78	31.95	27.82	4.13	28.08	1311.70	1316.28	4.58
		17-Jun-14	1339.78	27.98	27.58	0.40	27.60	1312.18	1316.28	4.10
		04-Sep-14	1339.78	29.85	25.50	4.35	25.77	1314.01	1316.28	2.27
		17-Dec-14	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		10-Mar-15	1339.78	27.11	27.09	0.02	27.09	1312.69	1316.28	3.59
		15-Jun-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		10-Sep-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		8-Dec-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
MW-6	680691	21-Jul-03	100.71	28.75				71.96	72.71	0.75
		06-Jan-04	100.71	29.05				71.66	72.71	1.05
		02-Apr-04	100.71	29.15				71.56	72.71	1.15
		12-May-04	100.71	29.15				71.56	72.71	1.15
		26-Aug-04	100.71	28.62				72.09	72.71	0.62
		30-Dec-04	100.71	27.76				72.95	72.71	-0.24
		06-Apr-05	100.71	28.09				72.62	72.71	0.09
		26-Jun-08	100.71	28.17				72.54	72.71	0.17
		25-Nov-08	100.71	28.43				72.28	72.71	0.43
		04-Jun-09	100.71	27.60				73.11	72.71	-0.40
		26-Oct-09	1340.90	27.98				1312.92	1311.90	-1.02
		29-Jun-10	1340.90	28.28				1312.62	1311.90	-0.72
		01-Dec-10	1340.90	27.89				1313.01	1311.90	-1.11
		01-Dec-11	1340.90	27.89				1313.01	1311.90	-1.11
		07-Jun-12	1340.90	28.53				1312.37	1311.90	-0.47
		03-Dec-12	1340.90	28.89				1312.01	1311.90	-0.11
		17-Jun-13	1340.90	28.12				1312.78	1311.90	-0.88
		18-Sep-13	1340.90	28.12				1312.78	1311.90	-0.88
		17-Dec-13	1340.90	28.52				1312.38	1311.90	-0.48
		17-Mar-14	1340.90	28.91				1311.99	1311.90	-0.09
		17-Jun-14	1340.90	28.03				1312.87	1311.90	-0.97
		3-Sep-14	1340.90	26.77				1314.13	1311.90	-2.23

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-6	680691	15-Dec-14	1340.90	27.69				1313.21	1311.90	-1.31
(cont)		10-Mar-15	1340.90	28.21				1312.69	1311.90	-0.79
		15-Jun-15	1340.90	28.02				1312.88	1311.90	-0.98
		8-Sep-15	1340.90	27.91				1312.99	1311.90	-1.09
		8-Dec-15	1340.90	28.08				1312.82	1311.90	-0.92
MW-7	680692	21-Jul-03	99.83	28.09				71.74	73.33	1.59
		06-Jan-04	99.83	28.34				71.49	73.33	1.84
		02-Apr-04	99.83	28.43				71.40	73.33	1.93
		12-May-04	99.83	28.46				71.37	73.33	1.96
		26-Aug-04	99.83	28.00				71.83	73.33	1.50
		30-Dec-04	99.83	27.05				72.78	73.33	0.55
		06-Apr-05	99.83	27.34				72.49	73.33	0.84
		26-Jun-08	99.83	27.15				72.68	73.33	0.65
		25-Nov-08	99.83	27.28				72.55	73.33	0.78
		04-Jun-09	99.83	26.87				72.96	73.33	0.37
		26-Oct-09	1340.03	27.24				1312.79	1313.53	0.74
		29-Jun-10	1340.03	27.61				1312.42	1313.53	1.11
		01-Dec-10	1340.03	27.21				1312.82	1313.53	0.71
		01-Dec-11	1340.03	27.11				1312.92	1313.53	0.61
		07-Jun-12	1340.03	27.80				1312.23	1313.53	1.30
		03-Dec-12	1340.03	28.16				1311.87	1313.53	1.66
		17-Jun-13	1340.03	27.39				1312.64	1313.53	0.89
		18-Sep-13	1340.03	27.42				1312.61	1313.53	0.92
		17-Dec-13	1340.03	27.80				1312.23	1313.53	1.30
		17-Mar-14	1340.03	28.16				1311.87	1313.53	1.66
		17-Jun-14	1340.03	27.40				1312.63	1313.53	0.90
		3-Sep-14	1340.03	26.01				1314.02	1313.53	-0.49
		15-Dec-14	1340.03	26.91				1313.12	1313.53	0.41
		10-Mar-15	1340.03	27.47				1312.56	1313.53	0.97
		15-Jun-15	1340.03	27.39				1312.64	1313.53	0.89
		8-Sep-15	1340.03	27.15				1312.88	1313.53	0.65
		9-Dec-15	1340.03	27.36				1312.67	1313.53	0.86
MW-8	680693	21-Jul-03	101.00	29.37				71.63	74.50	2.87
		06-Jan-04	101.00	29.70				71.30	74.50	3.20
		02-Apr-04	101.00	29.77				71.23	74.50	3.27
		12-May-04	101.00	29.85				71.15	74.50	3.35
		26-Aug-04	101.00	29.21				71.79	74.50	2.71
		30-Dec-04	101.00	28.20				72.80	74.50	1.70
		06-Apr-05	101.00	28.54				72.46	74.50	2.04
		26-Jun-08	101.00	28.73				72.27	74.50	2.23
		25-Nov-08	101.00	28.45				72.55	74.50	1.95
		04-Jun-09	101.00	28.09				72.91	74.50	1.59
		26-Oct-09	1341.21	28.45				1312.76	1315.16	2.40
		29-Jun-10	1341.21	28.83				1312.38	1315.16	2.78
		01-Dec-10	1341.21	28.34				1312.87	1315.16	2.29
		01-Dec-11	1341.21	28.27				1312.94	1315.16	2.22
		07-Jun-12	1341.21	29.10				1312.11	1315.16	3.05
		03-Dec-12	1341.21	29.42				1311.79	1315.16	3.37
		17-Jun-13	1341.21	28.73				1312.48	1315.16	2.68
		18-Sep-13	1341.21	28.67				1312.54	1315.16	2.62
		17-Dec-13	1341.21	29.08				1312.13	1315.16	3.03
		17-Mar-14	1341.21	29.46				1311.75	1315.16	3.41
		17-Jun-14	1341.21	28.63				1312.58	1315.16	2.58
		3-Sep-14	1341.21	27.11				1314.10	1315.16	1.06

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-8	680693	16-Dec-14	1341.21	28.06				1313.15	1315.16	2.01
(cont)		10-Mar-15	1341.21	28.71				1312.50	1315.16	2.66
		15-Jun-15	1341.21	28.56				1312.65	1315.16	2.51
		8-Sep-15	1341.21	28.31				1312.90	1315.16	2.26
		9-Dec-15	1341.21	28.58				1312.63	1315.16	2.53
MW-9	680694	21-Jul-03	98.25	26.41				71.84	73.75	1.91
		06-Jan-04	98.25	26.79				71.46	73.75	2.29
		02-Apr-04	98.25	26.81				71.44	73.75	2.31
		12-May-04	98.25	26.91				71.34	73.75	2.41
		26-Aug-04	98.25	26.29				71.96	73.75	1.79
		30-Dec-04	98.25	25.35				72.90	73.75	0.85
		06-Apr-05	98.25	25.65				72.60	73.75	1.15
		26-Jun-08	98.25	25.83				72.42	73.75	1.33
		25-Nov-08	98.25	25.57				72.68	73.75	1.07
		04-Jun-09	98.25	25.22				73.03	73.75	0.72
		26-Oct-09	1338.45	25.59				1312.86	1314.38	1.52
		29-Jun-10	1338.45	25.94				1312.51	1314.38	1.87
		01-Dec-10	1338.45	25.49				1312.96	1314.38	1.42
		01-Dec-11	1338.45	25.45				1313.00	1314.38	1.38
		07-Jun-12	1338.45	26.14				1312.31	1314.38	2.07
		03-Dec-12	1338.45	26.55				1311.90	1314.38	2.48
		17-Jun-13	1338.45	25.83				1312.62	1314.38	1.76
		18-Sep-13	1338.45	25.80				1312.65	1314.38	1.73
		17-Dec-13	1338.45	26.18				1312.27	1314.38	2.11
		17-Mar-14	1338.45	26.59				1311.86	1314.38	2.52
		17-Jun-14	1338.45	25.70				1312.75	1314.38	1.63
		3-Sep-14	1338.45	24.29				1314.16	1314.38	0.22
		15-Dec-14	1338.45	25.23				1313.22	1314.38	1.16
		10-Mar-15	1338.45	25.84				1312.61	1314.38	1.77
		15-Jun-15	1338.45	25.64				1312.81	1314.38	1.57
		8-Sep-15	1338.45	25.36				1313.09	1314.38	1.29
		9-Dec-15	1338.45	25.70				1312.75	1314.38	1.63
MW-10	705513	05-Jan-04	99.66	28.38				71.28	77.16	5.88
		2-Apr-04	99.66	28.30				71.36	77.16	5.80
		12-May-04	99.66	28.36				71.30	77.16	5.86
		26-Aug-04	99.66	27.76				71.90	77.16	5.26
		30-Dec-04	99.66	27.72				71.94	77.16	5.22
		06-Apr-05	99.66	27.02				72.64	77.16	4.52
		26-Jun-08	99.66	27.20				72.46	77.16	4.70
		25-Nov-08	99.66	26.94				72.72	77.16	4.44
		04-Jun-09	99.66	26.61				73.05	77.16	4.11
		26-Oct-09	1339.87	26.96				1312.91	1317.87	4.96
		29-Jun-10	1339.87	27.33				1312.54	1317.87	5.33
		01-Dec-10	1339.87	26.84				1313.03	1317.87	4.84
		01-Dec-11	1339.87	26.83				1313.04	1317.87	4.83
		07-Jun-12	1339.87	27.55				1312.32	1317.87	5.55
		03-Dec-12	1339.87	27.97				1311.90	1317.87	5.97
		17-Jun-13	1339.87	27.28				1312.59	1317.87	5.28
		19-Sep-13	1339.87	27.15				1312.72	1317.87	5.15
		19-Dec-13	1339.87	27.58				1312.29	1317.87	5.58
		17-Mar-14	1339.87	28.00				1311.87	1317.87	6.00
		17-Jun-14	1339.87	27.02				1312.85	1317.87	5.02
		3-Sep-14	1339.87	25.62				1314.25	1317.87	3.62
		16-Dec-14	1339.87	26.63				1313.24	1317.87	4.63

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-10	705513	10-Mar-15	1339.87	27.26				1312.61	1317.87	5.26
(cont)		16-Jun-15	1339.87	26.98				1312.89	1317.87	4.98
		8-Sep-15	1339.87	26.57				1313.30	1317.87	4.57
		9-Dec-15	1339.87	27.10				1312.77	1317.87	5.10
MW-11	705514	17-Dec-04	99.99	28.66	28.5	0.16	28.51	71.48	76.49	5.01
		05-Jan-04	99.99	29.70	28.49	1.21	28.60	71.39	76.49	5.10
		2-Apr-04	99.99	29.78	28.45	1.33	28.57	71.42	76.49	5.07
		12-May-04	99.99	29.75	28.5	1.25	28.61	71.38	76.49	5.11
		26-Aug-04	99.99	28.68	27.94	0.74	28.01	71.98	76.49	4.51
		30-Dec-04	99.99	27.60	27.06	0.54	27.11	72.88	76.49	3.61
		06-Apr-05	99.99	28.07	27.38	0.69	27.44	72.55	76.49	3.94
		26-Jun-08	99.99	27.79	27.58	0.21	27.60	72.39	76.49	4.10
		25-Nov-08	99.99	27.59	27.28	0.31	27.31	72.68	76.49	3.81
		29-Jan-09	99.99	28.20	27.32	0.88	27.40	72.59	76.49	3.90
		06-Feb-09	99.99	28.28	27.53	0.75	27.60	72.39	76.49	4.10
		04-Jun-09	99.99	27.13	26.95	0.18	26.97	73.02	76.49	3.47
		26-Oct-09	1340.18	27.65	27.30	0.35	27.33	1312.85	1316.68	3.83
		29-Jun-10	1340.18	28.13	27.62	0.51	27.67	1312.51	1316.68	4.17
		02-Dec-10	1340.18	27.50	26.61	0.89	26.69	1313.49	1316.68	3.19
		02-Dec-11	1340.18	27.68	27.02	0.66	27.08	1313.10	1316.68	3.58
		07-Jun-12	1340.18	32.50	27.7	4.80	28.13	1312.05	1316.68	4.63
		03-Dec-12	1340.18	29.31	28.09	1.22	28.20	1311.98	1316.68	4.70
		17-Jun-13	1340.18	27.63	27.5	0.13	27.51	1312.67	1316.68	4.01
		19-Dec-13	1340.18	28.73	27.81	0.92	27.89	1312.29	1316.68	4.39
		19-Mar-14	1340.18	32.55	27.10	5.45	27.59	1312.59	1316.68	4.09
		17-Jun-14	1340.18	29.05	27.20	1.85	27.37	1312.81	1316.68	3.87
		04-Sep-14	1340.18	32.53	25.98	6.55	26.57	1313.61	1316.68	3.07
		17-Dec-14	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		10-Mar-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		17-Jun-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		10-Sep-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
		8-Dec-15	Accurate readings could not be determined due to the highly viscous nature of LNAPL in well							
MW-13	705516	05-Jan-04	101.02	29.92	29.52	0.40	29.58	71.44	74.52	3.08
		2-Apr-04	101.02	30.57	29.53	1.04	29.68	71.34	74.52	3.18
		12-May-04	101.02	31.22	29.59	1.63	29.83	71.19	74.52	3.33
		26-Aug-04	101.02	29.20	29.07	0.13	29.09	71.93	74.52	2.59
		30-Dec-04	101.02	28.20	28.11	0.09	28.12	72.90	74.52	1.62
		06-Apr-05	101.02	28.80	28.38	0.42	28.44	72.58	74.52	1.94
		26-Jun-08	101.02	28.70	28.62	0.08	28.63	72.39	74.52	2.13
		25-Nov-08	101.02	28.35	28.35	0.00	28.35	72.67	74.52	1.85
		06-Feb-09	101.02	28.62	28.61	0.01	28.61	72.41	74.52	2.11
		04-Jun-09	101.02	28.01	28.01	0.00	28.01	73.01	74.52	1.51
		26-Oct-09	1341.23	28.42	28.35	0.07	28.36	1312.87	1314.73	1.86
		29-Jun-10	1341.23	28.84	28.72	0.12	28.74	1312.49	1314.73	2.24
		02-Dec-10	1341.23	28.27	28.23	0.04	28.24	1312.99	1314.73	1.74
		02-Dec-11	1341.23	28.13	28.13	0.00	28.13	1313.10	1314.73	1.63
		07-Jun-12	1341.23	29.00	28.88	0.12	28.90	1312.33	1314.73	2.40
		03-Dec-12	1341.23	30.08	29.23	0.85	29.36	1311.87	1314.73	2.86
		17-Jun-13	1341.23	28.61	28.59	0.02	28.59	1312.64	1314.73	2.09
		19-Dec-13	1341.23	32.09	28.84	3.25	29.32	1311.91	1315.73	3.82
		19-Mar-14	1341.23	30.45	29.26	1.19	29.44	1311.79	1315.73	3.94
		17-Jun-14	1341.23	30.69	28.23	2.46	28.59	1312.64	1315.73	3.09
		04-Sep-14	1341.23	27.63	26.92	0.71	27.02	1314.21	1315.73	1.52
		17-Dec-14	Accurate readings could not be determined due to the presence of LNAPL in well							

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-13	705516	10-Mar-15	Accurate readings could not be determined due to the presence of LNAPL and Ice in well							
(cont)		17-Jun-15	1341.23	28.25	NA	0.00	28.25	1312.98	1315.73	2.75
		10-Sep-15	1341.23	28.49	NM	0.00	28.49	1312.74	1315.73	2.99
		9-Dec-15	1341.23	28.42	NM	0.00	28.42	1312.81	1315.73	2.92
MW-14		26-Jun-08	98.73	26.93				71.80		
		25-Nov-08		25.99				72.74		
		04-Jun-09		26.31				72.42		
WELL ABANDONED										
MW-15		26-Jun-08	99.35	26.27				73.08	65.68	7.40
		25-Nov-08	99.35	26.66				72.69	65.68	7.01
		04-Jun-09	99.35	25.64				73.71	65.68	8.03
		26-Oct-09	1339.61	26.70				1312.91	1305.94	6.97
		29-Jun-10	1339.61	27.05				1312.56	1305.94	6.62
		01-Dec-10	1339.61	not collected				-	-	-
		01-Dec-11	1339.61	26.54				1313.07	1305.94	7.13
		07-Jun-12	1339.61	27.20				1312.41	1305.94	6.47
		03-Dec-12	1339.61	27.72				1311.89	1305.94	5.95
		17-Jun-13	1339.61	27.00				1312.61	1305.94	6.67
		16-Dec-13	1339.61	27.32				1312.29	1305.94	6.35
		17-Mar-14	1339.61	27.77				1311.84	1305.94	5.90
		17-Jun-14	1339.61	26.67				1312.94	1305.94	7.00
		25-Jun-14	WELL ABANDONED							
MW-16A		29-Jun-10	1338.97	26.70				1312.27	1315.47	3.20
		01-Dec-10	1338.97	26.20				1312.77	1315.47	2.70
		01-Dec-11	1338.97	26.15				1312.82	1315.47	2.65
		07-Jun-12	1338.97	26.92				1312.05	1315.47	3.42
		03-Dec-12	1338.97	27.28				1311.69	1315.47	3.78
		17-Jun-13	1338.97	25.60				1313.37	1315.47	2.10
		19-Sep-13	1338.97	26.52				1312.45	1315.47	3.02
		17-Dec-13	1338.97	26.92				1312.05	1315.47	3.42
		17-Mar-14	1338.97	27.33				1311.64	1315.47	3.83
		17-Jun-14	1338.97	26.44				1312.53	1315.47	2.94
		3-Sep-14	1338.97	25.03				1313.94	1315.47	1.53
		16-Dec-14	1338.97	25.90				1313.07	1315.47	2.40
		10-Mar-15	1338.97	26.55				1312.42	1315.47	3.05
		15-Jun-15	1338.97	26.42				1312.55	1315.47	2.92
		8-Sep-15	1338.97	26.25				1312.72	1315.47	2.75
		9-Dec-15	1338.97	26.44				1312.53	1315.47	2.94
MW-16B		29-Jun-10	1339.52	27.26				1312.26	1301.02	-11.24
		01-Dec-10	1339.52	26.78				1312.74	1301.02	-11.72
		01-Dec-11	1339.52	26.71				1312.81	1301.02	-11.79
		07-Jun-12	1339.52	27.50				1312.02	1301.02	-10.24
		03-Dec-12	1339.52	27.82				1311.70	1301.02	-10.68
		17-Jun-13	1339.52	27.10				1312.42	1301.02	-11.40
		19-Sep-13	1339.52	27.12				1312.40	1301.02	-11.38
		17-Dec-13	1339.52	27.47				1312.05	1301.02	-11.03
		17-Mar-14	1339.52	27.86				1311.66	1301.02	-10.64
		17-Jun-14	1339.52	26.98				1312.54	1301.02	-11.52
		3-Sep-14	1339.52	25.63				1313.89	1301.02	-12.87
		16-Dec-14	1339.52	26.49				1313.03	1301.02	-12.01
		10-Mar-15	1339.52	27.12				1312.40	1301.02	-11.38
		15-Jun-15	1339.52	26.98				1312.54	1301.02	-11.52

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-16B		8-Sep-15	1339.52	26.80				1312.72	1301.02	-11.70
(cont)		9-Dec-15	1339.52	27.01				1312.51	1301.02	-11.49
MW-17		29-Jun-10	1338.79	26.56				1312.23	1315.29	3.06
		01-Dec-10	1338.79	26.08				1312.71	1315.29	2.58
		01-Dec-11	1338.79	26.00				1312.79	1315.29	2.50
		07-Jun-12	1338.79	26.80				1311.99	1315.29	3.30
		03-Dec-12	1338.79	27.11				1311.68	1315.29	3.61
		17-Jun-13	1338.79	26.41				1312.38	1315.29	2.91
		18-Sep-13	1338.79	26.37				1312.42	1315.29	2.87
		17-Dec-13	1338.79	26.74				1312.05	1315.29	3.24
		17-Mar-14	1338.79	27.17				1311.62	1315.29	3.67
		17-Jun-14	1338.79	26.35				1312.44	1315.29	2.85
		3-Sep-14	1338.79	24.89				1313.90	1315.29	1.39
		15-Dec-14	1338.79	25.76				1313.03	1315.29	2.26
		10-Mar-15	1338.79	26.40				1312.39	1315.29	2.90
		15-Jun-15	1338.79	26.31				1312.48	1315.29	2.81
		8-Sep-15	1338.79	26.09				1312.70	1315.29	2.59
		9-Dec-15	1338.79	26.29				1312.50	1315.29	2.79
MW-18		29-Jun-10	1340.29	27.92				1312.37	1316.79	4.42
		01-Dec-10	1340.29	27.41				1312.88	1316.79	3.91
		01-Dec-11	1340.29	27.35				1312.94	1316.79	3.85
		07-Jun-12	1340.29	28.15				1312.14	1316.79	4.65
		03-Dec-12	1340.29	28.50				1311.79	1316.79	5.00
		17-Jun-13	1340.29	27.78				1312.51	1316.79	4.28
		19-Sep-13	1340.29	27.75				1312.54	1316.79	4.25
		17-Dec-13	1340.29	28.13				1312.16	1316.79	4.63
		17-Mar-14	1340.29	28.55				1311.74	1316.79	5.05
		17-Jun-14	1340.29	27.65				1312.64	1316.79	4.15
		3-Sep-14	1340.29	26.24				1314.05	1316.79	2.74
		16-Dec-14	1340.29	27.12				1313.17	1316.79	3.62
		10-Mar-15	1340.29	27.76				1312.53	1316.79	4.26
		15-Jun-15	1340.29	27.63				1312.66	1316.79	4.13
		8-Sep-15	1340.29	27.46				1312.83	1316.79	3.96
		9-Dec-15	1340.29	27.67				1312.62	1316.79	4.17
MW-19		29-Jun-10	1334.72	22.54				1312.18	1315.22	3.04
		01-Dec-10	1334.72	22.03				1312.69	1315.22	2.53
		01-Dec-11	1334.72	21.97				1312.75	1315.22	2.47
		07-Jun-12	1334.72	22.76				1311.96	1315.22	4.04
		03-Dec-12	1334.72	23.10				1311.62	1315.22	3.60
		17-Jun-13	1334.72	22.37				1312.35	1315.22	2.87
		18-Sep-13	1334.72	22.37				1312.35	1315.22	2.87
		17-Dec-13	1334.72	22.77				1311.95	1315.22	3.27
		17-Mar-14	1334.72	23.15				1311.57	1315.22	3.65
		17-Jun-14	1334.72	23.24				1311.48	1315.22	3.74
		3-Sep-14	1334.72	20.90				1313.82	1315.22	1.40
		15-Dec-14	1334.72	21.74				1312.98	1315.22	2.24
		10-Mar-15	1334.72	22.37				1312.35	1315.22	2.87
		15-Jun-15	1334.72	22.28				1312.44	1315.22	2.78
		8-Sep-15	1334.72	22.08				1312.64	1315.22	2.58
		9-Dec-15	1334.72	22.28				1312.44	1315.22	2.78

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
MW-20		15-Oct-13	1340.06	25.30				1314.76	1317.22	2.46
		18-Dec-13	1340.06	28.11				1311.95	1317.22	5.27
		17-Mar-14	1340.06	28.51				1311.55	1317.22	5.67
		17-Jun-14	1340.06	27.60				1312.46	1317.22	4.76
		3-Sep-14	1340.06	26.22				1313.84	1317.22	3.38
		16-Dec-14	1340.06	27.07				1312.99	1317.22	4.23
		10-Mar-15	1340.06	27.73				1312.33	1317.22	4.89
		15-Jun-15	1340.06	27.60				1312.46	1317.22	4.76
		8-Sep-15	1340.06	27.44				1312.62	1317.22	4.60
		9-Dec-15	1340.06	27.62				1312.44	1317.22	4.78
MW-21		18-Dec-13	1337.70	25.72				1311.98	1318.90	6.92
		17-Mar-14	1337.70	28.14				1309.56	1318.90	9.34
		17-Jun-14	1337.70	25.32				1312.38	1318.90	6.52
		3-Sep-14	1337.70	23.84				1313.86	1318.90	5.04
		15-Dec-14	1337.70	24.70				1313.00	1318.90	5.90
		10-Mar-15	1337.70	25.34				1312.36	1318.90	6.54
		15-Jun-15	1337.70	25.23				1312.47	1318.90	6.43
		8-Sep-15	1337.70	25.07				1312.63	1318.90	6.27
		9-Dec-15	1337.70	25.23				1312.47	1318.90	6.43
MW-22		18-Dec-13	1333.64	21.70				1311.94	1318.24	6.30
		17-Mar-14	1333.64	22.10				1311.54	1318.24	6.70
		17-Jun-14	1333.64	21.20				1312.44	1318.24	5.80
		3-Sep-14	1333.64	19.88				1313.76	1318.24	4.48
		15-Dec-14	1333.64	20.72				1312.92	1318.24	5.32
		10-Mar-15	1333.64	21.34				1312.30	1318.24	5.94
		15-Jun-15	1333.64	21.24				1312.40	1318.24	5.84
		8-Sep-15	1333.64	21.06				1312.58	1318.24	5.66
		8-Dec-15	1333.64	21.22				1312.42	1318.24	5.82

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
USGS 1A		26-Oct-09	1341.60	28.78				1312.82	1312.60	-0.22
		29-Jun-10	1341.60	29.15				1312.45	1312.60	0.15
		02-Dec-10	1341.60	28.70				1312.90	1312.60	-0.30
		01-Dec-11	1341.60	28.64				1312.96	1312.60	-0.36
		07-Jun-12	1341.60	29.38				1312.22	1312.60	0.38
		03-Dec-12	1341.60	29.77				1311.83	1312.60	0.77
		17-Jun-13	1341.60	29.07				1312.53	1312.60	0.07
		19-Sep-13	1341.60	28.96				1312.64	1312.60	-0.04
		17-Dec-13	1341.60	29.39				1312.21	1312.60	0.39
		17-Mar-14	1341.60	29.82				1311.78	1312.60	0.82
		17-Jun-14	1341.60	28.91				1312.69	1312.60	-0.09
		3-Sep-14	1341.60	27.45				1314.15	1312.60	-1.55
		16-Dec-14	1341.60	28.40				1313.20	1312.60	-0.60
		10-Mar-15	1341.60	29.05				1312.55	1312.60	0.05
		15-Jun-15	1341.60	28.86				1312.74	1312.60	-0.14
		8-Sep-15	1341.60	28.54				1313.06	1312.60	-0.46
	9-Dec-15	1341.60	28.91				1312.69	1312.60	-0.09	
USGS 2A		26-Oct-09	1342.37	29.60				1312.77	1311.97	-0.80
		29-Jun-10	1342.37	29.97				1312.40	1311.97	-0.43
		02-Dec-10	1342.37	29.49				1312.88	1311.97	-0.91
		01-Dec-11	1342.37	29.42				1312.95	1311.97	-0.98
		07-Jun-12	1342.37	30.18				1312.19	1311.97	-0.22
		03-Dec-12	1342.37	30.57				1311.80	1311.97	0.17
		17-Jun-13	1342.37	29.89				1312.48	1311.97	-0.51
		19-Sep-13	1342.37	29.74				1312.63	1311.97	-0.66
		17-Dec-13	1342.37	30.23				1312.14	1311.97	-0.17
		17-Mar-14	1342.37	30.64				1311.73	1311.97	0.24
		17-Jun-14	1342.37	29.75				1312.62	1311.97	-0.65
		3-Sep-14	1342.37	28.28				1314.09	1311.97	-2.12
		16-Dec-14	1342.37	29.22				1313.15	1311.97	-1.18
		10-Mar-15	1342.37	29.84				1312.53	1311.97	-0.56
		15-Jun-15	1342.37	29.70				1312.67	1311.97	-0.70
		8-Sep-15	1342.37	29.42				1312.95	1311.97	-0.98
	9-Dec-15	1342.37	29.73				1312.64	1311.97	-0.67	
USGS 3A		26-Oct-09	1341.26	28.54				1312.72	1311.92	-0.80
		29-Jun-10	1341.26	28.93				1312.33	1311.92	-0.41
		02-Dec-10	1341.26	28.44				1312.82	1311.92	-0.90
		01-Dec-11	1341.26	28.36				1312.90	1311.92	-0.98
		07-Jun-12	1341.26	29.13				1312.13	1311.92	-0.21
		03-Dec-12	1341.26	29.51				1311.75	1311.92	0.17
		17-Jun-13	1341.26	28.82				1312.44	1311.92	-0.52
		19-Sep-13	1341.26	28.76				1312.50	1311.92	-0.58
		17-Dec-13	1341.26	29.18				1312.08	1311.92	-0.16
		17-Mar-14	1341.26	29.57				1311.69	1311.92	0.23
		17-Jun-14	1341.26	28.70				1312.56	1311.92	-0.64
		3-Sep-14	1341.26	27.24				1314.02	1311.92	-2.10
		16-Dec-14	1341.26	28.16				1313.10	1311.92	-1.18
		10-Mar-15	1341.26	28.81				1312.45	1311.92	-0.53
		15-Jun-15	1341.26	28.64				1312.62	1311.92	-0.70
		8-Sep-15	1341.26	28.40				1312.86	1311.92	-0.94
	9-Dec-15	1341.26	28.69				1312.57	1311.92	-0.65	

Table 1
South Cass Lake Station Groundwater Monitoring Results
Enbridge Energy, Limited Partnership

Well ID	Unique Well No.	Date	Top of Casing Elevation (ft NGVD)	Depth to Groundwater (feet)	Depth to Oil (feet)	Oil Thickness (feet)	Equivalent Depth to Groundwater * (feet)	Groundwater Elevation (ft NGVD)	Top of Screen (ft NGVD)	Top of Screen Above Groundwater (feet)
USGS 4A		26-Oct-09	1339.63	26.95				1312.68	1311.49	-1.19
		29-Jun-10	1339.63	27.32				1312.31	1311.49	-0.82
		02-Dec-10	1339.63	26.85				1312.78	1311.49	-1.29
		01-Dec-11	1339.63	26.76				1312.87	1311.49	-1.38
		07-Jun-12	1339.63	27.53				1312.10	1311.49	-0.61
		03-Dec-12	1339.63	27.90				1311.73	1311.49	-0.24
		17-Jun-13	1339.63	27.22				1312.41	1311.49	-0.92
		19-Sep-13	1339.63	27.10				1312.53	1311.49	-1.04
		16-Dec-13	1339.63	27.56				1312.07	1311.49	-0.58
		17-Mar-14	1339.63	27.98				1311.65	1311.49	-0.16
		17-Jun-14	1339.63	27.12				1312.51	1311.49	-1.02
		3-Sep-14	1339.63	25.62				1314.01	1311.49	-2.52
		16-Dec-14	1339.63	26.58				1313.05	1311.49	-1.56
		10-Mar-15	1339.63	27.18				1312.45	1311.49	-0.96
		15-Jun-15	1339.63	27.08				1312.55	1311.49	-1.06
		8-Sep-15	1339.63	26.86				1312.77	1311.49	-1.28
		9-Dec-15	1339.63	27.11				1312.52	1311.49	-1.03

Notes: NGVD - National Geodetic Vertical Datum

* Assumed specific gravity for oil = 0.9105

** A re-survey was conducted in August 2009 to tie in the Enbridge and USGS monitoring wells to a common benchmark (MNDOT). Prior to that, top of inner casing elevations were based on an assumed inner casing elevation of 100.00 at monitoring well MW-1.

*** In June 2010, monitoring wells MW-16A, -16B, -17, -18, and -19 were surveyed by NREC. The wells were tied into a known elevation from monitoring well USGS-4A.

Table 2
South Cass Lake Station Vertical Hydraulic Gradient Results
Enbridge Energy, Limited Partnership

Monitoring Well	Measured Date	Depth to Water (feet below TOC)	Top of Casing Elevation (TOC) - feet above msl	Top of Screen Elevation (feet above msl)	Bottom Screen Elevation (feet above msl)	Mid Point Elevation (middle) (feet above msl)	Screen Length (feet)	GW Elevation (feet above msl)	Vertical Gradient	Vertical Flow Direction
MW-16A	3/10/2015	26.55	1338.97	1315.47	1305.47	1310.47	10	1312.42	0.0014	Down
MW-16B		27.12	1339.52	1301.02	1291.02	1296.02	10	1312.40		
MW-16A	6/15/2015	26.42	1338.97	1315.47	1305.47	1310.47	10	1312.55	0.0007	Down
MW-16B		26.98	1339.52	1301.02	1291.02	1296.02	10	1312.54		
MW-16A	9/9/2015	26.25	1338.97	1315.47	1305.47	1310.47	10	1312.72	0.0000	None
MW-16B		26.80	1339.52	1301.02	1291.02	1296.02	10	1312.72		
MW-16A	12/8/2015	26.44	1338.97	1315.47	1305.47	1310.47	10	1312.53	0.0014	Down
MW-16B		27.01	1339.52	1301.02	1291.02	1296.02	10	1312.51		

Vertical Gradient (DH/DL) = (difference in head elevation)/(vertical difference in screened intervals) $(H_2 - H_1)/(Z_2 - Z_1)$

Flow Direction: If the shallow well has a higher head (higher groundwater elevation), the vertical gradient is downward and conversely, if the shallow well has a lower head (lower groundwater elevation), the vertical gradient is upward

MSL: mean sea level

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
MW-1	6/6/2001	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 110
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	91.6
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	< 23.1
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 76.9
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	157
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	<100
	6/13/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	140
	12/3/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	<110
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	110
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110
	12/16/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 100
3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 100	
12/8/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	<110	
MW-2	6/6/2001	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	140
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	114
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	242
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	159
	10/26/2009	Well was abandoned due to new construction.					
MW-4	6/6/2001	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	276
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	137
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	<23.1
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2011	< 1.0	2.1	< 1.0	< 3.0	< 3.0	120
	6/13/2012	< 1.0	1.2	< 1.0	< 3.0	< 3.0	<100
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 100
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 100
	12/16/2013	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 100
3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	210	
3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	520	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	190	
9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	< 110	
12/8/2015	< 1.0	< 1.0	< 1.0	< 3.0	< 3.0	<110	

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
MW-6	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	130
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	188
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	128
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	209
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	<23.1
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 76.9
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	290
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		110
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		150
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		150
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		110
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 100
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 100	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 100	
12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 110	
3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		< 110	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		< 110	
9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		< 110	
12/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110	
MW-7	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	118
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	134
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	<23.1
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 76.9
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	180
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		110
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		110
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100	
12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110	
3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		110	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100	
9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		220	
12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110	
MW-8	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	150
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	149
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	143
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	<23.1
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	114
	6/14/2011	273	< 1.0	< 1.0	< 2.0	< 1.0	2,050
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		120
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		200
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		110
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		250
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/16/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100	
12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110	
3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100	

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
MW-8	9/8/2015	<1.0	<1.0	<1.0	< 3.0		110
(cont)	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
MW-9	7/16/2003	0.51	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	1/6/2004	<1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	210
	12/30/2004	7.5	3.7	< 1.0	< 2.0	< 1.0	260
	4/6/2005	18	< 1.0	< 1.0	< 2.0	< 1.0	230
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	101
	11/25/2008	25.7	2.6	< 0.36	< 0.74	< 0.36	364
	6/4/2009	132	< 1.0	< 1.0	< 2.0	< 1.0	1,860
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	831
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010	573	95.4	< 5.0	18.1	< 5.0	3,690
	6/14/2011	573	7.0	< 5.0	< 10.0	< 5.0	3,460
	12/1/2011	500	5.5	2.7	< 3.0		2,200
	6/13/2012	48.9	< 1.0	< 1.0	< 3.0		1,900
	12/7/2012	3.9	< 1.0	< 1.0	< 3.0		630
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		230
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	12/16/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	702	1.6	< 1.0	< 3.0		5,700
	12/15/2014	213	<1.0	< 1.0	< 3.0		4,800
	3/10/2015	103	<1.0	< 1.0	< 3.0		2,500
	6/15/2015	326	<1.0	< 1.0	< 3.0		2,700
	9/8/2015	240	<1.0	< 1.0	< 3.0		5,000
	12/9/2015	13.0	< 1.0	< 1.0	< 3.0		7,300
MW-9 Duplicate	12/1/2011	498	4.8	2.5	< 6.0		3,600
MW-10	1/5/2004	1,100	110	<5.0	520	<5.0	30,000
	5/12/2004	2,100	210	< 10	350	< 10	6,500
	8/26/2004	2,600	240	< 25	180	< 25	7,800
	12/30/2004	1,400	160	< 10	61	< 10	6,500
	4/6/2005	1,100	220	< 10	62	< 10	6,500
	6/26/2008	1,830	44.2	< 3.6	< 7.4	< 3.6	9,000
	11/25/2008	595	18.1	< 0.71	3.3	< 0.72	65,900
	6/4/2009	305	15	<1.0	3.4	<1.0	50,800
	10/26/2009	159	5.6	< 0.36	3	< 0.36	22,400
	6/29/2010	2,180	< 25.0	< 25.0	< 50.0	< 25.0	33,700
	12/1/2010	193	4.8	< 1.0	10.5	< 1.0	28,100
	6/14/2011	35.2	< 2.0	< 2.0	< 4.0	< 2.0	15,500
	12/1/2011	38.3	1.6	4.4	4.1		4,600
	6/13/2012	103	1.2	3.2	3.4		5,500
	12/6/2012	653	1.7	< 1.0	< 3.0		7,400
	6/19/2013	1,880	6.3	< 5.0	<15.0		14,000
	9/19/2013	2,100	36.1	< 20.0	< 60.0		9,300
	12/19/2013	1,390	36.2	< 5.0	<15.0		9,200
	3/19/2014	713	23.7	< 5.0	<15.0		5,400
	6/18/2014	1,180	15.2	< 5.0	<15.0		9,300
	9/3/2014	128	16.7	< 1.0	< 3.0		2,800
	12/16/2014	57.4	15.2	< 1.0	< 3.0		7,600
	3/11/2015	23.8	11.8	< 1.0	< 3.0		6,900
	6/16/2015	128	5.5	< 1.0	5.6		6,400
	9/8/2015	31.1	33.5	< 1.0	16.7		5,200
	12/9/2015	12.4	10.5	< 1.0	< 3.0		6,000
MW-10 Duplicate	6/13/2012	81.2	1.8	2.8	3.1		5,200
	12/6/2012	579	1.9	1.0	< 3.0		7,700
	6/19/2013	1,550	5.2	< 1.0	< 3.0		14,000
	9/19/2013	1,850	39.9	< 1.0	< 3.0		9,000
	12/19/2013	1,360	34.7	< 5.0	<15.0		9,700
	3/19/2014	699	22	< 2.0	< 6.0		6,600
	6/18/2014	1,130	13.6	< 2.0	<15.0		9,800
	9/4/2014	170	29.9	< 1.0	4.3		470
	12/16/2014	66.8	17.4	< 1.0	< 3.0		7,200
	3/11/2015	20.7	11.8	< 1.0	3.2		6,900
	6/16/2015	125	5.3	< 1.0	5.3		6,200
	9/8/2015	26.3	34.9	< 1.0	16.3		5,900
	12/9/2015	11.8	9.6	< 1.0	< 3.0		6,600
MW-15	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/13/2012	< 1.0	< 1.0	< 1.0	< 3.0		110
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	12/16/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
MW-15	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
(cont)	6/25/2014	WELL ABANDONED					
MW-16A	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	234
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1,150
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	413
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		240
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		710
	12/5/2012	59.8	< 1.0	< 1.0	< 3.0		1,000
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		1,000
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		650
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		270
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		120
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		110
	9/3/2014	1.3	< 1.0	< 1.0	< 3.0		970
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		1,200
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,200
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,300
	9/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,900
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,900
MW-16B	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1,310
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	9,470
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	2,790
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		590
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		230
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		250
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		240
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		510
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		320
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		140
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		160
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		490
	12/16/2014	2.3	< 1.0	< 1.0	< 3.0		1,000
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,000
	6/16/2015	< 1.0	< 1.0	< 1.0	< 3.0		830
	9/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		740
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		680
MW-17	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	75.7
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 76.2
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	184
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		110
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		140
	12/6/2012	< 1.0	< 1.0	< 1.0	< 3.0		170
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		160
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		150
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/16/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
MW-18	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 77.7
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	134
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		130
	12/6/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		110
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 100
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
MW-19	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	347
	12/1/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	843
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	608
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/12/2012	< 1.0	< 1.0	< 1.0	< 3.0		210

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
MW-19	12/6/2012	< 1.0	< 1.0	< 1.0	< 3.0		370
(cont)	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		420
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		290
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		190
	3/19/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		100
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0		190
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		290
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		270
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		700
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		540
MW-20	12/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/16/2015	< 1.0	< 1.0	< 1.0	< 3.0		<120
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
MW-21	12/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		320
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		280
	6/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		230
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		490
	12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		150
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
MW-22	12/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/15/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		230
	12/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		340
USGS 1A	10/26/2009	776	142	< 1.8	< 3.7	< 1.8	4,930
	6/29/2010	39.7	< 1.0	< 1.0	< 2.0	< 1.0	2,990
	12/2/2010	791	< 10.0	< 10.0	< 20.0	< 10.0	5,370
	6/14/2011	1,590	< 10.0	< 10.0	< 20.0	< 10.0	5,410
	12/1/2011	67.8	1.2	3.2	< 3.0		2,900
	6/13/2012	6.4	< 1.0	1.0	< 3.0		1,600
	12/6/2012	5.4	< 1.0	1.0	< 3.0		1,000
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		370
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		110
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	684	12.2	< 1.0	< 3.0		8,200
	12/16/2014	258	< 2.0	< 2.0	< 6.0		8,500
	3/11/2015	30.5	< 1.0	< 1.0	< 3.0		4,900
	6/16/2015	120	< 1.0	< 1.0	< 3.0		2,900
	9/9/2015	474	24.2	< 1.0	8.6		11,700
	12/9/2015	247	< 1.0	< 1.0	< 3.0		11,900
USGS 2A	10/26/2009	705	< 2.0	< 1.8	< 3.7	< 1.8	5,520
	6/29/2010	63.5	< 1.0	< 1.0	< 2.0	< 1.0	2,150
	12/2/2010	239	< 1.0	< 1.0	< 2.0	< 1.0	3,370
	6/14/2011	81.7	< 1.0	< 1.0	< 2.0	< 1.0	2,670
	12/1/2011	21.1	< 1.0	1.4	< 3.0		1,300
	6/13/2012	282	< 1.0	1.6	< 3.0		2,500
	12/6/2012	554	< 1.0	1	< 3.0		4,900
	6/18/2013	21.1	< 1.0	< 1.0	< 3.0		2,400
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		290
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		270
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		760
	9/3/2014	52.0	< 1.0	< 1.0	< 3.0		4,600
	12/16/2014	9.5	< 1.0	< 1.0	< 3.0		3,400
	3/11/2015	22.3	< 1.0	< 1.0	< 3.0		4,900
	6/16/2015	137	< 1.0	< 1.0	< 3.0		3,700
	9/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		4,300
	12/9/2015	1.2	< 1.0	< 1.0	< 3.0		4,000

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
USGS 3A	10/26/2009	147	0.74	< 0.36	1.5	< 0.36	4,060
	6/29/2010	202	< 1.0	< 1.0	< 2.0	< 1.0	2,470
	12/2/2010	6.2	< 1.0	< 1.0	< 2.0	< 1.0	1,810
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	1,420
	12/1/2011	< 1.0	< 1.0	1.1	< 3.0		870
	6/13/2012	14.7	< 1.0	1	< 3.0		2,000
	12/6/2012	1.0	< 1.0	< 1.0	< 3.0		2,200
	6/18/2013	20.5	< 1.0	< 1.0	< 3.0		3,300
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		1,200
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		500
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		190
	6/17/2014	2.8	< 1.0	< 1.0	< 3.0		190
	9/3/2014	7.7	< 1.0	< 1.0	< 3.0		4,800
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		2,500
	3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,900
6/16/2015	3.7	< 1.0	< 1.0	< 3.0		3,200	
9/9/2015	4.5	< 1.0	< 1.0	< 3.0		4,600	
12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		2,200	
USGS 4A	10/26/2009	13.8	< 0.40	< 0.36	< 0.74	< 0.36	1,670
	6/29/2010	44.8	< 1.0	< 1.0	< 2.0	< 1.0	4,130
	12/2/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	2,010
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	2,420
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		470
	6/13/2012	< 1.0	< 1.0	< 1.0	< 3.0		770
	12/6/2012	7.2	< 1.0	< 1.0	< 3.0		1,700
	6/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		1,600
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		490
	12/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		120
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		700
	9/3/2014	4.2	< 1.0	< 1.0	< 3.0		2,100
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		780
	3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,000
6/16/2015	< 1.0	< 1.0	< 1.0	< 3.0		2,200	
9/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		1,900	
12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		2,400	
SCDW	9/21/2011	< 1.0	< 1.0	< 1.0	< 3.0		< 300
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		< 330
	6/25/2012						
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/17/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	9/18/2013	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		<110
	3/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100
	3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100
	12/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110
Field Blank	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 100
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	< 100
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	106
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	NA
	6/29/2010	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2010						389
	6/14/2011	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 75.5
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		< 300
	6/13/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 330
	12/5/2012	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	6/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 110
	12/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		< 110
3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100	
6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		<110	
9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100	
12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		<100	
3/11/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110	
6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100	
9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		<100	
12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		<110	

Table 3
South Cass Lake Station Groundwater Sampling Results
Enbridge Energy, Limited Partnership

Location	Date	Benzene (ug/l)	Ethylbenzene (ug/l)	Toluene (ug/l)	Xylenes, -m, -p (ug/L)	Xylenes, -o (ug/L)	ERDRO (ug/L)
Trip Blank	7/16/2003	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	1/6/2004	Froze during the sampling event.					
	5/12/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	8/26/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	12/30/2004	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	4/6/2005	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	6/26/2008	< 0.14	< 0.40	< 0.36	< 0.74	< 0.36	NS
	11/25/2008	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	NS
	6/4/2009	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	NS
	10/26/2009	< 0.23	< 0.40	< 0.36	< 0.74	< 0.36	NS
	12/1/2011	< 1.0	< 1.0	< 1.0	< 3.0		NS
	6/13/2012	< 1.0	< 1.0	< 1.0	< 3.0		NS
	6/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		NS
	9/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		NS
	12/19/2013	< 1.0	< 1.0	< 1.0	< 3.0		NS
	3/18/2014	< 1.0	< 1.0	< 1.0	< 3.0		NS
	6/17/2014	< 1.0	< 1.0	< 1.0	< 3.0		NS
	9/3/2014	< 1.0	< 1.0	< 1.0	< 3.0		NS
	12/16/2014	< 1.0	< 1.0	< 1.0	< 3.0		NS
	3/10/2015	< 1.0	< 1.0	< 1.0	< 3.0		NS
	6/15/2015	< 1.0	< 1.0	< 1.0	< 3.0		NS
	9/8/2015	< 1.0	< 1.0	< 1.0	< 3.0		NS
	12/9/2015	< 1.0	< 1.0	< 1.0	< 3.0		NS

Notes: NS = No sample collected
During the December 2011 sampling event, xylenes were reported as xylene (total).

Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership

Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)	
MW-1	7/16/2003						5.40	<0.1	
	1/6/2004	2.1	6.3				5.20	<0.1	
	5/12/2004						5.00	<0.1	
	8/26/2004	0.69	< 4.0	< 10			7.00	<0.1	
	12/30/2004	0.81	< 4.0	< 10			6.50	<0.1	
	4/6/2005	0.58	< 4.0	< 10			6.00	<0.1	
	11/25/2008	0.62	3.6	4.9			11.35	516	
	10/26/2009	0.2	3.3	< 0.93			11.82	0.024	
	12/1/2010	0.61	< 4.0	< 2.8			11.06	< 0.12	
	12/1/2011	< 0.10	< 2.5	< 10	210.8	0.381		9.90	NM
	6/13/2012	0.42	< 2.5	< 6.6	218.0	0.224		6.12	NM
	12/3/2012	1.2	< 2.5	< 6.6	127.5	0.408		15.09	NM
	6/17/2013	0.72	< 2.5	< 6.6	24.3	0.211		12.36	NM
	9/18/2013	0.23	< 2.5	< 6.6	24.3	0.211		12.36	NM
	12/16/2013	0.28	< 2.5	< 6.6	269.1	0.204		13.63	NM
	3/17/2014	0.36	< 2.5	< 6.6	118.8	0.340		14.42	NM
	6/17/2014	0.62	< 2.5	< 6.6	121.7	0.207		9.97	NM
	9/3/2014	0.39	3.6	< 6.6	71.4	0.224		13.54	NM
	12/15/2014	0.39	< 2.5	< 6.6	291.7	0.326		12.94	NM
	3/10/2015	0.23	3.0	< 6.6	181.1	0.236		9.30	NM
6/15/2015	0.47	< 2.5	< 10	149.6	0.267		10.64	NM	
9/8/2015	0.47	< 2.5	< 10	150.1	0.255		10.35	NM	
12/8/2015	0.76	< 2.5	< 10	97.5	0.282		8.87	NM	
MW-2	7/16/2003						4.10	<0.1	
	1/6/2004	4.1	< 4.0				4.50	<0.1	
	5/12/2004						4.30	<0.1	
	11/25/2008	9.7	9.8	< 2.0			7.00	1.52	
	10/26/2009	WELL REMOVED due to new construction							
MW-4	7/16/2003						3.80	<0.1	
	1/6/2004	1	< 4.0				5.50	<0.1	
	5/12/2004						5.70	<0.1	
	11/25/2008	5.8	6.3	< 2.0			7.70	2.12	
	10/26/2009	6.2	6.6	< 0.93			10.57	< 0.018	
	12/1/2010	4.8	5.9	< 2.8			9.78	< 0.05	
	12/1/2011	< 0.10	6.1	< 10	217.7	0.505		8.64	NM
	6/13/2012	3.9	5.3	< 6.6	195.8	0.324		3.13	NM
	12/5/2012	3	4.5	< 6.6	138.8	0.585		8.26	NM
	6/17/2013	1.6	2.5	< 6.6	97.1	0.403		9.85	NM
	9/18/2013	2.3	4.0	< 6.6	97.1	0.403		9.85	NM
	12/16/2013	1.7	< 2.5	< 6.6	157.4	0.316		9.86	NM
	3/17/2014	2.4	2.6	< 6.6	-3.7	0.412		13.70	NM
	6/17/2014	1.8	3.1	< 6.6	53.9	0.323		12.14	NM
	9/3/2014	3.4	4.3	< 6.6	79.9	0.345		12.11	NM
	12/15/2014	4.3	9.3	< 6.6	120.8	0.510		12.35	NM
	3/10/2015	3.7	8.7	< 6.6	49.1	0.331		7.74	NM
6/15/2015	2.9	< 2.5	< 10	75.3	0.332		7.61	NM	
9/8/2015	2.4	3.6	< 10	138.2	0.367		7.79	NM	
12/8/2015	2.5	5.5	< 10	69.4	0.485		10.67	NM	
MW-6	7/16/2003						2.00	<0.1	
	1/6/2004	1.9	5.4				2.60	<0.1	
	5/12/2004						2.20	<0.1	
	11/25/2008	2.8	7.0	4.2			9.30	22.9	
	10/26/2009	2	5.9	< 0.93			11.35	< 0.018	
	12/1/2010	1.8	4.9	< 2.8			10.70	< 0.12	
	12/1/2011	< 0.10	3.3	< 10	221.5	0.366		9.72	NM
	6/12/2012	2.6	3.6	< 6.6	115.2	0.279		9.05	NM
	12/5/2012	2.3	3.2	< 6.6	92.1	0.362		8.97	NM
	6/17/2013	1.3	3.7	< 6.6	73.4	0.353		12.31	NM
	9/18/2013	1.4	5.7	< 6.6	73.4	0.353		12.31	NM
	12/17/2013	0.97	5.6	< 6.6	160.2	0.655		9.68	NM
	3/17/2014	0.84	5.1	< 6.6	-101.8	0.396		8.75	NM
	6/17/2014	0.9	6.2	< 6.6	73.4	0.456		9.26	NM
	9/3/2014	3.3	5.3	< 6.6	37.7	0.277		11.02	NM
	12/15/2014	3.4	3.8	< 6.6	188.5	0.401		No Data	NM
	3/10/2015	3.2	4.5	< 6.6	179.9	0.278		11.00	NM
6/15/2015	4.3	4.1	< 10	143.7	0.287		8.78	NM	
9/8/2015	3.8	4.7	< 10	232.6	0.275		11.16	NM	
12/8/2015	3.4	4.9	< 10	83.6	0.386		12.96	NM	

Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership

Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)
MW-7	7/16/2003						3.40	<0.1
	1/6/2004	< 0.25	5.7				4.30	<0.1
	5/12/2004						5.50	<0.1
	11/25/2008	0.46	8.3	< 2.0			8.70	9.2
	10/26/2009	0.61	7.8	< 0.93			11.45	< 0.018
	12/1/2010	1.1	7.6	< 2.8			9.29	< 0.05
	12/1/2011	< 0.10	5.6	< 10	247.6	0.430	9.40	NM
	6/12/2012	0.18	5.5	< 6.6	107.5	0.281	3.14	NM
	12/5/2012	0.14	6.4	< 6.6	158.6	0.643	6.92	NM
	6/17/2013	0.14	5.3	< 6.6	79.1	0.303	12.06	NM
	9/18/2013	0.15	7.4	< 6.6	79.1	0.303	12.06	NM
	12/17/2013	<0.10	13.3	< 6.6	11.9	0.381	12.09	NM
	3/17/2014	0.14	5.5	< 6.6	-106.7	0.407	10.69	NM
	6/17/2014	<0.10	15.5	< 6.6	23.6	0.270	12.44	NM
	9/3/2014	0.21	6.0	<6.6	53.7	0.265	11.31	NM
	12/15/2014	0.49	5.1	<6.6	111.1	0.405	No Data	NM
	3/10/2015	0.36	5.3	<6.6	110.9	0.271	13.29	NM
	6/15/2015	0.36	6.1	< 10	107.3	0.252	9.19	NM
	9/8/2015	0.28	7.8	< 10	220.1	0.300	9.99	NM
	12/9/2015	0.21	6.6	< 10	26.2	0.470	12.25	NM
MW-8	7/16/2003						2.50	<0.1
	1/6/2004	0.34	5.5				2.80	<0.1
	5/12/2004						2.00	<0.1
	8/26/2004	0.31	5.2	< 10			6.00	<0.1
	12/30/2004	< 0.25	7.5	< 10			5.00	<0.1
	4/6/2005	< 0.25	11.0	< 10			5.00	<0.1
	11/25/2008	0.26	9.5	< 2.0			8.30	22.2
	10/26/2009	0.33	10.0	< 0.93			12.75	< 0.018
	12/1/2010	< 0.40	7.4	< 2.8			8.90	< 0.05
	12/1/2011	< 0.10	5.0	< 10	NM	NM	NM	NM
	6/12/2012	0.1	7.3	< 6.6	149.3	0.343	1.91	NM
	12/5/2012	0.11	7.2	< 6.6	73.9	0.430	11.15	NM
	6/18/2013	< 0.10	6.0	< 6.6	188.0	0.767	7.20	NM
	9/18/2013	0.11	7.7	< 6.6	188.0	0.767	7.20	NM
	12/17/2013	<0.10	10.7	<6.6	-216.0	0.468	8.00	NM
	3/17/2014	0.13	9.1	<6.6	-125.4	0.512	8.04	NM
	6/17/2014	<0.10	8.7	<6.6	49.3	0.375	5.73	NM
	9/3/2014	0.2	11.2	<6.6	18.3	0.274	10.20	NM
	12/16/2014	0.53	6.7	<6.6	102.0	0.256	12.70	NM
	3/11/2015	0.22	8.4	<6.6	1.6	0.266	9.22	NM
6/15/2015	0.24	9.8	< 10	120.9	0.280	8.50	NM	
9/8/2015	0.15	7.8	< 10	80.5	0.365	8.92	NM	
12/9/2015	0.17	7.2	< 10	43.7	0.447	12.95	NM	
MW-9	7/16/2003						2.80	<0.1
	1/6/2004	< 0.25	6.3				2.00	<0.1
	5/12/2004						1.50	<0.1
	8/26/2004	< 0.25	7.2	< 10			1.50	<0.1
	12/30/2004	< 0.25	< 4.0	1800			2.00	<0.1
	4/6/2005	< 0.25	4.7	280			2.00	<0.1
	11/25/2008	0.19	4.0	968			2.52	39.8
	10/26/2009	< 0.20	4.6	543			5.73	0.021
	12/1/2010	< 0.40	< 4.0	3590			0.87	0.09
	12/1/2011	< 0.10	< 2.5	8710	-132.3	NM	0.70	NM
	6/13/2012	< 0.10	< 2.5	1460	-0.2	0.514	1.14	NM
	12/7/2012	<0.10	< 2.5	359	-55.4	0.562	0.70	NM
	6/18/2013	< 0.10	4.6	15.2	-53.0	0.793	1.30	NM
	9/18/2013	< 0.10	4.9	< 6.6	-53.0	0.793	1.30	NM
	12/17/2013	< 0.10	4.1	< 6.6	-51.3	0.501	0.43	NM
	3/17/2014	< 0.10	6.0	< 6.6	-198.8	0.472	0.80	NM
	6/17/2014	< 0.10	5.8	7.1	-74.8	0.333	0.94	NM
	9/3/2014	<0.10	3.2	3920	-12.6	0.550	5.17	NM
	12/15/2014	0.19	15.2	5290	-26.2	No Data	No Data	NM
	3/10/2015	<0.10	6.9	3350	-54.3	0.572	0.74	NM
6/15/2015	<0.10	< 2.5	918	-71.0	0.581	0.30	NM	
9/8/2015	<0.10	< 2.5	6940	-33.9	0.475	0.33	NM	
12/9/2015	<0.10	< 2.5	3650	-84.7	0.646	6.63	NM	

**Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership**

Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)
MW-9 Duplicate	12/1/2011	< 0.10	< 2.5	8830	NM	NM	NM	NM
MW-10	1/5/2004	< 0.25	< 4.0				1.50	<0.1
	5/12/2004						1.00	<0.1
	8/26/2004	< 0.25	< 4.0	4900			0.80	<0.1
	12/30/2004	2.9	4.2	6100			1.00	<0.1
	4/6/2005	0.51	< 4.0	2600			1.50	<0.1
	11/25/2008	1.1	3.3	2290			2.70	54.8
	10/26/2009	0.3	2.9	5100			2.50	1.3
	12/1/2010	2.4	4.3	7030			0.72	5.1
	12/1/2011	< 0.10	< 2.5	3720	-56.0		0.30	NM
	6/13/2012	< 0.10	< 2.5	5470	-36.6	0.656	0.08	NM
	12/6/2012	< 0.10	< 2.5	6900	-80.2	1.291	1.11	NM
	6/19/2013	< 0.10	< 2.5	14000	-71.3	1.462	0.87	NM
	9/19/2013	< 0.10	< 2.5	9500	-71.3	1.462	0.87	NM
	12/19/2013	< 0.10	< 2.5	11500	-80.6	0.844	0.41	NM
	3/19/2014	< 0.10	< 2.5	5640	29.9	1.117	5.32	NM
6/17/2014	< 0.10	< 2.5	4960	-77.3	1.038	0.82	NM	
9/3/2014	2.0	8.1	874	-35.2	0.819	2.53	NM	
12/16/2014	1.5	< 2.5	3890	-54.8	0.722	1.42	NM	
3/11/2015	< 0.10	< 2.5	5080	-82.4	0.661	0.60	NM	
6/15/2015	< 0.10	< 2.5	4230	-75.8	0.637	0.32	NM	
9/8/2015	< 0.10	< 2.5	4730	-58.4	0.649	0.46	NM	
12/9/2015	< 0.10	< 2.5	4270	-76.4	0.737	7.34	NM	
MW-10 Duplicate	6/13/2012	< 0.10	< 2.5	3950				
	12/6/2012	< 0.10	< 2.5	3030	NM	NM	NM	NM
	6/19/2013	< 0.10	< 2.5	11600	NM	NM	NM	NM
	9/19/2013	< 0.10	< 2.5	8820	NM	NM	NM	NM
	12/19/2013	< 0.10	3.0	11500	NM	NM	NM	NM
	3/19/2014	< 0.10	< 2.5	5800	NM	NM	NM	NM
	6/17/2014	< 0.10	27.9	3190	NM	NM	NM	NM
	9/3/2014	1.5	2.9	696	NM	NM	NM	NM
	12/16/2014	1.7	< 2.5	3580	NM	NM	NM	NM
	3/11/2015	< 0.10	< 2.5	4090	NM	NM	NM	NM
	6/15/2015	< 0.10	< 2.5	3950	NM	NM	NM	NM
	9/8/2015	< 0.10	< 2.5	4900	NM	NM	NM	NM
	12/9/2015	< 0.10	< 2.5	3100	NM	NM	NM	NM
MW-15	12/1/2011	< 0.10	< 2.5	< 10	202.7	0.328	9.50	NM
	6/13/2012	2	< 2.5	< 6.6	80.8	0.224	4.20	NM
	12/5/2012	3.4	< 2.5	331	100.6	0.431	9.57	NM
	6/17/2013	2.2	2.6	< 6.6	72.7	0.258	10.81	NM
	9/18/2013	1.7	< 2.5	< 6.6	72.7	0.258	10.81	NM
	12/16/2013	2.5	< 2.5	< 6.6	172.5	0.275	11.89	NM
	3/17/2014	2.8	2.9	< 6.6	-15.3	0.360	13.53	NM
	6/17/2014	2.2	2.8	< 6.6	17.6	0.239	9.70	NM
	6/25/2014				WELL ABANDONED			
MW-16A	12/1/2010	< 0.40	< 4.0	528			1.41	0.09
	12/1/2011	< 0.10	3.1	81	-178.2	0.540	2.32	NM
	6/12/2012	< 0.10	3.1	20.5	107.5	0.372	0.66	NM
	12/5/2012	< 0.10	< 2.5	297	48.0	0.479	1.88	NM
	6/18/2013	< 0.10	5.2	58.2	31.6	0.747	1.97	NM
	9/19/2013	< 0.10	6.8	15.4	31.6	0.747	1.97	NM
	12/17/2013	< 0.10	9.4	7.4	39.1	0.842	1.02	NM
	3/18/2014	< 0.10	8.4	< 6.6	-131.7	0.554	4.04	NM
	6/17/2014	< 0.10	8.6	9.9	16.9	0.547	2.25	NM
	9/3/2014	< 0.10	3.7	71	42.3	0.441	5.62	NM
	12/16/2014	0.32	3.6	243	81.3	0.582	No Data	NM
	3/10/2015	< 0.10	3.8	78.4	104.6	0.432	0.71	NM
	6/15/2015	< 0.10	< 2.5	30.4	68.5	0.414	0.24	NM
	9/9/2015	< 0.10	< 2.5	151	88.3	0.650	0.58	NM
	12/9/2015	< 0.10	< 2.5	151	23.4	0.496	0.57	NM

Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership

Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)
MW-16B	12/1/2010	< 0.40	< 4.0	9.5			0.64	< 0.05
	12/1/2011	< 0.10	7.8	< 10	-143.0	0.620	1.50	NM
	6/12/2012	1.2	9.6	7.4	-8.8	0.417	0.83	NM
	12/5/2012	1.1	11.3	7.9	-34.3	0.503	0.49	NM
	6/18/2013	0.75	9.5	< 6.6	-24.1	0.757	1.05	NM
	9/19/2013	0.76	8.6	19.1	-24.1	0.757	1.05	NM
	12/17/2013	0.42	7.9	24.1	-69.1	0.879	1.58	NM
	3/18/2014	0.88	8.3	7.7	-139.4	0.573	1.45	NM
	6/17/2014	0.6	13.6	10.5	13.0	0.557	0.21	NM
	9/3/2014	0.48	9.2	15.4	17.5	0.442	2.57	NM
	12/16/2014	0.44	6.8	202	52.5	0.621	No Data	NM
	3/10/2015	0.18	7.1	< 6.6	-23.2	0.456	0.46	NM
	6/16/2015	0.2	6.5	72.9	-27.3	0.492	0.24	NM
	9/9/2015	0.46	8.7	56.8	78.0	0.640	0.46	NM
	12/9/2015	0.28	7.6	29.4	-8.9	0.439	0.36	NM
MW-17	12/1/2010	< 0.40	9.5	6.9			8.16	<0.12
	12/1/2011	< 0.10	5.6	< 10	256.0	0.503	7.93	NM
	6/12/2012	0.11	9.4	< 6.6	170.4	0.341	10.06	NM
	12/6/2012	< 0.10	8.5	< 6.6	81.9	0.699	5.99	NM
	6/17/2013	< 0.10	7.4	< 6.6	53.8	0.415	6.46	NM
	9/18/2013	0.13	9.6	< 6.6				
	12/17/2013	0.44	10.2	NM	-32.3	0.380	4.79	NM
	3/18/2014	0.11	10.2	< 6.6	-10.0	0.410	9.23	NM
	6/17/2014	< 0.10	10.7	< 6.6	42.7	0.443	8.68	NM
	9/3/2014	0.25	13.9	<6.6	67.6	0.268	13.95	NM
	12/16/2014	0.5	9.8	<6.6	113.2	0.352	No Data	NM
	3/10/2015	0.28	10.0	<6.6	160.3	0.274	10.56	NM
	6/16/2015	0.31	12.2	< 10	115.6	0.318	9.70	NM
	9/8/2015	0.44	8.3	< 10	53.9	0.373	10.17	NM
	12/9/2015	0.28	8.6	<10	100.0	0.284	9.09	NM
MW-18	12/1/2010	4.2	5.8	4.4			10.01	<0.05
	12/1/2011	< 0.10	3.7	< 10	-117.0	0.363	9.70	NM
	6/12/2012	4.2	3.6	< 6.6	65.9	0.346	6.16	NM
	12/6/2012	2.8	3.4	< 6.6	97.8	0.400	10.26	NM
	6/18/2013	1.7	4.4	< 6.6	126.5	0.706	9.78	NM
	9/18/2013	1.8	6.7	< 6.6	126.5	0.706	9.78	NM
	12/17/2013	1.4	5.3	<6.6		Equipment Failure		NM
	3/17/2014	2.2	6.7	<6.6	-123.6	0.525	6.65	NM
	6/18/2014	1.6	8.2	<6.6	120.9	0.404	7.06	NM
	9/3/2014	2.7	6.5	<6.6	60.3	0.347	9.18	NM
	12/16/2014	3.6	4.9	<6.6	116.1	0.314	14.01	NM
	3/10/2015	3	4.5	<6.6	142.5	0.353	8.94	NM
	6/15/2015	5.6	4.6	< 10	137.8	0.340	8.72	NM
	9/8/2015	4.1	5.2	< 10	51.3	0.505	8.85	NM
	12/9/2015	3.5	5.6	<10	70.6	0.366	7.54	NM
MW-19	12/1/2010	<0.40	5.2	187			2.10	<0.05
	12/1/2011	< 0.10	6.9	< 10	220.9	0.530	2.12	NM
	6/12/2012	0.13	5.8	< 6.6	125.7	0.339	2.37	NM
	12/6/2012	<0.10	3.5	12.8	57.3	0.657	2.37	NM
	6/18/2013	< 0.10	4.9	43.3	99.1	0.675	2.79	NM
	9/18/2013	0.32	5.2	18.5	99.1	0.675	2.79	NM
	12/17/2013	<0.10	7.4	<6.6	-14.4	0.505	2.36	NM
	3/19/2014	<0.10	6.4	<6.6	-136.7	0.489	4.04	NM
	6/17/2014	<0.10	8.1	<6.6	-49.8	0.587	1.01	NM
	9/3/2014	0.22	10.8	7.2	38.8	0.320	8.82	NM
	12/15/2014	0.53	5.2	14.3	79.8	0.490	6.96	NM
	3/10/2015	0.15	3.6	36.2	15.7	0.316	4.18	NM
	6/15/2015	0.21	4.6	40.5	30.4	0.333	3.70	NM
	9/8/2015	0.14	4.7	24.4	32.3	0.520	3.03	NM
	12/9/2015	0.11	4.9	<10	53.1	0.384	2.78	NM

Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership

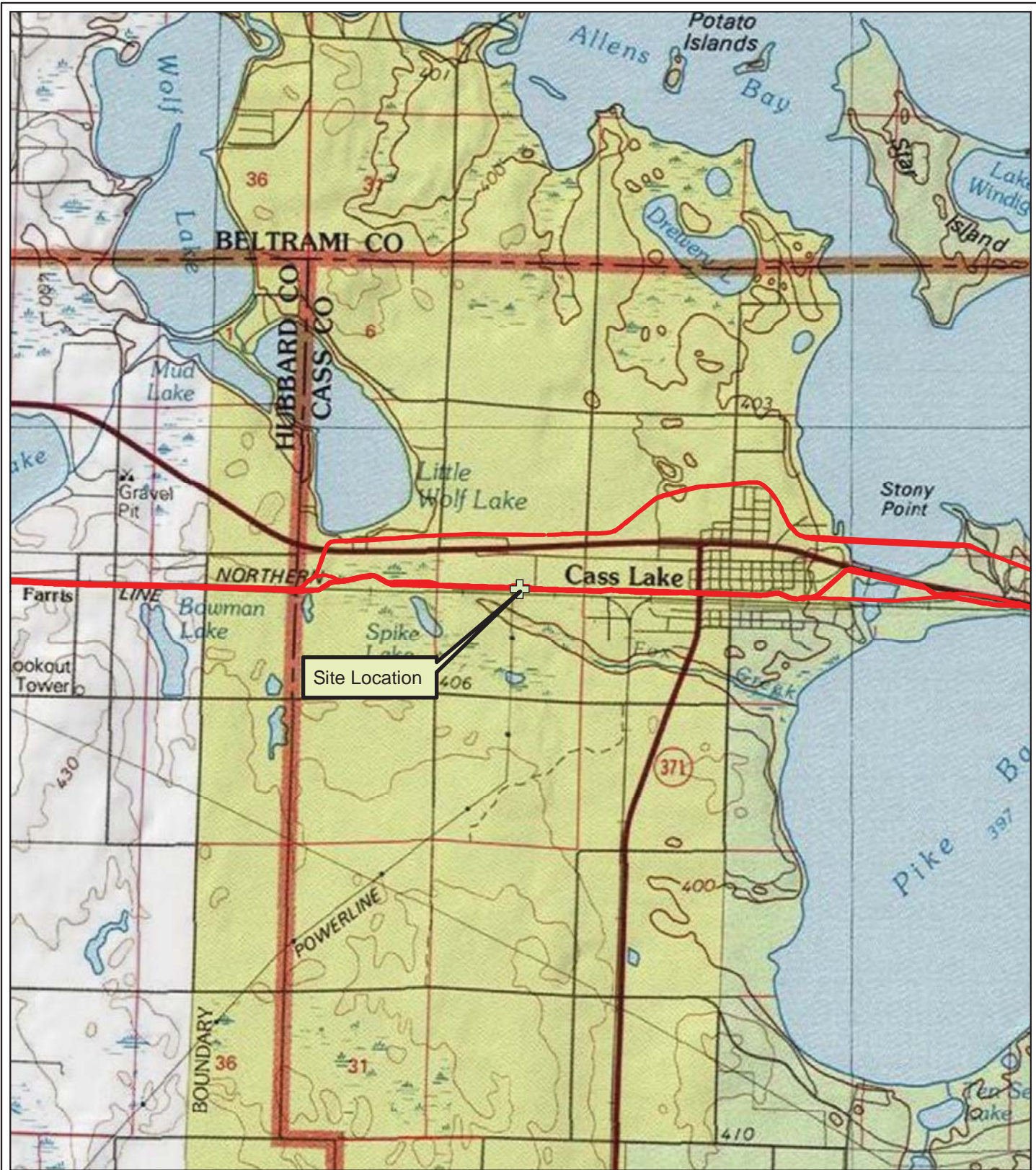
Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)
MW-20	12/18/2013	1.3	7.0	<6.6	2.9	0.611	4.49	NM
	3/18/2014	1.2	7.8	<6.6	-108.5	0.611	1.98	NM
	6/18/2014	0.76	7.1	<6.6	39.6	0.443	2.72	NM
	9/3/2014	2.3	8.7	<6.6	46.2	0.402	7.33	NM
	12/16/2014	3.2	6.2	<6.6	199.6	0.349	10.07	NM
	3/11/2015	2.4	6.4	<6.6	58.6	0.355	7.58	NM
	6/16/2015	3.9	7.1	< 10	-25.4	0.358	10.04	NM
	9/8/2015	3.4	6.4	< 10	63.0	0.547	7.10	NM
	12/9/2015	2.9	6.9	<10	56.6	0.401	6.45	NM
MW-21	12/18/2013	<0.10	4.5	53.9	77.9	0.412	0.91	NM
	3/18/2014	<0.10	4.1	11.7	-132.3	0.565	8.43	NM
	6/18/2014	<0.10	5.4	<6.6	91.6	0.620	0.64	NM
	9/3/2014	0.44	7.3	9.3	58.8	0.460	3.26	NM
	12/15/2014	1.8	7.5	<6.6	159.0	0.580	No Data	NM
	3/10/2015	1.6	6.8	<6.6	18.9	0.345	3.05	NM
	6/15/2015	0.82	7.1	< 10	22.1	0.376	1.68	NM
	9/8/2015	2.5	8.4	< 10	66.6	0.586	3.06	NM
	12/9/2015	2.1	8.9	<10	102.2	0.420	1.75	NM
MW-22	12/18/2013	<0.10	8.4	<6.6	75.0	0.330	5.19	NM
	3/18/2014	0.1	7.8	<6.6	-100.0	0.438	7.22	NM
	6/18/2014	<0.10	9.8	<6.6	128.4	0.320	6.57	NM
	9/3/2014	0.15	11.7	<6.6	23.3	0.332	7.47	NM
	12/15/2014	0.42	7.7	<6.6	69.7	0.462	7.95	NM
	3/10/2015	0.14	7.1	<6.6	28.7	0.285	6.74	NM
	6/15/2015	0.2	8.0	< 10	33.8	0.281	9.54	NM
	9/8/2015	0.13	6.6	10.2	38.9	0.503	4.98	NM
	12/8/2015	< 0.10	6.1	<10	83.9	0.379	3.44	NM
USGS-1A	10/26/2009	< 0.20	2.1	11700			1.53	< 0.018
	12/2/2010	< 0.40	< 4.0	10200			1.20	12.3
	12/1/2011	< 0.10	< 2.5	5970	-142.0	0.715	0.50	NM
	6/13/2012	< 0.10	< 2.5	683	-54.2	0.486	11.93	NM
	12/6/2012	< 0.10	< 2.5	395	-99.5	0.818	1.43	NM
	6/18/2013	< 0.10	6.7	69.3	-93.3	0.780	0.98	NM
	9/19/2013	< 0.10	5.7	< 6.6	-93.3	0.780	0.98	NM
	12/17/2013	<0.10	5.4	<6.6	-13.5	0.484	1.55	NM
	3/18/2014	<0.10	6.5	<6.6	-141.1	0.436	1.58	NM
	6/18/2014	<0.10	5.8	222	-97.5	0.412	0.85	NM
	9/3/2014	<0.10	<2.5	8090	-79.0	0.787	0.84	NM
	12/16/2014	0.18	<2.5	5130	-84.2	0.688	1.87	NM
	3/11/2015	<0.10	10.4	2910	-85.4	0.596	0.82	NM
	6/16/2015	< 0.10	< 2.5	3050	-75.7	0.545	1.50	NM
9/9/2015	< 0.10	< 2.5	10200	-38.2	0.599	0.37	NM	
12/9/2015	< 0.10	<2.5	7460	-97.7	0.692	6.25	NM	
USGS-2A	10/26/2009	< 0.20	2.5	5480			1.71	< 0.018
	12/2/2010	< 0.40	< 4.0	2310			1.20	2.8
	12/1/2011	< 0.10	< 2.5	1730	-136.0	0.569	0.80	NM
	6/13/2012	< 0.10	< 2.5	5900	NM	NM	NM	NM
	12/6/2012	< 0.10	< 2.5	7210	-85.4	0.602	2.08	NM
	6/18/2013	< 0.10	< 2.5	3500	-88.7	0.958	0.81	NM
	9/19/2013	< 0.10	4.8	95.2	-88.7	0.958	0.81	NM
	12/17/2013	<0.10	4.7	338		Equipment Failure		NM
	3/18/2014	<0.10	8.1	8.1	-87.8	0.535	9.05	NM
	6/17/2014	<0.10	< 2.5	2420	-123.6	0.660	1.72	NM
	9/3/2014	<0.10	< 2.5	2480	-80.6	0.563	0.77	NM
	12/16/2014	0.28	<2.5	1330	-85.2	0.738	No Data	NM
	3/11/2015	<0.10	5.3	1500	-72.9	0.549	0.81	NM
	6/16/2015	< 0.10	< 2.5	3290	-84.0	0.679	0.42	NM
9/9/2015	< 0.10	< 2.5	2300	-58.3	0.564	0.30	NM	
12/9/2015	< 0.10	< 2.5	19.2	-88.0	0.713	6.68	NM	
USGS-3A	10/26/2009	< 0.20	2.3	3240			3.72	< 0.018
	12/2/2010	< 0.40	< 4.0	1180			0.70	1.8
	12/1/2011	< 0.10	< 2.5	800	-156.1	0.544	0.40	NM
	6/13/2012	< 0.10	< 2.5	2340	NM	NM	NM	NM
	12/6/2012	< 0.10	<2.5	1860	-106.1	0.534	1.02	NM
	6/18/2013	< 0.10	< 2.5	3860	-114.8	0.889	1.12	NM
	9/19/2013	< 0.10	5.9	1160	-114.8	0.889	1.12	NM
	12/17/2013	<0.10	7.2	618	-117.1	0.990	0.99	NM
	3/18/2014	<0.10	5.5	97.4	-149.3	0.555	11.68	NM
	6/18/2014	<0.10	< 2.5	1550	-132.9	0.701	0.78	NM
	9/3/2014	<0.10	<2.5	1850	-89.7	0.563	1.07	NM
	12/16/2014	0.28	6.4	535	-88.0	0.634	No Data	NM
	3/11/2015	<0.10	5.8	153	-22.4	0.432	0.24	NM
	6/16/2015	< 0.10	< 2.5	1320	-108.8	0.587	0.27	NM
9/9/2015	< 0.10	< 2.5	2150	-60.8	0.522	0.21	NM	

Table 4
South Cass Lake Station Biodegradation Evaluation Results
Enbridge Energy, Limited Partnership

Location	Collection Date	Nitrogen (mg/L)	Sulfate (mg/L)	Methane (ug/L)	ORP (mV)	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Fe ⁺² (mg/L)
USGS-3A	12/9/2015	< 0.10	< 2.5	515	-105.5	0.621	7.67	NM
USGS-4A	10/26/2009	< 0.20	4.2	665			13.54	< 0.018
	12/2/2010	< 0.40	< 4.0	398			1.90	< 0.05
	12/1/2011	< 0.10	< 2.5	214	-157.0	0.525	1.20	NM
	6/13/2012	< 0.10	< 2.5	142	8.5	0.349	1.30	NM
	12/6/2012	< 0.10	< 2.5	270				
	6/18/2013	< 0.10	2.9	536	-79.1	0.803	1.01	NM
	9/19/2013	< 0.10	6.6	130				
	12/17/2013	< 0.10	6.9	< 6.6	-76.1	0.833	0.76	NM
	3/18/2014	0.12	5.9	7.8	-127.4	0.516	0.86	NM
	6/17/2014	< 0.10	10.5	83.5	-88.3	0.600	2.57	NM
	9/3/2014	< 0.10	3.7	235	-75.1	0.459	1.88	NM
	12/16/2014	0.30	3.8	133	-69.6	0.406	1.91	NM
	3/11/2015	< 0.10	4.8	40.2	-29.0	0.410	0.67	NM
	6/16/2015	< 0.10	< 2.5	168	-64.3	0.517	0.33	NM
	9/9/2015	< 0.10	< 2.5	649	18.1	0.694	0.39	NM
	12/9/2015	< 0.10	< 2.5	359	-59.7	0.640	12.01	NM
SCDW	12/1/2011	< 0.10	< 2.5	< 10	NM	NM	NM	NM
	6/25/2012	0.45	3.3	< 6.6	NM	NM	NM	NM
	12/5/2012	0.38	< 2.5	< 6.6	NM	NM	NM	NM
	6/17/2013	0.7	3.8	< 6.6	NM	NM	NM	NM
	9/18/2013	0.53	3.9	< 6.6	NM	NM	NM	NM
	12/19/2013	NM	NM	< 6.6	NM	NM	NM	NM
	3/17/2014	0.62	3.7	< 6.6	NM	NM	NM	NM
	6/17/2014	0.6	3.9	< 6.6	NM	NM	NM	NM
	9/3/2014	0.56	4.3	< 6.6	NM	NM	NM	NM
	12/16/2014	0.64	3.2	< 6.6	NM	NM	NM	NM
	3/11/2015	0.37	2.6	< 6.6	NM	NM	NM	NM
	6/15/2015	0.76	< 2.5	< 10	NM	NM	NM	NM
	9/8/2015	1.1	3.1	< 10	NM	NM	NM	NM
	12/8/2015	1.2	4.1	< 10	NM	NM	NM	NM
Field Blank	12/30/2004	< 0.25	< 4.0	< 10				
	4/6/2005	< 0.25	< 4.0	< 10				
	11/25/2008	< 0.085	< 0.51	< 2.0				0.0115
	12/1/2011	< 0.10	< 2.5	19.8	NM	NM	NM	NM
	6/13/2012	< 0.10	< 2.5	< 6.6	NM	NM	NM	NM
	12/5/2012	< 0.10	< 2.5	25.9	NM	NM	NM	NM
	6/19/2013	< 0.10	< 2.5	10	NM	NM	NM	NM
	9/19/2013	NM	NM	NM	NM	NM	NM	NM
	12/19/2013	NM	NM	NM	NM	NM	NM	NM
	3/18/2014	< 0.10	< 2.5	< 6.6	NM	NM	NM	NM
	6/18/2014	< 0.10	< 2.5	< 6.6	NM	NM	NM	NM
	9/3/2014	< 0.10	< 2.5	< 6.6	NM	NM	NM	NM
	12/16/2014	0.2	< 2.5	< 6.6	NM	NM	NM	NM
	3/11/2015	< 0.10	< 2.5	< 6.6	NM	NM	NM	NM
	6/15/2015	< 0.10	< 2.5	< 10	NM	NM	NM	NM
	9/8/2015	< 0.10	< 2.5	< 10	NM	NM	NM	NM
	12/9/2015	< 0.10	< 2.5	< 10	NM	NM	NM	NM

NM - Not measured

Figures

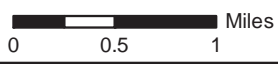


Prepared by:

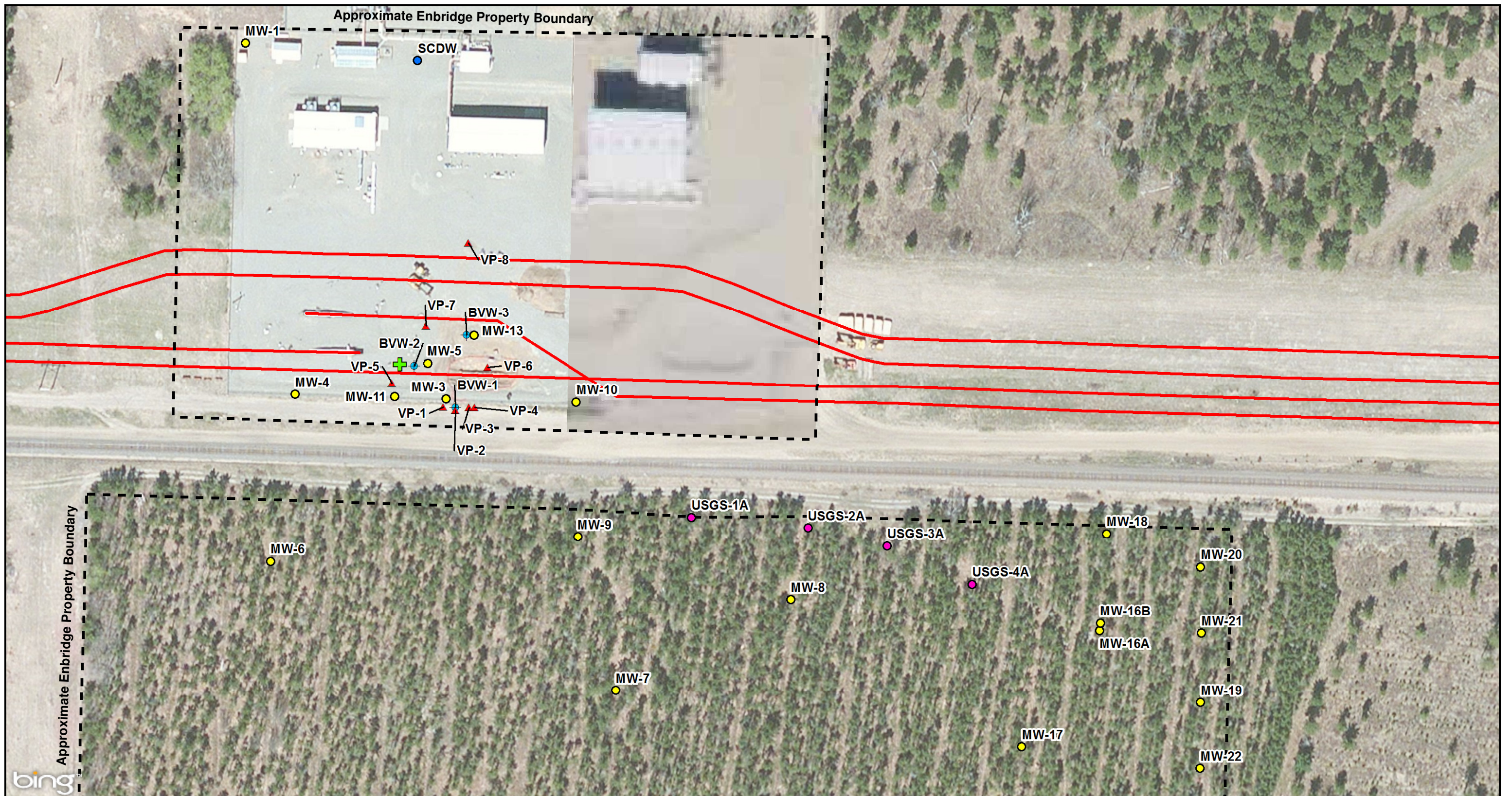


**Enbridge Energy, Limited Partnership
Figure 1: Site Location Map
South Cass Lake Pumping Station**

- Legend**
- Site Location
 - Enbridge Pipeline



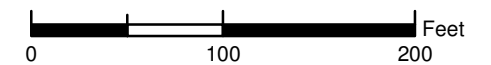
Drawn:	KLM 01/14/2014
Approved:	KF 01/14/2014
Scale:	1:60,000
PROJECT NUMBER	60254681
FIGURE NUMBER	1



LEGEND	
	Historic Release Location
	Enbridge Pipeline
	Potable Well
	Monitoring Well
	USGS Monitoring Well
	Vapor Monitoring Point
	Bioventing Well

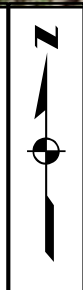
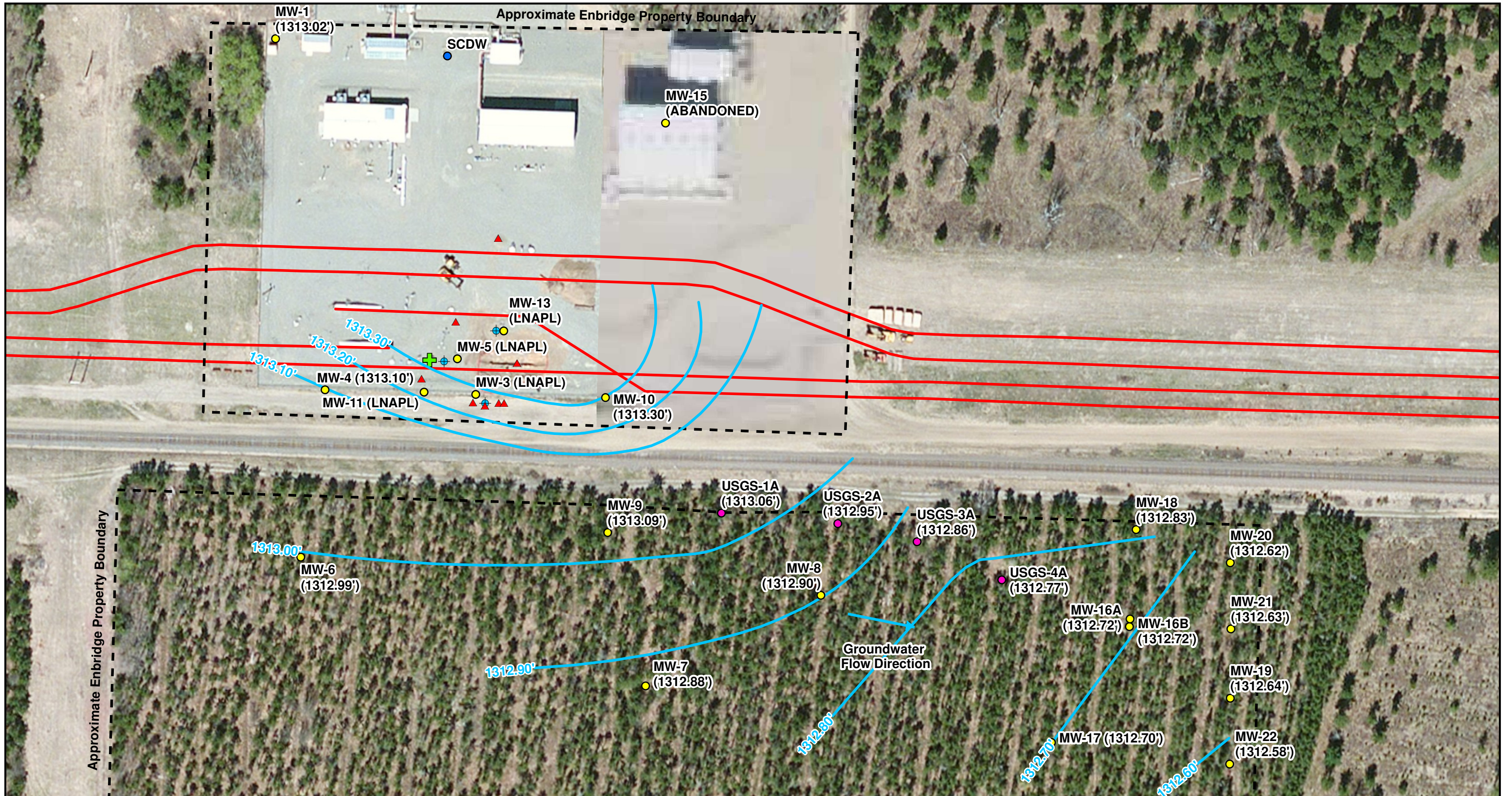
Note: LNAPL present at MW-3, MW-5, MW-11, and MW-13.

Enbridge Energy, Limited Partnership
Figure 2: Site Layout
South Cass Lake Pumping Station



Prepared by:
AECOM
 11 East Superior Street
 Suite 260
 Duluth, MN 55802
 www.AECOM.com
 Copyright ©2014 By: AECOM

Drawn:	ER	3/25/2016
Approved:	JMC	3/25/2016
Scale:	1:1,200	
PROJECT NUMBER	60341413	
FIGURE NUMBER	2	



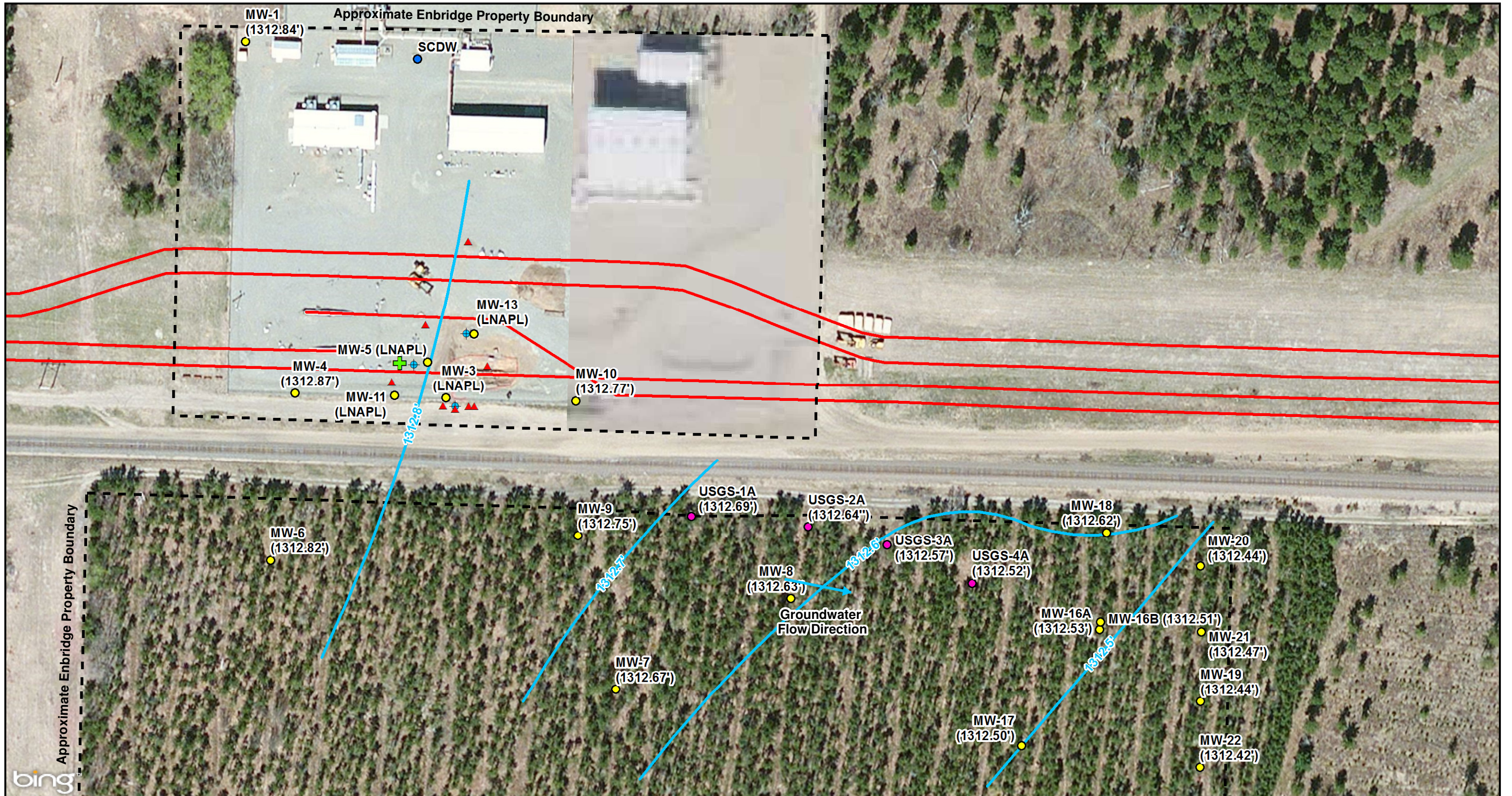
LEGEND	
	Historic Release Location
	Enbridge Pipeline
	Potable Well
	Monitoring Well
	USGS Monitoring Well
	Vapor Monitoring Point
	Bioventing Well

Note: LNAPL present at MW-3, MW-5, MW-11, and MW-13.

Enbridge Energy, Limited Partnership
Figure 3A: September 2015
Groundwater Flow Map
South Cass Lake Pumping Station

Prepared by:
AECOM
 11 East Superior Street
 Suite 260
 Duluth, MN 55802
 www.AECOM.com
 Copyright ©2014 By: AECOM

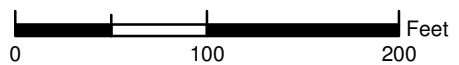
Drawn:	BAB	3/25/2016
Approved:	JMC	3/25/2016
Scale:	1:1,200	
PROJECT NUMBER	60341413	
FIGURE NUMBER	3A	



LEGEND	
	Historic Release Location
	Enbridge Pipeline
	Potable Well
	Monitoring Well
	USGS Monitoring Well
	Vapor Monitoring Point
	Bioventing Well

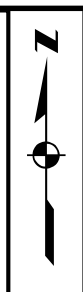
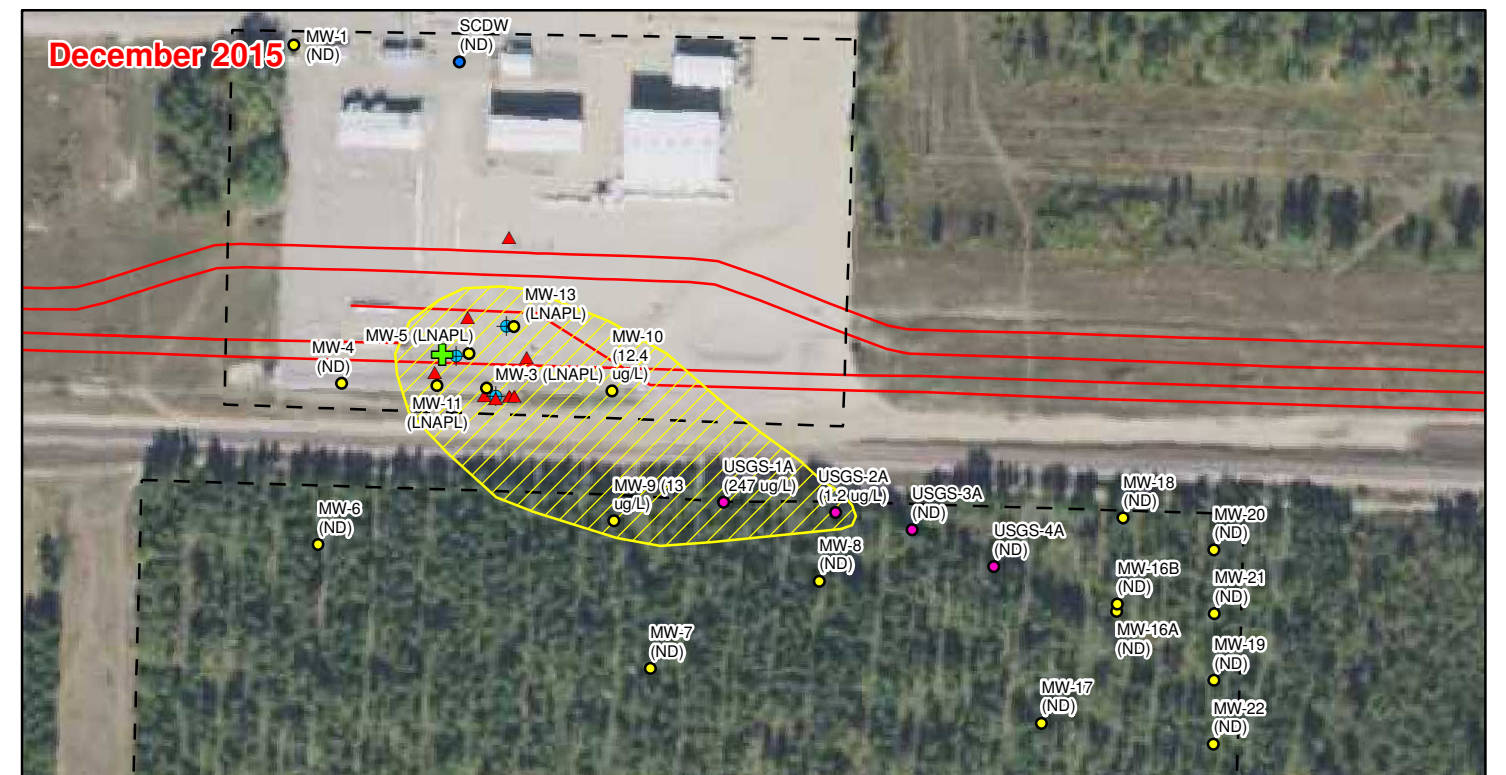
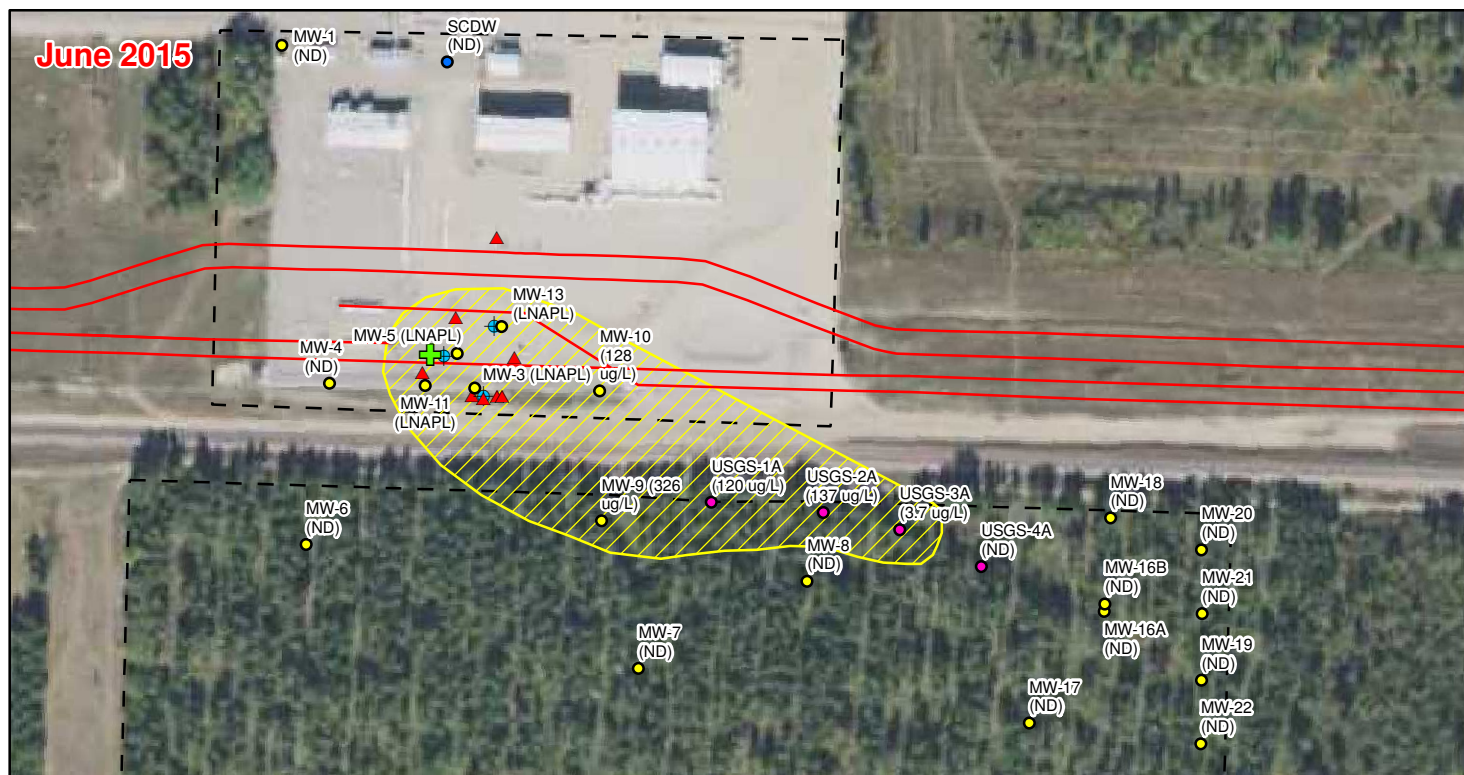
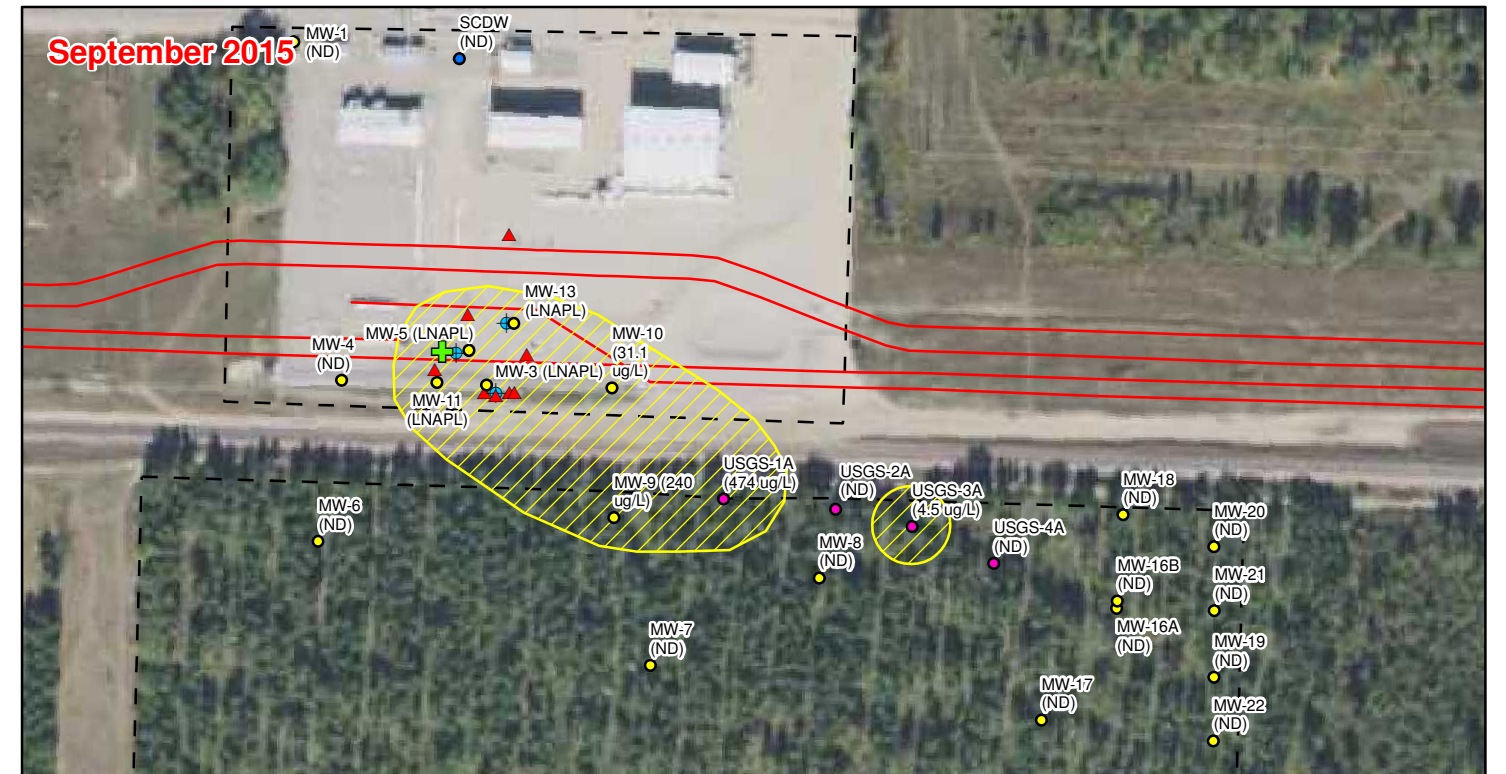
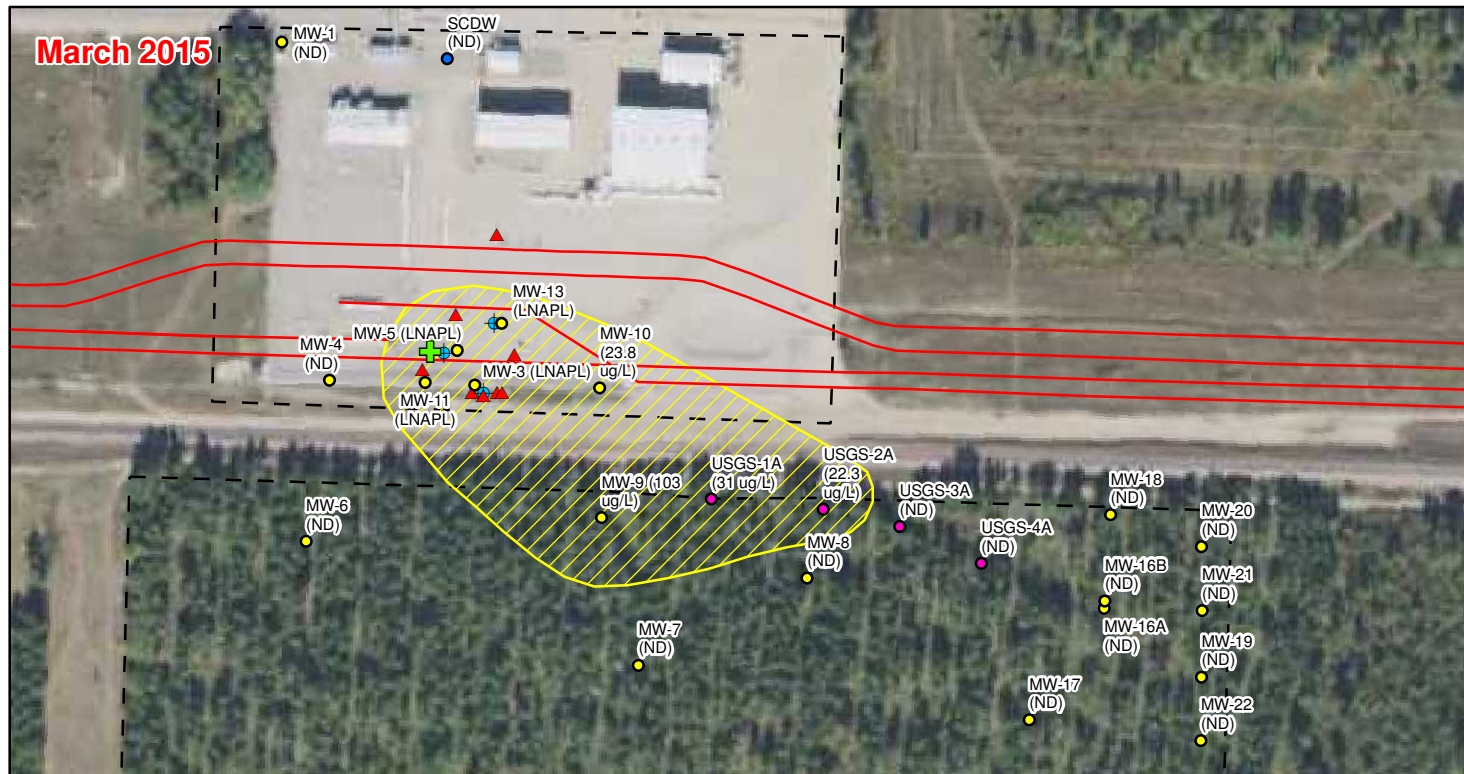
Note: LNAPL present at MW-3, MW-5, MW-11, and MW-13.

Enbridge Energy, Limited Partnership
Figure 3B: December 2015
Groundwater Flow Map
South Cass Lake Pumping Station



Prepared by:
AECOM
 11 East Superior Street
 Suite 260
 Duluth, MN 55802
 www.AECOM.com
 Copyright ©2014 By: AECOM

Drawn:	ER	3/25/2016
Approved:	JMC	3/25/2016
Scale:	1:1,200	
PROJECT NUMBER	60341413	
FIGURE NUMBER	3B	



Legend	
	Detectable Benzene Limit
	Monitoring Well
	Potable Well
	USGS Well
	Historic Release Location
	Bioventing Well
	Vapor Monitoring Point

Note: LNAPL present at MW-3, MW-5, MW-11, and MW-13.

Enbridge Energy, Limited Partnership
Figure 4: Benzene Iso-concentration Map
South Cass Lake Pumping Station

Prepared by:
AECOM
 11 East Superior Street
 Suite 260
 Duluth, MN 55802
 www.AECOM.com
 Copyright ©2014 By: AECOM

Drawn:	ER	3/25/2016
Approved:	JMC	3/25/2016
Scale:	1:2,560	
PROJECT NUMBER	60341413	
FIGURE NUMBER	4	

Appendices

Appendix A

Analytical Laboratory Reports

March 19, 2015

Darin Albrecht
AECOM
Duluth Technology Village
11 E Superior St, Suite 260
Duluth, MN 55802

RE: Project: 60316885 South Cass Lake
Pace Project No.: 10299313

Dear Darin Albrecht:

Enclosed are the analytical results for sample(s) received by the laboratory on March 12, 2015. 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.

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

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

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 #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

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

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

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

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10299313001	MW-1	Water	03/10/15 09:56	03/12/15 09:40
10299313002	MW-4	Water	03/10/15 10:53	03/12/15 09:40
10299313003	MW-6	Water	03/10/15 10:25	03/12/15 09:40
10299313004	MW-7	Water	03/10/15 11:37	03/12/15 09:40
10299313005	MW-8	Water	03/11/15 10:24	03/12/15 09:40
10299313006	MW-9	Water	03/10/15 11:15	03/12/15 09:40
10299313007	MW-10	Water	03/11/15 11:38	03/12/15 09:40
10299313008	MW-16A	Water	03/10/15 14:47	03/12/15 09:40
10299313009	MW-16B	Water	03/10/15 17:05	03/12/15 09:40
10299313010	MW-17	Water	03/10/15 15:35	03/12/15 09:40
10299313011	MW-18	Water	03/10/15 12:37	03/12/15 09:40
10299313012	MW-19	Water	03/10/15 14:50	03/12/15 09:40
10299313013	MW-20	Water	03/11/15 09:43	03/12/15 09:40
10299313014	MW-21	Water	03/10/15 15:21	03/12/15 09:40
10299313015	MW-22	Water	03/10/15 12:15	03/12/15 09:40
10299313016	USGS-1A	Water	03/11/15 10:25	03/12/15 09:40
10299313017	USGS-2A	Water	03/11/15 11:00	03/12/15 09:40
10299313018	USGS-3A	Water	03/11/15 09:20	03/12/15 09:40
10299313019	USGS-4A	Water	03/11/15 10:00	03/12/15 09:40
10299313020	SCL DW	Water	03/11/15 12:15	03/12/15 09:40
10299313021	Field Blank	Water	03/11/15 11:35	03/12/15 09:40
10299313022	Duplicate (MW-10)	Water	03/11/15 11:38	03/12/15 09:40
10299313023	TRIP BLANK	Water	03/10/15 00:00	03/12/15 09:40

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10299313001	MW-1	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313002	MW-4	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	9
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313003	MW-6	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313004	MW-7	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313005	MW-8	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313006	MW-9	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313007	MW-10	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313008	MW-16A	RSK 175	JRB	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10299313009	MW-16B	EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
10299313010	MW-17	ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
10299313011	MW-18	Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
10299313012	MW-19	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313013	MW-20	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
10299313014	MW-21	EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
10299313015	MW-22	ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10299313016	USGS-1A	ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
10299313017	USGS-2A	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
10299313018	USGS-3A	EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
10299313019	USGS-4A	Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10299313020	SCL DW	RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
		SM 4500-NO3 H	PH1	1
10299313021	Field Blank	ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
		EPA 8260	DJB	7
10299313022	Duplicate (MW-10)	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	JRB	1
		Diesel Range Organics	MT	2
10299313023	TRIP BLANK	EPA 8260	DJB	7
		ASTM D516	KEO	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10299313001	MW-1					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.23	mg/L	0.10	03/16/15 14:07	
ASTM D516	Sulfate	3.0	mg/L	2.5	03/13/15 11:43	
10299313002	MW-4					
Diesel Range Organics	WDRO, Extended C10-C32	0.52	mg/L	0.11	03/17/15 10:25	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.7	mg/L	0.10	03/16/15 14:12	
ASTM D516	Sulfate	8.7	mg/L	2.5	03/13/15 11:43	
10299313003	MW-6					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.2	mg/L	0.10	03/16/15 14:16	
ASTM D516	Sulfate	4.5	mg/L	2.5	03/13/15 11:44	
10299313004	MW-7					
Diesel Range Organics	WDRO, Extended C10-C32	0.11	mg/L	0.11	03/17/15 10:39	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.36	mg/L	0.10	03/16/15 14:16	
ASTM D516	Sulfate	5.3	mg/L	2.5	03/13/15 12:09	
10299313005	MW-8					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.22	mg/L	0.10	03/16/15 14:17	
ASTM D516	Sulfate	8.4	mg/L	2.5	03/13/15 12:11	
10299313006	MW-9					
RSK 175	Methane	3350	ug/L	6.6	03/13/15 22:00	
Diesel Range Organics	WDRO, Extended C10-C32	2.5	mg/L	0.10	03/17/15 10:53	
EPA 8260	Benzene	103	ug/L	1.0	03/17/15 10:16	
ASTM D516	Sulfate	6.9	mg/L	2.5	03/13/15 12:11	
10299313007	MW-10					
RSK 175	Methane	5080	ug/L	6.6	03/14/15 02:01	
Diesel Range Organics	WDRO, Extended C10-C32	6.9	mg/L	0.56	03/17/15 13:28	
EPA 8260	Benzene	23.8	ug/L	1.0	03/17/15 12:58	
EPA 8260	Ethylbenzene	11.8	ug/L	1.0	03/17/15 12:58	
10299313008	MW-16A					
RSK 175	Methane	78.4	ug/L	6.6	03/13/15 22:09	
Diesel Range Organics	WDRO, Extended C10-C32	1.2	mg/L	0.10	03/17/15 11:07	
ASTM D516	Sulfate	3.8	mg/L	2.5	03/13/15 12:14	
10299313009	MW-16B					
Diesel Range Organics	WDRO, Extended C10-C32	1.0	mg/L	0.11	03/17/15 11:14	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.18	mg/L	0.10	03/16/15 14:22	
ASTM D516	Sulfate	7.1	mg/L	2.5	03/13/15 12:14	
10299313010	MW-17					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	03/16/15 14:32	
ASTM D516	Sulfate	10.0	mg/L	2.5	03/13/15 12:14	
10299313011	MW-18					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.0	mg/L	0.10	03/16/15 14:33	
ASTM D516	Sulfate	4.5	mg/L	2.5	03/13/15 12:17	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10299313012	MW-19					
RSK 175	Methane	36.2	ug/L	6.6	03/13/15 22:42	
Diesel Range Organics	WDRO, Extended C10-C32	0.29	mg/L	0.11	03/17/15 11:35	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.15	mg/L	0.10	03/16/15 14:33	
ASTM D516	Sulfate	3.6	mg/L	2.5	03/13/15 12:17	
10299313013	MW-20					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.4	mg/L	0.10	03/16/15 14:36	
ASTM D516	Sulfate	6.4	mg/L	2.5	03/13/15 12:17	
10299313014	MW-21					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	1.6	mg/L	0.10	03/16/15 14:37	M1
ASTM D516	Sulfate	6.8	mg/L	2.5	03/13/15 12:19	
10299313015	MW-22					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.14	mg/L	0.10	03/16/15 14:41	
ASTM D516	Sulfate	7.1	mg/L	2.5	03/13/15 12:19	
10299313016	USGS-1A					
RSK 175	Methane	2910	ug/L	6.6	03/14/15 02:35	
Diesel Range Organics	WDRO, Extended C10-C32	4.9	mg/L	0.10	03/17/15 12:03	
EPA 8260	Benzene	30.5	ug/L	1.0	03/18/15 13:27	
ASTM D516	Sulfate	10.4	mg/L	2.5	03/13/15 12:19	
10299313017	USGS-2A					
RSK 175	Methane	1500	ug/L	6.6	03/14/15 02:51	
Diesel Range Organics	WDRO, Extended C10-C32	4.9	mg/L	0.11	03/17/15 12:10	
EPA 8260	Benzene	22.3	ug/L	1.0	03/17/15 17:34	
ASTM D516	Sulfate	5.3	mg/L	2.5	03/13/15 12:19	
10299313018	USGS-3A					
RSK 175	Methane	153	ug/L	6.6	03/14/15 03:00	
Diesel Range Organics	WDRO, Extended C10-C32	1.9	mg/L	0.11	03/17/15 12:18	
ASTM D516	Sulfate	5.8	mg/L	2.5	03/13/15 12:19	
10299313019	USGS-4A					
RSK 175	Methane	40.2	ug/L	6.6	03/14/15 03:08	
Diesel Range Organics	WDRO, Extended C10-C32	1.0	mg/L	0.11	03/17/15 12:25	
ASTM D516	Sulfate	4.8	mg/L	2.5	03/13/15 12:22	
10299313020	SCL DW					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.37	mg/L	0.10	03/16/15 14:47	
ASTM D516	Sulfate	2.6	mg/L	2.5	03/13/15 12:22	
10299313022	Duplicate (MW-10)					
RSK 175	Methane	4090	ug/L	6.6	03/14/15 03:33	
Diesel Range Organics	WDRO, Extended C10-C32	6.9	mg/L	0.56	03/17/15 13:35	
EPA 8260	Benzene	20.7	ug/L	1.0	03/17/15 18:39	
EPA 8260	Ethylbenzene	11.8	ug/L	1.0	03/17/15 18:39	
EPA 8260	Xylene (Total)	3.2	ug/L	3.0	03/17/15 18:39	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

Method: RSK 175
Description: RSK 175 AIR Headspace
Client: AECOM
Date: March 19, 2015

General Information:

22 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: AIR/22728

R1: RPD value was outside control limits.

- DUP (Lab ID: 1918050)
- Methane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Method: Diesel Range Organics

Description: WIDRO Extended GCS

Client: AECOM

Date: March 19, 2015

General Information:

22 samples were analyzed for Diesel Range Organics. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Diesel Range Organics with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Method: EPA 8260

Description: 8260 MSV UST

Client: AECOM

Date: March 19, 2015

General Information:

23 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Method: SM 4500-NO3 H

Description: SM4500NO3-H, NO2 + NO3 pres.

Client: AECOM

Date: March 19, 2015

General Information:

22 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22163

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10299313001,10299313014

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1918728)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 1918729)
 - Nitrogen, NO2 plus NO3

QC Batch: WETA/22164

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10298962002,10299198010

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1918740)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 1918741)
 - Nitrogen, NO2 plus NO3

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Method: ASTM D516

Description: ASTM D516 Sulfate Water

Client: AECOM

Date: March 19, 2015

General Information:

22 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-1		Lab ID: 10299313001		Collected: 03/10/15 09:56	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/13/15 21:02	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 10:18			
Surrogates										
n-Triacontane (S)	91	%	50-150		1	03/13/15 08:12	03/17/15 10:18	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/16/15 18:29	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/16/15 18:29	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/16/15 18:29	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/16/15 18:29	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/16/15 18:29	17060-07-0		
Toluene-d8 (S)	119	%	75-125		1		03/16/15 18:29	2037-26-5		
4-Bromofluorobenzene (S)	110	%	75-125		1		03/16/15 18:29	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.23	mg/L	0.10	0.050	1		03/16/15 14:07			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	3.0	mg/L	2.5	1.2	1		03/13/15 11:43	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-4		Lab ID: 10299313002		Collected: 03/10/15 10:53	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/13/15 21:10	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.52	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 10:25			
Surrogates										
n-Triacontane (S)	94	%	50-150		1	03/13/15 08:12	03/17/15 10:25	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/16/15 18:45	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/16/15 18:45	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/16/15 18:45	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/16/15 18:45	1330-20-7		
m&p-Xylene	ND	ug/L	2.0	0.31	1		03/16/15 18:45	179601-23-1		
o-Xylene	ND	ug/L	1.0	0.094	1		03/16/15 18:45	95-47-6		
Surrogates										
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/16/15 18:45	17060-07-0		
Toluene-d8 (S)	119	%	75-125		1		03/16/15 18:45	2037-26-5		
4-Bromofluorobenzene (S)	112	%	75-125		1		03/16/15 18:45	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	3.7	mg/L	0.10	0.050	1		03/16/15 14:12			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	8.7	mg/L	2.5	1.2	1		03/13/15 11:43	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

Sample: MW-6		Lab ID: 10299313003		Collected: 03/10/15 10:25	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/13/15 21:35	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 10:32		
Surrogates									
n-Triacontane (S)	91	%	50-150		1	03/13/15 08:12	03/17/15 10:32	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/16/15 19:34	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/16/15 19:34	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/16/15 19:34	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/16/15 19:34	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/16/15 19:34	17060-07-0	
Toluene-d8 (S)	118	%	75-125		1		03/16/15 19:34	2037-26-5	
4-Bromofluorobenzene (S)	108	%	75-125		1		03/16/15 19:34	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	3.2	mg/L	0.10	0.050	1		03/16/15 14:16		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	4.5	mg/L	2.5	1.2	1		03/13/15 11:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-7		Lab ID: 10299313004		Collected: 03/10/15 11:37	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/13/15 21:52	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.11	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 10:39			
Surrogates										
n-Triacontane (S)	92	%	50-150		1	03/13/15 08:12	03/17/15 10:39	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/16/15 19:50	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/16/15 19:50	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/16/15 19:50	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/16/15 19:50	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/16/15 19:50	17060-07-0		
Toluene-d8 (S)	119	%	75-125		1		03/16/15 19:50	2037-26-5		
4-Bromofluorobenzene (S)	107	%	75-125		1		03/16/15 19:50	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.36	mg/L	0.10	0.050	1		03/16/15 14:16			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	5.3	mg/L	2.5	1.2	1		03/13/15 12:09	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-8		Lab ID: 10299313005		Collected: 03/11/15 10:24	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/14/15 01:53	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 10:46		
Surrogates									
n-Triacontane (S)	95	%	50-150		1	03/13/15 08:12	03/17/15 10:46	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 10:00	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 10:00	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 10:00	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 10:00	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	120	%	75-125		1		03/17/15 10:00	17060-07-0	
Toluene-d8 (S)	120	%	75-125		1		03/17/15 10:00	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1		03/17/15 10:00	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.22	mg/L	0.10	0.050	1		03/16/15 14:17		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	8.4	mg/L	2.5	1.2	1		03/13/15 12:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-9		Lab ID: 10299313006		Collected: 03/10/15 11:15	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	3350	ug/L	6.6	3.3	1		03/13/15 22:00	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	2.5	mg/L	0.10	0.10	1	03/13/15 08:12	03/17/15 10:53		
Surrogates									
n-Triacontane (S)	96	%	50-150		1	03/13/15 08:12	03/17/15 10:53	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	103	ug/L	1.0	0.15	1		03/17/15 10:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 10:16	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 10:16	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 10:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/17/15 10:16	17060-07-0	
Toluene-d8 (S)	118	%	75-125		1		03/17/15 10:16	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1		03/17/15 10:16	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:17		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	6.9	mg/L	2.5	1.2	1		03/13/15 12:11	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-10		Lab ID: 10299313007		Collected: 03/11/15 11:38	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	5080	ug/L	6.6	3.3	1		03/14/15 02:01	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	6.9	mg/L	0.56	0.56	5	03/13/15 08:12	03/17/15 13:28		
Surrogates									
n-Triacontane (S)	107	%	50-150		5	03/13/15 08:12	03/17/15 13:28	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	23.8	ug/L	1.0	0.15	1		03/17/15 12:58	71-43-2	
Ethylbenzene	11.8	ug/L	1.0	0.16	1		03/17/15 12:58	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 12:58	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 12:58	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		03/17/15 12:58	17060-07-0	
Toluene-d8 (S)	121	%	75-125		1		03/17/15 12:58	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		03/17/15 12:58	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:21		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		03/13/15 12:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-16A		Lab ID: 10299313008		Collected: 03/10/15 14:47	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	78.4	ug/L	6.6	3.3	1		03/13/15 22:09	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	1.2	mg/L	0.10	0.10	1	03/13/15 08:12	03/17/15 11:07		
Surrogates									
n-Triacontane (S)	91	%	50-150		1	03/13/15 08:12	03/17/15 11:07	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 13:14	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 13:14	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 13:14	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 13:14	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	121	%	75-125		1		03/17/15 13:14	17060-07-0	
Toluene-d8 (S)	117	%	75-125		1		03/17/15 13:14	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/17/15 13:14	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:21		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	3.8	mg/L	2.5	1.2	1		03/13/15 12:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-16B		Lab ID: 10299313009		Collected: 03/10/15 17:05	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/13/15 22:17	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	1.0	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:14		
Surrogates									
n-Triacontane (S)	95	%	50-150		1	03/13/15 08:12	03/17/15 11:14	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 13:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 13:31	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 13:31	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 13:31	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	119	%	75-125		1		03/17/15 13:31	17060-07-0	
Toluene-d8 (S)	118	%	75-125		1		03/17/15 13:31	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/17/15 13:31	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.18	mg/L	0.10	0.050	1		03/16/15 14:22		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	7.1	mg/L	2.5	1.2	1		03/13/15 12:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-17		Lab ID: 10299313010		Collected: 03/10/15 15:35	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/13/15 22:25	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:21		
Surrogates									
n-Triacontane (S)	90	%	50-150		1	03/13/15 08:12	03/17/15 11:21	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 13:47	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 13:47	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 13:47	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 13:47	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 13:47	17060-07-0	
Toluene-d8 (S)	118	%	75-125		1		03/17/15 13:47	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/17/15 13:47	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	0.050	1		03/16/15 14:32		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	10.0	mg/L	2.5	1.2	1		03/13/15 12:14	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-18		Lab ID: 10299313011		Collected: 03/10/15 12:37	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/13/15 22:33	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	03/13/15 08:12	03/17/15 11:28		
Surrogates									
n-Triacontane (S)	95	%	50-150		1	03/13/15 08:12	03/17/15 11:28	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 14:03	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 14:03	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 14:03	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 14:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 14:03	17060-07-0	
Toluene-d8 (S)	117	%	75-125		1		03/17/15 14:03	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1		03/17/15 14:03	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	3.0	mg/L	0.10	0.050	1		03/16/15 14:33		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	4.5	mg/L	2.5	1.2	1		03/13/15 12:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-19		Lab ID: 10299313012		Collected: 03/10/15 14:50	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	36.2	ug/L	6.6	3.3	1		03/13/15 22:42	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	0.29	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:35		
Surrogates									
n-Triacontane (S)	92	%	50-150		1	03/13/15 08:12	03/17/15 11:35	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 15:56	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 15:56	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 15:56	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 15:56	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/17/15 15:56	17060-07-0	
Toluene-d8 (S)	120	%	75-125		1		03/17/15 15:56	2037-26-5	
4-Bromofluorobenzene (S)	109	%	75-125		1		03/17/15 15:56	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.15	mg/L	0.10	0.050	1		03/16/15 14:33		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	3.6	mg/L	2.5	1.2	1		03/13/15 12:17	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-20		Lab ID: 10299313013		Collected: 03/11/15 09:43	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/14/15 02:10	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:42			
Surrogates										
n-Triacontane (S)	87	%	50-150		1	03/13/15 08:12	03/17/15 11:42	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 16:13	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 16:13	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 16:13	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 16:13	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	116	%	75-125		1		03/17/15 16:13	17060-07-0		
Toluene-d8 (S)	120	%	75-125		1		03/17/15 16:13	2037-26-5		
4-Bromofluorobenzene (S)	109	%	75-125		1		03/17/15 16:13	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.4	mg/L	0.10	0.050	1		03/16/15 14:36			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	6.4	mg/L	2.5	1.2	1		03/13/15 12:17	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-21		Lab ID: 10299313014		Collected: 03/10/15 15:21	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/13/15 22:50	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:49			
Surrogates										
n-Triacontane (S)	94	%	50-150		1	03/13/15 08:12	03/17/15 11:49	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 17:02	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 17:02	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 17:02	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 17:02	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 17:02	17060-07-0		
Toluene-d8 (S)	118	%	75-125		1		03/17/15 17:02	2037-26-5		
4-Bromofluorobenzene (S)	106	%	75-125		1		03/17/15 17:02	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	1.6	mg/L	0.10	0.050	1		03/16/15 14:37		M1	
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	6.8	mg/L	2.5	1.2	1		03/13/15 12:19	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: MW-22		Lab ID: 10299313015		Collected: 03/10/15 12:15	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/14/15 23:15	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 11:56		
Surrogates									
n-Triacontane (S)	86	%	50-150		1	03/13/15 08:12	03/17/15 11:56	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 17:18	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 17:18	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 17:18	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 17:18	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/17/15 17:18	17060-07-0	
Toluene-d8 (S)	120	%	75-125		1		03/17/15 17:18	2037-26-5	
4-Bromofluorobenzene (S)	109	%	75-125		1		03/17/15 17:18	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.14	mg/L	0.10	0.050	1		03/16/15 14:41		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	7.1	mg/L	2.5	1.2	1		03/13/15 12:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: USGS-1A		Lab ID: 10299313016		Collected: 03/11/15 10:25	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	2910	ug/L	6.6	3.3	1		03/14/15 02:35	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	4.9	mg/L	0.10	0.10	1	03/13/15 08:12	03/17/15 12:03		
Surrogates									
n-Triacontane (S)	98	%	50-150		1	03/13/15 08:12	03/17/15 12:03	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	30.5	ug/L	1.0	0.15	1		03/18/15 13:27	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/18/15 13:27	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/18/15 13:27	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/18/15 13:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	115	%	75-125		1		03/18/15 13:27	17060-07-0	
Toluene-d8 (S)	116	%	75-125		1		03/18/15 13:27	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		03/18/15 13:27	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:41		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	10.4	mg/L	2.5	1.2	1		03/13/15 12:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: USGS-2A		Lab ID: 10299313017		Collected: 03/11/15 11:00	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	1500	ug/L	6.6	3.3	1		03/14/15 02:51	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	4.9	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 12:10			
Surrogates										
n-Triacontane (S)	104	%	50-150		1	03/13/15 08:12	03/17/15 12:10	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	22.3	ug/L	1.0	0.15	1		03/17/15 17:34	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 17:34	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 17:34	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 17:34	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	119	%	75-125		1		03/17/15 17:34	17060-07-0		
Toluene-d8 (S)	119	%	75-125		1		03/17/15 17:34	2037-26-5		
4-Bromofluorobenzene (S)	109	%	75-125		1		03/17/15 17:34	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:42			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	5.3	mg/L	2.5	1.2	1		03/13/15 12:19	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: USGS-3A		Lab ID: 10299313018		Collected: 03/11/15 09:20	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	153	ug/L	6.6	3.3	1		03/14/15 03:00	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	1.9	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 12:18		
Surrogates									
n-Triacontane (S)	96	%	50-150		1	03/13/15 08:12	03/17/15 12:18	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 17:50	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 17:50	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 17:50	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 17:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	120	%	75-125		1		03/17/15 17:50	17060-07-0	
Toluene-d8 (S)	120	%	75-125		1		03/17/15 17:50	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		03/17/15 17:50	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:46		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	5.8	mg/L	2.5	1.2	1		03/13/15 12:19	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: USGS-4A		Lab ID: 10299313019		Collected: 03/11/15 10:00	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	40.2	ug/L	6.6	3.3	1		03/14/15 03:08	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	1.0	mg/L	0.11	0.11	1	03/13/15 08:12	03/17/15 12:25			
Surrogates										
n-Triacontane (S)	94	%	50-150		1	03/13/15 08:12	03/17/15 12:25	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 18:06	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 18:06	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 18:06	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 18:06	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/17/15 18:06	17060-07-0		
Toluene-d8 (S)	118	%	75-125		1		03/17/15 18:06	2037-26-5		
4-Bromofluorobenzene (S)	103	%	75-125		1		03/17/15 18:06	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:47			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	4.8	mg/L	2.5	1.2	1		03/13/15 12:22	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: SCL DW		Lab ID: 10299313020		Collected: 03/11/15 12:15	Received: 03/12/15 09:40	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	6.6	3.3	1		03/14/15 03:16	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	03/13/15 08:12	03/17/15 12:32			
Surrogates										
n-Triacontane (S)	94	%	50-150		1	03/13/15 08:12	03/17/15 12:32	638-68-6		
8260 MSV UST		Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 18:22	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 18:22	100-41-4		
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 18:22	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 18:22	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 18:22	17060-07-0		
Toluene-d8 (S)	119	%	75-125		1		03/17/15 18:22	2037-26-5		
4-Bromofluorobenzene (S)	107	%	75-125		1		03/17/15 18:22	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.37	mg/L	0.10	0.050	1		03/16/15 14:47			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	2.6	mg/L	2.5	1.2	1		03/13/15 12:22	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: Field Blank		Lab ID: 10299313021		Collected: 03/11/15 11:35	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	6.6	3.3	1		03/14/15 03:25	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	03/16/15 11:39	03/17/15 13:14		
Surrogates									
n-Triacontane (S)	89	%	50-150		1	03/16/15 11:39	03/17/15 13:14	638-68-6	
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 15:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 15:24	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 15:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 15:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 15:24	17060-07-0	
Toluene-d8 (S)	117	%	75-125		1		03/17/15 15:24	2037-26-5	
4-Bromofluorobenzene (S)	109	%	75-125		1		03/17/15 15:24	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:52		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		03/13/15 12:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: Duplicate (MW-10) Lab ID: 10299313022 Collected: 03/11/15 11:38 Received: 03/12/15 09:40 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	4090	ug/L	6.6	3.3	1		03/14/15 03:33	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	6.9	mg/L	0.56	0.56	5	03/16/15 11:39	03/17/15 13:35		
Surrogates									
n-Triacontane (S)	95	%	50-150		5	03/16/15 11:39	03/17/15 13:35	638-68-6	
8260 MSV UST Analytical Method: EPA 8260									
Benzene	20.7	ug/L	1.0	0.15	1		03/17/15 18:39	71-43-2	
Ethylbenzene	11.8	ug/L	1.0	0.16	1		03/17/15 18:39	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 18:39	108-88-3	
Xylene (Total)	3.2	ug/L	3.0	0.40	1		03/17/15 18:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	117	%	75-125		1		03/17/15 18:39	17060-07-0	
Toluene-d8 (S)	121	%	75-125		1		03/17/15 18:39	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1		03/17/15 18:39	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		03/16/15 14:52		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		03/13/15 12:22	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Sample: TRIP BLANK		Lab ID: 10299313023		Collected: 03/10/15 00:00	Received: 03/12/15 09:40	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST		Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	0.15	1		03/17/15 15:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/17/15 15:40	100-41-4	
Toluene	ND	ug/L	1.0	0.11	1		03/17/15 15:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/17/15 15:40	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	118	%	75-125		1		03/17/15 15:40	17060-07-0	
Toluene-d8 (S)	119	%	75-125		1		03/17/15 15:40	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		03/17/15 15:40	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: AIR/22726 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10299313001, 10299313002

METHOD BLANK: 1918036 Matrix: Water

Associated Lab Samples: 10299313001, 10299313002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	6.6	03/13/15 15:13	

LABORATORY CONTROL SAMPLE & LCSD: 1918037 1918038

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	56.3	55.7	93	92	85-115	1	20	

SAMPLE DUPLICATE: 1918039

Parameter	Units	10299265001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	ND		20	

SAMPLE DUPLICATE: 1918040

Parameter	Units	10299262003 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch:	AIR/22727	Analysis Method:	RSK 175
QC Batch Method:	RSK 175	Analysis Description:	RSK 175 AIR HEADSPACE
Associated Lab Samples:	10299313003, 10299313004, 10299313006, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313014, 10299313015		

METHOD BLANK:	1918041	Matrix:	Water
Associated Lab Samples:	10299313003, 10299313004, 10299313006, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313014, 10299313015		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	6.6	03/13/15 21:27	

LABORATORY CONTROL SAMPLE & LCSD: 1918042		1918043								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	55.7	55.0	92	91	85-115	1	20	

SAMPLE DUPLICATE: 1918044		10299313003	Dup Result	RPD	Max RPD	Qualifiers
Parameter	Units	Result				
Methane	ug/L	ND	ND		20	

SAMPLE DUPLICATE: 1918045		10299313015	Dup Result	RPD	Max RPD	Qualifiers
Parameter	Units	Result				
Methane	ug/L	ND	ND		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch:	AIR/22728	Analysis Method:	RSK 175
QC Batch Method:	RSK 175	Analysis Description:	RSK 175 AIR HEADSPACE
Associated Lab Samples:	10299313005, 10299313007, 10299313013, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020, 10299313021, 10299313022		

METHOD BLANK:	1918046	Matrix:	Water
Associated Lab Samples:	10299313005, 10299313007, 10299313013, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020, 10299313021, 10299313022		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	6.6	03/14/15 00:47	

Parameter	Units	1918047				1918048				Qualifiers
		Spike Conc.	LCS Result	LCSD Result	% Rec	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	
Methane	ug/L	60.7	55.0	53.5	91	88	85-115	3	20	

Parameter	Units	60189559007		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Methane	ug/L	ND	7.7		20	

Parameter	Units	10299313016		RPD	Max RPD	Qualifiers
		Result	Dup Result			
Methane	ug/L	2910	2330	22	20	R1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: MSV/30789 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
 Associated Lab Samples: 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011

METHOD BLANK: 1918838 Matrix: Water
 Associated Lab Samples: 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/17/15 09:43	
Ethylbenzene	ug/L	ND	1.0	03/17/15 09:43	
Toluene	ug/L	ND	1.0	03/17/15 09:43	
Xylene (Total)	ug/L	ND	3.0	03/17/15 09:43	
1,2-Dichloroethane-d4 (S)	%	116	75-125	03/17/15 09:43	
4-Bromofluorobenzene (S)	%	105	75-125	03/17/15 09:43	
Toluene-d8 (S)	%	121	75-125	03/17/15 09:43	

LABORATORY CONTROL SAMPLE: 1918839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.9	90	42-143	
Ethylbenzene	ug/L	20	21.7	108	75-125	
Toluene	ug/L	20	22.3	112	74-125	
Xylene (Total)	ug/L	60	66.6	111	75-125	
1,2-Dichloroethane-d4 (S)	%			122	75-125	
4-Bromofluorobenzene (S)	%			108	75-125	
Toluene-d8 (S)	%			120	75-125	

MATRIX SPIKE SAMPLE: 1920293

Parameter	Units	10299313005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	18.6	93	30-150	
Ethylbenzene	ug/L	ND	20	21.8	109	55-139	
Toluene	ug/L	ND	20	22.3	112	52-148	
Xylene (Total)	ug/L	ND	60	67.1	112	54-144	
1,2-Dichloroethane-d4 (S)	%				121	75-125	
4-Bromofluorobenzene (S)	%				105	75-125	
Toluene-d8 (S)	%				118	75-125	

SAMPLE DUPLICATE: 1920294

Parameter	Units	10299313006 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	103	99.8	3	30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	.16J		30	
Xylene (Total)	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

SAMPLE DUPLICATE: 1920294

Parameter	Units	10299313006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	117	117	0		
4-Bromofluorobenzene (S)	%.	107	106	1		
Toluene-d8 (S)	%.	118	117	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: MSV/30802

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV UST-WATER

Associated Lab Samples: 10299313001, 10299313002, 10299313003, 10299313004

METHOD BLANK: 1919487

Matrix: Water

Associated Lab Samples: 10299313001, 10299313002, 10299313003, 10299313004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/16/15 17:40	
Ethylbenzene	ug/L	ND	1.0	03/16/15 17:40	
m&p-Xylene	ug/L	ND	2.0	03/16/15 17:40	
o-Xylene	ug/L	ND	1.0	03/16/15 17:40	
Toluene	ug/L	ND	1.0	03/16/15 17:40	
Xylene (Total)	ug/L	ND	3.0	03/16/15 17:40	
1,2-Dichloroethane-d4 (S)	%	118	75-125	03/16/15 17:40	
4-Bromofluorobenzene (S)	%	109	75-125	03/16/15 17:40	
Toluene-d8 (S)	%	120	75-125	03/16/15 17:40	

LABORATORY CONTROL SAMPLE: 1919488

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	15.6	78	42-143	
Ethylbenzene	ug/L	20	18.6	93	75-125	
m&p-Xylene	ug/L	40	37.1	93	75-125	
o-Xylene	ug/L	20	18.8	94	75-125	
Toluene	ug/L	20	18.9	94	74-125	
Xylene (Total)	ug/L	60	55.9	93	75-125	
1,2-Dichloroethane-d4 (S)	%			119	75-125	
4-Bromofluorobenzene (S)	%			110	75-125	
Toluene-d8 (S)	%			119	75-125	

MATRIX SPIKE SAMPLE: 1919489

Parameter	Units	10299313001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	14.8	74	30-150	
Ethylbenzene	ug/L	ND	20	17.0	85	55-139	
m&p-Xylene	ug/L	ND	40	34.7	87	57-141	
o-Xylene	ug/L	ND	20	16.7	84	54-147	
Toluene	ug/L	ND	20	17.4	87	52-148	
Xylene (Total)	ug/L	ND	60	51.5	86	54-144	
1,2-Dichloroethane-d4 (S)	%				120	75-125	
4-Bromofluorobenzene (S)	%				106	75-125	
Toluene-d8 (S)	%				119	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

SAMPLE DUPLICATE: 1920612

Parameter	Units	10299313002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	117	118	1		
4-Bromofluorobenzene (S)	%.	112	111	1		
Toluene-d8 (S)	%.	119	121	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: MSV/30808 Analysis Method: EPA 8260
 QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
 Associated Lab Samples: 10299313012, 10299313013, 10299313014, 10299313015, 10299313017, 10299313018, 10299313019,
 10299313020, 10299313021, 10299313022, 10299313023

METHOD BLANK: 1919724 Matrix: Water
 Associated Lab Samples: 10299313012, 10299313013, 10299313014, 10299313015, 10299313017, 10299313018, 10299313019,
 10299313020, 10299313021, 10299313022, 10299313023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/17/15 15:08	
Ethylbenzene	ug/L	ND	1.0	03/17/15 15:08	
Toluene	ug/L	ND	1.0	03/17/15 15:08	
Xylene (Total)	ug/L	ND	3.0	03/17/15 15:08	
1,2-Dichloroethane-d4 (S)	%	117	75-125	03/17/15 15:08	
4-Bromofluorobenzene (S)	%	107	75-125	03/17/15 15:08	
Toluene-d8 (S)	%	117	75-125	03/17/15 15:08	

LABORATORY CONTROL SAMPLE: 1919725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	19.4	97	42-143	
Ethylbenzene	ug/L	20	22.4	112	75-125	
Toluene	ug/L	20	23.1	115	74-125	
Xylene (Total)	ug/L	60	70.3	117	75-125	
1,2-Dichloroethane-d4 (S)	%			119	75-125	
4-Bromofluorobenzene (S)	%			105	75-125	
Toluene-d8 (S)	%			119	75-125	

MATRIX SPIKE SAMPLE: 1920299

Parameter	Units	10299313012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	15.9	79	30-150	
Ethylbenzene	ug/L	ND	20	19.0	95	55-139	
Toluene	ug/L	ND	20	19.2	96	52-148	
Xylene (Total)	ug/L	ND	60	57.9	96	54-144	
1,2-Dichloroethane-d4 (S)	%				118	75-125	
4-Bromofluorobenzene (S)	%				107	75-125	
Toluene-d8 (S)	%				118	75-125	

SAMPLE DUPLICATE: 1920300

Parameter	Units	10299313013 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

SAMPLE DUPLICATE: 1920300

Parameter	Units	10299313013 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	116	118	1		
4-Bromofluorobenzene (S)	%.	109	108	1		
Toluene-d8 (S)	%.	120	120	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

QC Batch: MSV/30823 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV UST-WATER
Associated Lab Samples: 10299313016

METHOD BLANK: 1920421 Matrix: Water
Associated Lab Samples: 10299313016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	03/18/15 11:17	
Ethylbenzene	ug/L	ND	1.0	03/18/15 11:17	
Toluene	ug/L	ND	1.0	03/18/15 11:17	
Xylene (Total)	ug/L	ND	3.0	03/18/15 11:17	
1,2-Dichloroethane-d4 (S)	%	118	75-125	03/18/15 11:17	
4-Bromofluorobenzene (S)	%	109	75-125	03/18/15 11:17	
Toluene-d8 (S)	%	118	75-125	03/18/15 11:17	

LABORATORY CONTROL SAMPLE: 1920422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.1	85	42-143	
Ethylbenzene	ug/L	20	20.4	102	75-125	
Toluene	ug/L	20	21.0	105	74-125	
Xylene (Total)	ug/L	60	65.1	108	75-125	
1,2-Dichloroethane-d4 (S)	%			116	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			119	75-125	

MATRIX SPIKE SAMPLE: 1920452

Parameter	Units	10298936001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	0.15U	20	17.3	87	30-150	
Ethylbenzene	ug/L	0.16U	20	20.5	103	55-139	
Toluene	ug/L	0.14J	20	21.1	105	52-148	
Xylene (Total)	ug/L	0.40U	60	62.9	105	54-144	
1,2-Dichloroethane-d4 (S)	%				114	75-125	
4-Bromofluorobenzene (S)	%				108	75-125	
Toluene-d8 (S)	%				119	75-125	

SAMPLE DUPLICATE: 1920453

Parameter	Units	10298936002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	0.15U	ND		30	
Ethylbenzene	ug/L	0.16U	ND		30	
Toluene	ug/L	0.11U	ND		30	
Xylene (Total)	ug/L	0.40U	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

SAMPLE DUPLICATE: 1920453

Parameter	Units	10298936002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	118	122	4		
4-Bromofluorobenzene (S)	%.	107	105	2		
Toluene-d8 (S)	%.	119	117	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: OEXT/28513 Analysis Method: Diesel Range Organics
 QC Batch Method: Diesel Range Organics Analysis Description: WIDRO Extended GCS
 Associated Lab Samples: 10299313001, 10299313002, 10299313003, 10299313004, 10299313005, 10299313006, 10299313007,
 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014,
 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020

METHOD BLANK: 1917608 Matrix: Water
 Associated Lab Samples: 10299313001, 10299313002, 10299313003, 10299313004, 10299313005, 10299313006, 10299313007,
 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014,
 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	03/17/15 10:04	
n-Triacontane (S)	%	84	50-150	03/17/15 10:04	

LABORATORY CONTROL SAMPLE & LCSD: 1917609 1917610

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO, Extended C10-C32	mg/L	2	1.8	1.7	88	86	75-115	3	20	
n-Triacontane (S)	%				95	90	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch:	OEXT/28534	Analysis Method:	Diesel Range Organics
QC Batch Method:	Diesel Range Organics	Analysis Description:	WIDRO Extended GCS
Associated Lab Samples:	10299313021, 10299313022		

METHOD BLANK: 1918848 Matrix: Water

Associated Lab Samples: 10299313021, 10299313022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	03/17/15 12:53	
n-Triacontane (S)	%.	81	50-150	03/17/15 12:53	

LABORATORY CONTROL SAMPLE & LCSD: 1918849 1918850

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO, Extended C10-C32	mg/L	2	1.8	1.8	89	88	75-115	1	20	
n-Triacontane (S)	%.				91	91	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch:	WETA/22163	Analysis Method:	SM 4500-NO3 H
QC Batch Method:	SM 4500-NO3 H	Analysis Description:	SM4500NO3-H, NO2 + NO3 pres.
Associated Lab Samples:	10299313001, 10299313002, 10299313003, 10299313004, 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014, 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020		

METHOD BLANK:	1918724	Matrix:	Water
Associated Lab Samples:	10299313001, 10299313002, 10299313003, 10299313004, 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014, 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	03/16/15 14:06	

LABORATORY CONTROL SAMPLE: 1918725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.6	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1918726 1918727

Parameter	Units	10299313001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.23	2.5	2.5	2.7	2.7	100	100	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1918728 1918729

Parameter	Units	10299313014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	1.6	2.5	2.5	2.8	2.7	47	43	80-120	3	30 M1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: WETA/22164 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10299313021, 10299313022

METHOD BLANK: 1918738 Matrix: Water

Associated Lab Samples: 10299313021, 10299313022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	03/16/15 15:55	

LABORATORY CONTROL SAMPLE: 1918739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1918740 1918741

Parameter	Units	10298962002		1918740		1918741		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Nitrogen, NO2 plus NO3	mg/L	0.31	2.5	2.5	0.65	0.61	14	12	7	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1918742 1918743

Parameter	Units	10299198010		1918742		1918743		% Rec Limits	RPD	Max RPD	Qual
		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec				
Nitrogen, NO2 plus NO3	mg/L	1.1	2.5	2.5	3.4	3.4	92	95	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

QC Batch: WETA/22153 Analysis Method: ASTM D516
 QC Batch Method: ASTM D516 Analysis Description: ASTM D516 Sulfate Water
 Associated Lab Samples: 10299313001, 10299313002, 10299313003

METHOD BLANK: 1917643 Matrix: Water
 Associated Lab Samples: 10299313001, 10299313002, 10299313003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	03/13/15 11:29	

LABORATORY CONTROL SAMPLE & LCSD: 1917644 1917645

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	6.6	6.5	89	86	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1917646 1917647

Parameter	Units	10298928001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	20	20	22.3	22.5	107	108	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1917648 1917649

Parameter	Units	10298928010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	3.1	20	20	24.8	23.7	109	103	80-120	5	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

QC Batch:	WETA/22155	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10299313004, 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014, 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020, 10299313021, 10299313022		

METHOD BLANK:	1917754	Matrix:	Water
Associated Lab Samples:	10299313004, 10299313005, 10299313006, 10299313007, 10299313008, 10299313009, 10299313010, 10299313011, 10299313012, 10299313013, 10299313014, 10299313015, 10299313016, 10299313017, 10299313018, 10299313019, 10299313020, 10299313021, 10299313022		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	03/13/15 12:09	

Parameter	Units	1917755		1917756		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCSD % Rec				
Sulfate	mg/L	7.5	6.4	6.3	86	84	80-120	2	20

Parameter	Units	1917757		1917758		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10299313004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	5.3	20	20	26.3	27.5	105	111	80-120	4	30

Parameter	Units	1917759		1917760		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10299313013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	6.4	20	20	28.6	28.6	111	111	80-120	0	30

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10299313

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10299313001	MW-1	RSK 175	AIR/22726		
10299313002	MW-4	RSK 175	AIR/22726		
10299313003	MW-6	RSK 175	AIR/22727		
10299313004	MW-7	RSK 175	AIR/22727		
10299313005	MW-8	RSK 175	AIR/22728		
10299313006	MW-9	RSK 175	AIR/22727		
10299313007	MW-10	RSK 175	AIR/22728		
10299313008	MW-16A	RSK 175	AIR/22727		
10299313009	MW-16B	RSK 175	AIR/22727		
10299313010	MW-17	RSK 175	AIR/22727		
10299313011	MW-18	RSK 175	AIR/22727		
10299313012	MW-19	RSK 175	AIR/22727		
10299313013	MW-20	RSK 175	AIR/22728		
10299313014	MW-21	RSK 175	AIR/22727		
10299313015	MW-22	RSK 175	AIR/22727		
10299313016	USGS-1A	RSK 175	AIR/22728		
10299313017	USGS-2A	RSK 175	AIR/22728		
10299313018	USGS-3A	RSK 175	AIR/22728		
10299313019	USGS-4A	RSK 175	AIR/22728		
10299313020	SCL DW	RSK 175	AIR/22728		
10299313021	Field Blank	RSK 175	AIR/22728		
10299313022	Duplicate (MW-10)	RSK 175	AIR/22728		
10299313001	MW-1	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313002	MW-4	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313003	MW-6	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313004	MW-7	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313005	MW-8	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313006	MW-9	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313007	MW-10	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313008	MW-16A	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313009	MW-16B	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313010	MW-17	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313011	MW-18	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313012	MW-19	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313013	MW-20	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313014	MW-21	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313015	MW-22	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313016	USGS-1A	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313017	USGS-2A	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313018	USGS-3A	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313019	USGS-4A	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313020	SCL DW	Diesel Range Organics	OEXT/28513	Diesel Range Organics	GCSV/15277
10299313021	Field Blank	Diesel Range Organics	OEXT/28534	Diesel Range Organics	GCSV/15276
10299313022	Duplicate (MW-10)	Diesel Range Organics	OEXT/28534	Diesel Range Organics	GCSV/15276

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10299313001	MW-1	EPA 8260	MSV/30802		
10299313002	MW-4	EPA 8260	MSV/30802		
10299313003	MW-6	EPA 8260	MSV/30802		
10299313004	MW-7	EPA 8260	MSV/30802		
10299313005	MW-8	EPA 8260	MSV/30789		
10299313006	MW-9	EPA 8260	MSV/30789		
10299313007	MW-10	EPA 8260	MSV/30789		
10299313008	MW-16A	EPA 8260	MSV/30789		
10299313009	MW-16B	EPA 8260	MSV/30789		
10299313010	MW-17	EPA 8260	MSV/30789		
10299313011	MW-18	EPA 8260	MSV/30789		
10299313012	MW-19	EPA 8260	MSV/30808		
10299313013	MW-20	EPA 8260	MSV/30808		
10299313014	MW-21	EPA 8260	MSV/30808		
10299313015	MW-22	EPA 8260	MSV/30808		
10299313016	USGS-1A	EPA 8260	MSV/30823		
10299313017	USGS-2A	EPA 8260	MSV/30808		
10299313018	USGS-3A	EPA 8260	MSV/30808		
10299313019	USGS-4A	EPA 8260	MSV/30808		
10299313020	SCL DW	EPA 8260	MSV/30808		
10299313021	Field Blank	EPA 8260	MSV/30808		
10299313022	Duplicate (MW-10)	EPA 8260	MSV/30808		
10299313023	TRIP BLANK	EPA 8260	MSV/30808		
10299313001	MW-1	SM 4500-NO3 H	WETA/22163		
10299313002	MW-4	SM 4500-NO3 H	WETA/22163		
10299313003	MW-6	SM 4500-NO3 H	WETA/22163		
10299313004	MW-7	SM 4500-NO3 H	WETA/22163		
10299313005	MW-8	SM 4500-NO3 H	WETA/22163		
10299313006	MW-9	SM 4500-NO3 H	WETA/22163		
10299313007	MW-10	SM 4500-NO3 H	WETA/22163		
10299313008	MW-16A	SM 4500-NO3 H	WETA/22163		
10299313009	MW-16B	SM 4500-NO3 H	WETA/22163		
10299313010	MW-17	SM 4500-NO3 H	WETA/22163		
10299313011	MW-18	SM 4500-NO3 H	WETA/22163		
10299313012	MW-19	SM 4500-NO3 H	WETA/22163		
10299313013	MW-20	SM 4500-NO3 H	WETA/22163		
10299313014	MW-21	SM 4500-NO3 H	WETA/22163		
10299313015	MW-22	SM 4500-NO3 H	WETA/22163		
10299313016	USGS-1A	SM 4500-NO3 H	WETA/22163		
10299313017	USGS-2A	SM 4500-NO3 H	WETA/22163		
10299313018	USGS-3A	SM 4500-NO3 H	WETA/22163		
10299313019	USGS-4A	SM 4500-NO3 H	WETA/22163		
10299313020	SCL DW	SM 4500-NO3 H	WETA/22163		
10299313021	Field Blank	SM 4500-NO3 H	WETA/22164		
10299313022	Duplicate (MW-10)	SM 4500-NO3 H	WETA/22164		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake
Pace Project No.: 10299313

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10299313001	MW-1	ASTM D516	WETA/22153		
10299313002	MW-4	ASTM D516	WETA/22153		
10299313003	MW-6	ASTM D516	WETA/22153		
10299313004	MW-7	ASTM D516	WETA/22155		
10299313005	MW-8	ASTM D516	WETA/22155		
10299313006	MW-9	ASTM D516	WETA/22155		
10299313007	MW-10	ASTM D516	WETA/22155		
10299313008	MW-16A	ASTM D516	WETA/22155		
10299313009	MW-16B	ASTM D516	WETA/22155		
10299313010	MW-17	ASTM D516	WETA/22155		
10299313011	MW-18	ASTM D516	WETA/22155		
10299313012	MW-19	ASTM D516	WETA/22155		
10299313013	MW-20	ASTM D516	WETA/22155		
10299313014	MW-21	ASTM D516	WETA/22155		
10299313015	MW-22	ASTM D516	WETA/22155		
10299313016	USGS-1A	ASTM D516	WETA/22155		
10299313017	USGS-2A	ASTM D516	WETA/22155		
10299313018	USGS-3A	ASTM D516	WETA/22155		
10299313019	USGS-4A	ASTM D516	WETA/22155		
10299313020	SCL DW	ASTM D516	WETA/22155		
10299313021	Field Blank	ASTM D516	WETA/22155		
10299313022	Duplicate (MW-10)	ASTM D516	WETA/22155		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

RUSH
A3-2-5

CHAIN-OF-CUSTODY / Analytical Request Document

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

10299313

Section A

Required Client Information:

Company: **AECOM**
 Address: **11 East Superior Street, Suite 260**
Duluth, MN 55802
 Email To: **darin.albrecht@aecom.com**
 Phone: **(218) 625-8768** Fax: **(218) 625-2201**
 Requested Due Date/TAT: **5 Day Enbridge Standard**

Section B

Required Project Information:

Report To: **Darin Albrecht**
 Copy To:
 Purchase Order No.:
 Project Name: **South Cass Lake**
 Project Number: **60316885**

Section C

Invoice Information:

Attention: **Karl Beaster**
 Company Name: **Enbridge Energy**
 Address: **1100 Louisiana St. Ste 3000**
Houston, TX 77002
 Pace Quote Reference:
 Pace Project Manager: **Carol Davy**
 Pace Profile #: **32482**

Page: **1** of **3**

REGULATORY AGENCY

NPDES GROUND WATER DRINKING WATER
 UST RCRA OTHER

Site Location
 STATE: **MN**

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID CL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test ↓	Requested Analysis Filtered (Y/N)					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	BTEX	Extended Range DRO		Sulfate	Nitrate + Nitrite	Methane				
					DATE	TIME	DATE	TIME			Y	N	Y	N	Y	N	Y	N	Y	N		Y	N	Y	N			
1	MW-1		GW	G	3/10/15	9:52 AM			10	4	1	5																001
2	MW-4		GW	G	3/10/15	10:53 AM			10	4	1	5																002
3	MW-6		GW	G	3/10/15	10:25 AM			10	4	1	5																003
4	MW-7		GW	G	3/10/15	11:37 AM			10	4	1	5																004
5	MW-8		GW	G	3/11/15	10:24 AM			10	4	1	5																005
6	MW-6		GW	G					10	4	1	5																
7	MW-9		GW	G	3/10/15	11:15 AM			10	4	1	5																006
8	MW-10		GW	G	3/11/15	11:38 AM			10	4	1	5																007
9	MW-15		GW	G					10	4	1	5																DD-3125 M
10	MW-16A		GW	G	3/10/15	2:47 PM			10	4	1	5																008
11	MW-16B		GW	G	3/10/15	5:05 PM			10	4	1	5																009
12	MW-17		GW	G	3/10/15	3:35 PM			10	4	1	5																010

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please send Chroms with GRO or DRO hits	Beth Bernhardt, AECOM	3/11/15	5:45 PM	Ali RAZE	3-12-15	9:00	3.5	Y	Y	Y
							3.1			
							5.2			
							5.7			
							3.9			
							2.6			

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: **Beth Bernhardt**

SIGNATURE of SAMPLER: *[Signature]* DATE Signed (MM/DD/YY): **3/11/15**

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

RUSH

CHAIN-OF-CUSTODY / Analytical Request Document

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

10299313

Page: 2 of 3

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		REGULATORY AGENCY		
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beater		NPDES GROUND WATER DRINKING WATER		
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy		UST RCRA OTHER		
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St Suite 3000		Site Location		
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass lake		Pace Quote Reference: Houston, TX 77002		STATE: MN		
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60316885		Pace Project Manager: Carol Davy				
				Pace Profile #: 32482				

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Requested Analysis Filtered (Y/N)						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.					
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test ↓	BTEX	Extended Range DRO	Sulfate	Nitrate + Nitrite	Methane			N	N	N	N	N
					DATE	TIME	DATE	TIME																							
1	MW-18		GW	G	3/10/15	12:37 PM			10	4	1	5																011			
2	MW-19		GW	G	3/10/15	2:50 PM			10	4	1	5																012			
3	MW-20		GW	G	3/11/15	09:43 AM			10	4	1	5																013			
4	MW-21		GW	G	3/10/15	3:21 PM			10	4	1	5																014			
5	MW-22		GW	G	3/10/15	12:15 PM			10	4	1	5																015			
6	USGS-1A		GW	G	3/11/15	10:25 AM			10	4	1	5																016			
7	USGS-2A		GW	G	3/11/15	11:00 AM			10	4	1	5																017			
8	USGS-3A		GW	G	3/11/15	09:20 AM			10	4	1	5																018			
9	USGS-4A		GW	G	3/11/15	10:00 AM			10	4	1	5																019			
10	SCL DW		GW	G	3/11/15	12:15 PM			10	4	1	5																020			
11	Field Blank		GW	G	3/11/15	11:35 AM			10	4	1	5																021			
12	Duplicate (MW-10)		GW	G	3/11/15	11:38 AM			10	4	1	5																022			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please send Chroms with GRO or DRO hits	Beth Bernhardt, AECOM	3/11/15	5:45 PM	CA PAER	3-12-15	9:40	3.5	4	4	4
							2.1			
							5.2			
							5.7			
							3.9			
							2.6			

SAMPLER NAME AND SIGNATURE				Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Beth Bernhardt							
SIGNATURE of SAMPLER: <i>Beth Bernhardt</i>			DATE Signed (MM/DD/YY): 3/11/15				

*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.

RUSH
14-3-12-15

CHAIN-OF-CUSTODY / Analytical Request Document

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

10299313

Section A
Required Client Information:

Company: AECOM
Address: 11 East Superior Street, Suite 260
Duluth, MN 55802
Email To: darin.albrecht@aecom.com
Phone: (218) 625-8768 Fax: (218) 625-2201
Requested Due Date/TAT: 5 Day Enbridge Standard

Section B
Required Project Information:

Report To: Darin Albrecht
Copy To:
Purchase Order No.:
Project Name: South Cass Lake
Project Number: 60316885

Section C
Invoice Information:

Attention: Karl Beater
Company Name: Enbridge Energy
Address: 1100 Louisiana St. Suite 3000
Houtson, TX 77002
Pace Quote Reference:
Pace Project Manager: Carol Davy
Pace Profile #: 32482

Page: 3 of 3

REGULATORY AGENCY
NPDES GROUND WATER DRINKING WATER
UST RCRA OTHER
Site Location: MN
STATE: MN

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.													
					COMPOSITE START		COMPOSITE END/GRAB				Analysis Test	N	N	N	N	N																			
	SAMPLE ID (A-Z, 0-9 / . -) Sample IDs MUST BE UNIQUE	DRINKING WATER DW WATER WT WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS			DATE	TIME	DATE	TIME		Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test	BTEX	Extended Range DRO	Sulfate	Nitrate + Nitrite	Methane												
1	Trip Blank		OT	-					10	4	1		5							3	2	1	1	3									023		
2																																			
3																																			
4																																			
5																																			
6																																			
7																																			
8																																			
9																																			
10																																			
11																																			
12																																			

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please send Chroms with GRO or DRO hits	Beth Bernhardt, AECOM	3/11/15	5:45 PM	AKR AFE	3-12-15	9:40	3.5	4	4	4
							3.1			
							5.2			
							5.7			
							3.9			
							2.6			

SAMPLER NAME AND SIGNATURE
 PRINT Name of SAMPLER: Beth Bernhardt
 SIGNATURE of SAMPLER: *Beth Bernhardt*
 DATE Signed (MM/DD/YY): 3/11/15

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

Sample Condition Upon Receipt

Client Name:

AECOM

Project #:

WO# : 10299313



Courier: Fed Ex UPS USPS Client

Commercial Pace Speedee Other: _____

Tracking Number: see exceptions sheet

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: B88A9130516413 B88A912167504 B88A9132521491 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): see exceptions Cooler Temp Corrected (°C): see exceptions Biological Tissue Frozen? Yes No N/A
Temp should be above freezing to 6°C Correction Factor: five, to 1 Date and Initials of Person Examining Contents: 3-12-15 AA

Comments:

Chain of Custody Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	1.	
Chain of Custody Filled Out?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	2.	
Chain of Custody Relinquished?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	3.	
Sampler Name and/or Signature on COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	4.	
Samples Arrived within Hold Time?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	5.	
Short Hold Time Analysis (<72 hr)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	6.	
Rush Turn Around Time Requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	7.	
Sufficient Volume?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	8.	
Correct Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	9.	
-Pace Containers Used?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A		
Containers Intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	10.	
Filtered Volume Received for Dissolved Tests?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> N/A	11.	
Sample Labels Match COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	12.	
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>				
All containers needing acid/base preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	13.	<input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A		Sample # <u>1-22</u>
Exceptions: VOA, Coliform, TOC, Oil and Grease, <u>DRO/8015 (water) DOC</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	14.	
Trip Blank Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A	15.	
Trip Blank Custody Seals Present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> N/A		
Pace Trip Blank Lot # (if purchased): <u>021815-01</u>				

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: _____ Date/Time: _____


Comments/Resolution: _____

Project Manager Review: _____

AA

Date: 3-12-15

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)

	Document Name: SCUR Exceptions Form	Document Revised: 16Apr2012 Page 1 of 1
	Document No.: F-MN-L-220-Rev.00	Issuing Authority: Pace Minnesota Quality Office

Workorder #: 10299313

Issue	Sample ID	Container Type/#
tracking Number	read temp °C (correction factor)	corrected temp °C
7803 3301 6267	3.5 (true)	3.5
7803 3301 6289	3.1 (true)	3.1
7803 3301 6245	5.2 (true)	5.2
7803 3301 6256	5.7 (true)	5.7
8057 6073 8582	3.9 (true)	3.9
7803 3301 6278	2.5 (+0.1)	2.6

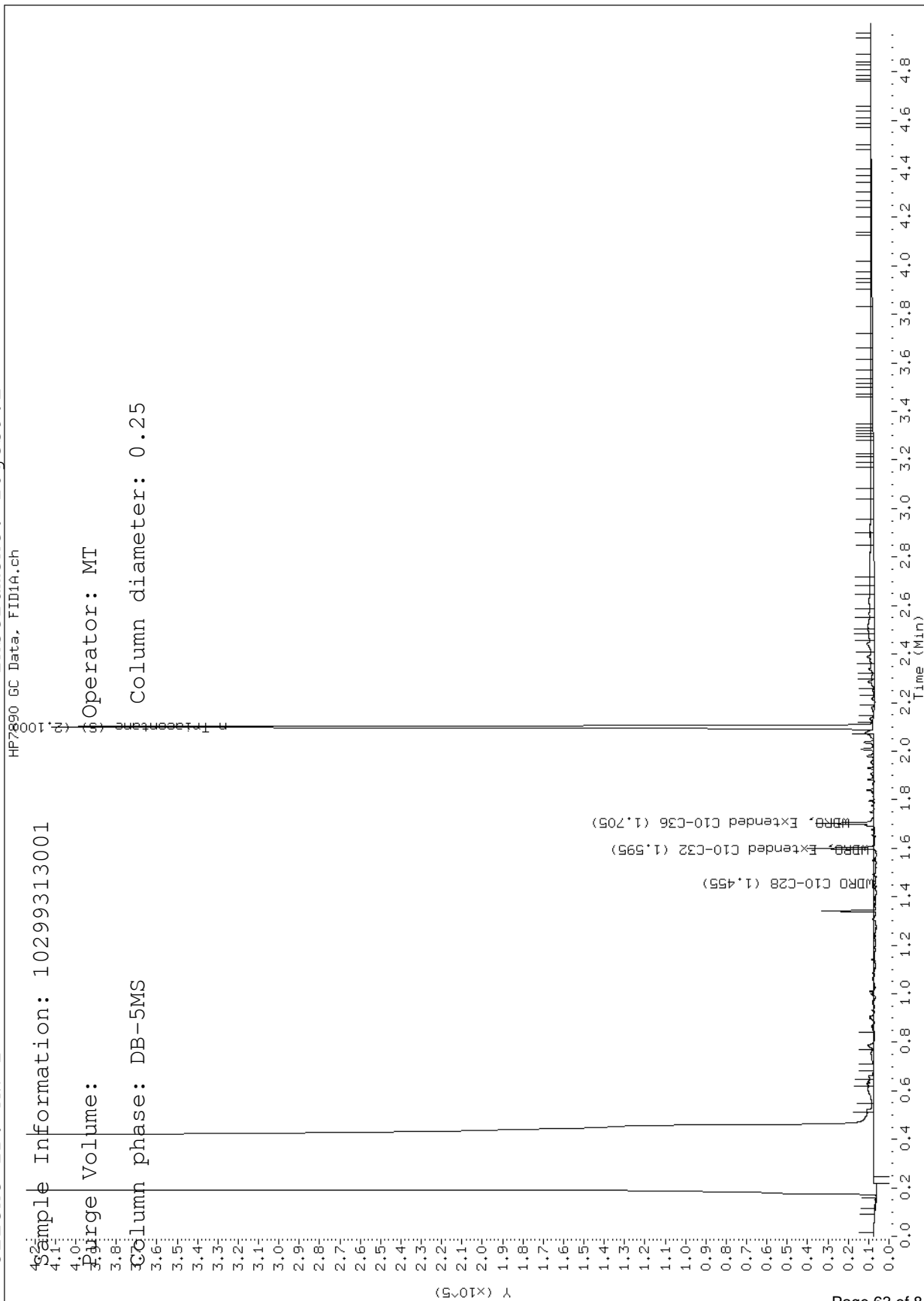
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000007.D

Report Date: 03/18/2015

Sample ID: 10299313001

Client ID: MW-1

Instrument: 10gcs9.i



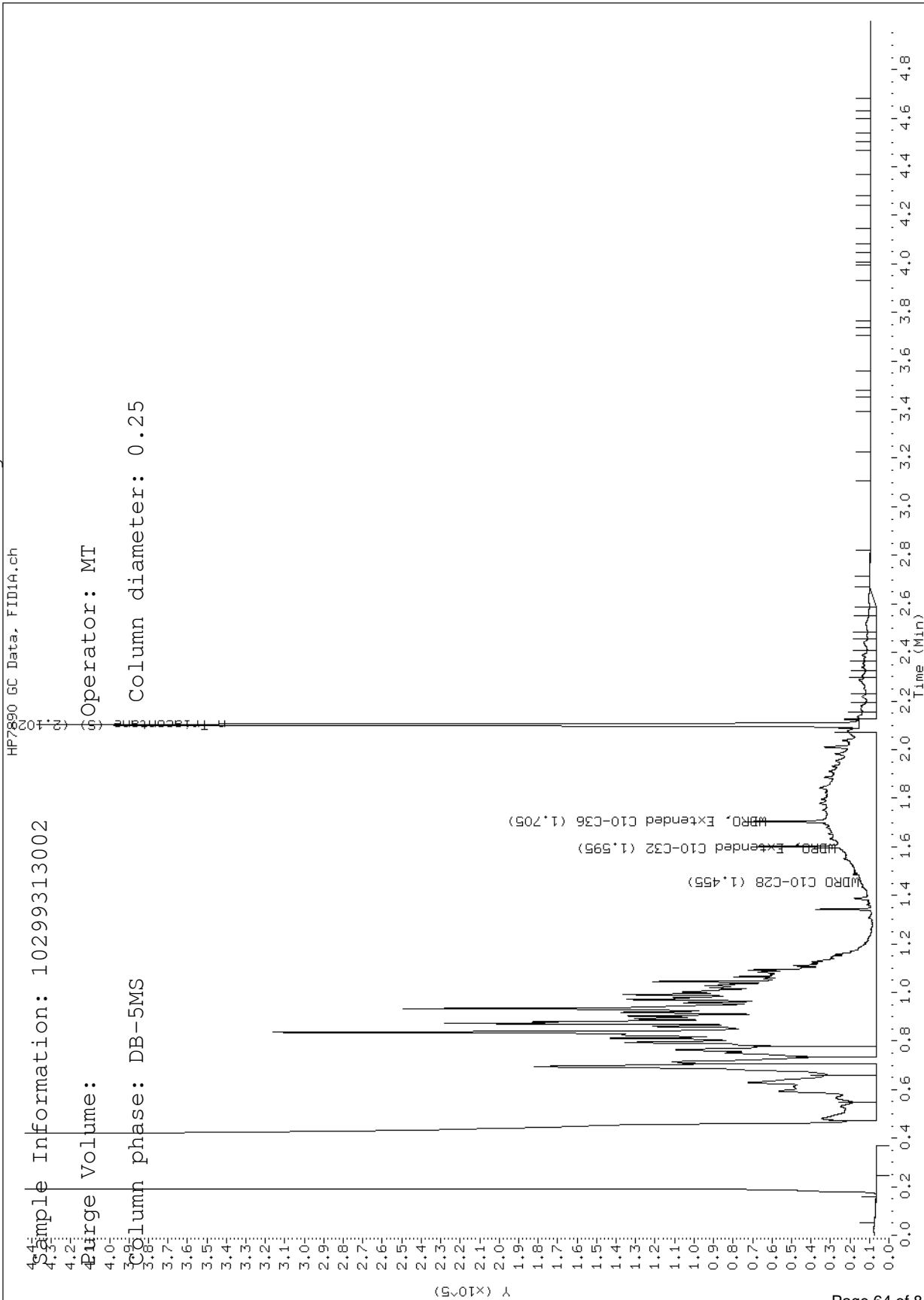
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000008.D

Report Date: 03/18/2015

Sample ID: 10299313002

Client ID: MW-4

Instrument: 10gcs9.i



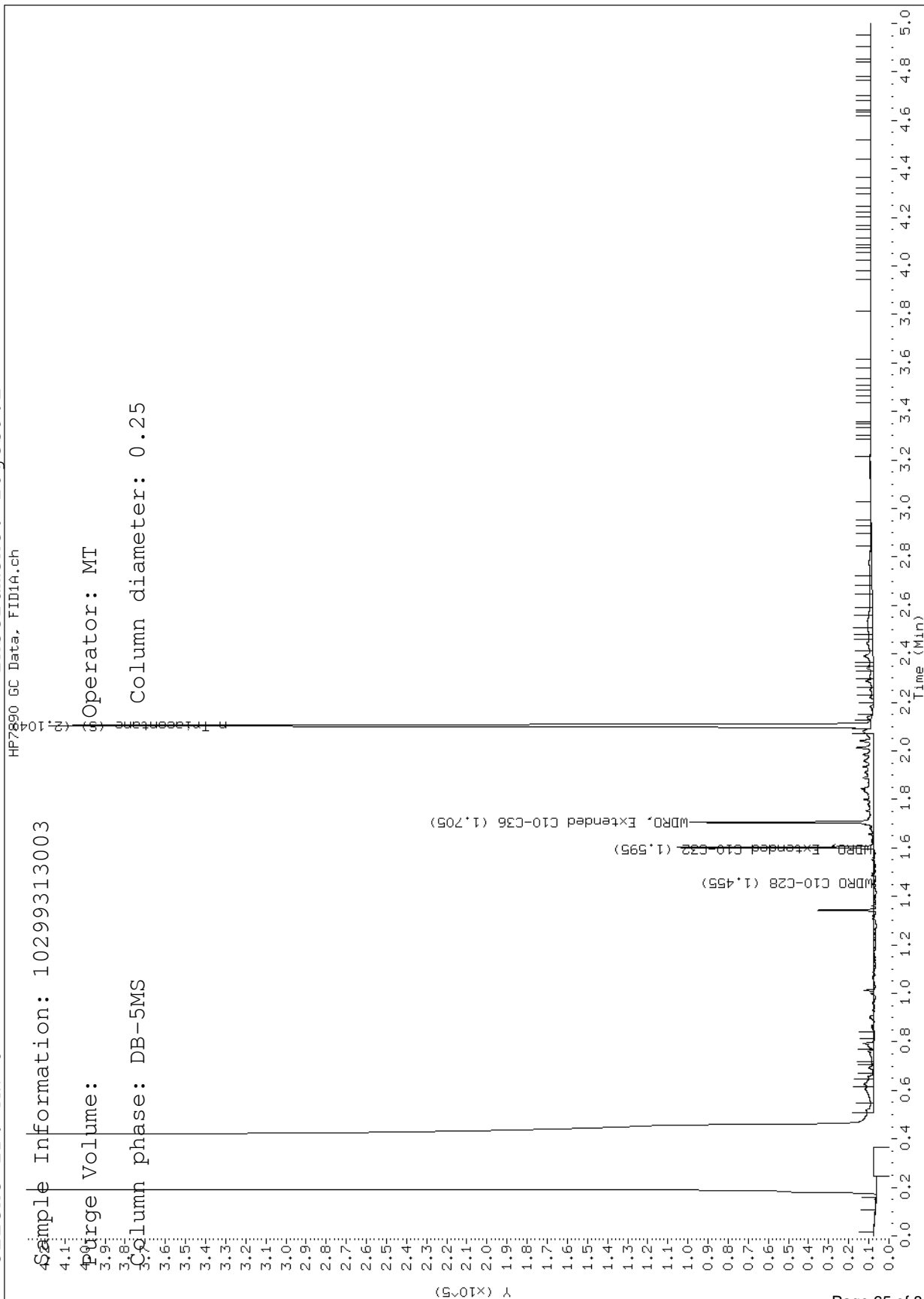
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000009.D

Report Date: 03/18/2015

Sample ID: 10299313003

Client ID: MW-6

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000010.D

Report Date: 03/18/2015

Sample ID: 10299313004

Client ID: MW-7

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

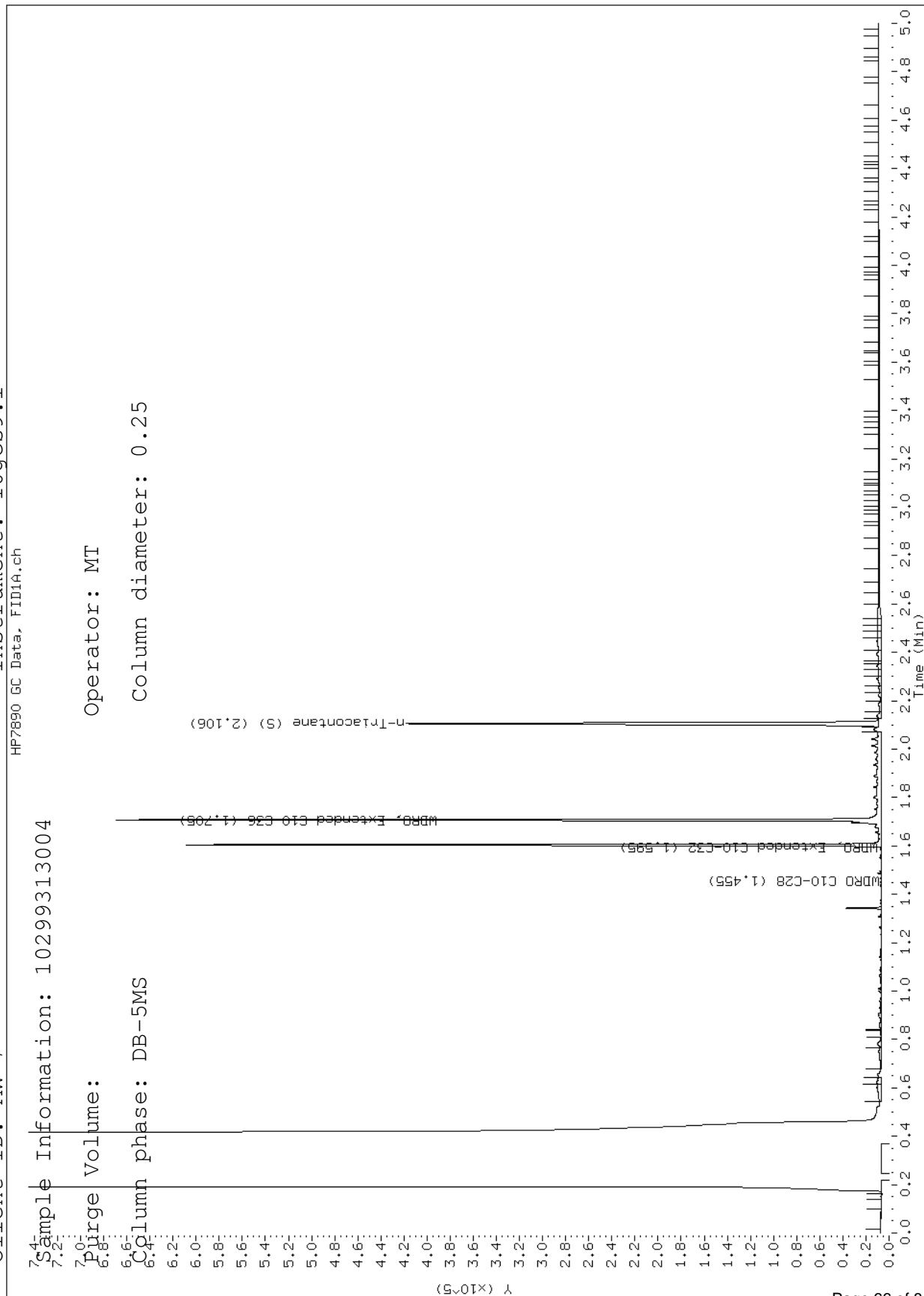
Sample Information: 10299313004

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



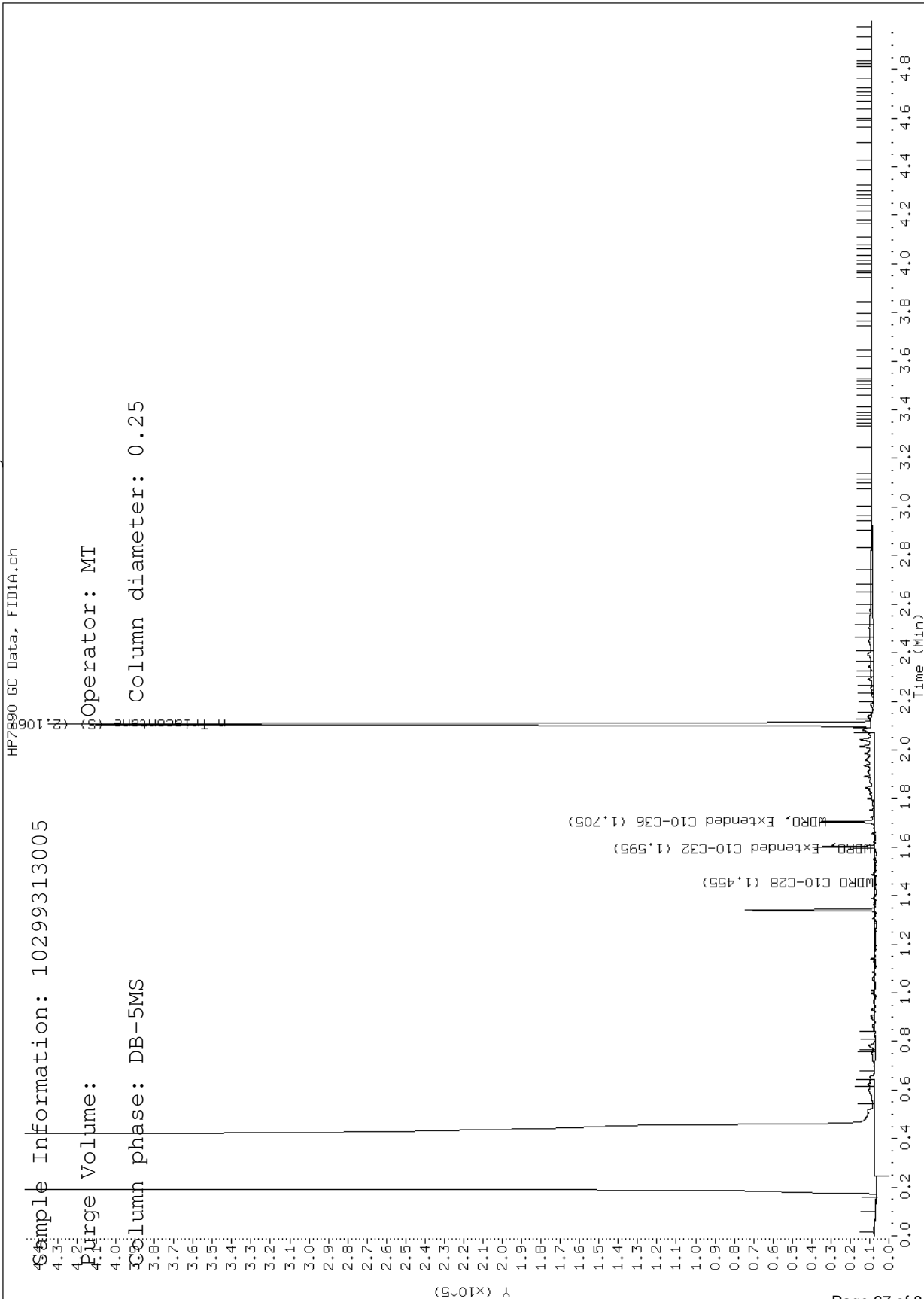
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000011.D

Report Date: 03/18/2015

Sample ID: 10299313005

Client ID: MW-8

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000012.D

Report Date: 03/18/2015

Sample ID: 10299313006

Client ID: MW-9

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

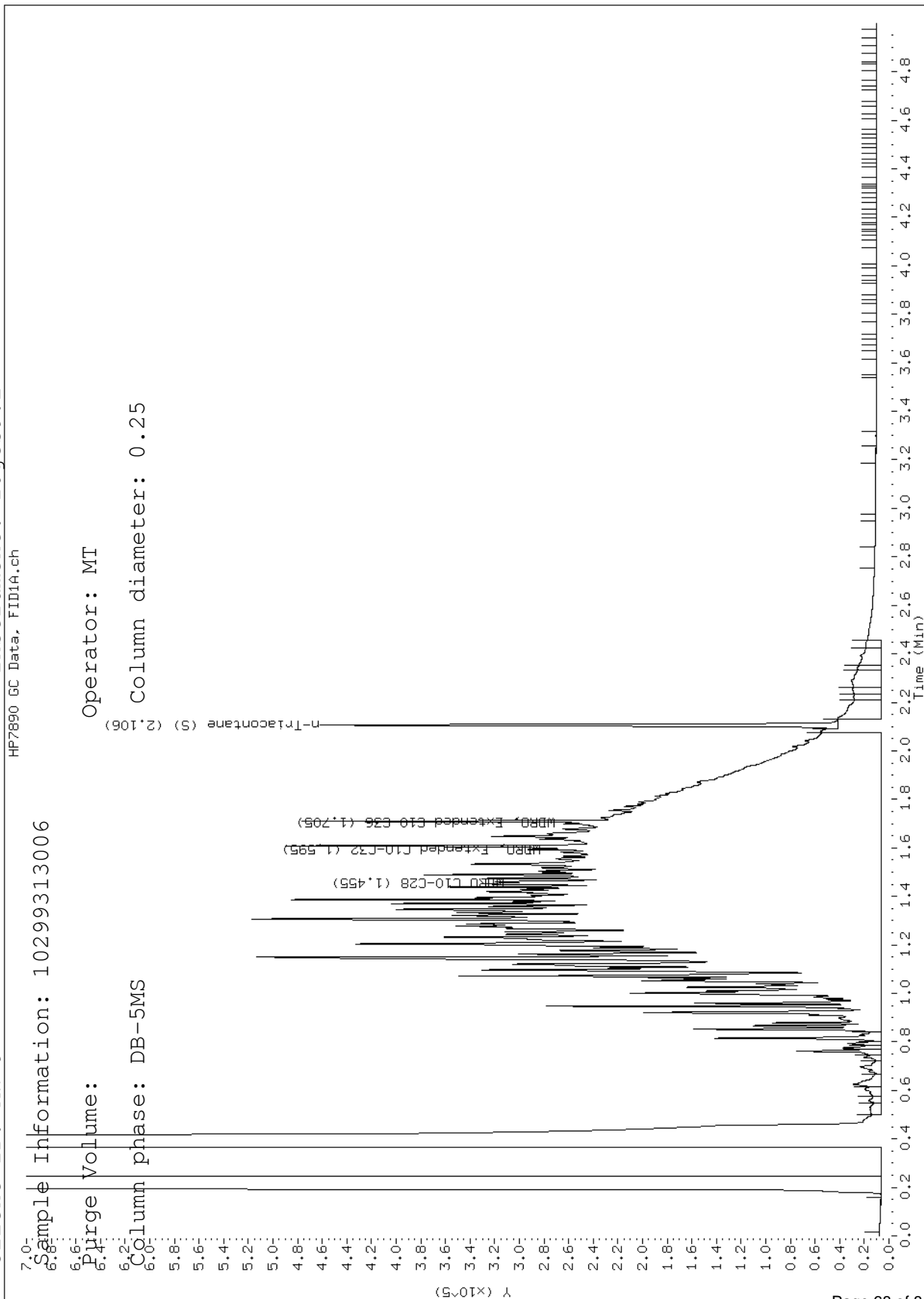
Sample Information: 10299313006

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000034.D

Report Date: 03/18/2015

Sample ID: 10299313007

Client ID: MW-10

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

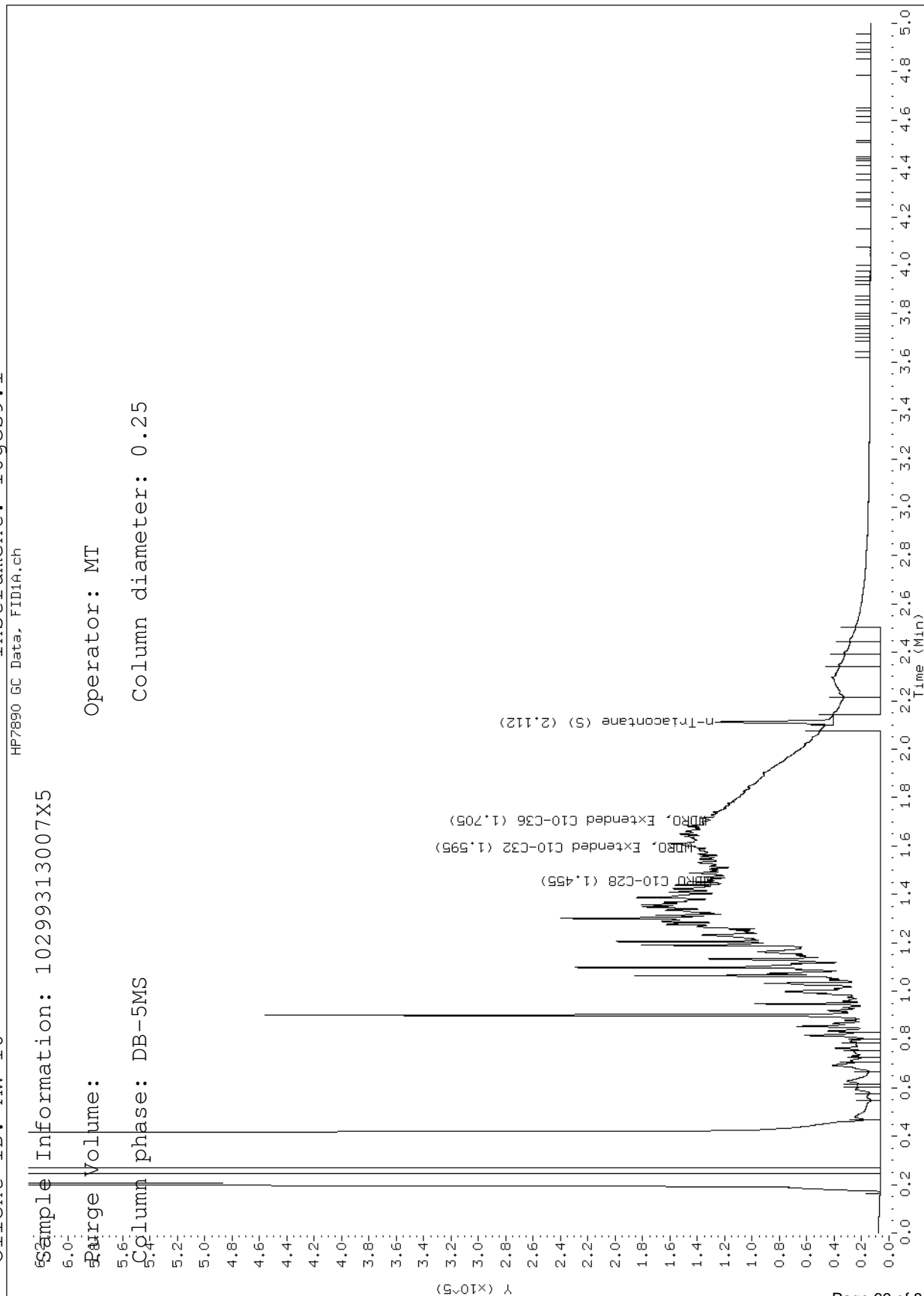
Sample Information: 10299313007X5

Sample Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



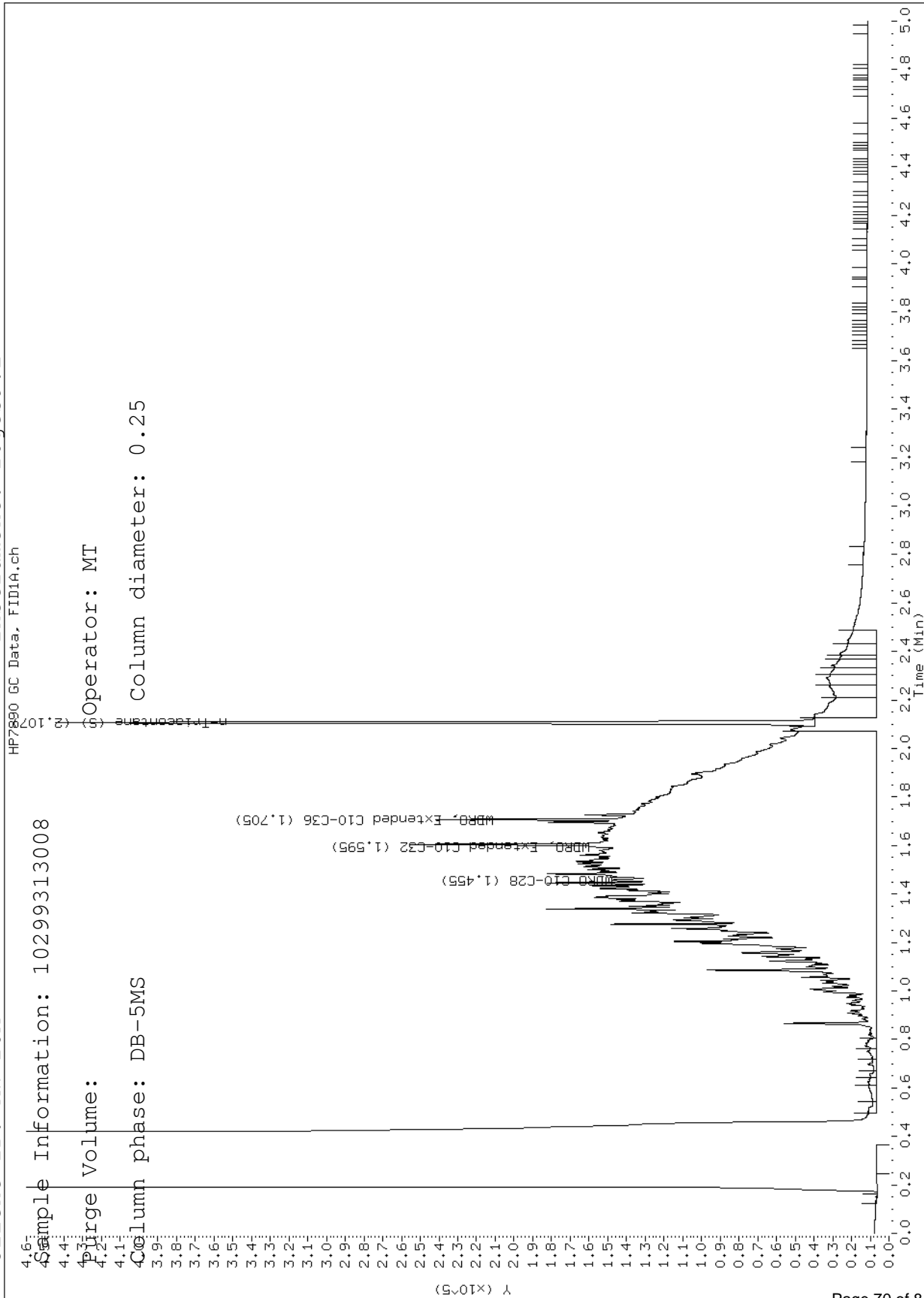
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000014.D

Report Date: 03/18/2015

Sample ID: 10299313008

Client ID: MW-16A

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000015.D

Report Date: 03/18/2015

Sample ID: 10299313009

Client ID: MW-16B

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

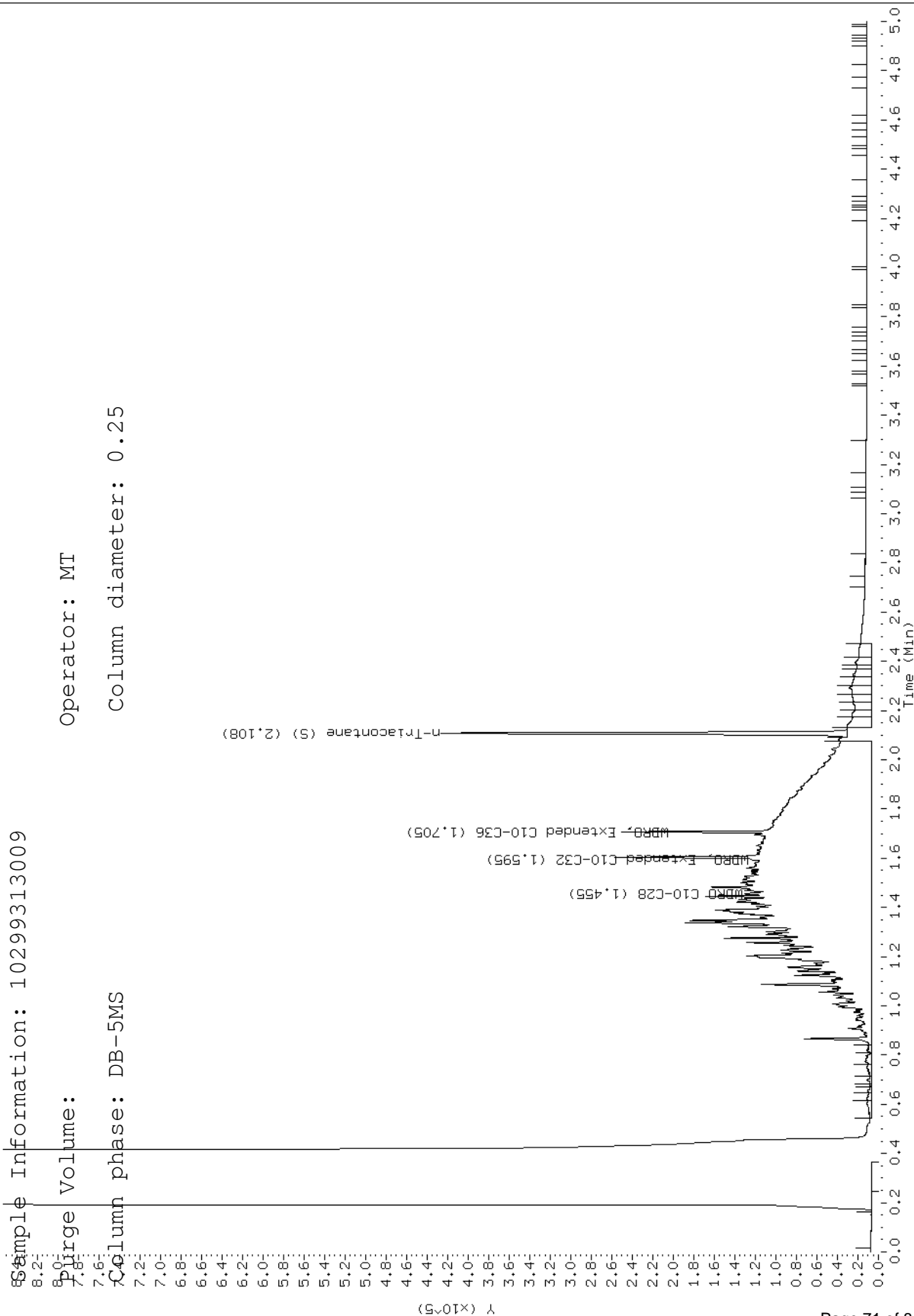
Sample Information: 10299313009

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



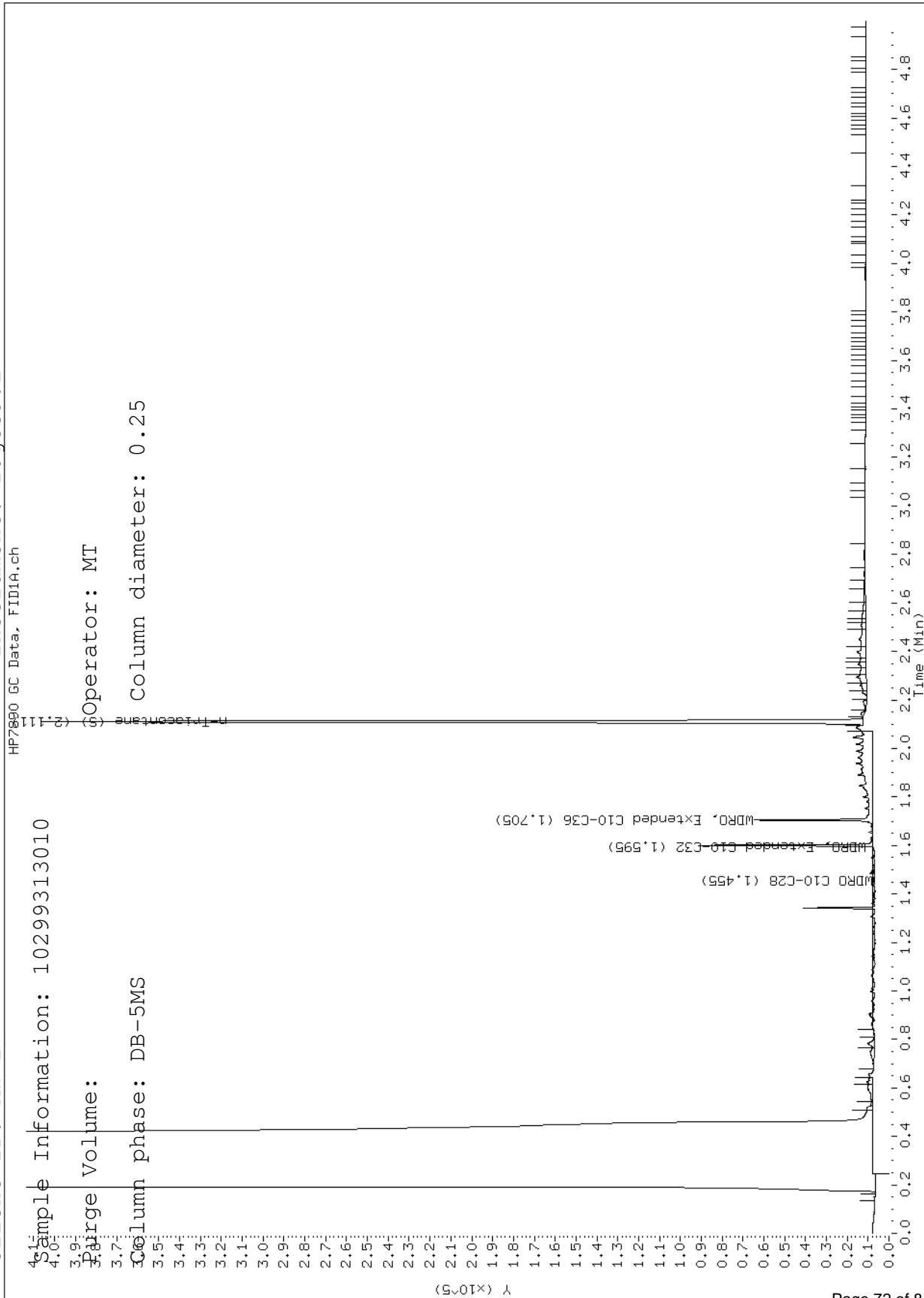
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000016.D

Report Date: 03/18/2015

Sample ID: 10299313010

Client ID: MW-17

Instrument: 10gcs9.i



Sample Information: 10299313010
Purge Volume: 3.7
Column phase: DB-5MS
Column diameter: 0.25

Operator: MT

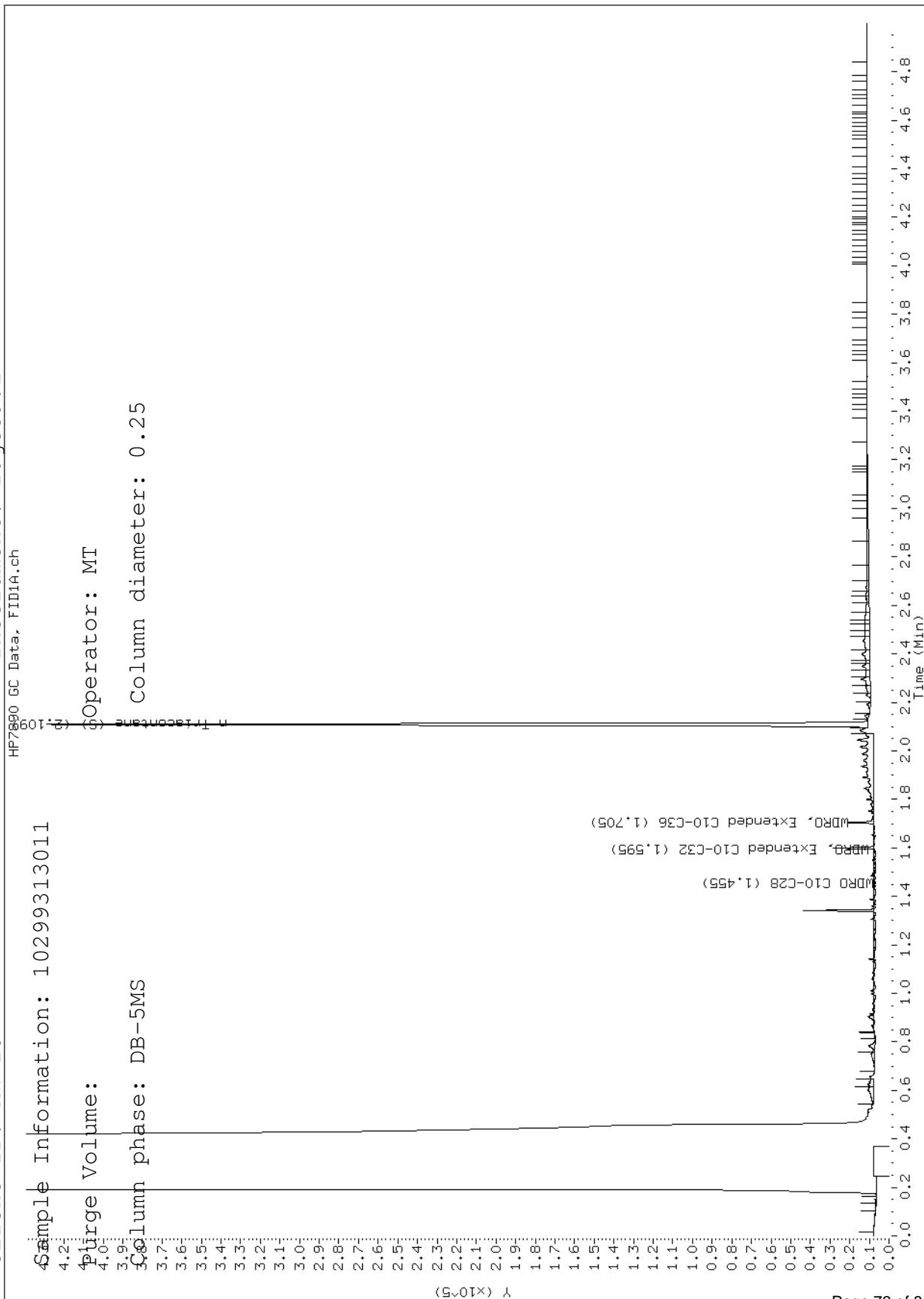
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000017.D

Report Date: 03/18/2015

Sample ID: 10299313011

Client ID: MW-18

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000018.D

Report Date: 03/18/2015

Sample ID: 10299313012

Client ID: MW-19

Instrument: 10gcs9.i

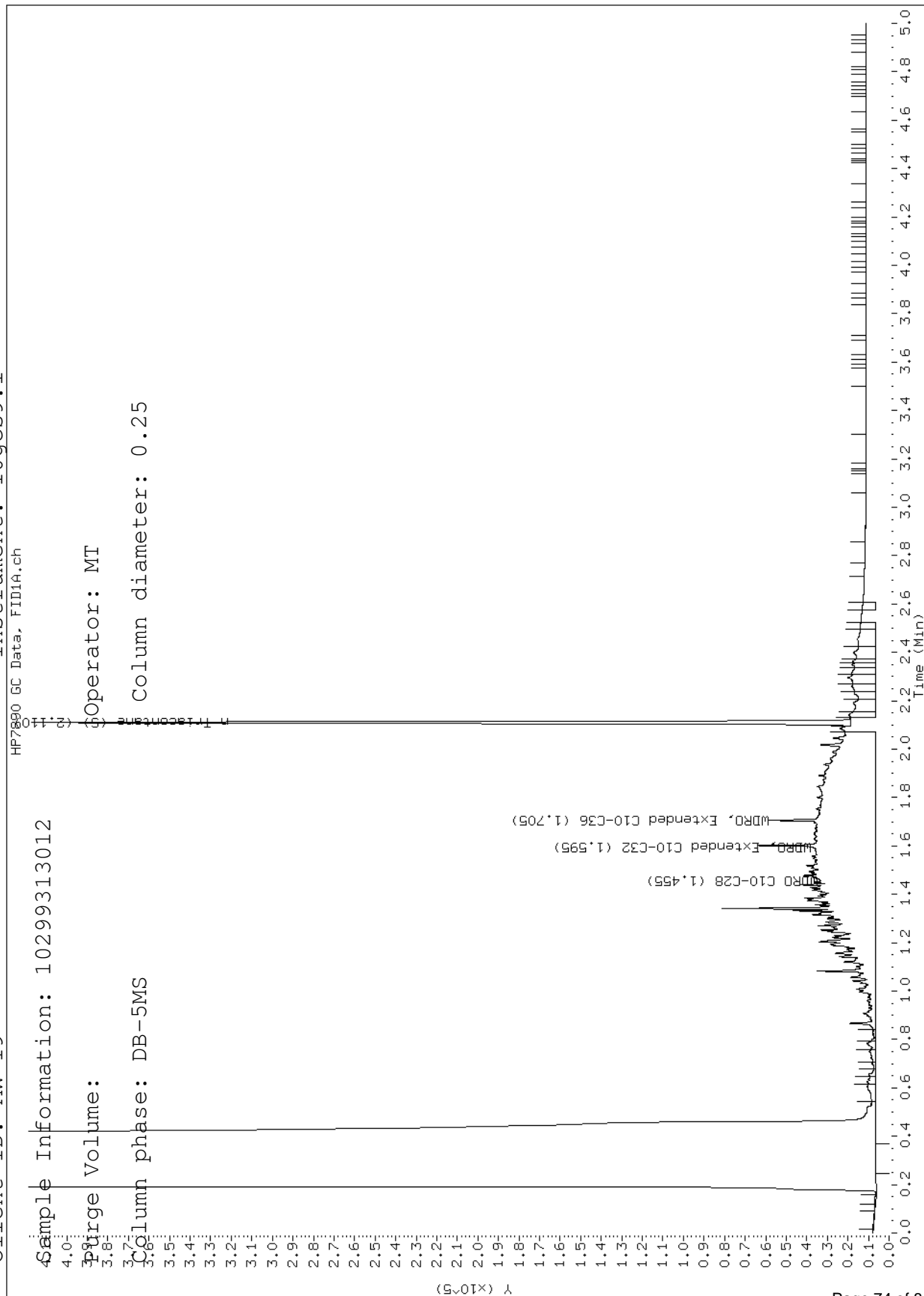
Sample Information: 10299313012

Purge Volume: 3.8

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



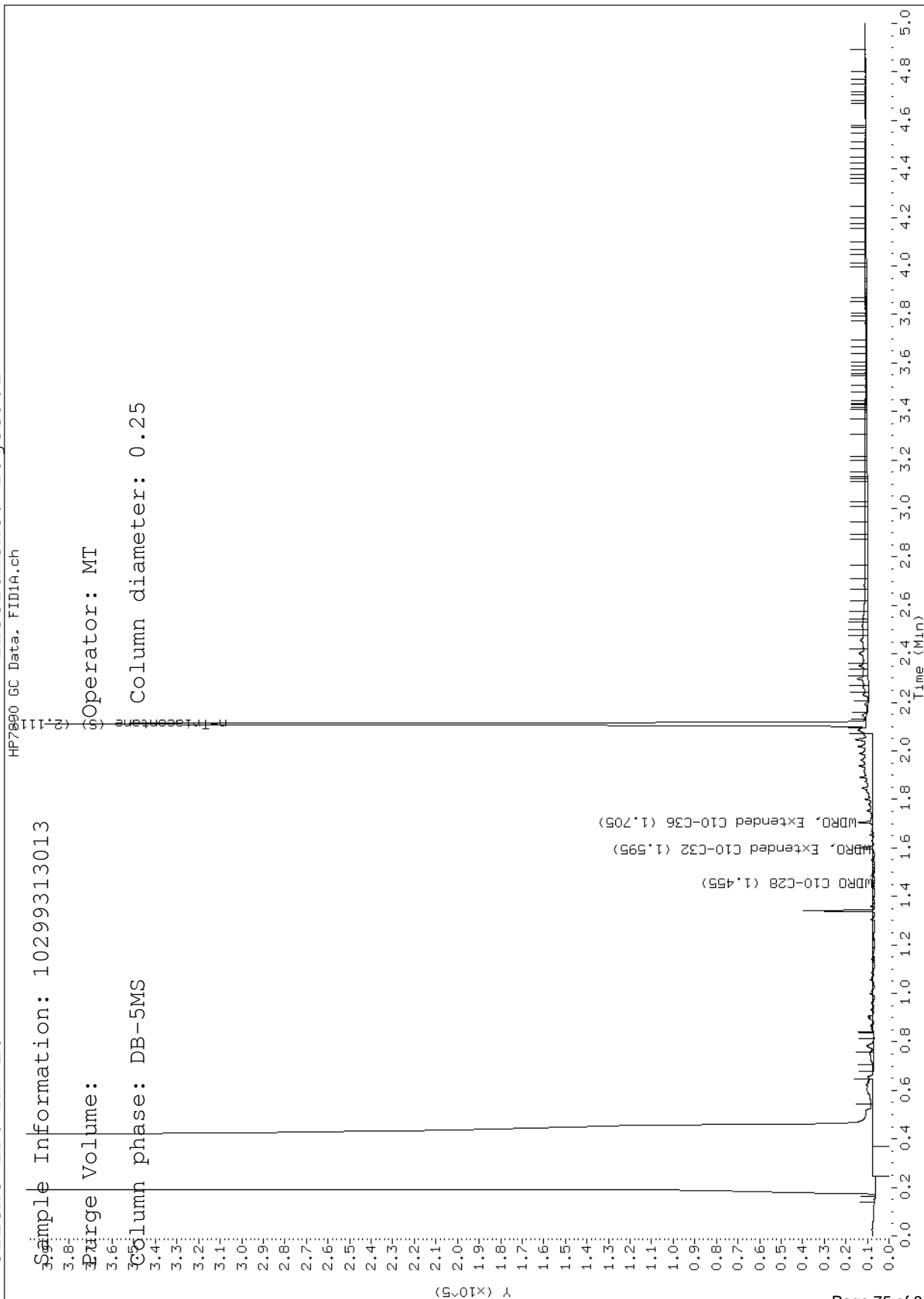
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000019.D

Report Date: 03/18/2015

Sample ID: 10299313013

Client ID: MW-20

Instrument: 10gcs9.i



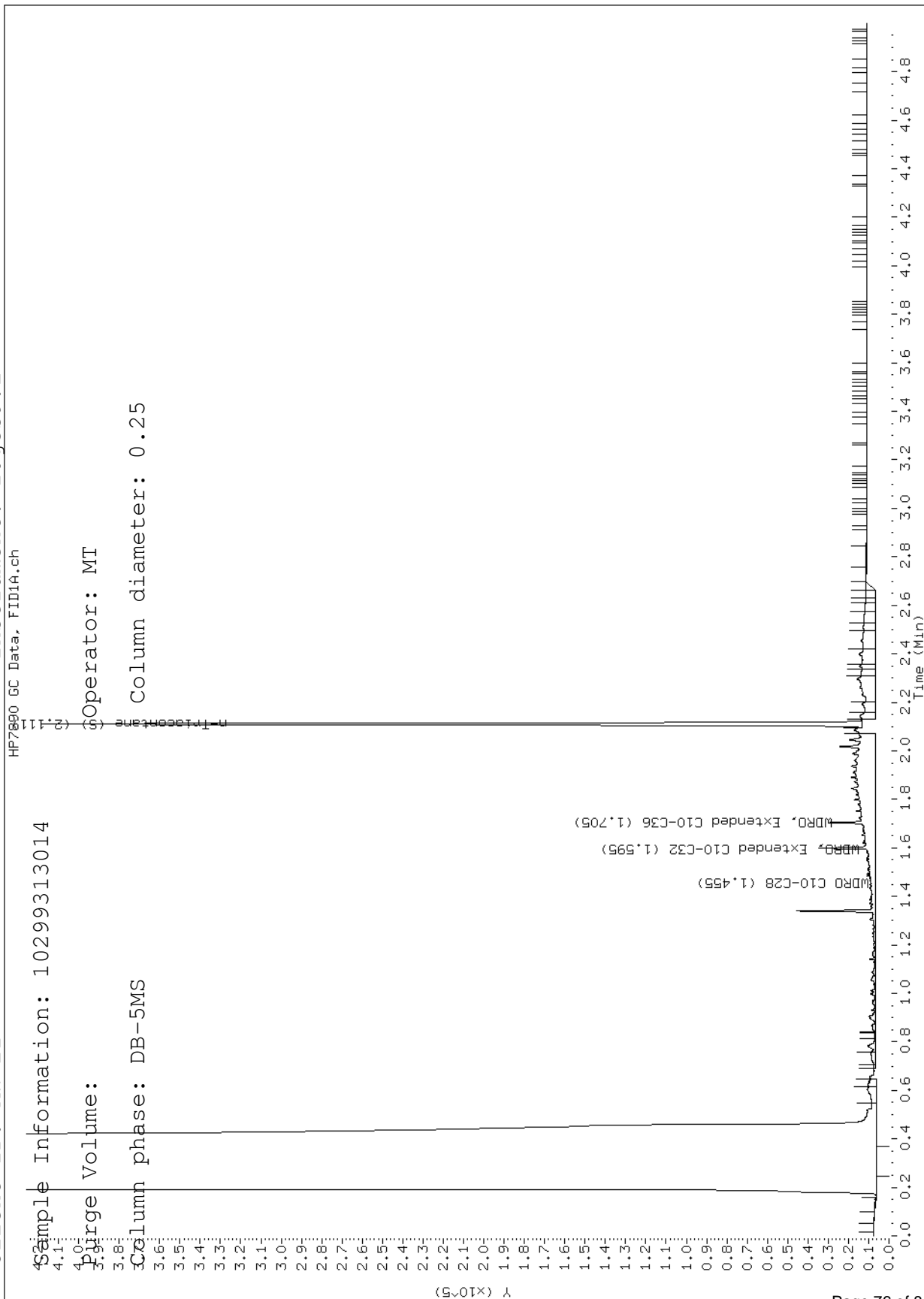
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000020.D

Report Date: 03/18/2015

Sample ID: 10299313014

Client ID: MW-21

Instrument: 10gcs9.i



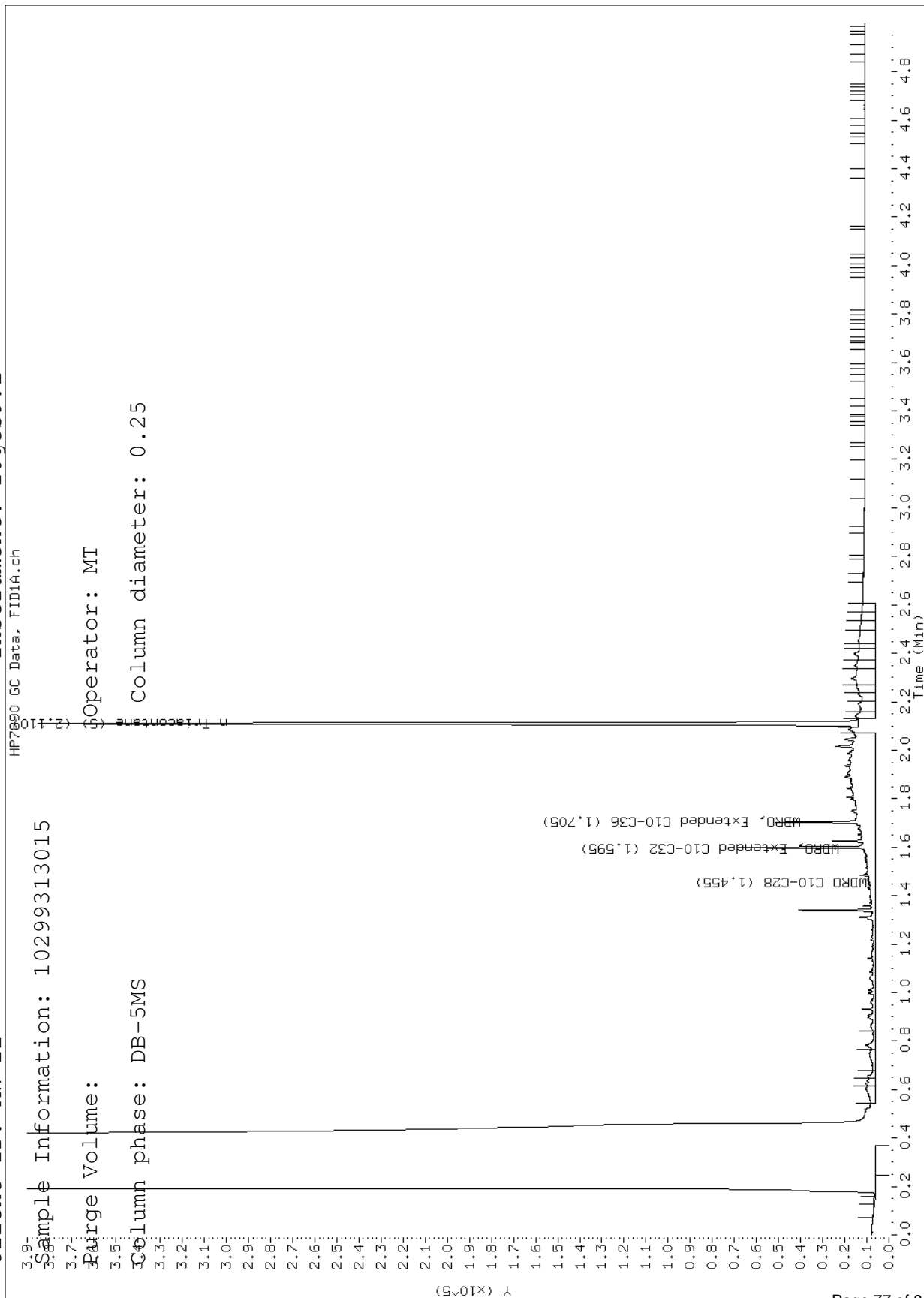
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000021.D

Report Date: 03/18/2015

Sample ID: 10299313015

Client ID: MW-22

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000022.D

Report Date: 03/18/2015

Sample ID: 10299313016

Client ID: USGS-1A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

Sample Information: 10299313016

Purge Volume:

Operator: MT

1.0-

Column phase: DB-5MS

Column diameter: 0.25

0.9-

0.8-

0.7-

0.6-

0.5-

0.4-

0.3-

0.2-

0.1-

0.0-

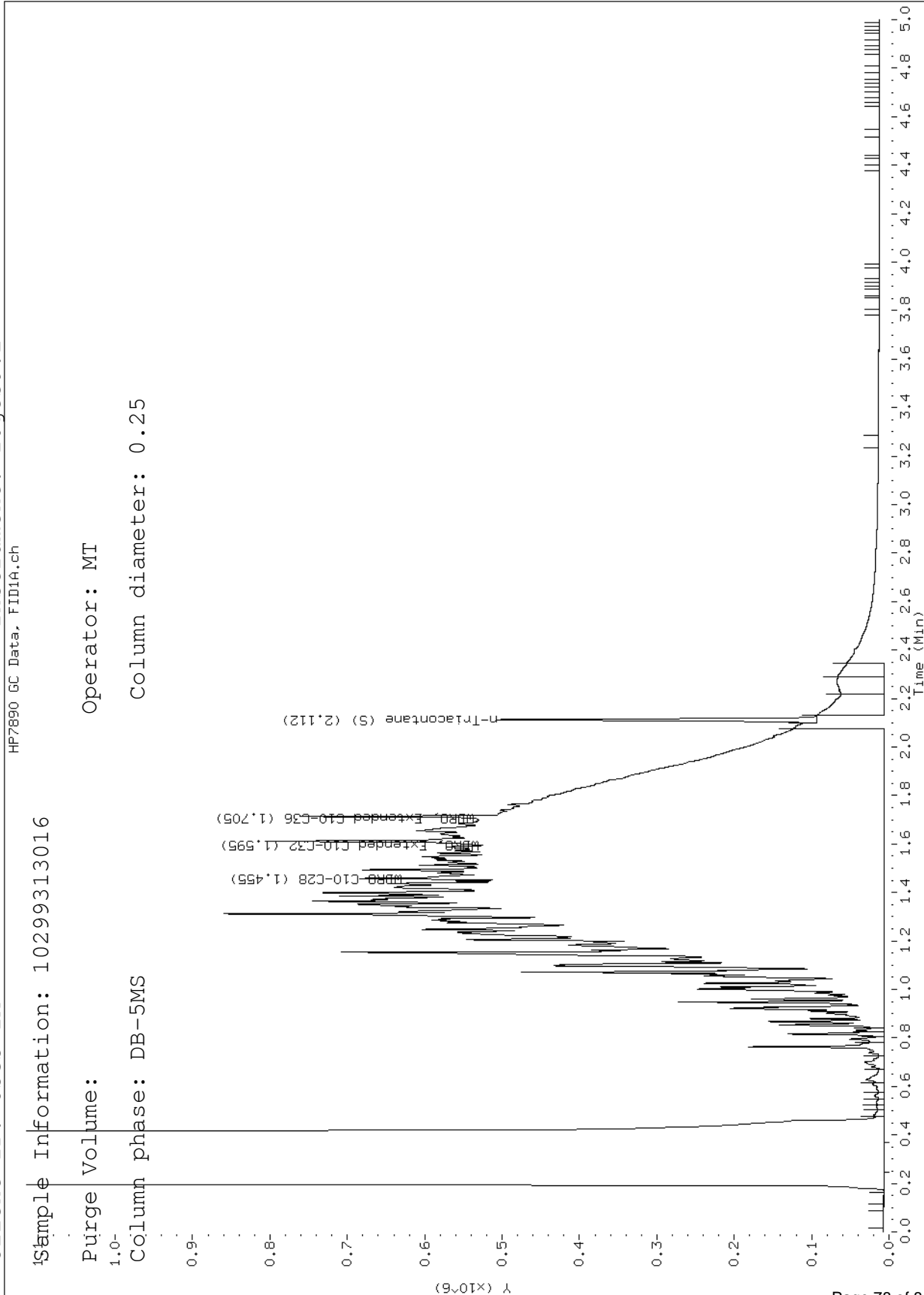
1.455

1.595

1.705

n-Triscontane (S) (2.112)

Time (Min)



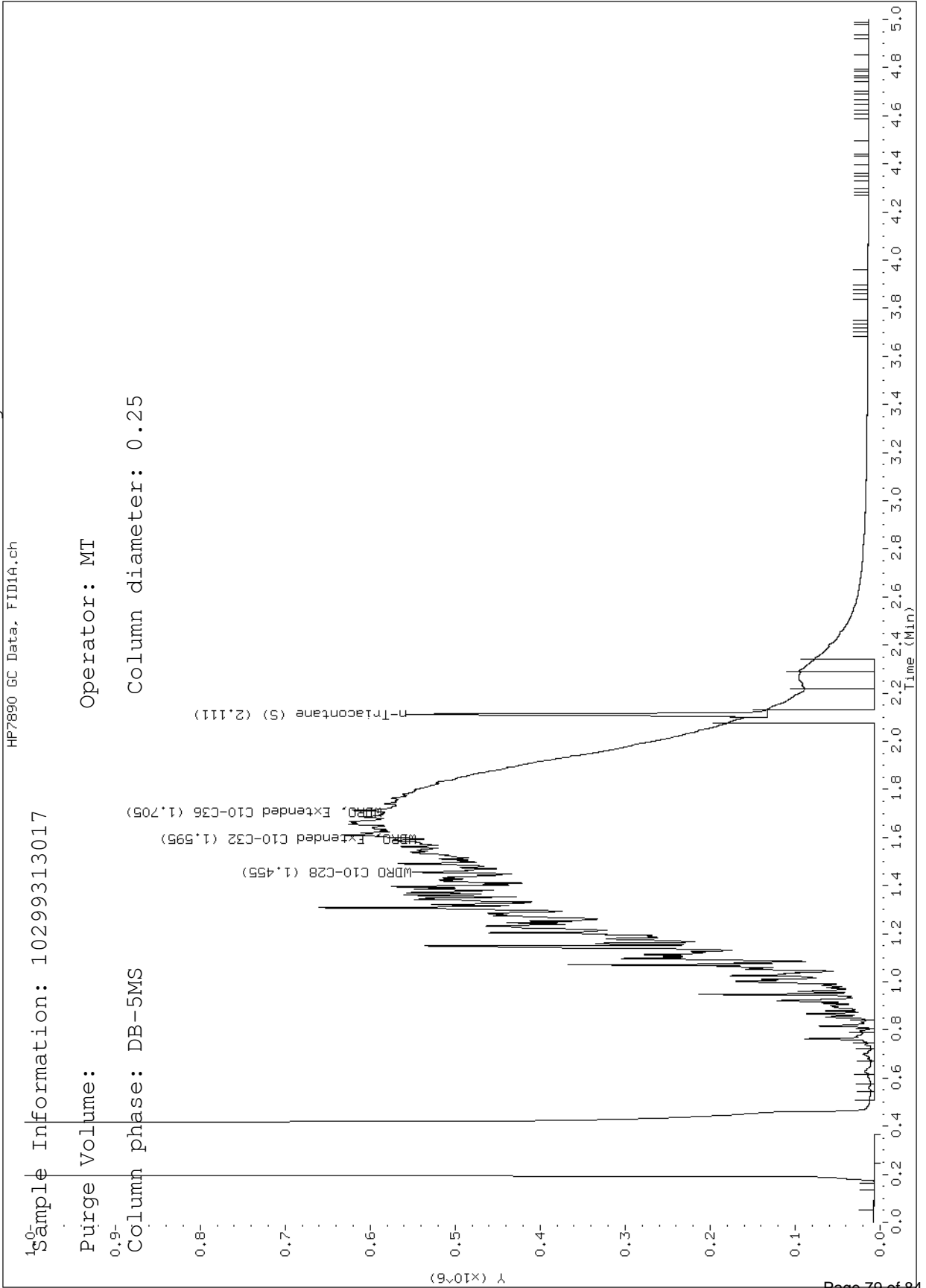
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000023.D

Report Date: 03/18/2015

Sample ID: 10299313017

Client ID: USGS-2A

Instrument: 10gcs9.i



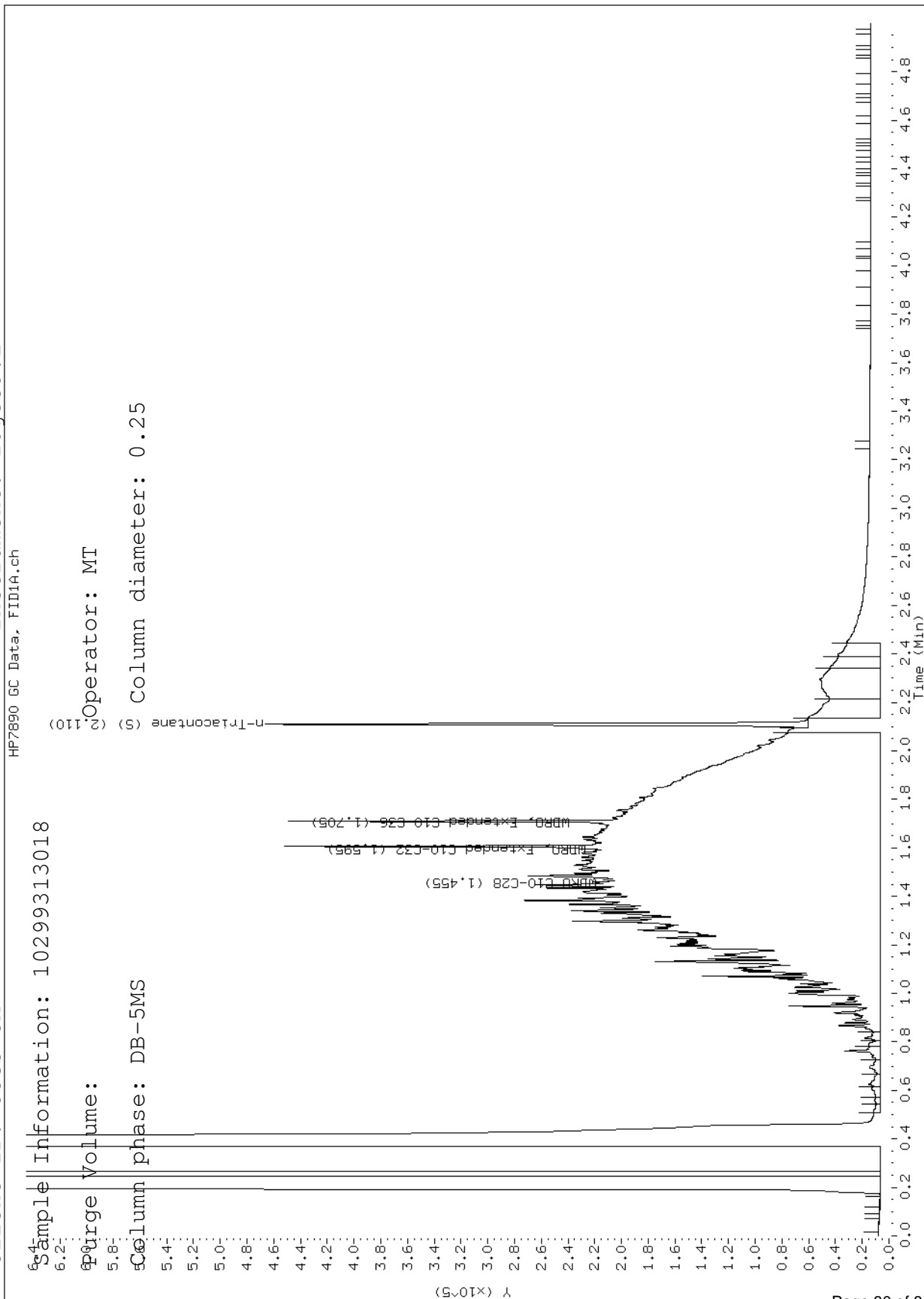
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000024.D

Report Date: 03/18/2015

Sample ID: 10299313018

Client ID: USGS-3A

Instrument: 10gcs9.i



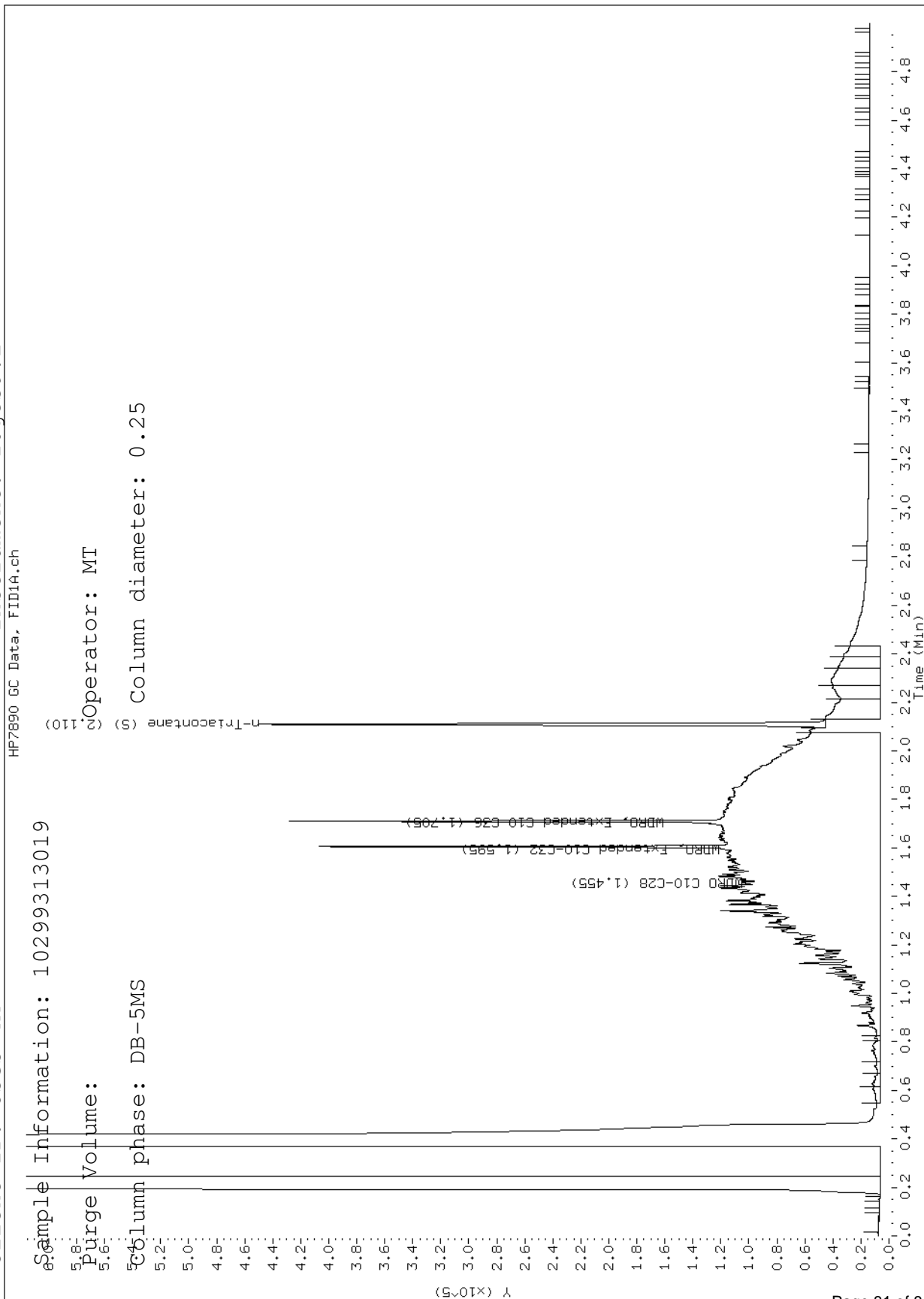
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000025.D

Report Date: 03/18/2015

Sample ID: 10299313019

Client ID: USGS-4A

Instrument: 10gcs9.i



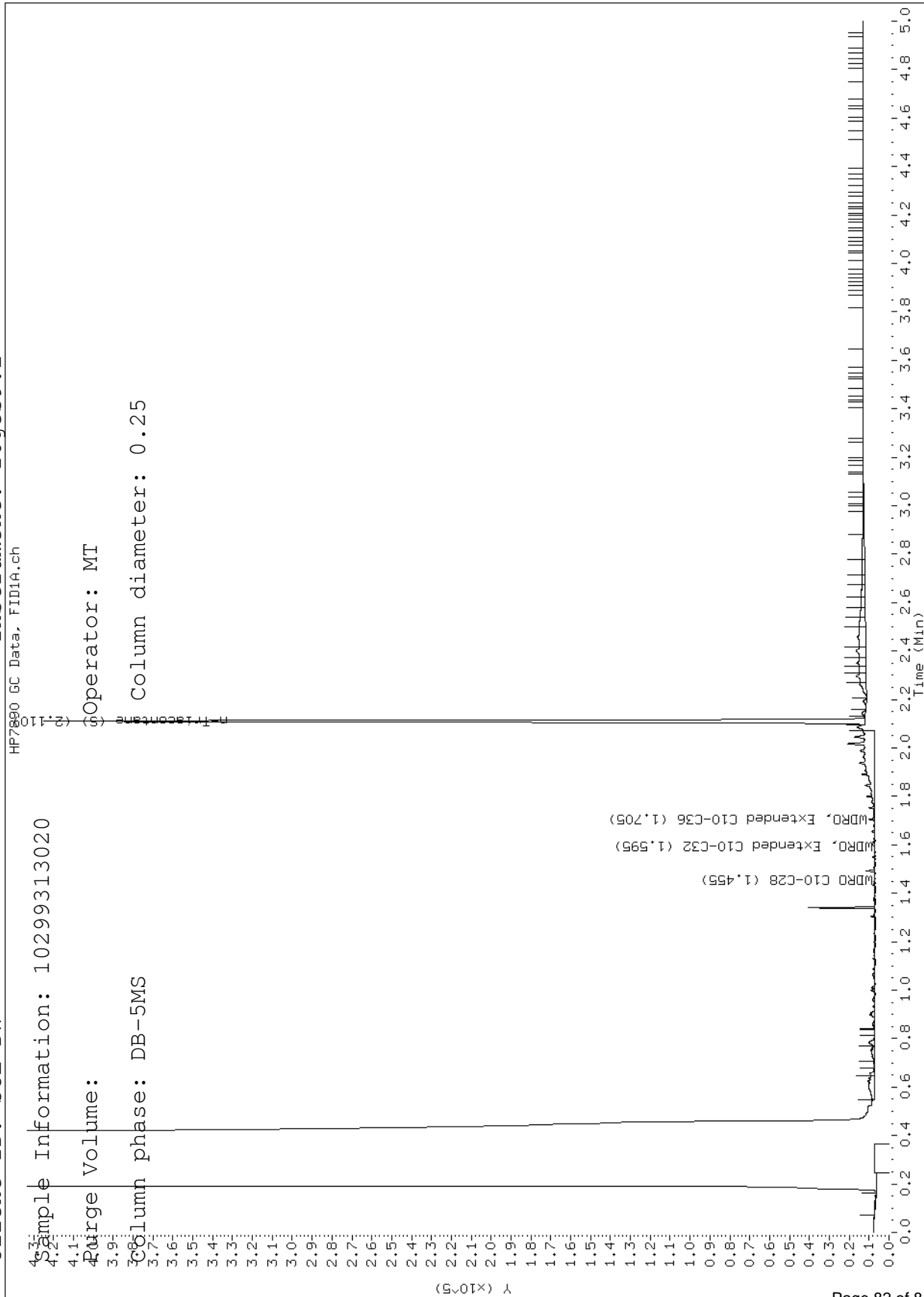
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000026.D

Report Date: 03/18/2015

Sample ID: 10299313020

Client ID: SCL DW

Instrument: 10gcs9.i



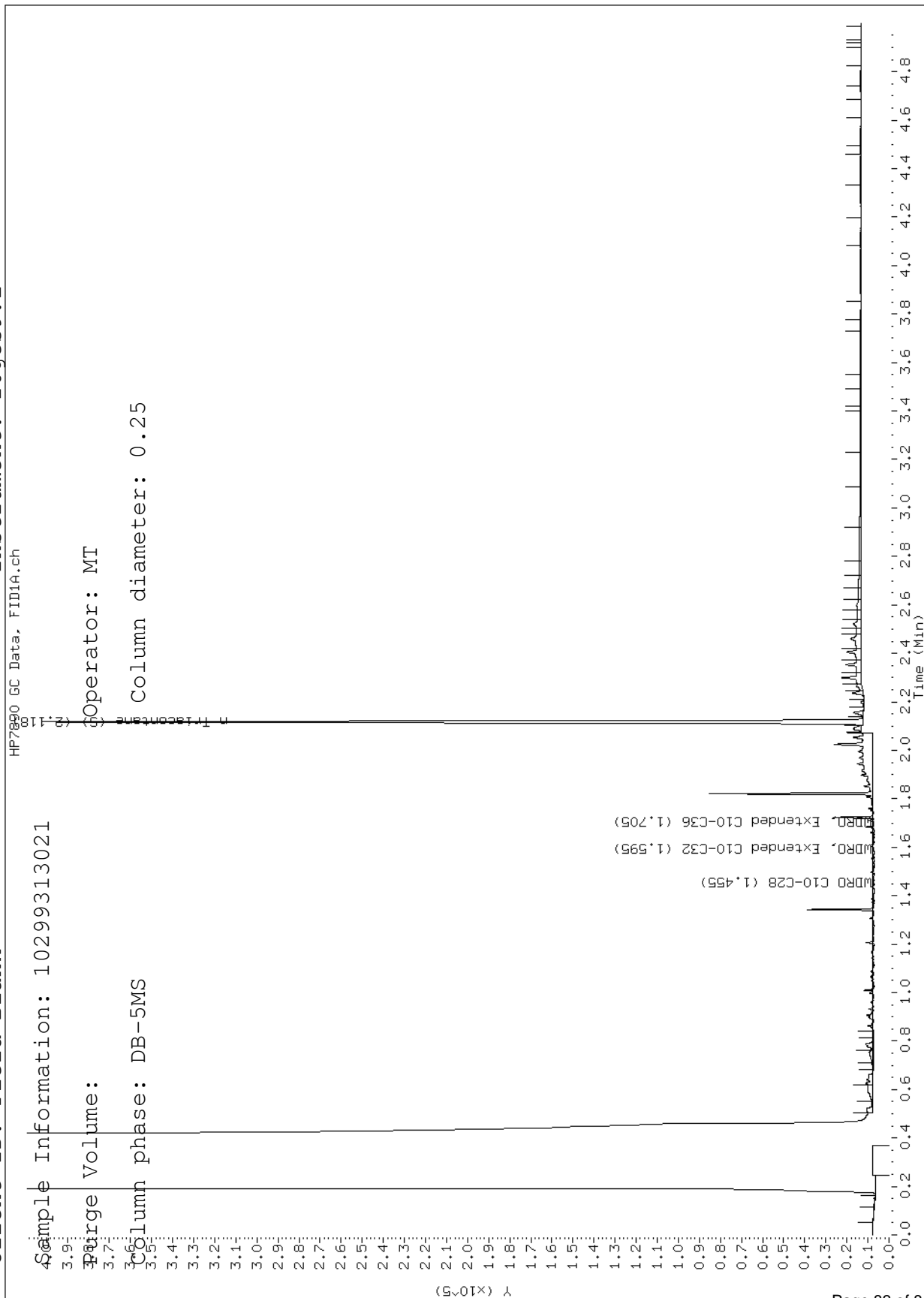
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000032.D

Report Date: 03/18/2015

Sample ID: 10299313021

Client ID: Field Blank

Instrument: 10gcs9.i



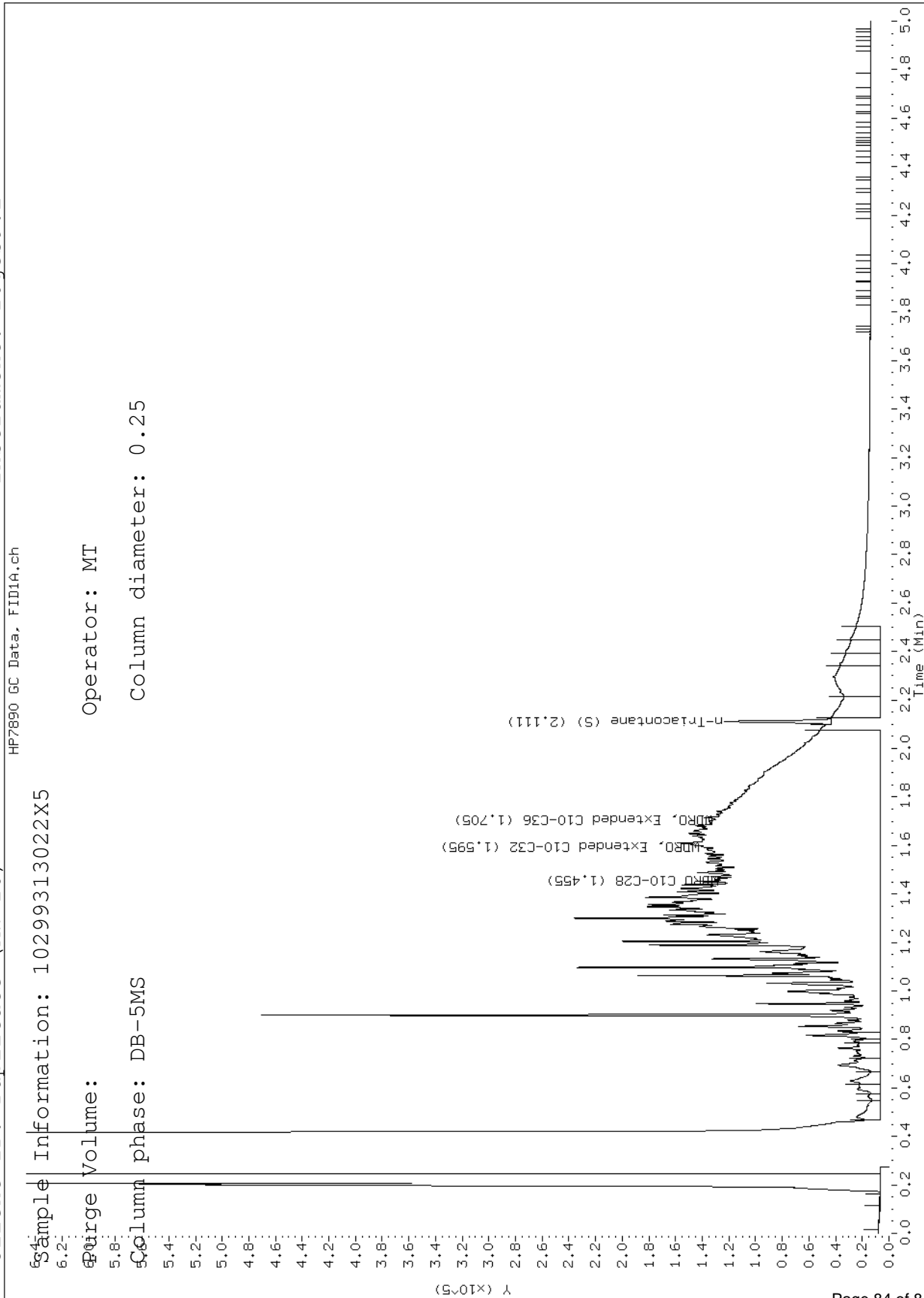
Data File: \\192.168.10.12\chem\10gcs9.i\031715extdro.b\031715000035.D

Report Date: 03/18/2015

Sample ID: 10299313022

Client ID: Duplicate (MW-10)

Instrument: 10gcs9.i



June 25, 2015

Darin Albrecht
AECOM
Duluth Technology Village
11 E Superior St, Suite 260
Duluth, MN 55802

RE: Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Dear Darin Albrecht:

Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2015. 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.

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

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
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 #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
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
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
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
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10310936001	MW-1	Water	06/15/15 13:24	06/18/15 10:00
10310936002	MW-4	Water	06/15/15 14:04	06/18/15 10:00
10310936003	MW-6	Water	06/15/15 12:34	06/18/15 10:00
10310936004	MW-7	Water	06/15/15 13:27	06/18/15 10:00
10310936005	MW-8	Water	06/15/15 14:28	06/18/15 10:00
10310936006	MW-9	Water	06/15/15 13:11	06/18/15 10:00
10310936007	MW-10	Water	06/16/15 10:17	06/18/15 10:00
10310936008	DUP	Water	06/16/15 10:17	06/18/15 10:00
10310936009	MW-16A	Water	06/15/15 17:25	06/18/15 10:00
10310936010	MW-16B	Water	06/16/15 08:45	06/18/15 10:00
10310936011	MW-17	Water	06/16/15 09:30	06/18/15 10:00
10310936012	MW-18	Water	06/15/15 16:30	06/18/15 10:00
10310936013	MW-19	Water	06/15/15 16:10	06/18/15 10:00
10310936014	MW-20	Water	06/16/15 08:39	06/18/15 10:00
10310936015	MW-21	Water	06/15/15 16:40	06/18/15 10:00
10310936016	MW-22	Water	06/15/15 15:39	06/18/15 10:00
10310936017	USGS-1A	Water	06/16/15 09:13	06/18/15 10:00
10310936018	USGS-2A	Water	06/16/15 10:45	06/18/15 10:00
10310936019	USGS-3A	Water	06/16/15 10:15	06/18/15 10:00
10310936020	USGS-4A	Water	06/16/15 09:55	06/18/15 10:00
10310936021	SCL DW	Water	06/15/15 14:35	06/18/15 10:00
10310936022	Field Blank	Water	06/15/15 15:45	06/18/15 10:00
10310936023	Trip Blank	Water	06/15/15 00:00	06/18/15 10:00

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10310936001	MW-1	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936002	MW-4	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936003	MW-6	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936004	MW-7	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936005	MW-8	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936006	MW-9	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936007	MW-10	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10310936008	DUP	RSK 175	DR1	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10310936009	MW-16A	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936010	MW-16B	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936011	MW-17	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936012	MW-18	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936013	MW-19	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936014	MW-20	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10310936015	MW-21	EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10310936016	MW-22	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936017	USGS-1A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936018	USGS-2A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936019	USGS-3A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936020	USGS-4A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936021	SCL DW	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936022	Field Blank	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10310936023	Trip Blank	ASTM D516	KEO	1
		EPA 8260B	DJB	7

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10310936001	MW-1					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.47	mg/L	0.10	06/23/15 20:47	
10310936002	MW-4					
Diesel Range Organics	WDRO, Extended C10-C32	0.19	mg/L	0.10	06/23/15 10:03	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.9	mg/L	0.10	06/23/15 20:47	
10310936003	MW-6					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	4.3	mg/L	0.10	06/24/15 18:21	
ASTM D516	Sulfate	4.1	mg/L	2.5	06/25/15 10:46	
10310936004	MW-7					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.36	mg/L	0.10	06/24/15 18:23	
ASTM D516	Sulfate	6.1	mg/L	2.5	06/25/15 10:49	
10310936005	MW-8					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.24	mg/L	0.10	06/24/15 18:26	
ASTM D516	Sulfate	9.8	mg/L	2.5	06/25/15 10:49	
10310936006	MW-9					
RSK 175	Methane	918	ug/L	10.0	06/20/15 02:59	
Diesel Range Organics	WDRO, Extended C10-C32	2.7	mg/L	0.10	06/23/15 08:38	
EPA 8260B	Benzene	326	ug/L	2.0	06/22/15 12:15	
10310936007	MW-10					
RSK 175	Methane	4230	ug/L	10.0	06/20/15 04:29	
Diesel Range Organics	WDRO, Extended C10-C32	6.4	mg/L	0.11	06/23/15 08:22	
EPA 8260B	Benzene	128	ug/L	1.0	06/19/15 23:18	
EPA 8260B	Ethylbenzene	5.5	ug/L	1.0	06/19/15 23:18	
EPA 8260B	Xylene (Total)	5.6	ug/L	3.0	06/19/15 23:18	
10310936008	DUP					
RSK 175	Methane	3950	ug/L	10.0	06/20/15 04:37	
Diesel Range Organics	WDRO, Extended C10-C32	6.2	mg/L	0.11	06/23/15 08:14	
EPA 8260B	Benzene	125	ug/L	1.0	06/19/15 23:34	
EPA 8260B	Ethylbenzene	5.3	ug/L	1.0	06/19/15 23:34	
EPA 8260B	Xylene (Total)	5.3	ug/L	3.0	06/19/15 23:34	
10310936009	MW-16A					
RSK 175	Methane	30.4	ug/L	10.0	06/20/15 03:08	
Diesel Range Organics	WDRO, Extended C10-C32	1.3	mg/L	0.11	06/23/15 08:07	
10310936010	MW-16B					
RSK 175	Methane	72.9	ug/L	10.0	06/20/15 04:46	
Diesel Range Organics	WDRO, Extended C10-C32	0.83	mg/L	0.11	06/23/15 08:53	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.20	mg/L	0.10	06/24/15 18:32	
ASTM D516	Sulfate	6.5	mg/L	2.5	06/25/15 10:52	
10310936011	MW-17					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.31	mg/L	0.10	06/24/15 18:36	
ASTM D516	Sulfate	12.2	mg/L	2.5	06/25/15 10:54	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10310936012	MW-18					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	5.6	mg/L	0.20	06/24/15 20:23	
ASTM D516	Sulfate	4.6	mg/L	2.5	06/25/15 10:54	
10310936013	MW-19					
RSK 175	Methane	40.5	ug/L	10.0	06/20/15 03:24	
Diesel Range Organics	WDRO, Extended C10-C32	0.27	mg/L	0.11	06/23/15 09:17	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.21	mg/L	0.10	06/24/15 18:37	
ASTM D516	Sulfate	4.6	mg/L	2.5	06/25/15 10:54	
10310936014	MW-20					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.9	mg/L	0.10	06/24/15 18:37	
ASTM D516	Sulfate	7.1	mg/L	2.5	06/25/15 10:57	
10310936015	MW-21					
Diesel Range Organics	WDRO, Extended C10-C32	0.15	mg/L	0.12	06/23/15 09:48	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.82	mg/L	0.10	06/24/15 18:40	
ASTM D516	Sulfate	7.1	mg/L	2.5	06/25/15 10:57	
10310936016	MW-22					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.20	mg/L	0.10	06/24/15 18:41	
ASTM D516	Sulfate	8.0	mg/L	2.5	06/25/15 10:57	
10310936017	USGS-1A					
RSK 175	Methane	3050	ug/L	10.0	06/20/15 05:27	
Diesel Range Organics	WDRO, Extended C10-C32	2.9	mg/L	0.11	06/23/15 08:46	
EPA 8260B	Benzene	120	ug/L	1.0	06/20/15 02:00	
10310936018	USGS-2A					
RSK 175	Methane	3290	ug/L	10.0	06/20/15 05:43	
Diesel Range Organics	WDRO, Extended C10-C32	3.7	mg/L	0.10	06/23/15 08:30	
EPA 8260B	Benzene	137	ug/L	1.0	06/22/15 14:24	
10310936019	USGS-3A					
RSK 175	Methane	1320	ug/L	10.0	06/20/15 05:51	
Diesel Range Organics	WDRO, Extended C10-C32	3.2	mg/L	0.10	06/24/15 10:23	
EPA 8260B	Benzene	3.7	ug/L	1.0	06/22/15 14:41	
10310936020	USGS-4A					
RSK 175	Methane	168	ug/L	10.0	06/20/15 05:59	
Diesel Range Organics	WDRO, Extended C10-C32	2.2	mg/L	0.10	06/24/15 10:30	
10310936021	SCL DW					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.76	mg/L	0.10	06/24/15 18:51	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Method: RSK 175
Description: RSK 175 AIR Headspace
Client: AECOM
Date: June 25, 2015

General Information:

22 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: AIR/23520

R1: RPD value was outside control limits.

- DUP (Lab ID: 2000692)
- Methane

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Method: Diesel Range Organics
Description: WIDRO Extended GCS
Client: AECOM
Date: June 25, 2015

General Information:

22 samples were analyzed for Diesel Range Organics. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Diesel Range Organics with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: OEXT/29717

R1: RPD value was outside control limits.

- LCSD (Lab ID: 2002861)
- WDRO, Extended C10-C32

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Method: EPA 8260B
Description: 8260B MSV UST
Client: AECOM
Date: June 25, 2015

General Information:

23 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Method: SM 4500-NO3 H

Description: SM4500NO3-H, NO2 + NO3 pres.

Client: AECOM

Date: June 25, 2015

General Information:

22 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/23488

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10310866001,10310866015

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 2002825)
- Nitrogen, NO2 plus NO3

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Method: ASTM D516

Description: ASTM D516 Sulfate Water

Client: AECOM

Date: June 25, 2015

General Information:

22 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-1 Lab ID: 10310936001 Collected: 06/15/15 13:24 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		06/20/15 02:11	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 09:56		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	06/22/15 22:34	06/23/15 09:56	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 20:52	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 20:52	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 20:52	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 20:52	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 20:52	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/19/15 20:52	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/19/15 20:52	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.47	mg/L	0.10	0.050	1		06/23/15 20:47		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:44	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-4		Lab ID: 10310936002		Collected: 06/15/15 14:04	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		06/20/15 02:27	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.19	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 10:03			
Surrogates										
n-Triacontane (S)	82	%	50-150		1	06/22/15 22:34	06/23/15 10:03	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 21:08	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 21:08	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 21:08	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 21:08	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		06/19/15 21:08	17060-07-0		
Toluene-d8 (S)	98	%	75-125		1		06/19/15 21:08	2037-26-5		
4-Bromofluorobenzene (S)	103	%	75-125		1		06/19/15 21:08	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.9	mg/L	0.10	0.050	1		06/23/15 20:47			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:46	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-6		Lab ID: 10310936003		Collected: 06/15/15 12:34		Received: 06/18/15 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		06/20/15 02:35	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 09:01		
Surrogates									
n-Triacontane (S)	76	%	50-150		1	06/22/15 22:34	06/23/15 09:01	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 22:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 22:13	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 22:13	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 22:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		06/19/15 22:13	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/19/15 22:13	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/19/15 22:13	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	4.3	mg/L	0.10	0.050	1		06/24/15 18:21		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	4.1	mg/L	2.5	1.2	1		06/25/15 10:46	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-7 Lab ID: 10310936004 Collected: 06/15/15 13:27 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		06/20/15 02:43	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 10:11		
Surrogates									
n-Triacontane (S)	79	%	50-150		1	06/22/15 22:34	06/23/15 10:11	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 22:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 22:29	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 22:29	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 22:29	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 22:29	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/19/15 22:29	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/19/15 22:29	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.36	mg/L	0.10	0.050	1		06/24/15 18:23		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	6.1	mg/L	2.5	1.2	1		06/25/15 10:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-8		Lab ID: 10310936005		Collected: 06/15/15 14:28	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		06/20/15 02:51	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 10:19			
Surrogates										
n-Triacontane (S)	84	%	50-150		1	06/22/15 22:34	06/23/15 10:19	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 22:46	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 22:46	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 22:46	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 22:46	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 22:46	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		06/19/15 22:46	2037-26-5		
4-Bromofluorobenzene (S)	103	%	75-125		1		06/19/15 22:46	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.24	mg/L	0.10	0.050	1		06/24/15 18:26			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	9.8	mg/L	2.5	1.2	1		06/25/15 10:49	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-9		Lab ID: 10310936006		Collected: 06/15/15 13:11	Received: 06/18/15 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	918	ug/L	10.0	0.63	1		06/20/15 02:59	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	2.7	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 08:38		
Surrogates									
n-Triacontane (S)	77	%	50-150		1	06/22/15 22:34	06/23/15 08:38	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	326	ug/L	2.0	0.43	2		06/22/15 12:15	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 23:02	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 23:02	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 23:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		06/19/15 23:02	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		06/19/15 23:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/19/15 23:02	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:26		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-10 Lab ID: 10310936007 Collected: 06/16/15 10:17 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	4230	ug/L	10.0	0.63	1		06/20/15 04:29	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	6.4	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 08:22		
Surrogates									
n-Triacontane (S)	87	%	50-150		1	06/22/15 22:34	06/23/15 08:22	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	128	ug/L	1.0	0.21	1		06/19/15 23:18	71-43-2	
Ethylbenzene	5.5	ug/L	1.0	0.23	1		06/19/15 23:18	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 23:18	108-88-3	
Xylene (Total)	5.6	ug/L	3.0	0.60	1		06/19/15 23:18	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 23:18	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		06/19/15 23:18	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/19/15 23:18	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:27		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:49	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: DUP									
Lab ID: 10310936008									
Collected: 06/16/15 10:17 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Methane	3950	ug/L	10.0	0.63	1		06/20/15 04:37	74-82-8	
WIDRO Extended GCS									
Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	6.2	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 08:14		
Surrogates									
n-Triacontane (S)	86	%	50-150		1	06/22/15 22:34	06/23/15 08:14	638-68-6	
8260B MSV UST									
Analytical Method: EPA 8260B									
Benzene	125	ug/L	1.0	0.21	1		06/19/15 23:34	71-43-2	
Ethylbenzene	5.3	ug/L	1.0	0.23	1		06/19/15 23:34	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 23:34	108-88-3	
Xylene (Total)	5.3	ug/L	3.0	0.60	1		06/19/15 23:34	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 23:34	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/19/15 23:34	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/19/15 23:34	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.									
Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:31		
ASTM D516 Sulfate Water									
Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-16A		Lab ID: 10310936009		Collected: 06/15/15 17:25		Received: 06/18/15 10:00		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	30.4	ug/L	10.0	0.63	1		06/20/15 03:08	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	1.3	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 08:07		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	06/22/15 22:34	06/23/15 08:07	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/19/15 23:50	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/19/15 23:50	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/19/15 23:50	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/19/15 23:50	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/19/15 23:50	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/19/15 23:50	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/19/15 23:50	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:32		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-16B		Lab ID: 10310936010		Collected: 06/16/15 08:45	Received: 06/18/15 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	72.9	ug/L	10.0	0.63	1		06/20/15 04:46	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	0.83	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 08:53		
Surrogates									
n-Triacontane (S)	79	%	50-150		1	06/22/15 22:34	06/23/15 08:53	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 00:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 00:06	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 00:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 00:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		06/20/15 00:06	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		06/20/15 00:06	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		06/20/15 00:06	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.20	mg/L	0.10	0.050	1		06/24/15 18:32		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	6.5	mg/L	2.5	1.2	1		06/25/15 10:52	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-17 Lab ID: 10310936011 Collected: 06/16/15 09:30 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		06/20/15 04:54	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 09:24		
Surrogates									
n-Triacontane (S)	76	%	50-150		1	06/22/15 22:34	06/23/15 09:24	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 00:23	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 00:23	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 00:23	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 00:23	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/20/15 00:23	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		06/20/15 00:23	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		06/20/15 00:23	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.31	mg/L	0.10	0.050	1		06/24/15 18:36		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	12.2	mg/L	2.5	1.2	1		06/25/15 10:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-18		Lab ID: 10310936012		Collected: 06/15/15 16:30	Received: 06/18/15 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		06/20/15 03:16	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 09:32		
Surrogates									
n-Triacontane (S)	78	%	50-150		1	06/22/15 22:34	06/23/15 09:32	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 00:39	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 00:39	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 00:39	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 00:39	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/20/15 00:39	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		06/20/15 00:39	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/20/15 00:39	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	5.6	mg/L	0.20	0.10	2		06/24/15 20:23		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	4.6	mg/L	2.5	1.2	1		06/25/15 10:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-19 Lab ID: 10310936013 Collected: 06/15/15 16:10 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	40.5	ug/L	10.0	0.63	1		06/20/15 03:24	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	0.27	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 09:17		
Surrogates									
n-Triacontane (S)	78	%	50-150		1	06/22/15 22:34	06/23/15 09:17	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 00:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 00:55	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 00:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 00:55	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		06/20/15 00:55	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		06/20/15 00:55	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/20/15 00:55	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.21	mg/L	0.10	0.050	1		06/24/15 18:37		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	4.6	mg/L	2.5	1.2	1		06/25/15 10:54	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-20		Lab ID: 10310936014		Collected: 06/16/15 08:39	Received: 06/18/15 10:00	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		06/20/15 05:02	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.12	0.12	1	06/22/15 22:34	06/23/15 09:40		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	06/22/15 22:34	06/23/15 09:40	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 01:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 01:11	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 01:11	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 01:11	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		06/20/15 01:11	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		06/20/15 01:11	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/20/15 01:11	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	3.9	mg/L	0.10	0.050	1		06/24/15 18:37		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	7.1	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-21		Lab ID: 10310936015		Collected: 06/15/15 16:40	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		06/20/15 03:49	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.15	mg/L	0.12	0.12	1	06/22/15 22:34	06/23/15 09:48			
Surrogates										
n-Triacontane (S)	84	%	50-150		1	06/22/15 22:34	06/23/15 09:48	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 01:28	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 01:28	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 01:28	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 01:28	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/20/15 01:28	17060-07-0		
Toluene-d8 (S)	96	%	75-125		1		06/20/15 01:28	2037-26-5		
4-Bromofluorobenzene (S)	103	%	75-125		1		06/20/15 01:28	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.82	mg/L	0.10	0.050	1		06/24/15 18:40			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	7.1	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: MW-22		Lab ID: 10310936016		Collected: 06/15/15 15:39	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		06/20/15 04:05	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 09:09			
Surrogates										
n-Triacontane (S)	77	%	50-150		1	06/22/15 22:34	06/23/15 09:09	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		06/20/15 01:44	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 01:44	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 01:44	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 01:44	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		06/20/15 01:44	17060-07-0		
Toluene-d8 (S)	96	%	75-125		1		06/20/15 01:44	2037-26-5		
4-Bromofluorobenzene (S)	102	%	75-125		1		06/20/15 01:44	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.20	mg/L	0.10	0.050	1		06/24/15 18:41			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	8.0	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: USGS-1A		Lab ID: 10310936017		Collected: 06/16/15 09:13	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	3050	ug/L	10.0	0.63	1		06/20/15 05:27	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	2.9	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 08:46			
Surrogates										
n-Triacontane (S)	86	%	50-150		1	06/22/15 22:34	06/23/15 08:46	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	120	ug/L	1.0	0.21	1		06/20/15 02:00	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/20/15 02:00	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/20/15 02:00	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/20/15 02:00	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		06/20/15 02:00	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		06/20/15 02:00	2037-26-5		
4-Bromofluorobenzene (S)	101	%	75-125		1		06/20/15 02:00	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:42			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: USGS-2A Lab ID: 10310936018 Collected: 06/16/15 10:45 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	3290	ug/L	10.0	0.63	1		06/20/15 05:43	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	3.7	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 08:30		
Surrogates									
n-Triacontane (S)	82	%	50-150		1	06/22/15 22:34	06/23/15 08:30	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	137	ug/L	1.0	0.21	1		06/22/15 14:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 14:24	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 14:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 14:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		06/22/15 14:24	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		06/22/15 14:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/22/15 14:24	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:47		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: USGS-3A		Lab ID: 10310936019		Collected: 06/16/15 10:15	Received: 06/18/15 10:00	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	1320	ug/L	10.0	0.63	1		06/20/15 05:51	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	3.2	mg/L	0.10	0.10	1	06/23/15 18:55	06/24/15 10:23			
Surrogates										
n-Triacontane (S)	96	%	50-150		1	06/23/15 18:55	06/24/15 10:23	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	3.7	ug/L	1.0	0.21	1		06/22/15 14:41	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 14:41	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 14:41	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 14:41	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		06/22/15 14:41	17060-07-0		
Toluene-d8 (S)	96	%	75-125		1		06/22/15 14:41	2037-26-5		
4-Bromofluorobenzene (S)	102	%	75-125		1		06/22/15 14:41	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:50			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:57	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

Sample: USGS-4A Lab ID: 10310936020 Collected: 06/16/15 09:55 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	168	ug/L	10.0	0.63	1		06/20/15 05:59	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	2.2	mg/L	0.10	0.10	1	06/23/15 18:55	06/24/15 10:30		
Surrogates									
n-Triacontane (S)	100	%	50-150		1	06/23/15 18:55	06/24/15 10:30	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/22/15 15:30	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 15:30	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 15:30	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 15:30	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		06/22/15 15:30	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		06/22/15 15:30	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/22/15 15:30	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:50		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 10:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: SCL DW Lab ID: 10310936021 Collected: 06/15/15 14:35 Received: 06/18/15 10:00 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		06/20/15 04:13	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	06/22/15 22:34	06/23/15 10:27		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	06/22/15 22:34	06/23/15 10:27	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/22/15 15:46	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 15:46	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 15:46	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 15:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		06/22/15 15:46	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		06/22/15 15:46	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/22/15 15:46	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.76	mg/L	0.10	0.050	1		06/24/15 18:51		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 11:25	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: Field Blank									
Lab ID: 10310936022									
Collected: 06/15/15 15:45									
Received: 06/18/15 10:00									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		06/20/15 04:21	74-82-8	
WIDRO Extended GCS									
Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	06/22/15 22:34	06/23/15 10:34		
Surrogates									
n-Triacontane (S)	85	%	50-150		1	06/22/15 22:34	06/23/15 10:34	638-68-6	
8260B MSV UST									
Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		06/22/15 13:20	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 13:20	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 13:20	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 13:20	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		06/22/15 13:20	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		06/22/15 13:20	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		06/22/15 13:20	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.									
Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		06/24/15 18:52		
ASTM D516 Sulfate Water									
Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		06/25/15 11:26	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Sample: Trip Blank **Lab ID: 10310936023** Collected: 06/15/15 00:00 Received: 06/18/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		06/22/15 13:36	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		06/22/15 13:36	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		06/22/15 13:36	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		06/22/15 13:36	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		06/22/15 13:36	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		06/22/15 13:36	2037-26-5	
4-Bromofluorobenzene (S)	102	%	75-125		1		06/22/15 13:36	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

QC Batch: AIR/23519 Analysis Method: RSK 175
QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936021, 10310936022

METHOD BLANK: 2000684 Matrix: Water
Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936021, 10310936022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	06/20/15 00:52	

LABORATORY CONTROL SAMPLE & LCSD: 2000685 2000686

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	59.6	64.5	98	106	85-115	8	20	

SAMPLE DUPLICATE: 2000687

Parameter	Units	10310936001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	1.2J		20	

SAMPLE DUPLICATE: 2000688

Parameter	Units	10310936015 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	1.3J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: AIR/23520 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10310936017, 10310936018, 10310936019, 10310936020

METHOD BLANK: 2000689 Matrix: Water
 Associated Lab Samples: 10310936017, 10310936018, 10310936019, 10310936020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	06/20/15 05:18	

LABORATORY CONTROL SAMPLE & LCSD: 2000690 2000691

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	64.5	63.4	106	105	85-115	2	20	

SAMPLE DUPLICATE: 2000692

Parameter	Units	10310936017 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	3050	4330	35	20	R1

SAMPLE DUPLICATE: 2000693

Parameter	Units	35193437006 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	996	984	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: MSV/31936 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
 Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007,
 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014,
 10310936015, 10310936016, 10310936017

METHOD BLANK: 2000260 Matrix: Water

Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007,
 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014,
 10310936015, 10310936016, 10310936017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/19/15 20:36	
Ethylbenzene	ug/L	ND	1.0	06/19/15 20:36	
Toluene	ug/L	ND	1.0	06/19/15 20:36	
Xylene (Total)	ug/L	ND	3.0	06/19/15 20:36	
1,2-Dichloroethane-d4 (S)	%	95	75-125	06/19/15 20:36	
4-Bromofluorobenzene (S)	%	103	75-125	06/19/15 20:36	
Toluene-d8 (S)	%	97	75-125	06/19/15 20:36	

LABORATORY CONTROL SAMPLE: 2000261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	21.8	109	71-125	
Ethylbenzene	ug/L	20	20.2	101	75-125	
Toluene	ug/L	20	20.5	103	74-125	
Xylene (Total)	ug/L	60	62.6	104	75-125	
1,2-Dichloroethane-d4 (S)	%			97	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE SAMPLE: 2001805

Parameter	Units	10310936001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	22.2	111	53-139	
Ethylbenzene	ug/L	ND	20	21.2	106	55-139	
Toluene	ug/L	ND	20	21.1	105	52-148	
Xylene (Total)	ug/L	ND	60	64.1	107	54-144	
1,2-Dichloroethane-d4 (S)	%				97	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				98	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
 without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

SAMPLE DUPLICATE: 2001806

Parameter	Units	10310936002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	95	94	2		
4-Bromofluorobenzene (S)	%.	103	104	0		
Toluene-d8 (S)	%.	98	98	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: MSV/31962 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
 Associated Lab Samples: 10310936018, 10310936019, 10310936020, 10310936021, 10310936022, 10310936023

METHOD BLANK: 2001881 Matrix: Water
 Associated Lab Samples: 10310936018, 10310936019, 10310936020, 10310936021, 10310936022, 10310936023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	06/22/15 11:26	
Ethylbenzene	ug/L	ND	1.0	06/22/15 11:26	
Toluene	ug/L	ND	1.0	06/22/15 11:26	
Xylene (Total)	ug/L	ND	3.0	06/22/15 11:26	
1,2-Dichloroethane-d4 (S)	%	94	75-125	06/22/15 11:26	
4-Bromofluorobenzene (S)	%	101	75-125	06/22/15 11:26	
Toluene-d8 (S)	%	96	75-125	06/22/15 11:26	

LABORATORY CONTROL SAMPLE: 2001882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	20.7	104	71-125	
Ethylbenzene	ug/L	20	19.8	99	75-125	
Toluene	ug/L	20	19.6	98	74-125	
Xylene (Total)	ug/L	60	60.9	101	75-125	
1,2-Dichloroethane-d4 (S)	%			95	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			97	75-125	

MATRIX SPIKE SAMPLE: 2001933

Parameter	Units	10310936018 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	137	20	154	86	53-139	
Ethylbenzene	ug/L	ND	20	19.6	97	55-139	
Toluene	ug/L	ND	20	19.4	97	52-148	
Xylene (Total)	ug/L	ND	60	58.8	98	54-144	
1,2-Dichloroethane-d4 (S)	%				99	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				96	75-125	

SAMPLE DUPLICATE: 2001934

Parameter	Units	10310936019 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	3.7	3.9	5	30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

SAMPLE DUPLICATE: 2001934

Parameter	Units	10310936019 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	97	98	1		
4-Bromofluorobenzene (S)	%.	102	101	1		
Toluene-d8 (S)	%.	96	96	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: OEXT/29698	Analysis Method: Diesel Range Organics
QC Batch Method: Diesel Range Organics	Analysis Description: WIDRO Extended GCS
Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936021, 10310936022	

METHOD BLANK: 2002209	Matrix: Water
Associated Lab Samples: 10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936021, 10310936022	

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	06/23/15 07:51	
n-Triacontane (S)	%	78	50-150	06/23/15 07:51	

Parameter	Units	2002210		2002211		% Rec	% Rec	Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCS % Rec	LCS % Rec	LCS % Rec	LCS % Rec	LCS RPD	Max RPD	
WDRO, Extended C10-C32	mg/L	2	1.6	1.8	81	89	75-115	9	20		
n-Triacontane (S)	%				86	87	50-150				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10310936

QC Batch: OEXT/29717 Analysis Method: Diesel Range Organics
QC Batch Method: Diesel Range Organics Analysis Description: WIDRO Extended GCS
Associated Lab Samples: 10310936019, 10310936020

METHOD BLANK: 2002859 Matrix: Water
Associated Lab Samples: 10310936019, 10310936020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	06/24/15 10:09	
n-Triacontane (S)	%.	84	50-150	06/24/15 10:09	

Parameter	Units	2002860					2002861				
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
WDRO, Extended C10-C32	mg/L	2	1.6	1.9	78	97	75-115	21	20	R1	
n-Triacontane (S)	%.				83	100	50-150				

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: WETA/23488 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10310936001, 10310936002

METHOD BLANK: 2002820 Matrix: Water

Associated Lab Samples: 10310936001, 10310936002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	06/23/15 20:14	

LABORATORY CONTROL SAMPLE: 2002821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2002822 2002823

Parameter	Units	10310866001		2002822		2002823		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Nitrogen, NO2 plus NO3	mg/L	0.30	2.5	2.5	3.0	2.9	108	104	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2002824 2002825

Parameter	Units	10310866015		2002824		2002825		% Rec Limits	RPD	Max RPD	Qual	
		MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.	MS Result	MSD Spike Conc.					
Nitrogen, NO2 plus NO3	mg/L	3.3	2.5	2.5	5.3	5.3	81	79	80-120	1	30 M1	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch:	WETA/23512	Analysis Method:	SM 4500-NO3 H
QC Batch Method:	SM 4500-NO3 H	Analysis Description:	SM4500NO3-H, NO2 + NO3 pres.
Associated Lab Samples:	10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936019, 10310936020, 10310936021, 10310936022		

METHOD BLANK:	2004219	Matrix:	Water
Associated Lab Samples:	10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936019, 10310936020, 10310936021, 10310936022		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	06/24/15 18:18	

LABORATORY CONTROL SAMPLE: 2004220

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.4	97	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2004221 2004222

Parameter	Units	10310936003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	4.3	2.5	2.5	7.1	7.2	112	117	80-120	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2004223 2004224

Parameter	Units	10310936017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	2.4	2.4	95	94	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch:	WETA/23545	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936019, 10310936020		

METHOD BLANK:	2005437	Matrix:	Water
Associated Lab Samples:	10310936001, 10310936002, 10310936003, 10310936004, 10310936005, 10310936006, 10310936007, 10310936008, 10310936009, 10310936010, 10310936011, 10310936012, 10310936013, 10310936014, 10310936015, 10310936016, 10310936017, 10310936018, 10310936019, 10310936020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	06/25/15 10:44	

Parameter	Units	2005438		2005439		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCSD % Rec				
Sulfate	mg/L	7.5	7.4	7.3	98	98	80-120	0	20

Parameter	Units	2005440		2005441		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10310936001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	ND	20	20	22.1	22.2	110	111	80-120	1	30

Parameter	Units	2005442		2005443		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10310936010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	6.5	20	20	24.9	24.9	92	92	80-120	0	30

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

QC Batch: WETA/23546 Analysis Method: ASTM D516
 QC Batch Method: ASTM D516 Analysis Description: ASTM D516 Sulfate Water
 Associated Lab Samples: 10310936021, 10310936022

METHOD BLANK: 2005455 Matrix: Water

Associated Lab Samples: 10310936021, 10310936022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	06/25/15 11:12	

LABORATORY CONTROL SAMPLE & LCSD: 2005456 2005457

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.5	7.7	100	103	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2005458 2005459

Parameter	Units	10310866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	20	20	21.8	21.4	109	107	80-120	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2005460 2005461

Parameter	Units	10310866010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	4.4	20	20	24.6	24.5	101	101	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

WORKORDER QUALIFIERS

WO: 10310936

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10310936001	MW-1	RSK 175	AIR/23519		
10310936002	MW-4	RSK 175	AIR/23519		
10310936003	MW-6	RSK 175	AIR/23519		
10310936004	MW-7	RSK 175	AIR/23519		
10310936005	MW-8	RSK 175	AIR/23519		
10310936006	MW-9	RSK 175	AIR/23519		
10310936007	MW-10	RSK 175	AIR/23519		
10310936008	DUP	RSK 175	AIR/23519		
10310936009	MW-16A	RSK 175	AIR/23519		
10310936010	MW-16B	RSK 175	AIR/23519		
10310936011	MW-17	RSK 175	AIR/23519		
10310936012	MW-18	RSK 175	AIR/23519		
10310936013	MW-19	RSK 175	AIR/23519		
10310936014	MW-20	RSK 175	AIR/23519		
10310936015	MW-21	RSK 175	AIR/23519		
10310936016	MW-22	RSK 175	AIR/23519		
10310936017	USGS-1A	RSK 175	AIR/23520		
10310936018	USGS-2A	RSK 175	AIR/23520		
10310936019	USGS-3A	RSK 175	AIR/23520		
10310936020	USGS-4A	RSK 175	AIR/23520		
10310936021	SCL DW	RSK 175	AIR/23519		
10310936022	Field Blank	RSK 175	AIR/23519		
10310936001	MW-1	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936002	MW-4	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936003	MW-6	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936004	MW-7	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936005	MW-8	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936006	MW-9	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936007	MW-10	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936008	DUP	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936009	MW-16A	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936010	MW-16B	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936011	MW-17	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936012	MW-18	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936013	MW-19	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936014	MW-20	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936015	MW-21	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936016	MW-22	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936017	USGS-1A	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936018	USGS-2A	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936019	USGS-3A	Diesel Range Organics	OEXT/29717	Diesel Range Organics	GCSV/16015
10310936020	USGS-4A	Diesel Range Organics	OEXT/29717	Diesel Range Organics	GCSV/16015
10310936021	SCL DW	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936022	Field Blank	Diesel Range Organics	OEXT/29698	Diesel Range Organics	GCSV/16005
10310936001	MW-1	EPA 8260B	MSV/31936		
10310936002	MW-4	EPA 8260B	MSV/31936		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10310936003	MW-6	EPA 8260B	MSV/31936		
10310936004	MW-7	EPA 8260B	MSV/31936		
10310936005	MW-8	EPA 8260B	MSV/31936		
10310936006	MW-9	EPA 8260B	MSV/31936		
10310936007	MW-10	EPA 8260B	MSV/31936		
10310936008	DUP	EPA 8260B	MSV/31936		
10310936009	MW-16A	EPA 8260B	MSV/31936		
10310936010	MW-16B	EPA 8260B	MSV/31936		
10310936011	MW-17	EPA 8260B	MSV/31936		
10310936012	MW-18	EPA 8260B	MSV/31936		
10310936013	MW-19	EPA 8260B	MSV/31936		
10310936014	MW-20	EPA 8260B	MSV/31936		
10310936015	MW-21	EPA 8260B	MSV/31936		
10310936016	MW-22	EPA 8260B	MSV/31936		
10310936017	USGS-1A	EPA 8260B	MSV/31936		
10310936018	USGS-2A	EPA 8260B	MSV/31962		
10310936019	USGS-3A	EPA 8260B	MSV/31962		
10310936020	USGS-4A	EPA 8260B	MSV/31962		
10310936021	SCL DW	EPA 8260B	MSV/31962		
10310936022	Field Blank	EPA 8260B	MSV/31962		
10310936023	Trip Blank	EPA 8260B	MSV/31962		
10310936001	MW-1	SM 4500-NO3 H	WETA/23488		
10310936002	MW-4	SM 4500-NO3 H	WETA/23488		
10310936003	MW-6	SM 4500-NO3 H	WETA/23512		
10310936004	MW-7	SM 4500-NO3 H	WETA/23512		
10310936005	MW-8	SM 4500-NO3 H	WETA/23512		
10310936006	MW-9	SM 4500-NO3 H	WETA/23512		
10310936007	MW-10	SM 4500-NO3 H	WETA/23512		
10310936008	DUP	SM 4500-NO3 H	WETA/23512		
10310936009	MW-16A	SM 4500-NO3 H	WETA/23512		
10310936010	MW-16B	SM 4500-NO3 H	WETA/23512		
10310936011	MW-17	SM 4500-NO3 H	WETA/23512		
10310936012	MW-18	SM 4500-NO3 H	WETA/23512		
10310936013	MW-19	SM 4500-NO3 H	WETA/23512		
10310936014	MW-20	SM 4500-NO3 H	WETA/23512		
10310936015	MW-21	SM 4500-NO3 H	WETA/23512		
10310936016	MW-22	SM 4500-NO3 H	WETA/23512		
10310936017	USGS-1A	SM 4500-NO3 H	WETA/23512		
10310936018	USGS-2A	SM 4500-NO3 H	WETA/23512		
10310936019	USGS-3A	SM 4500-NO3 H	WETA/23512		
10310936020	USGS-4A	SM 4500-NO3 H	WETA/23512		
10310936021	SCL DW	SM 4500-NO3 H	WETA/23512		
10310936022	Field Blank	SM 4500-NO3 H	WETA/23512		
10310936001	MW-1	ASTM D516	WETA/23545		
10310936002	MW-4	ASTM D516	WETA/23545		
10310936003	MW-6	ASTM D516	WETA/23545		
10310936004	MW-7	ASTM D516	WETA/23545		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10310936

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10310936005	MW-8	ASTM D516	WETA/23545		
10310936006	MW-9	ASTM D516	WETA/23545		
10310936007	MW-10	ASTM D516	WETA/23545		
10310936008	DUP	ASTM D516	WETA/23545		
10310936009	MW-16A	ASTM D516	WETA/23545		
10310936010	MW-16B	ASTM D516	WETA/23545		
10310936011	MW-17	ASTM D516	WETA/23545		
10310936012	MW-18	ASTM D516	WETA/23545		
10310936013	MW-19	ASTM D516	WETA/23545		
10310936014	MW-20	ASTM D516	WETA/23545		
10310936015	MW-21	ASTM D516	WETA/23545		
10310936016	MW-22	ASTM D516	WETA/23545		
10310936017	USGS-1A	ASTM D516	WETA/23545		
10310936018	USGS-2A	ASTM D516	WETA/23545		
10310936019	USGS-3A	ASTM D516	WETA/23545		
10310936020	USGS-4A	ASTM D516	WETA/23545		
10310936021	SCL DW	ASTM D516	WETA/23546		
10310936022	Field Blank	ASTM D516	WETA/23546		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CHAIN-OF-CUSTODY / Analytical Request Document

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

10310936

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: 1 of 2	
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beaster		REGULATORY AGENCY	
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy			
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St. Ste 3000		NPDES <u>GROUND WATER</u> DRINKING WATER	
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass Lake		Pace Quote Reference: Houston, TX 77002		UST RCRA <u>OTHER</u>	
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60316885		Pace Project Manager: Carol Davy		Site Location	
				Pace Profile #: 32482		STATE: MN	

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Requested Analysis Filtered (Y/N)					Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
				COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	Analysis Test ↓	BTEX	Extended Range DRO	Sulfate			Nitrate + Nitrite	Methane
				DATE	TIME	DATE	TIME																		
1	MW-1	WT	G	6/15/15	1324			10	4	1	5														001
2	MW-4	WT	G	6/15/15	1404			10	4	1	5														002
3	MW-6	WT	G	6/15/15	1234			10	4	1	5														003
4	MW-7	WT	G	6/15/15	1327			10	4	1	5														004
5	MW-8	WT	G	6/15/15	1428 1428			10	4	1	5														005
6	MW-9	WT	G	6/15/15	1311			10	4	1	5														006
7	MW-10	WT	G	6/16/15	1017			10	4	1	5														007
8	DUP	WT	G	6/16/15	1017			10	4	1	5														008
9	MW-16A	WT	G	6/15/15	1725 1725			10	4	1	5														009
10	MW-16B	WT	G	6/16/15	1745			10	4	1	5														010
11	MW-17	WT	G	6/16/15	0930			10	4	1	5														011
12	MW-18	WT	G	6/15/15	1630			10	4	1	5														012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please send Chroms with GRO or DRO hits	Beth Bernhardt AECOM	6/16/15	1745	BL Wood Pace	6/16/15	1000	Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples intact (Y/N)
PRINT Name of SAMPLER:	Beth Bernhardt				
SIGNATURE of SAMPLER:	<i>Beth Bernhardt</i>				
DATE Signed (MM/DD/YY):		6/16/15			

*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.

CHAIN-OF-CUSTODY / Analytical Request Document

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

10310936

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		Page: <u>2</u> of <u>2</u>		
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beater		REGULATORY AGENCY		
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy				
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St Suite 3000 Houston, TX 77002		UST <u> </u> RCRA <u> </u> OTHER <u> </u>		
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass lake		Pace Quote Reference: Carol Davy		Site Location STATE: <u> </u> MN <u> </u>		
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60316885		Pace Profile #: 32482				

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE (see valid codes to left)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test ↓	Requested Analysis Filtered (Y/N)						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.	
				COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol		Other	Y/N	BTEX	Extended Range DRO	Sulfate	Nitrate + Nitrite			Methane
				DATE	TIME	DATE	TIME																			
1	MW-19	WT	G	6/15/15	1610			10	4	1		5						3	2	1	1	3		013		
2	MW-20	WT	G	6/16/15	0839			10	4	1		5						3	2	1	1	3		6/15-02 014		
3	MW-21	WT	G	6/15/15	1640			10	4	1		5						3	2	1	1	3		015		
4	MW-22	WT	G	6/15/15	1539			10	4	1		5						3	2	1	1	3		016		
5	USGS-1A	WT	G	6/16/15	0913			10	4	1		5						3	2	1	1	3		017		
6	USGS-2A	WT	G	6/16/15	1045			10	4	1		5						3	2	1	1	3		018		
7	USGS-3A	WT	G	6/16/15	1015			10	4	1		5						3	2	1	1	3		019		
8	USGS-4A	WT	G	6/16/15	0955			10	4	1		5						3	2	1	1	3		020		
9	SCL DW	DW	G	6/15/15	1435			10	4	1		5						3	2	1	1	3		021		
10	Field Blank	WT	G	6/15/15	1545			10	4	1		5						3	2	1	1	3		022		
11	Trip Blank	OT	-	-	-			4				4						3	2	1	1	3		023		
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please send Chroms with GRO or DRO hits	Beth Bernhardt AECOM	6/16/15	1745	Bl Thal Pace	6/18/15	1000	Y Y Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Beth Bernhardt				
SIGNATURE of SAMPLER:	<i>Beth Bernhardt</i>	DATE Signed (MM/DD/YY):	6/16/15		

*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.

Sample Condition Upon Receipt

Client Name: AECOM

Project #: _____

WO# : 10310936



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: See exception

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

Thermometer Used: B88A9130516413 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): See exception Cooler Temp Corrected (°C): See exception Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: _____ Date and Initials of Person Examining Contents: BM 6/18/15

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>01-22</u>
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): _____	

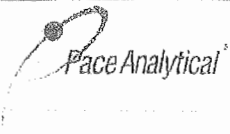
CLIENT NOTIFICATION/RESOLUTION

Field Data Required? Yes No

Person Contacted: Darin Albrecht Date/Time: 6-18-15
 Comments/Resolution: Analyze all samples even though some were received out of temp.

Project Manager Review: [Signature] Date: 6-18-15

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).



Document Name:
SCUR Exceptions Form

Document Revised: 16Apr2012
Page 1 of 1

Document No.:
F-MN-L-220-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Workorder #: _____

BM 6/15/15	Issue	Sample ID	Container Type/#
7808 7808	3135 2069	DUP	3.6°C
	//	USGS-2A	//
	//	MW-10	//
7808	3134 4976	MW-20	12.4°C —
	//	MW-19	//
	//	MW-21	//
	//	MW-22	//
7808	3135 8870	USGS-3A	12.7°C —
	//	MW-17	//
	//	USGS-4A	//
	//	USGS-1A	//
7808	3133 6073	MW-1	5.4°C
	//	MW-2	//
	//	SCLDW	//
7808	3132 6072	MW-8	9.5°C —
	//	MW-9	//
	//	MW-7	//
	//	MW-6	//
7808	3136 4430	MW-16A	5.0°C 5.0
	//	Field Blank	//
	//	MW-16B	//
	//	MW-10	//
emailed client re temps 4-19-15 dno			



Analytical Data Package

Prepared by:

Pace Analytical Services

Pace Project No.: 10310936

Table Of Contents



Organic	
GC-FID DRO	
Chromatograms.....	1

Date : 23-JUN-2015 08:07

Client ID: MW-16A

Instrument: 10gcs4,i

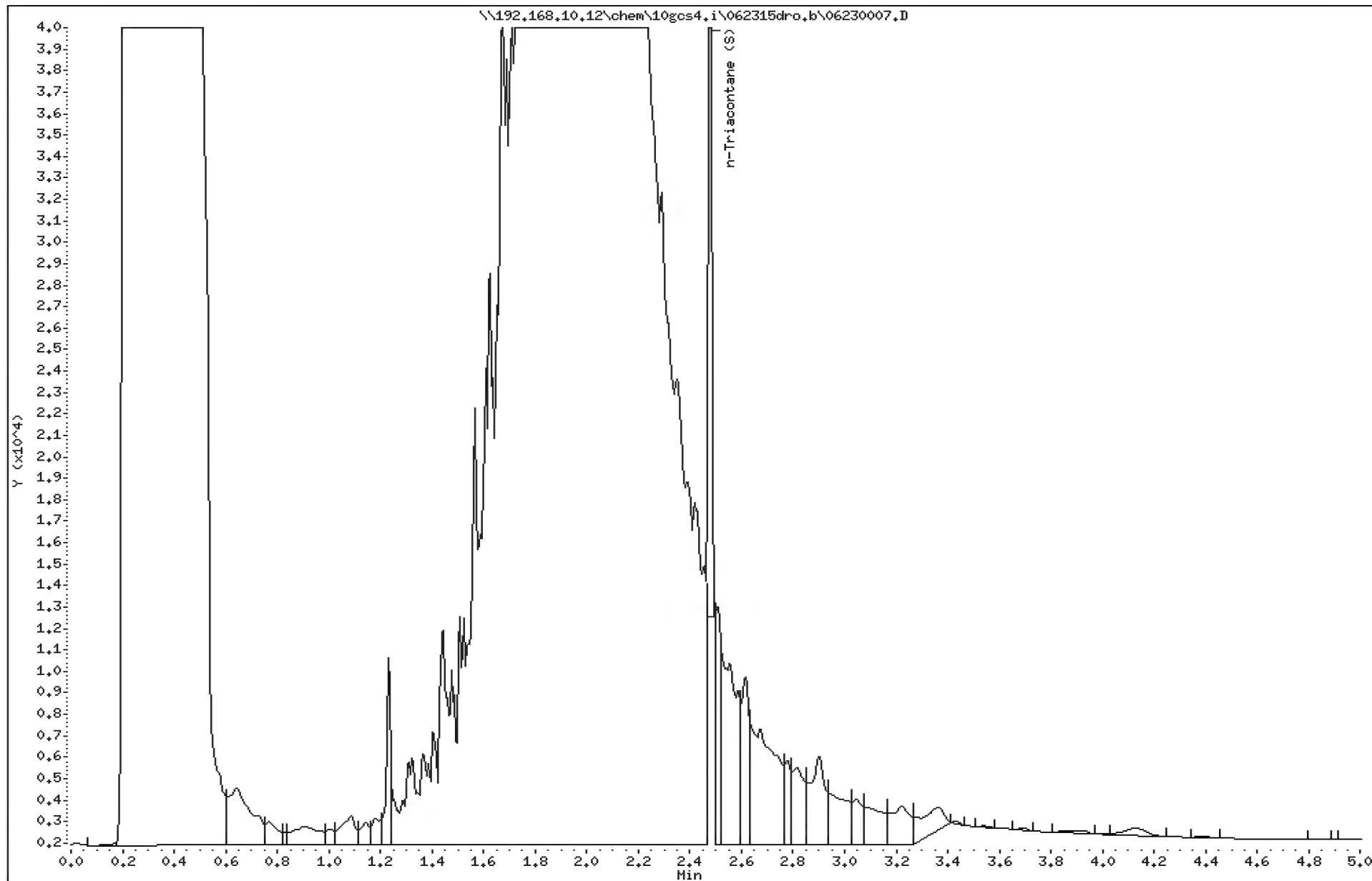
Sample Info: 10310936009

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

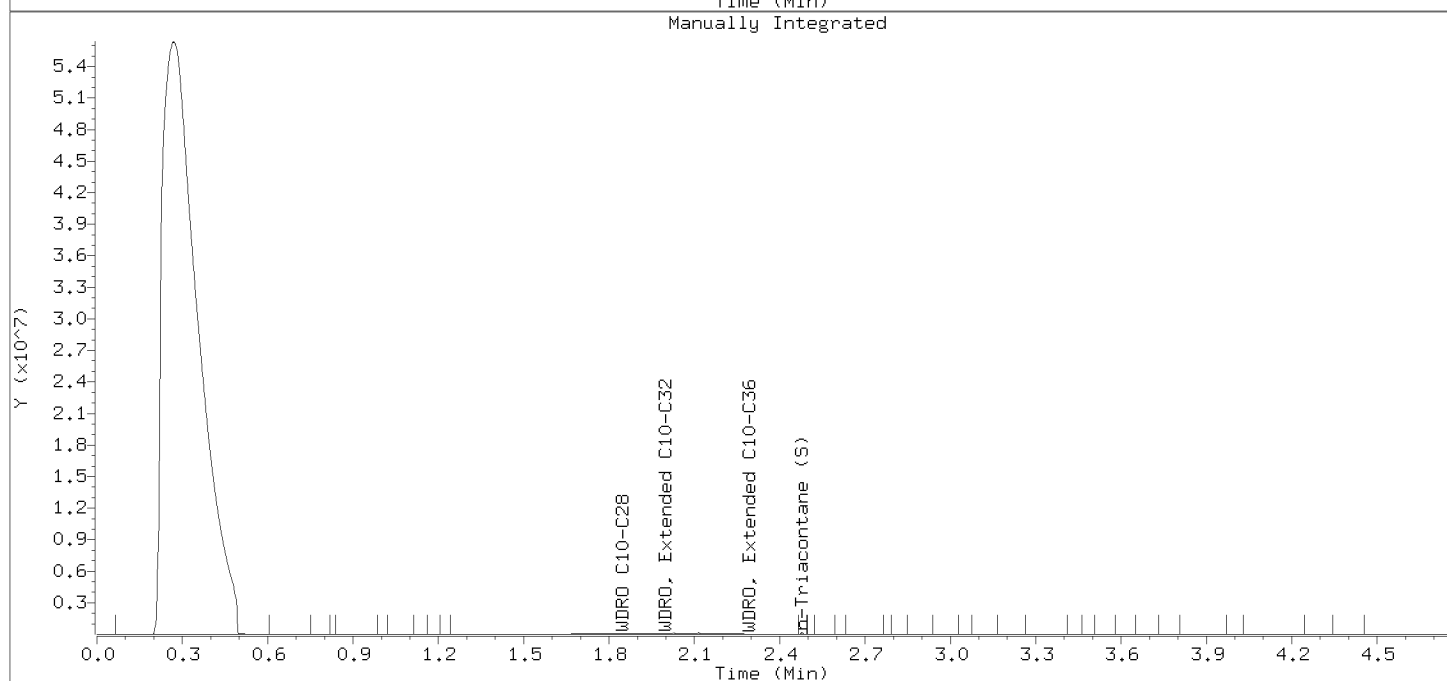
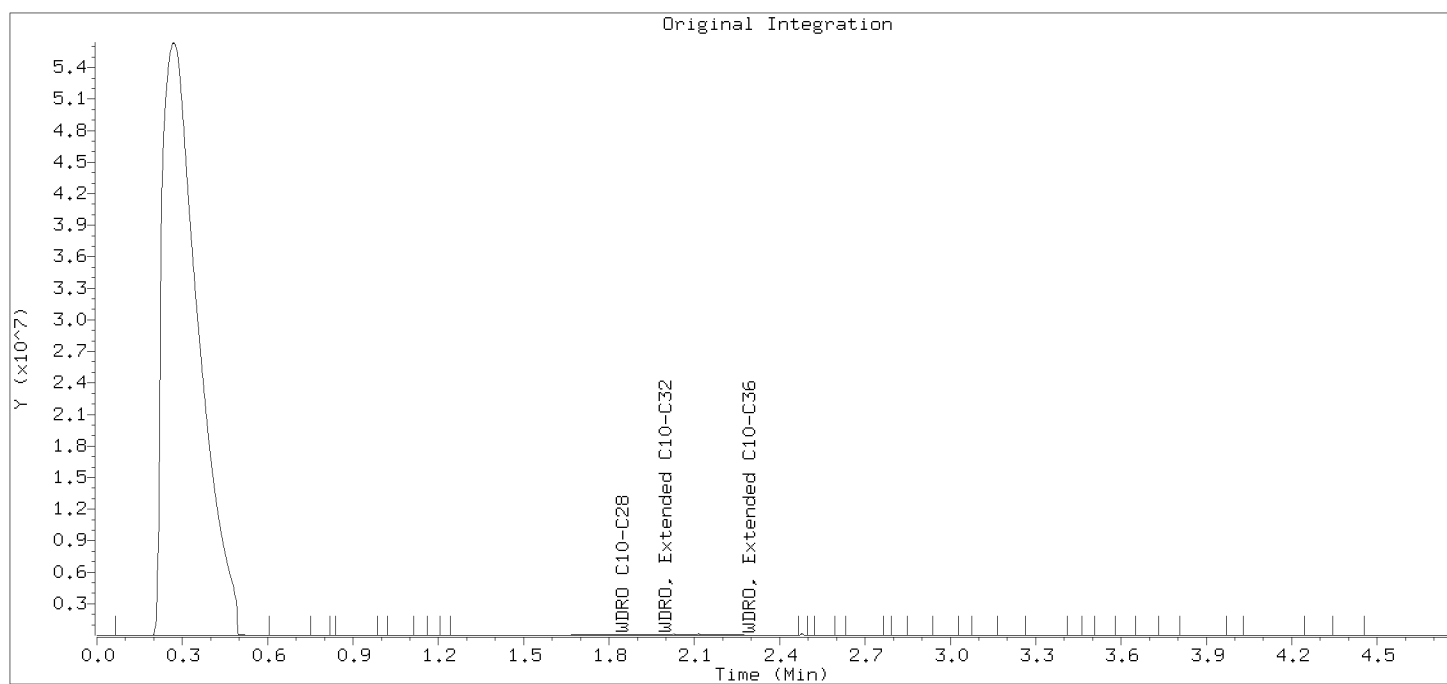
Column phase: DB-5MS



Injection Date: 23-JUN-2015 08:07

Instrument: 10gcs4.i

Lab Sample ID: 10310936009



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	53815201	53768669
WDRO, Extended C10-C32	53847786	57369319
WDRO, Extended C10-C36	53932384	58749136
n-Triacontane (S)	0	1547857

Date : 23-JUN-2015 08:14

Client ID: DUP

Instrument: 10gcs4.i

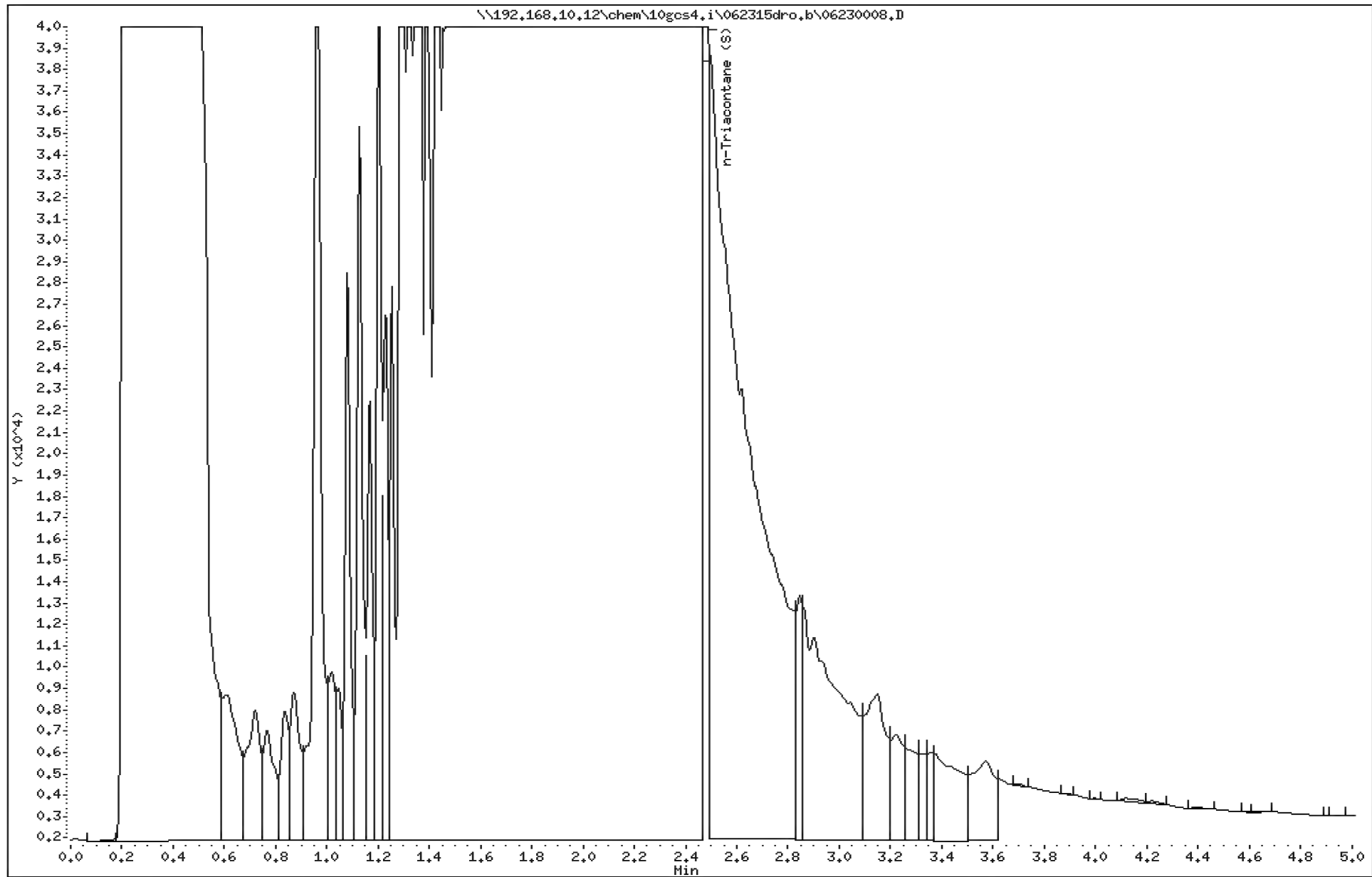
Sample Info: 10310936008

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

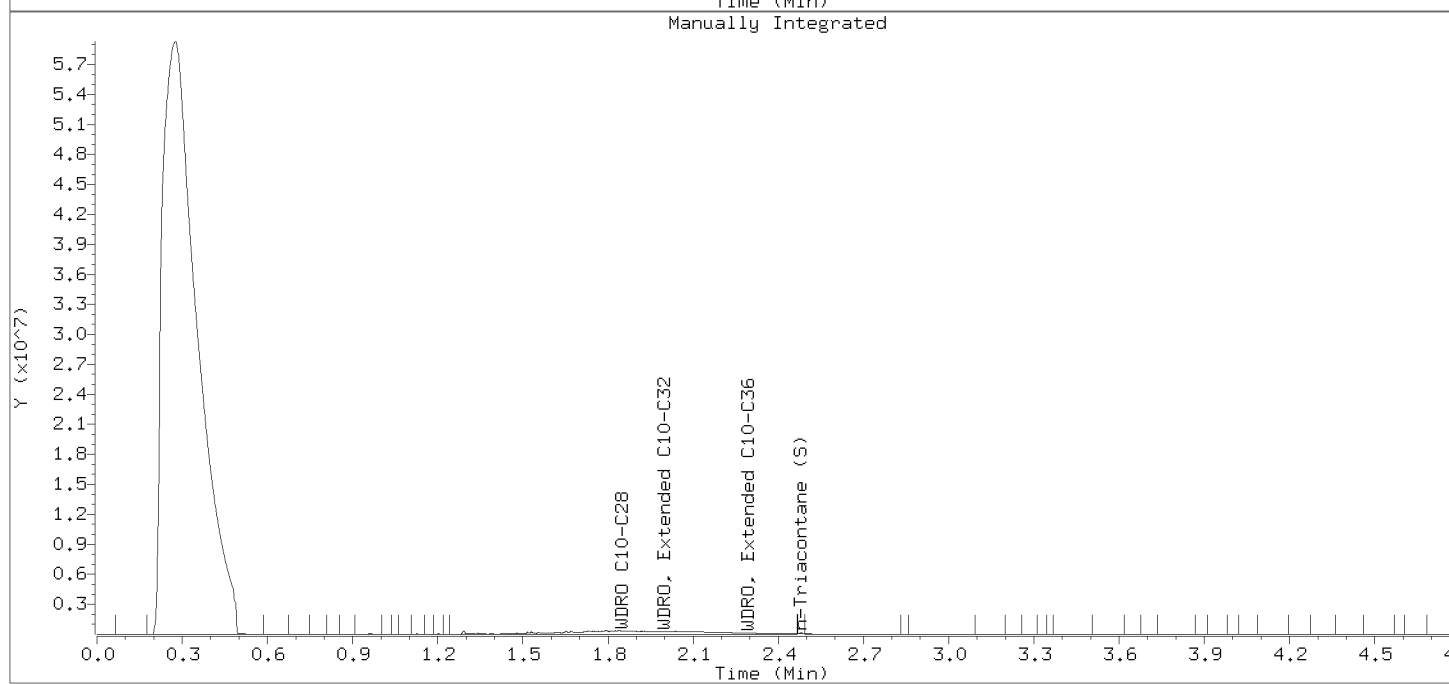
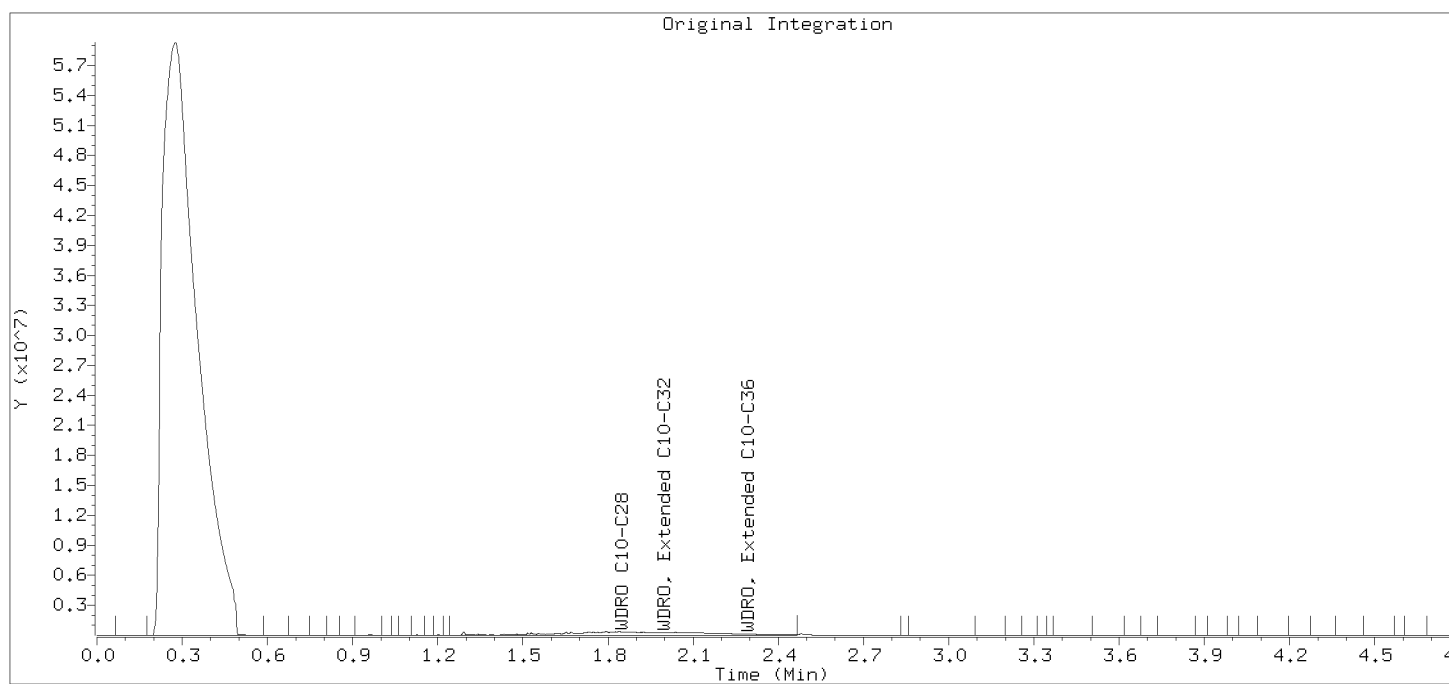
Column phase: DB-5MS



Injection Date: 23-JUN-2015 08:14

Instrument: 10gcs4.i

Lab Sample ID: 10310936008



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	249461847	249333264
WDRO, Extended C10-C32	249461847	258700636
WDRO, Extended C10-C36	249581628	262732536
n-Triacontane (S)	0	1602630

Date : 23-JUN-2015 08:22

Client ID: MW-10

Instrument: 10gcs4.i

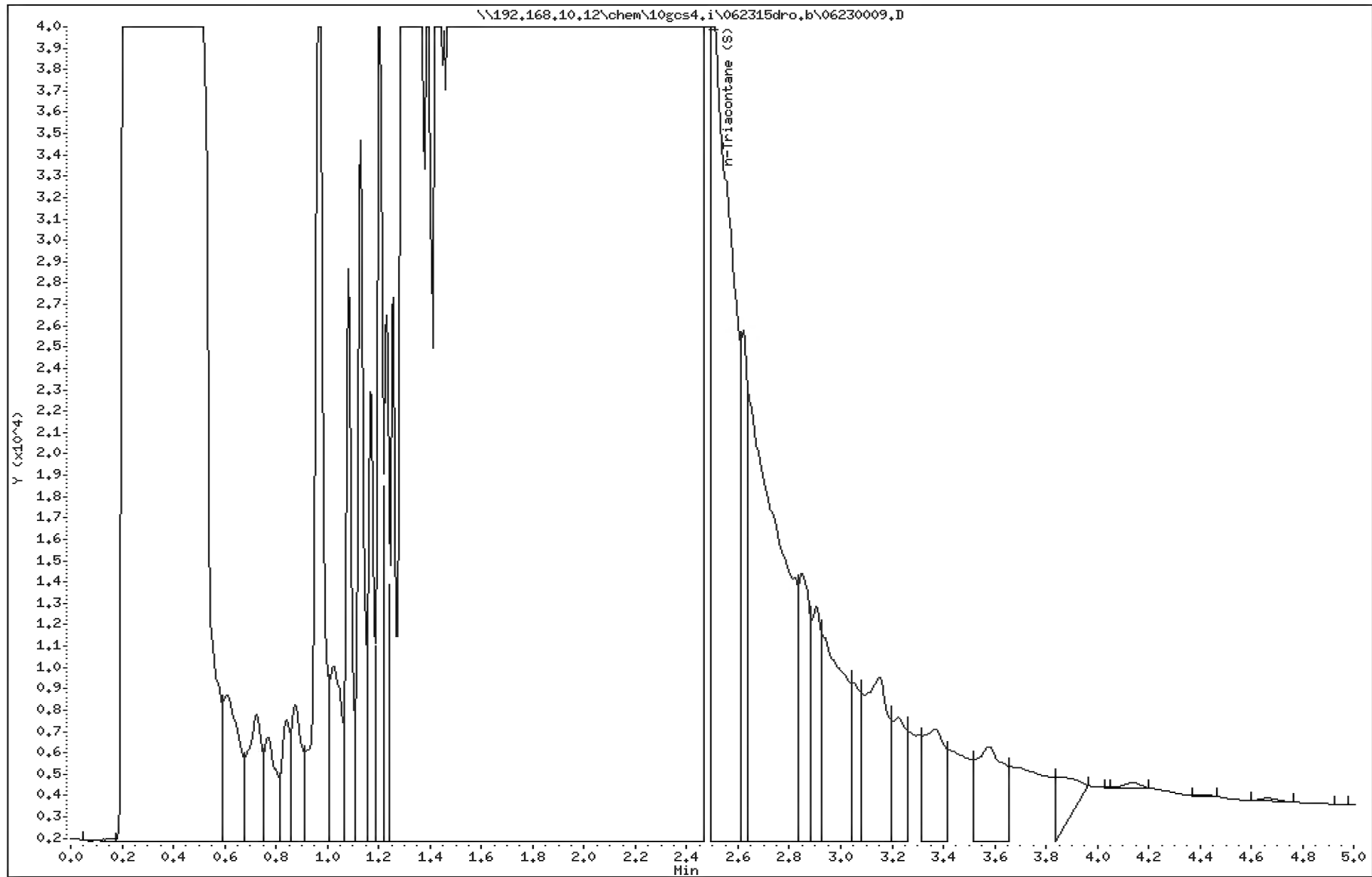
Sample Info: 10310936007

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

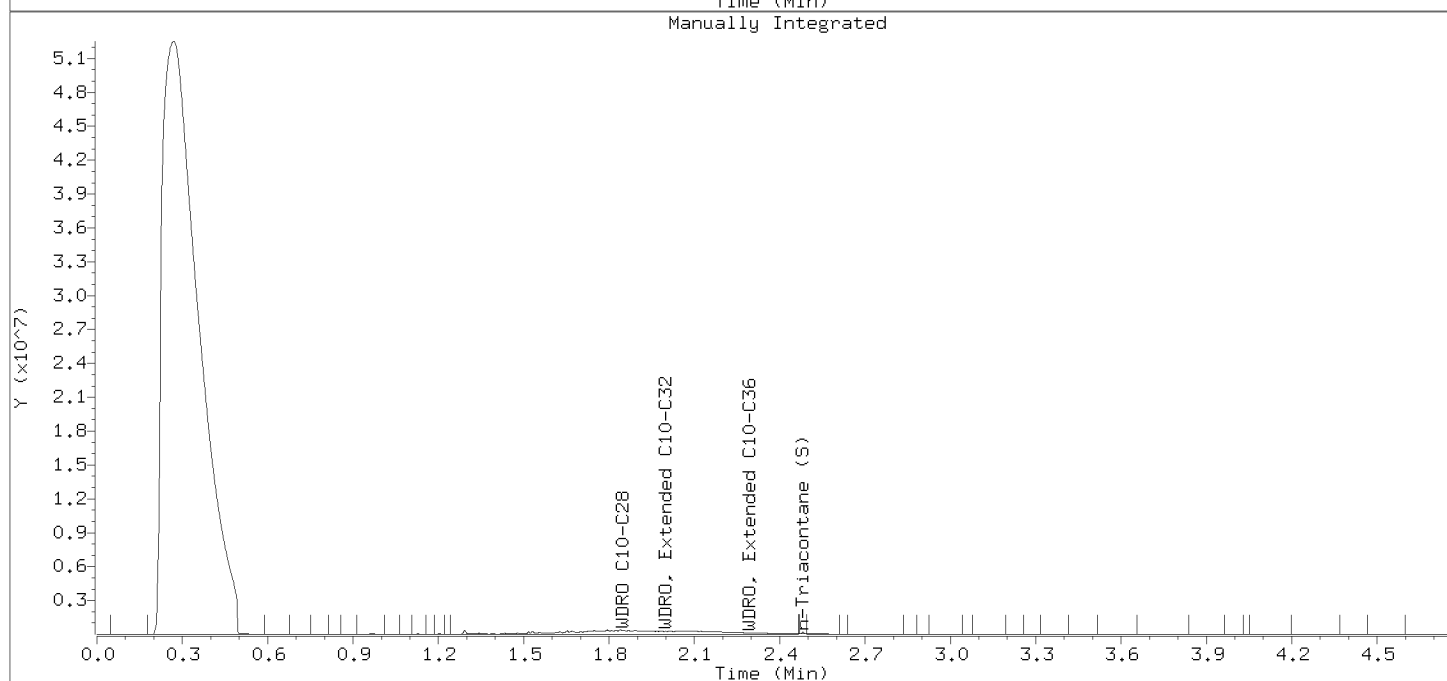
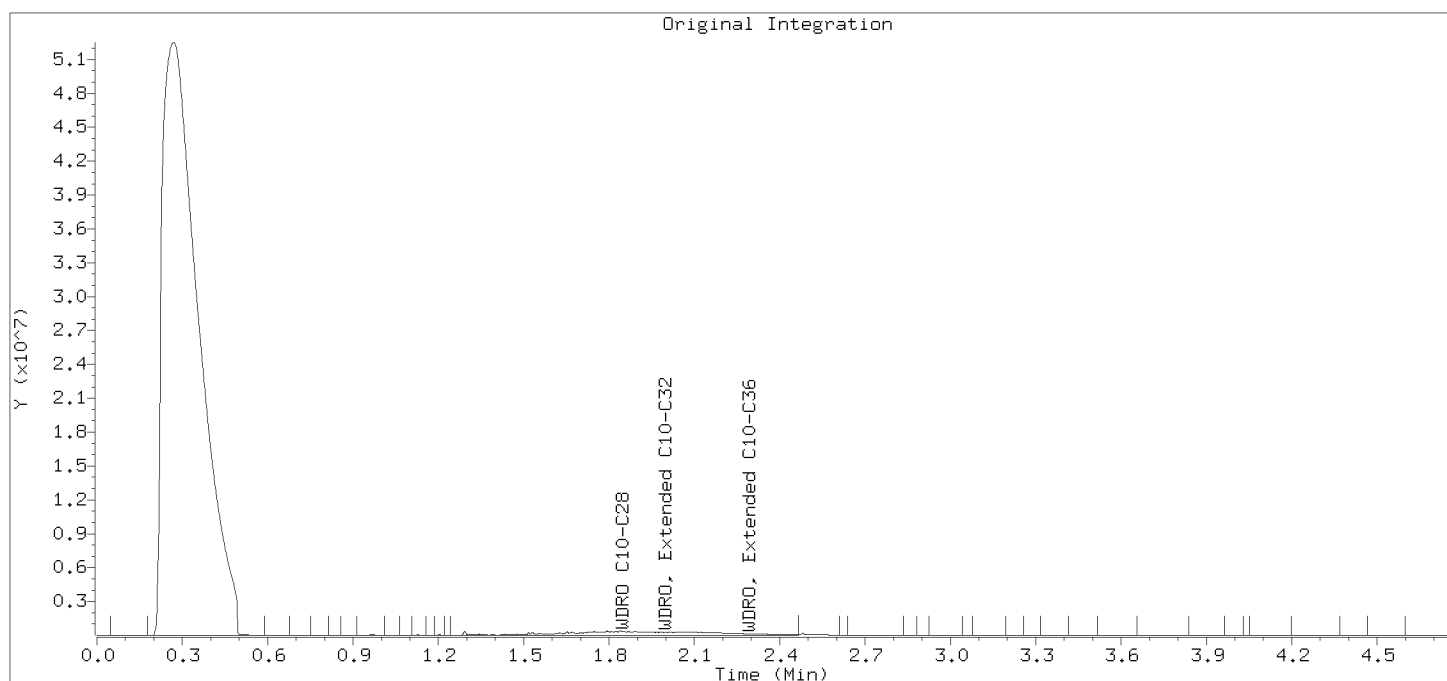
Column phase: DB-5MS



Injection Date: 23-JUN-2015 08:22

Instrument: 10gcs4.i

Lab Sample ID: 10310936007



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	254504148	254440164
WDRO, Extended C10-C32	254526816	264825202
WDRO, Extended C10-C36	254686788	268947603
n-Triacontane (S)	0	1629646

Date : 23-JUN-2015 08:30

Client ID: USGS-2A

Sample Info: 10310936018

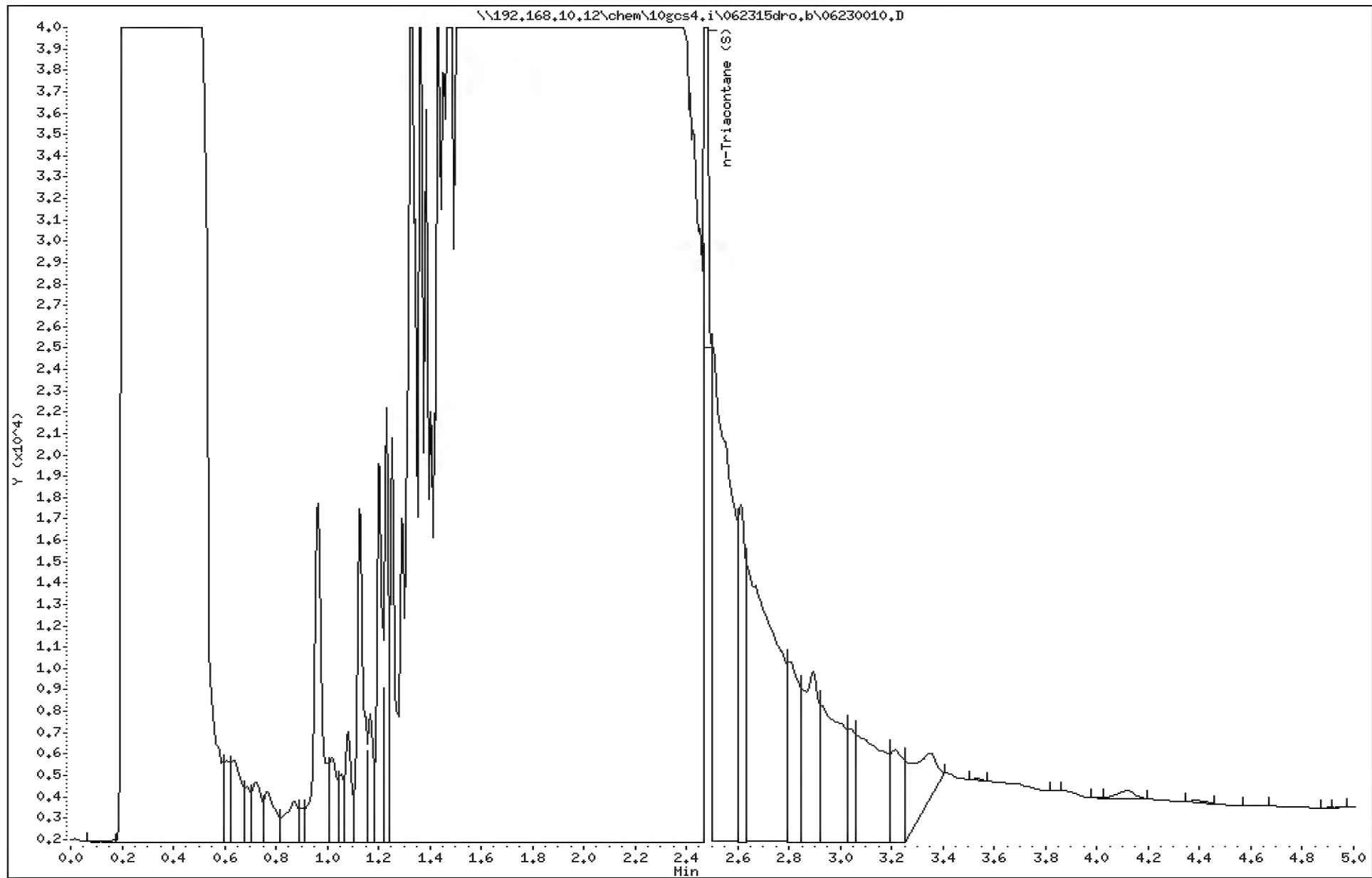
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

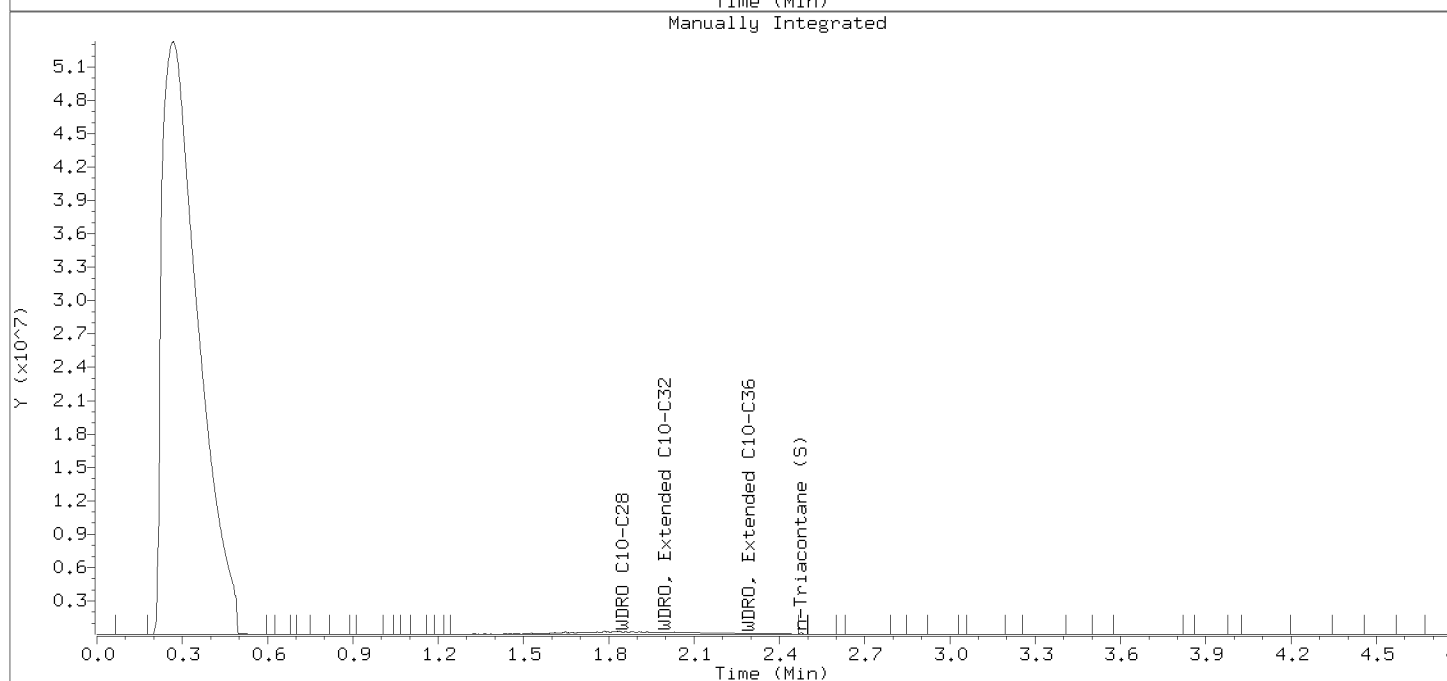
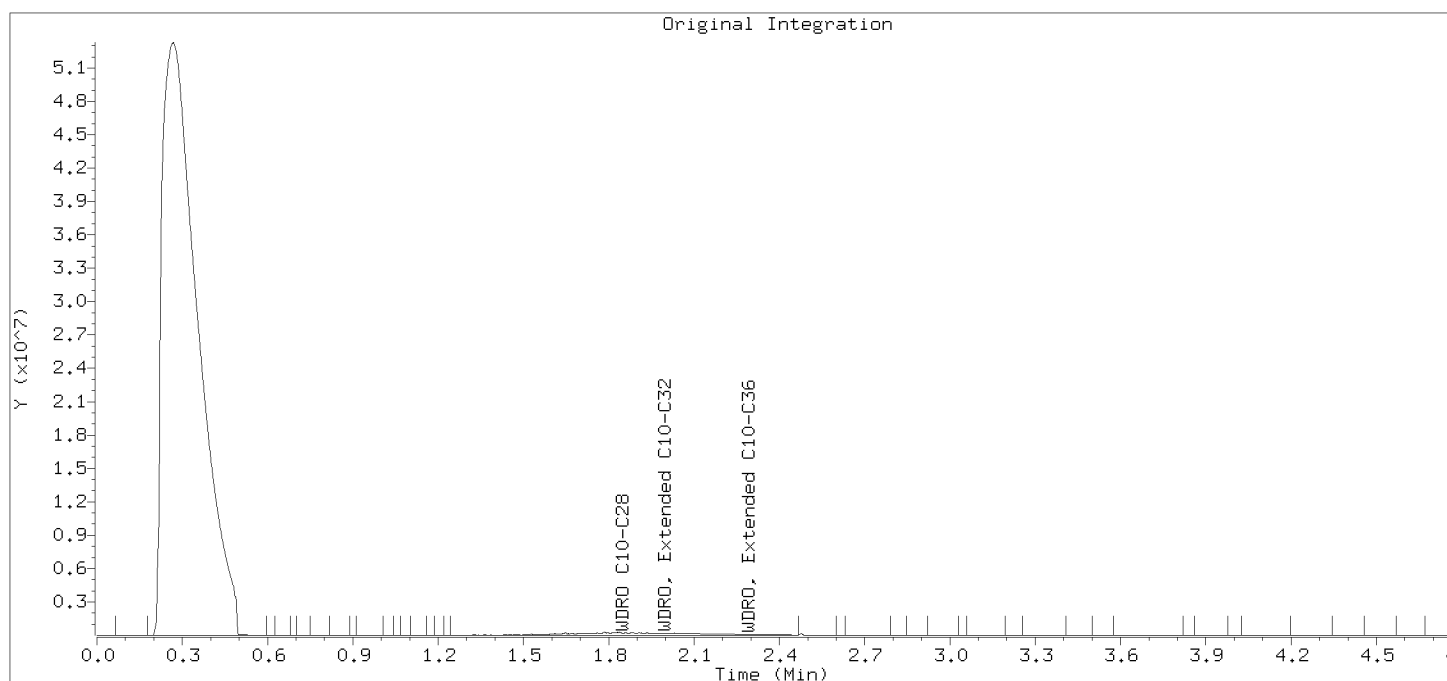
Column diameter: 0.25



Injection Date: 23-JUN-2015 08:30

Instrument: 10gcs4.i

Lab Sample ID: 10310936018



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	158975833	158912846
WDRO, Extended C10-C32	159003034	165270456
WDRO, Extended C10-C36	159061993	168424336
n-Triacontane (S)	0	1532292

Date : 23-JUN-2015 08:38

Client ID: MW-9

Sample Info: 10310936006

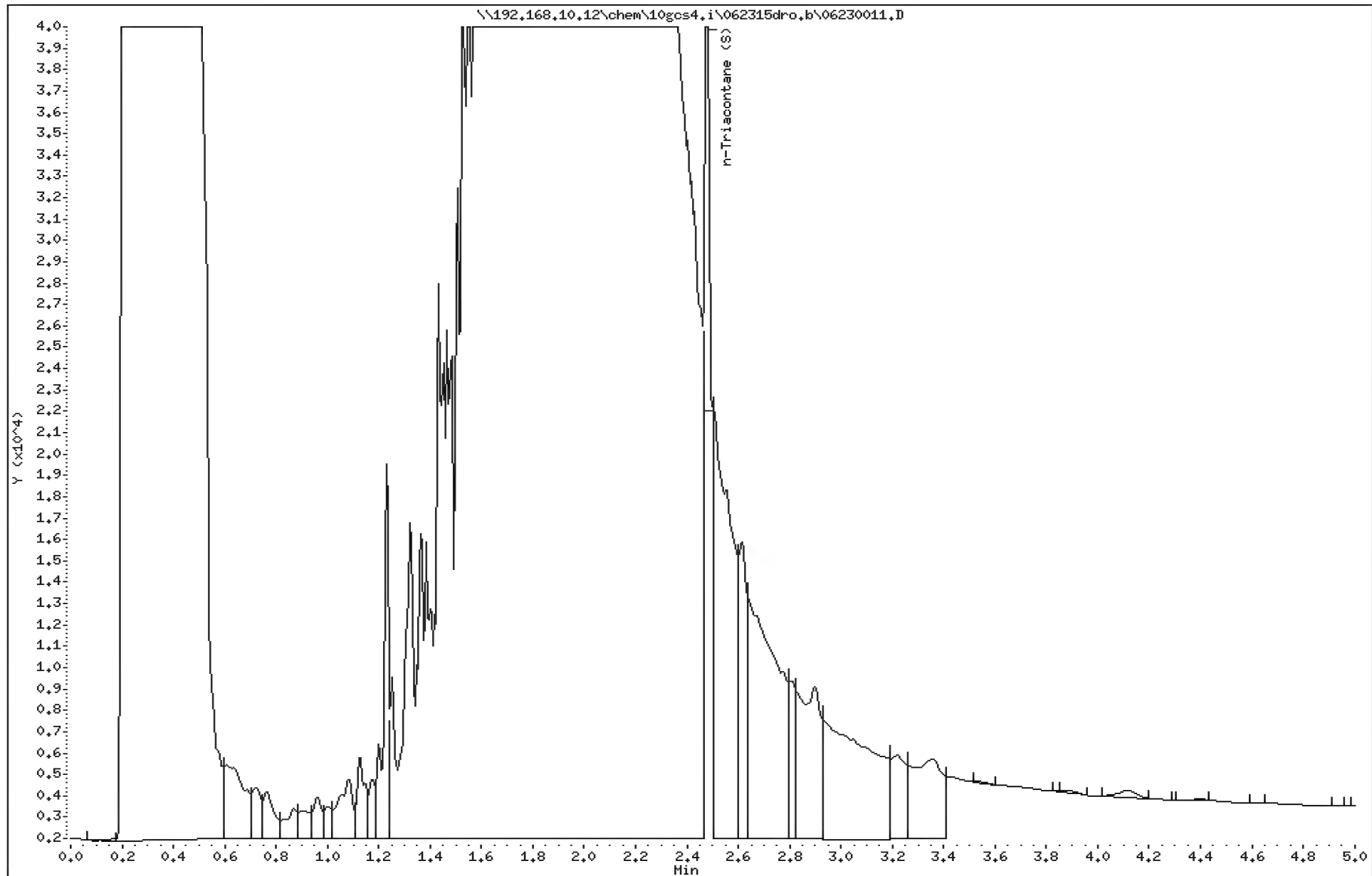
Volume Injected (uL): 1,0

Column phase: DB-5MS

Instrument: 10gcs4,i

Operator: MT

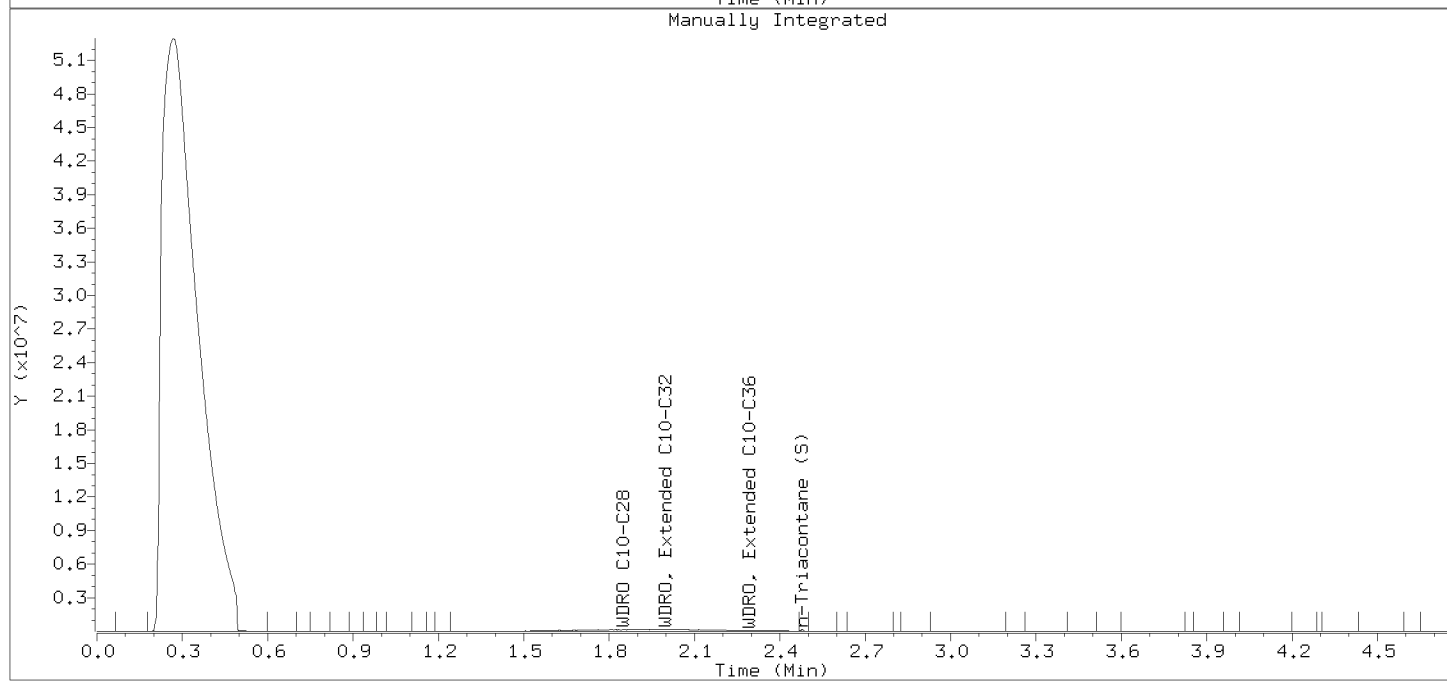
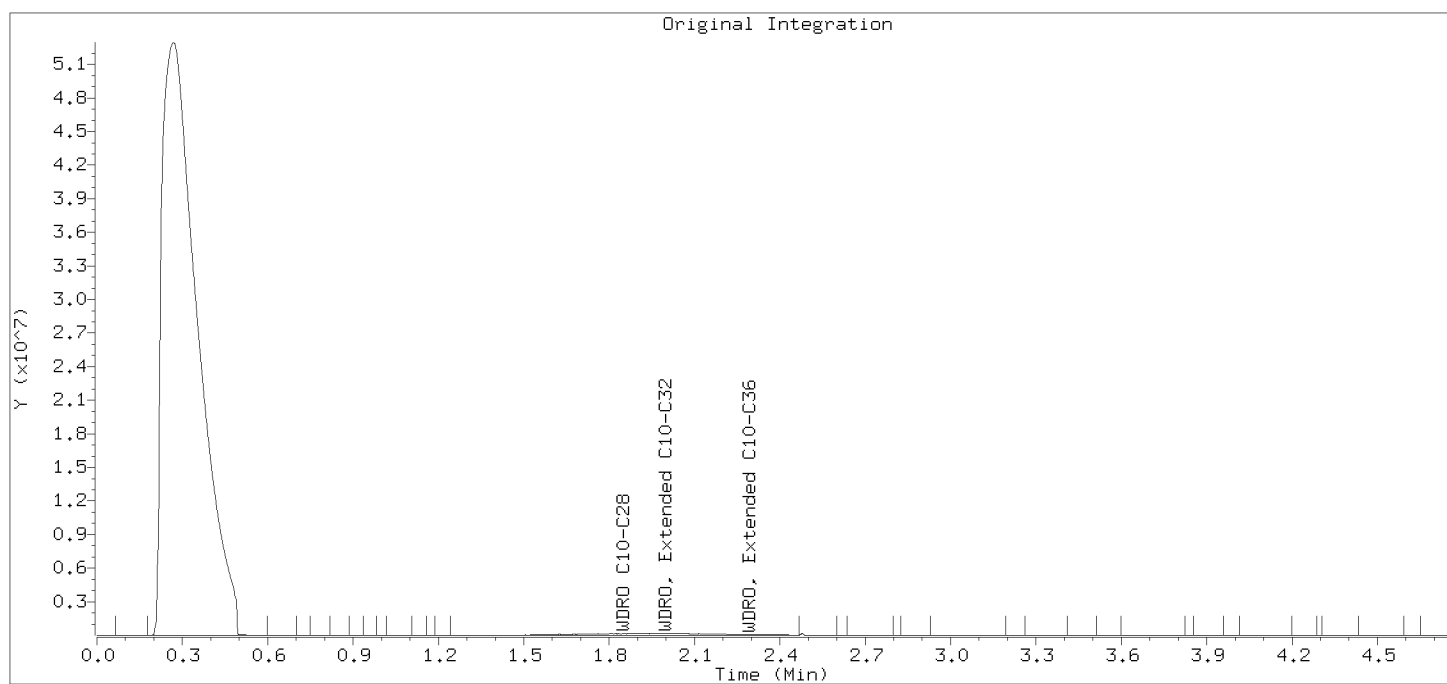
Column diameter: 0,25



Injection Date: 23-JUN-2015 08:38

Instrument: 10gcs4.i

Lab Sample ID: 10310936006



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDR0 C10-C28	115208532	115028973
WDR0, Extended C10-C32	115233914	120728060
WDR0, Extended C10-C36	115276811	123517601
n-Triacontane (S)	0	1445106

Date : 23-JUN-2015 08:46

Client ID: USGS-1A

Sample Info: 10310936017

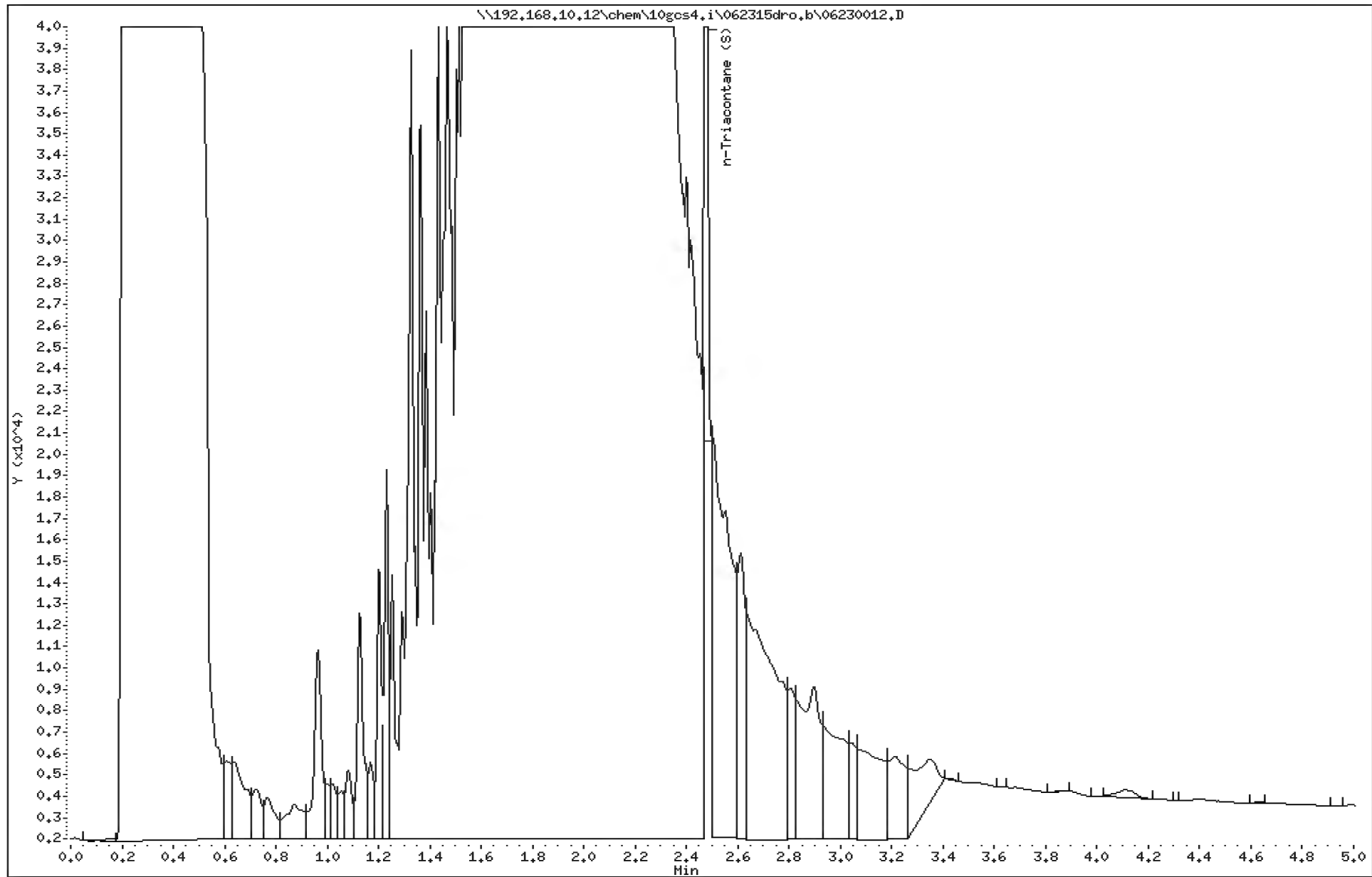
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

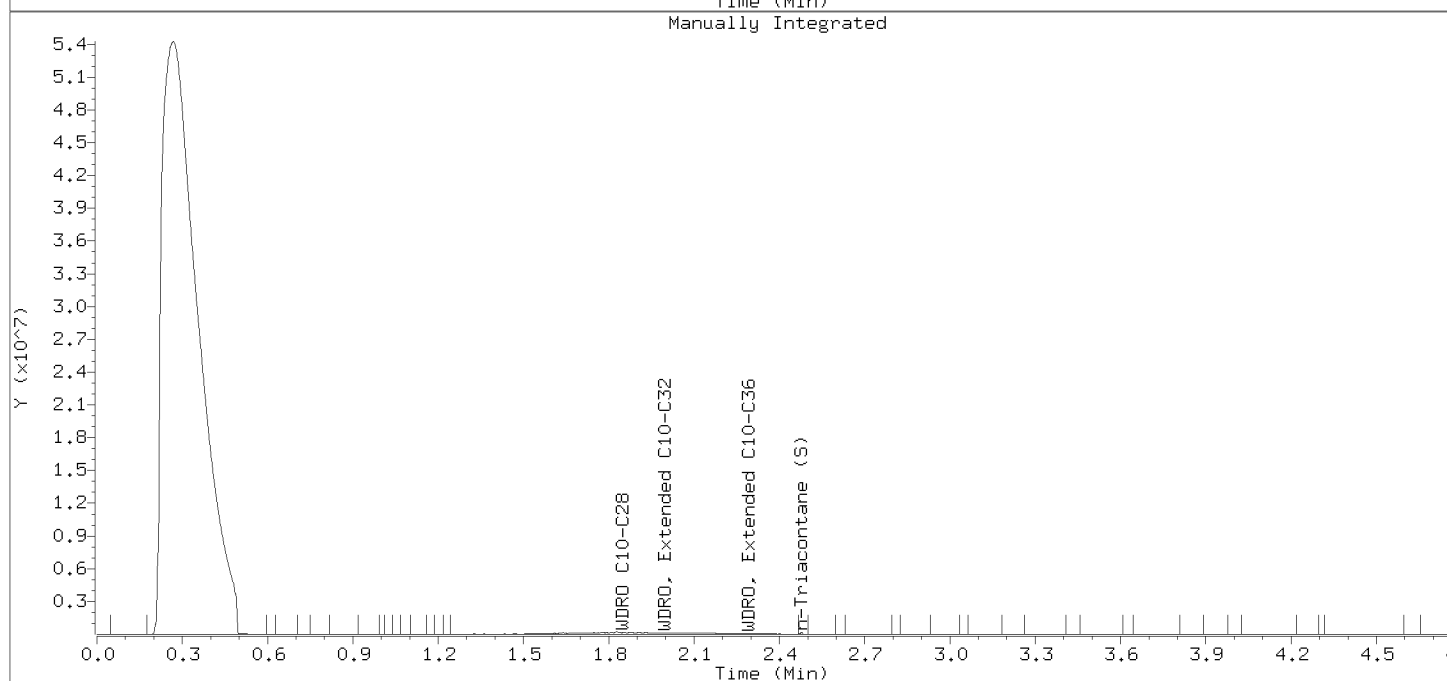
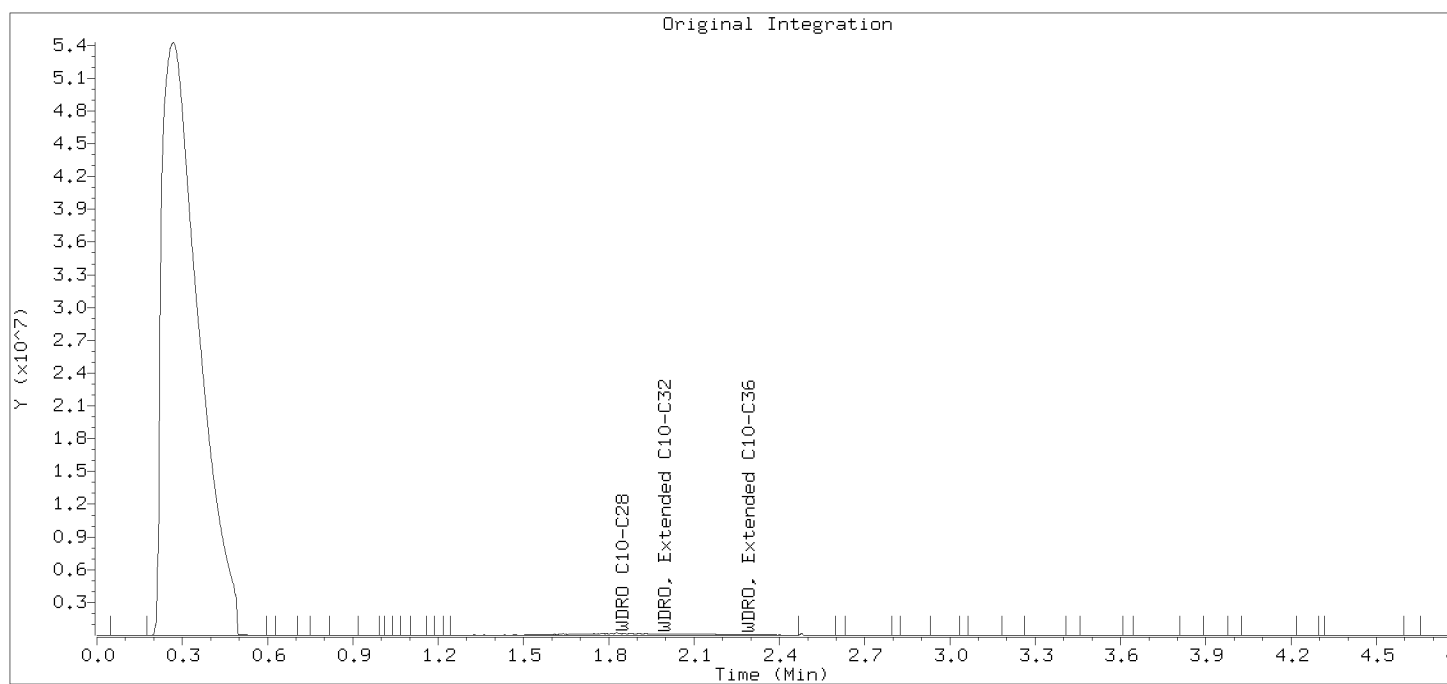
Column diameter: 0.25



Injection Date: 23-JUN-2015 08:46

Instrument: 10gcs4.i

Lab Sample ID: 10310936017



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	117310876	117177763
WDRO, Extended C10-C32	117342960	122755976
WDRO, Extended C10-C36	117398775	125474278
n-Triacontane (S)	0	1606303

Date : 23-JUN-2015 08:53

Client ID: MW-16B

Instrument: 10gcs4,i

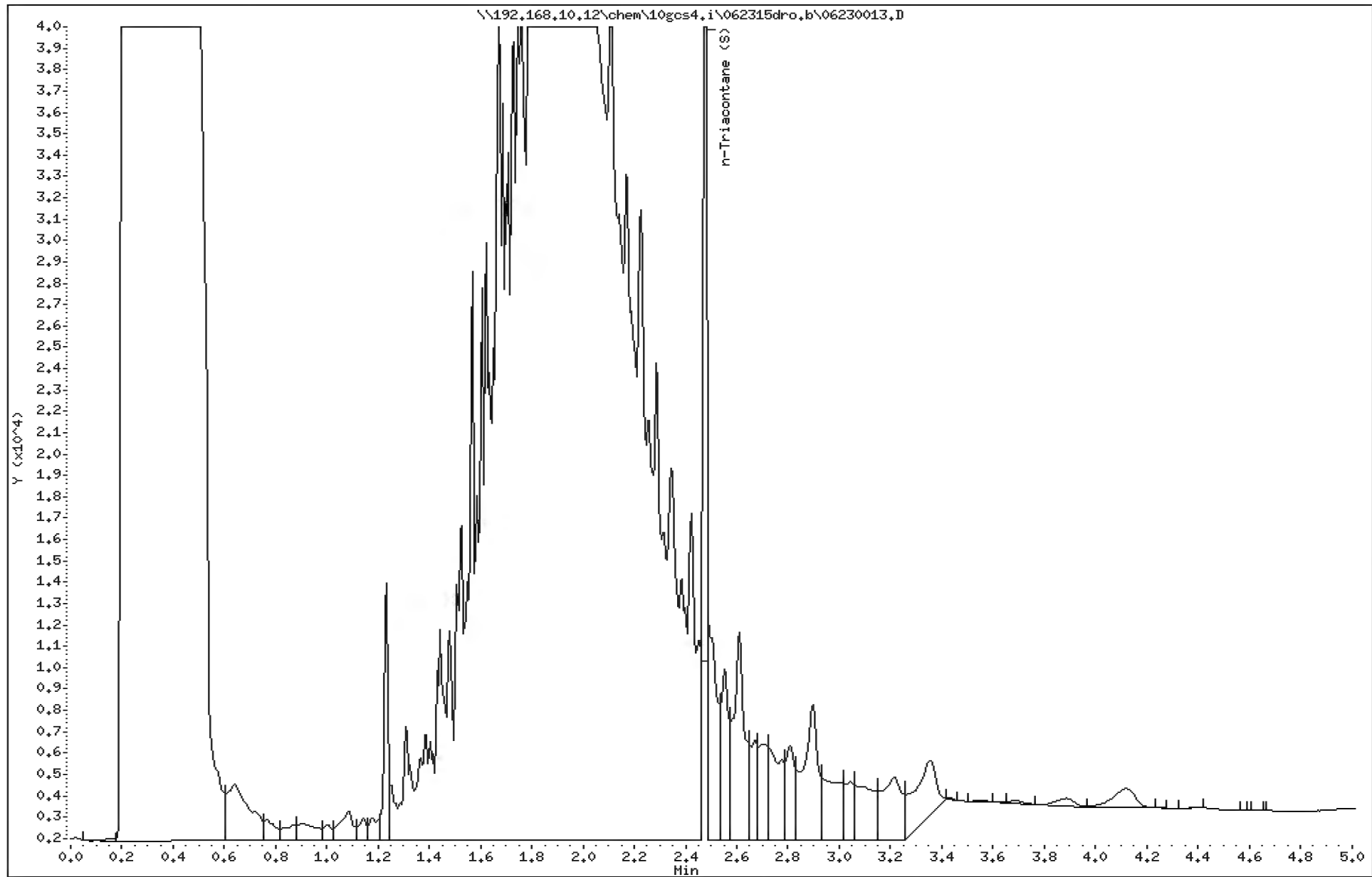
Sample Info: 10310936010

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

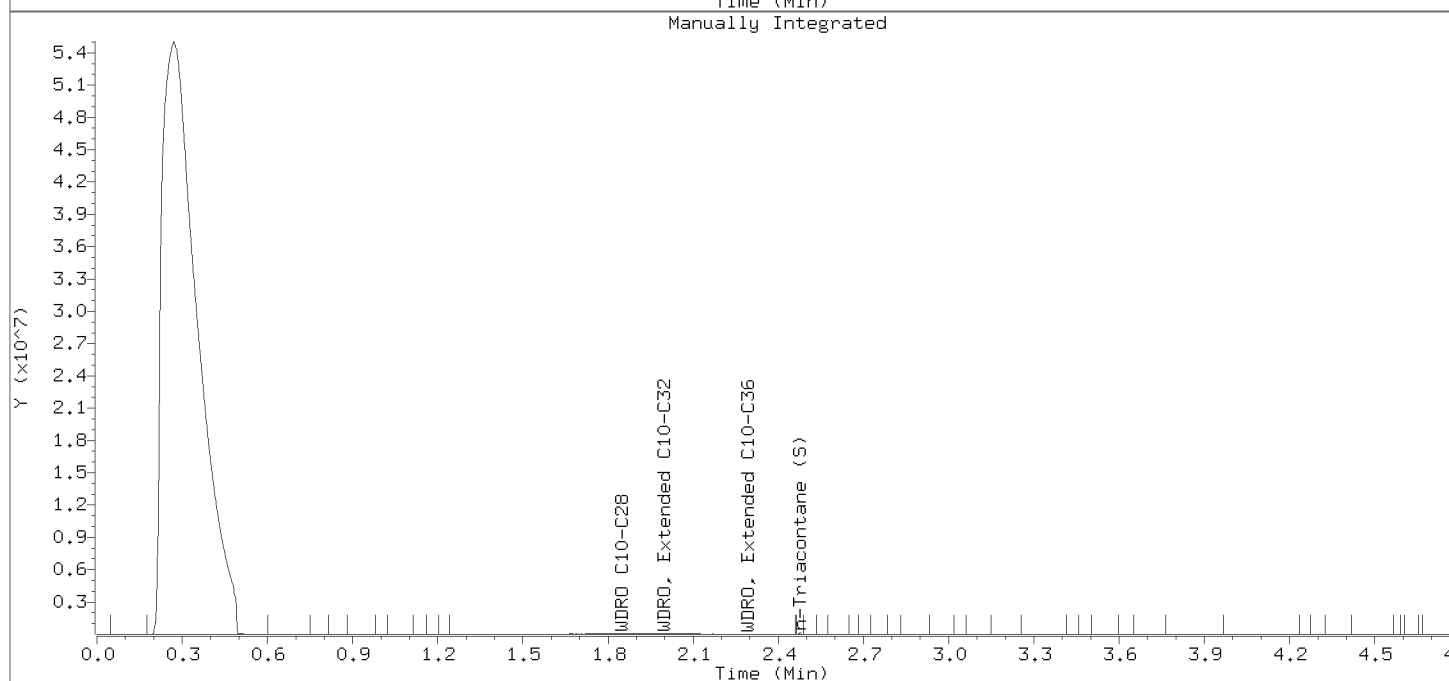
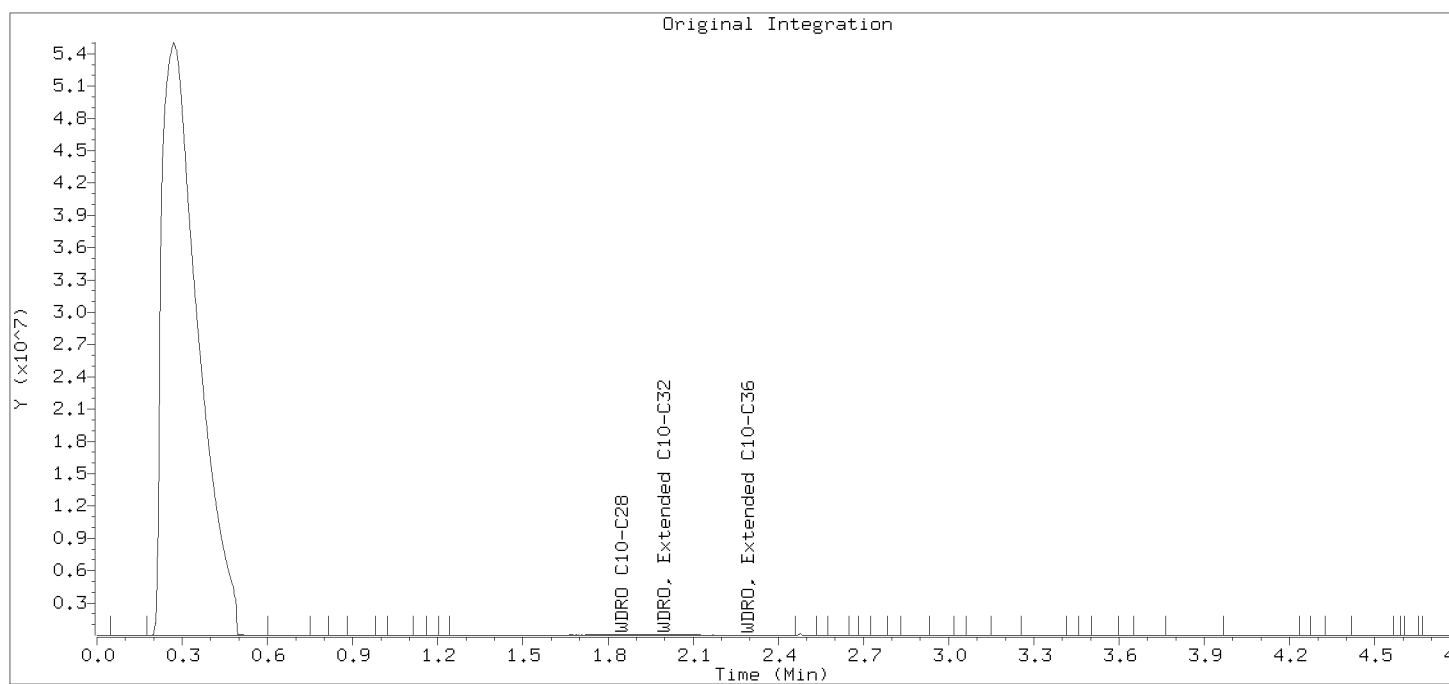
Column phase: DB-5MS



Injection Date: 23-JUN-2015 08:53

Instrument: 10gcs4.i

Lab Sample ID: 10310936010



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	34041828	34020861
WDRO, Extended C10-C32	34192635	37498777
WDRO, Extended C10-C36	34356815	39184018
n-Triacontane (S)	0	1478874

Date : 23-JUN-2015 09:01

Client ID: MW-6

Instrument: 10gcs4,i

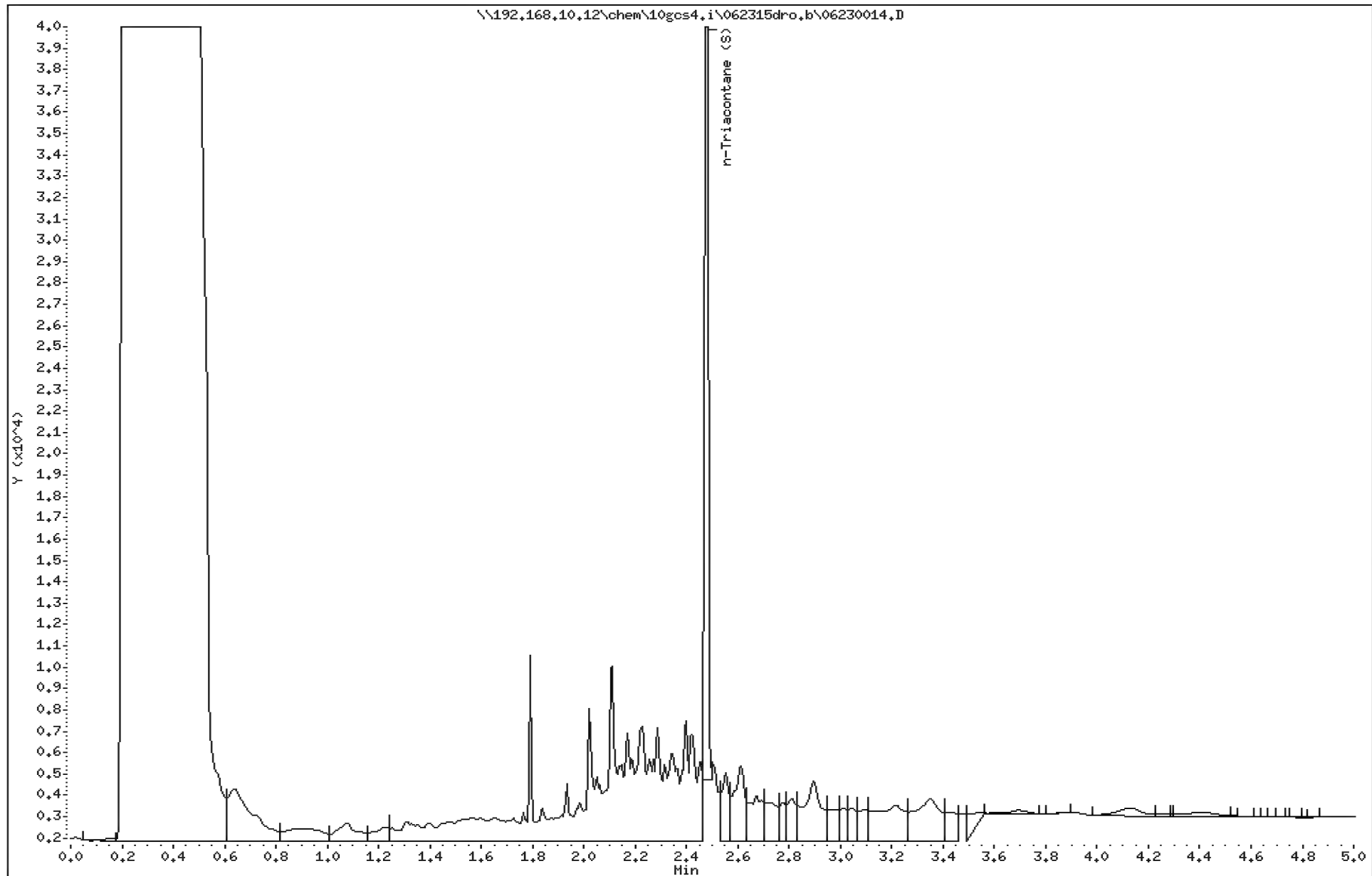
Sample Info: 10310936003

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

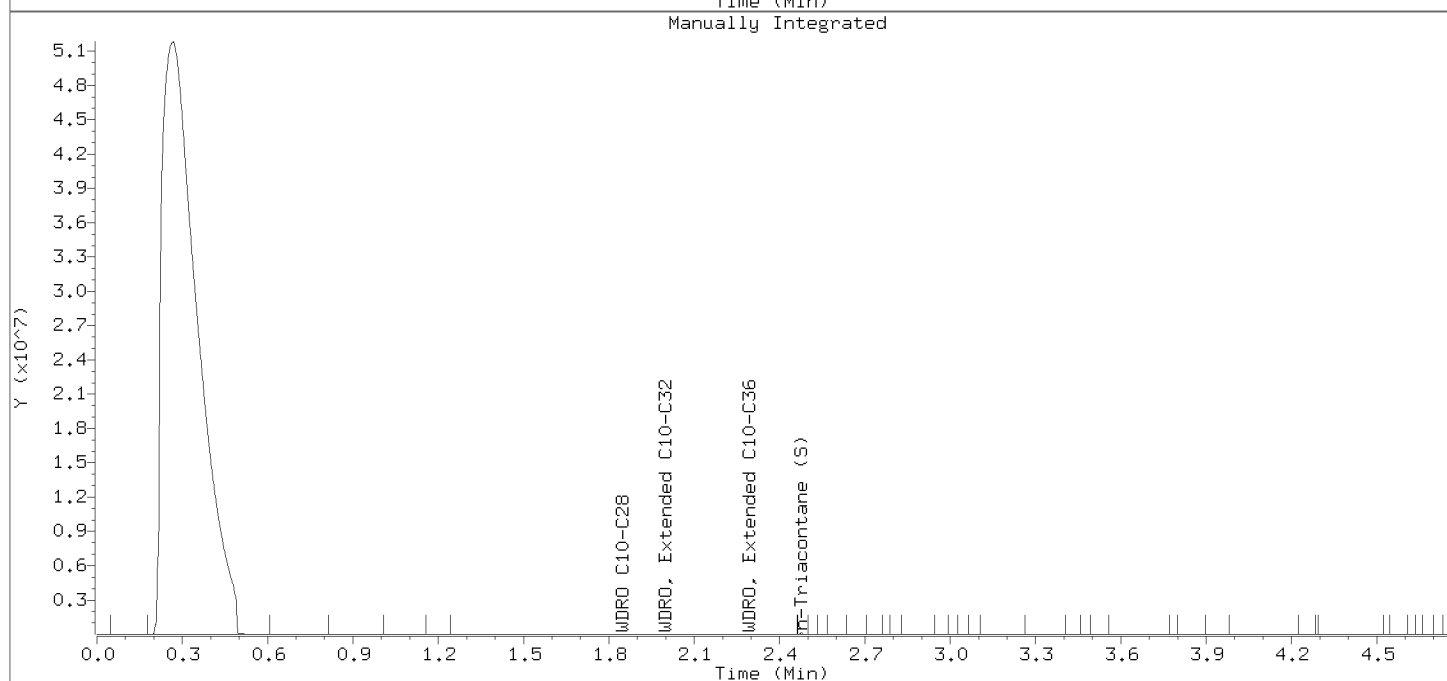
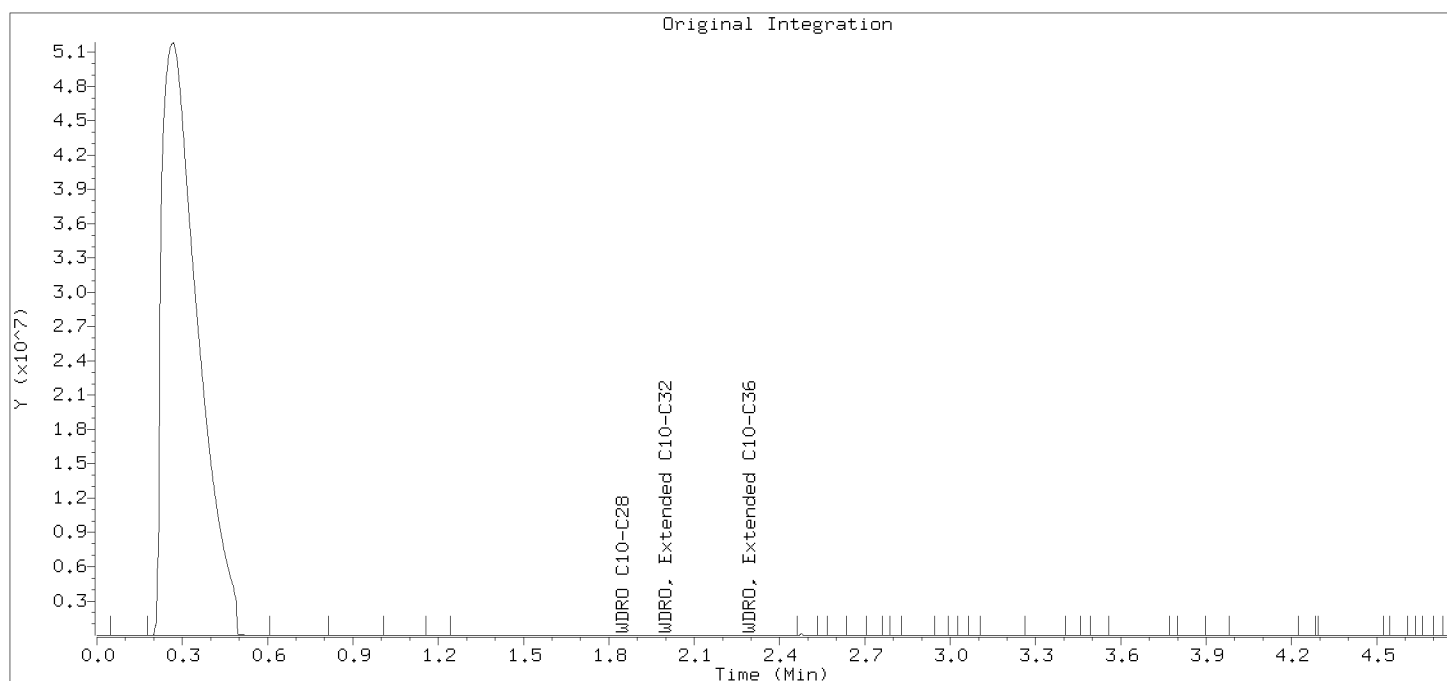
Column phase: DB-5MS



Injection Date: 23-JUN-2015 09:01

Instrument: 10gcs4.i

Lab Sample ID: 10310936003



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	2701326	2755254
WDRO, Extended C10-C32	2765082	4758057
WDRO, Extended C10-C36	2893893	5975207
n-Triacontane (S)	0	1428224

Date : 23-JUN-2015 09:09

Client ID: MW-22

Sample Info: 10310936016

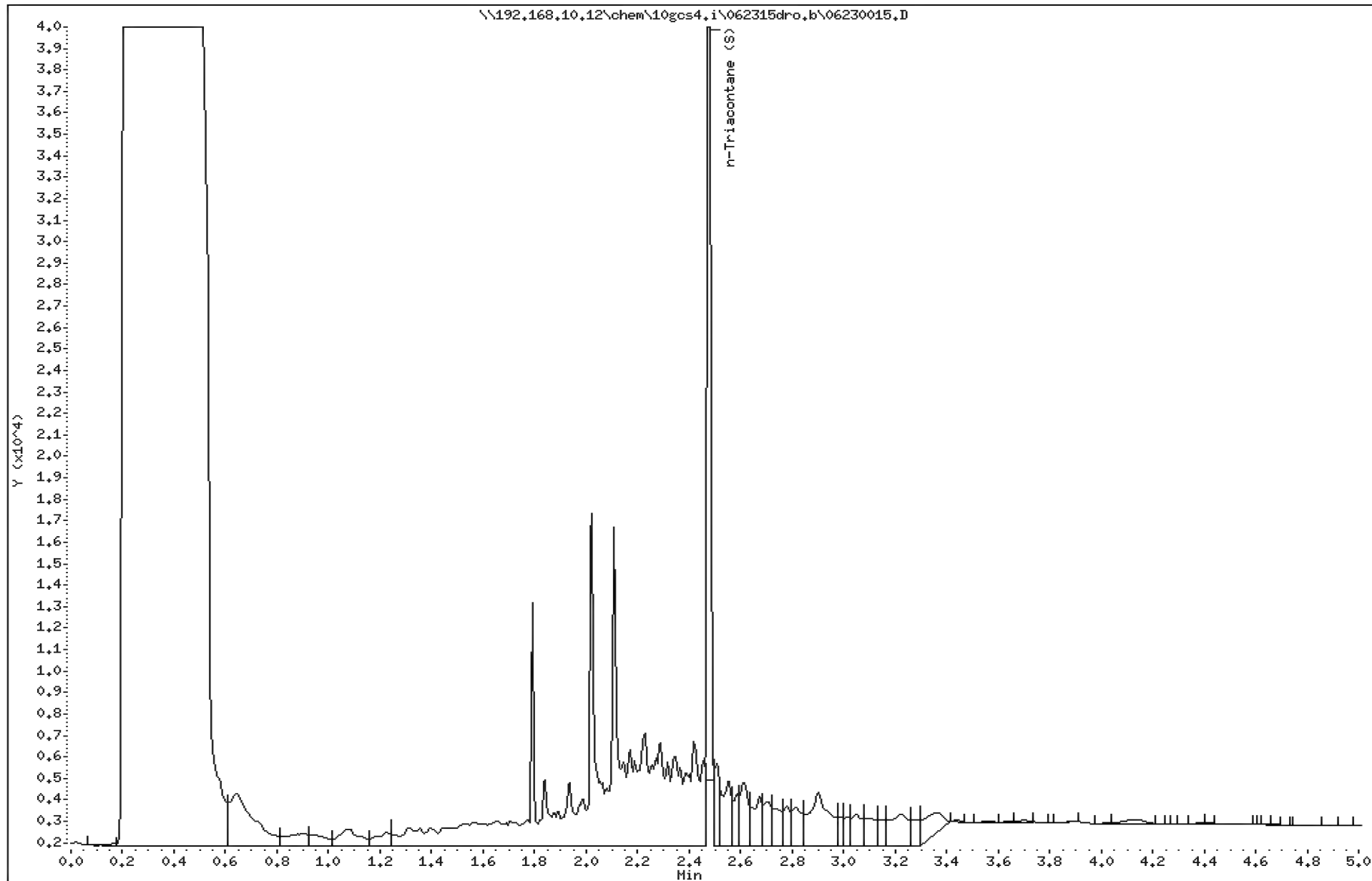
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

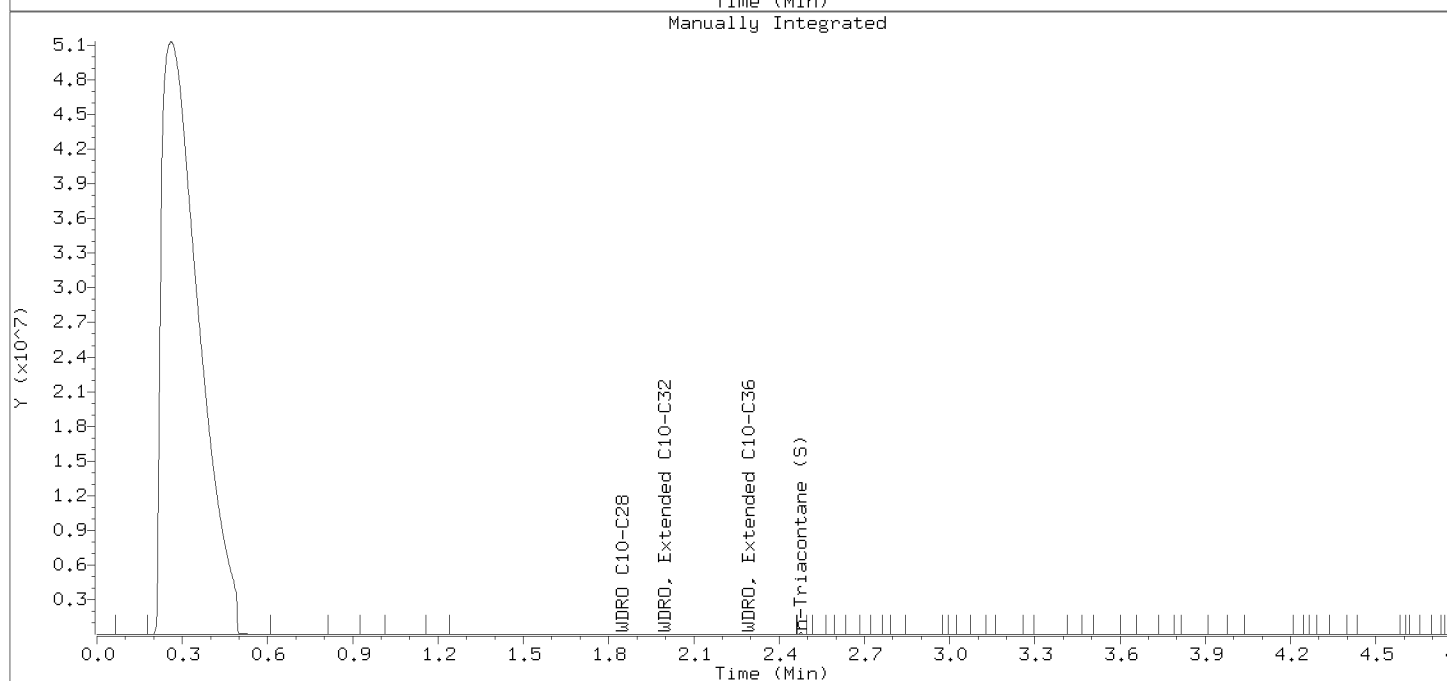
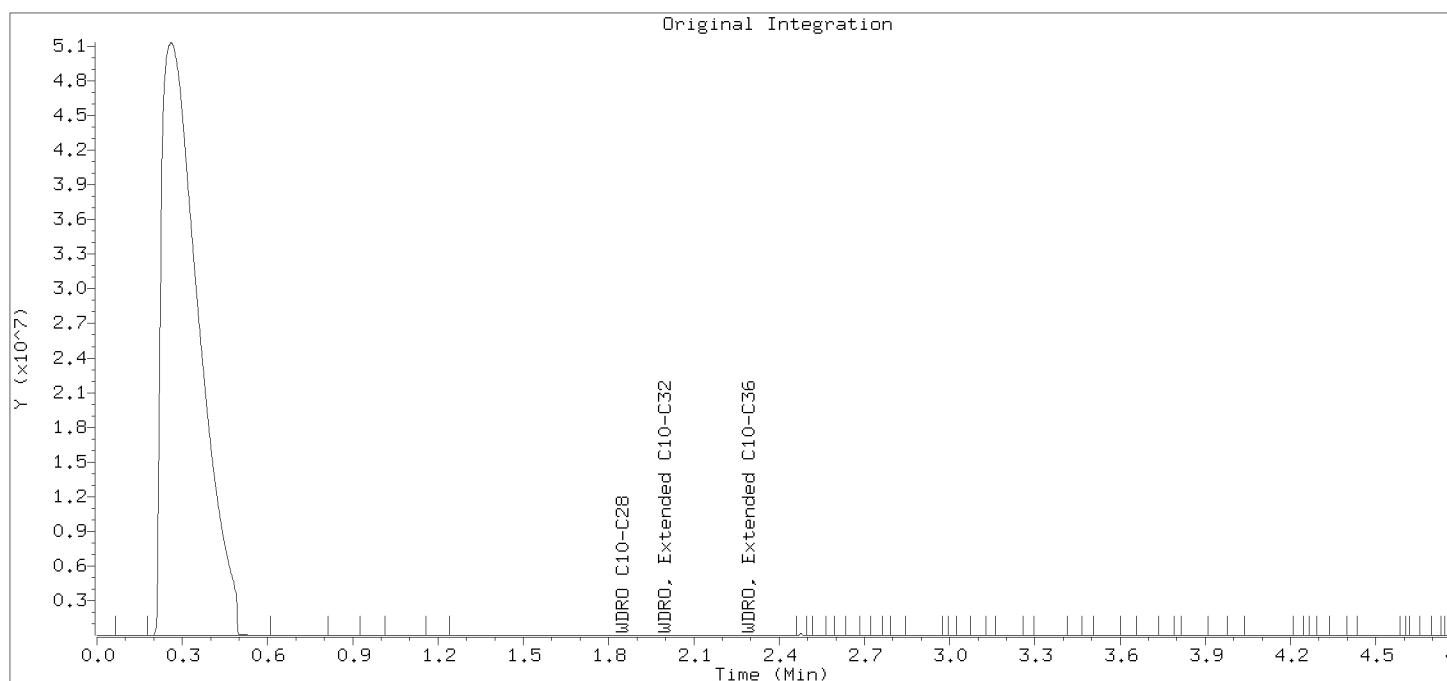
Column diameter: 0.25



Injection Date: 23-JUN-2015 09:09

Instrument: 10gcs4.i

Lab Sample ID: 10310936016



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	3053551	3114519
WDRO, Extended C10-C32	3100785	5278722
WDRO, Extended C10-C36	3178101	6204077
n-Triacontane (S)	0	1452328

Date : 23-JUN-2015 09:17

Client ID: MW-19

Instrument: 10gcs4.i

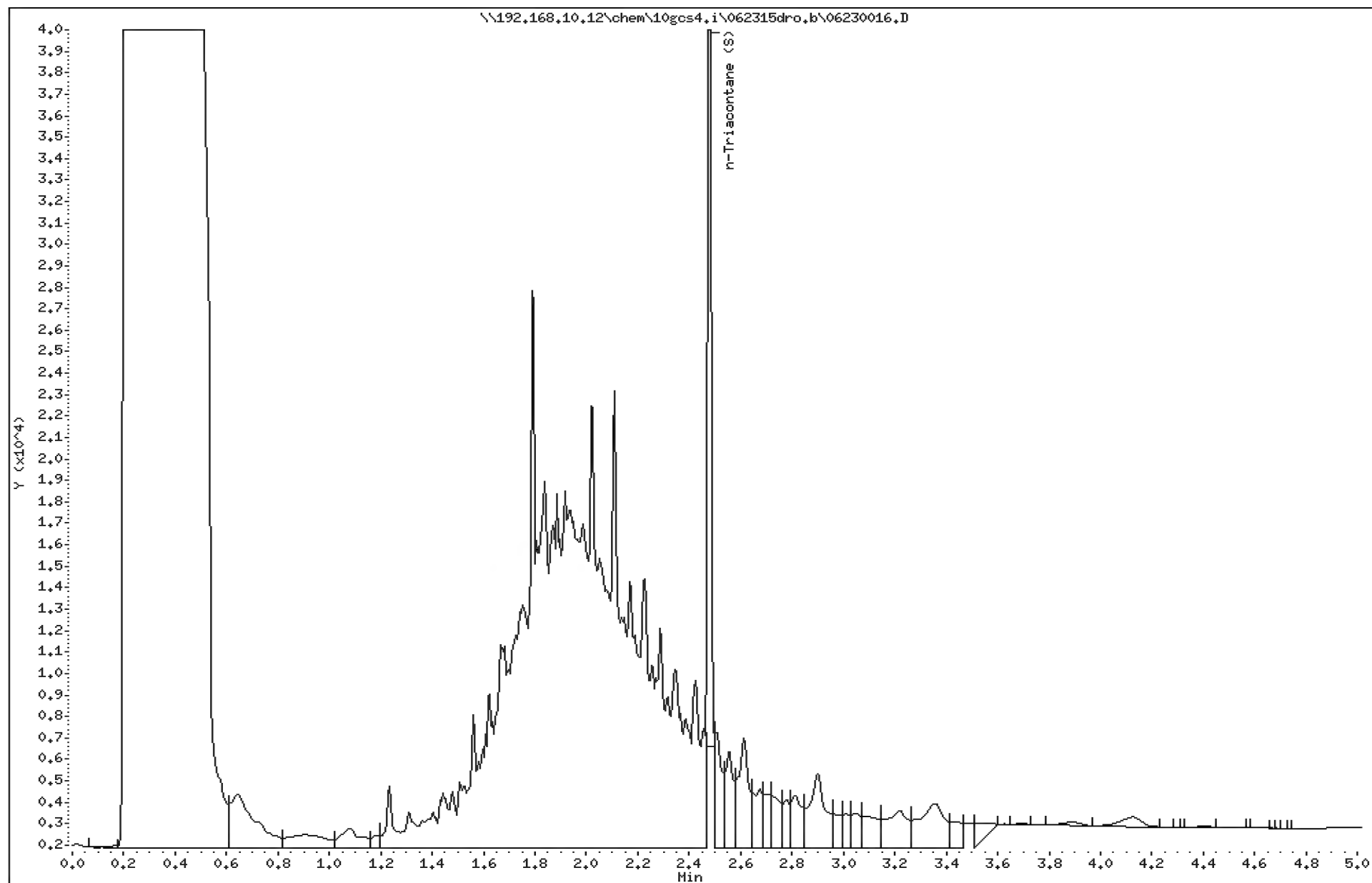
Sample Info: 10310936013

Volume Injected (uL): 1.0

Operator: MT

Column phase: DB-5MS

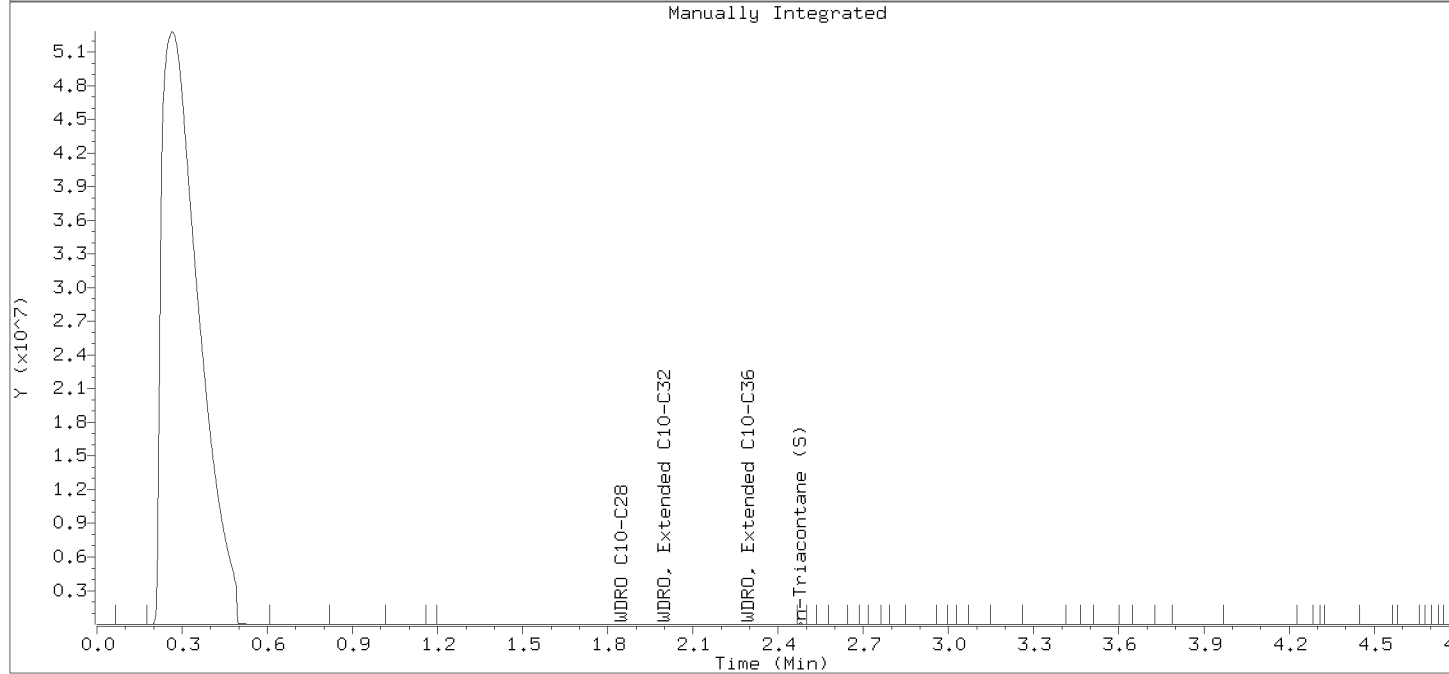
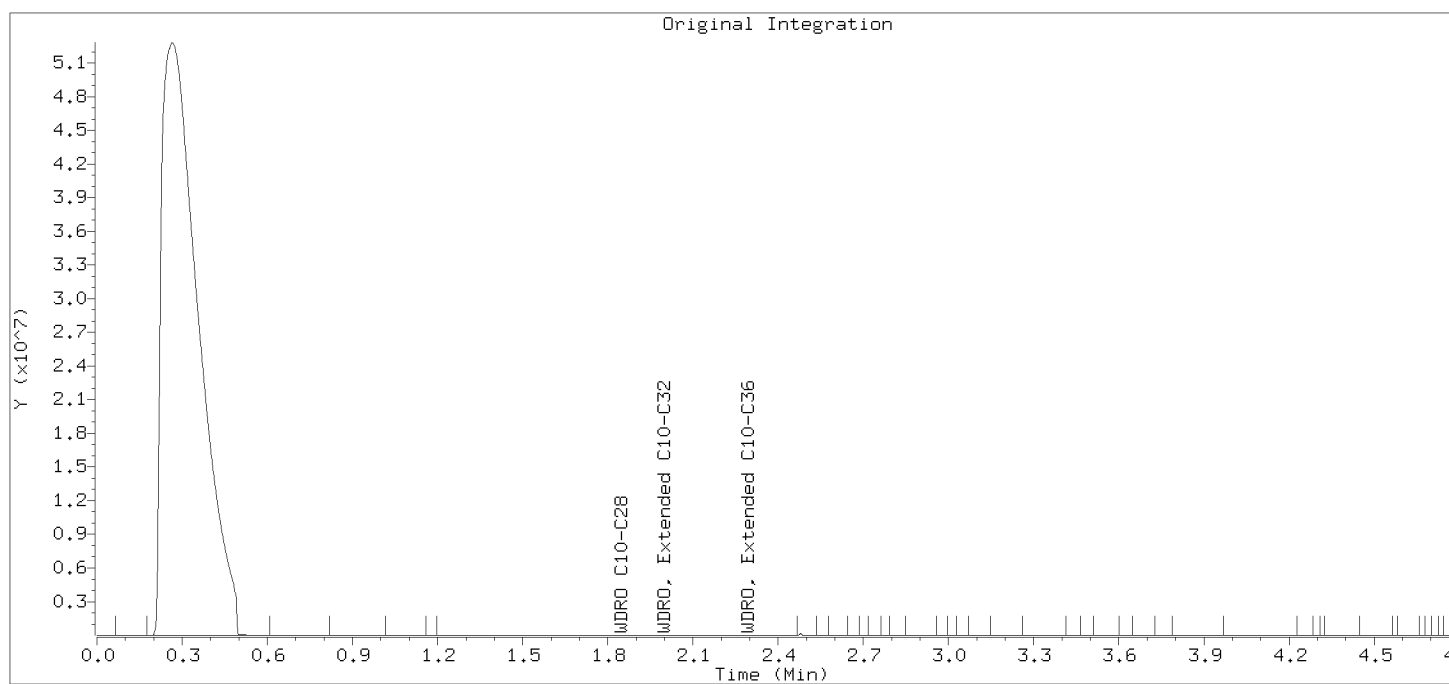
Column diameter: 0.25



Injection Date: 23-JUN-2015 09:17

Instrument: 10gcs4.i

Lab Sample ID: 10310936013



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	11595680	11625261
WDRO, Extended C10-C32	11671958	12616264
WDRO, Extended C10-C36	11776013	13658547
n-Triacontane (S)	0	1463578

Date : 23-JUN-2015 09:24

Client ID: MW-17

Instrument: 10gcs4,i

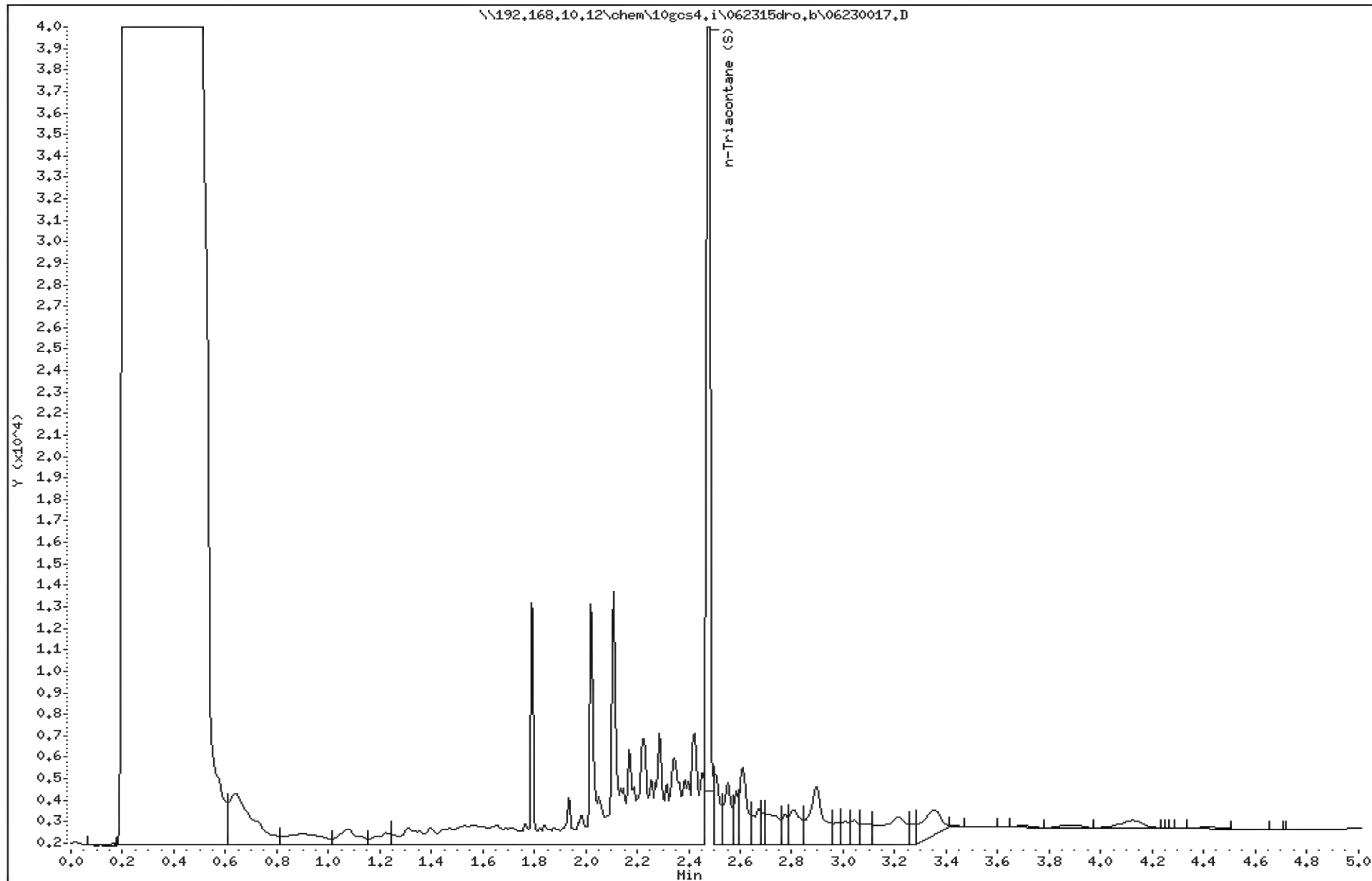
Sample Info: 10310936011

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

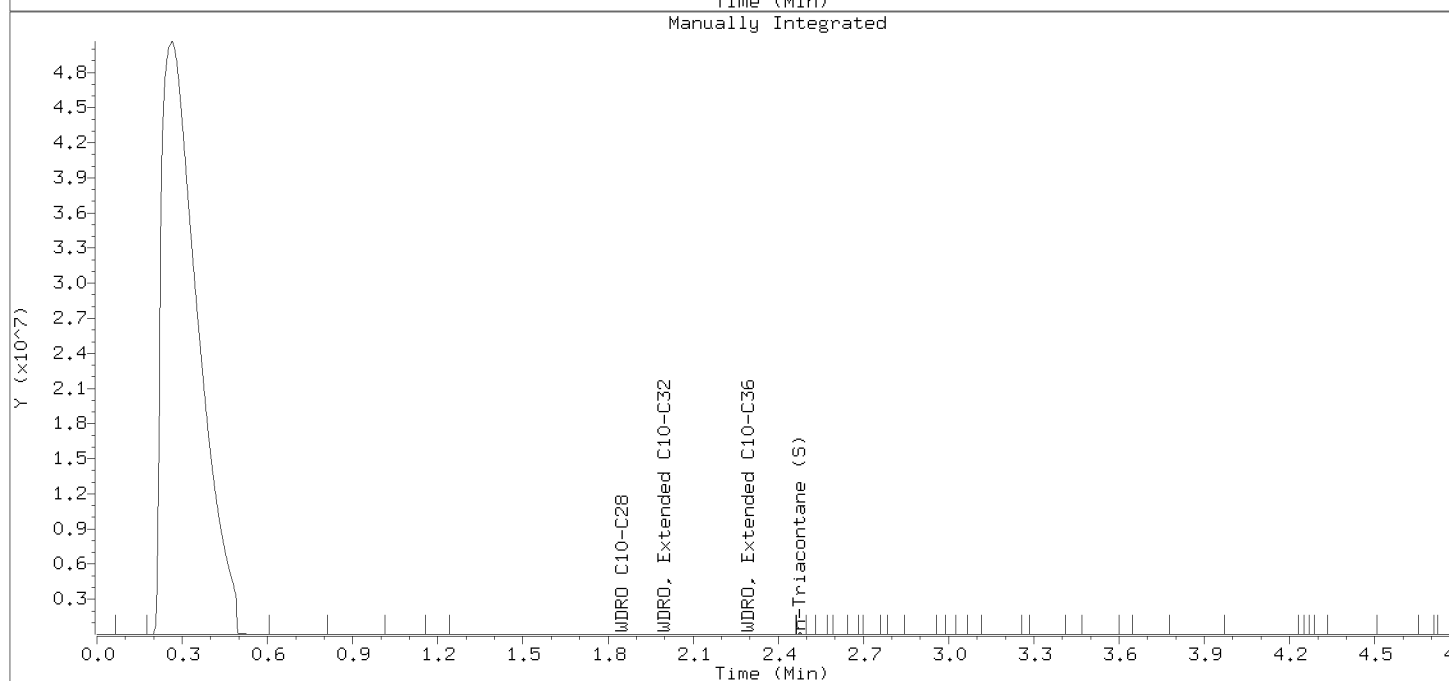
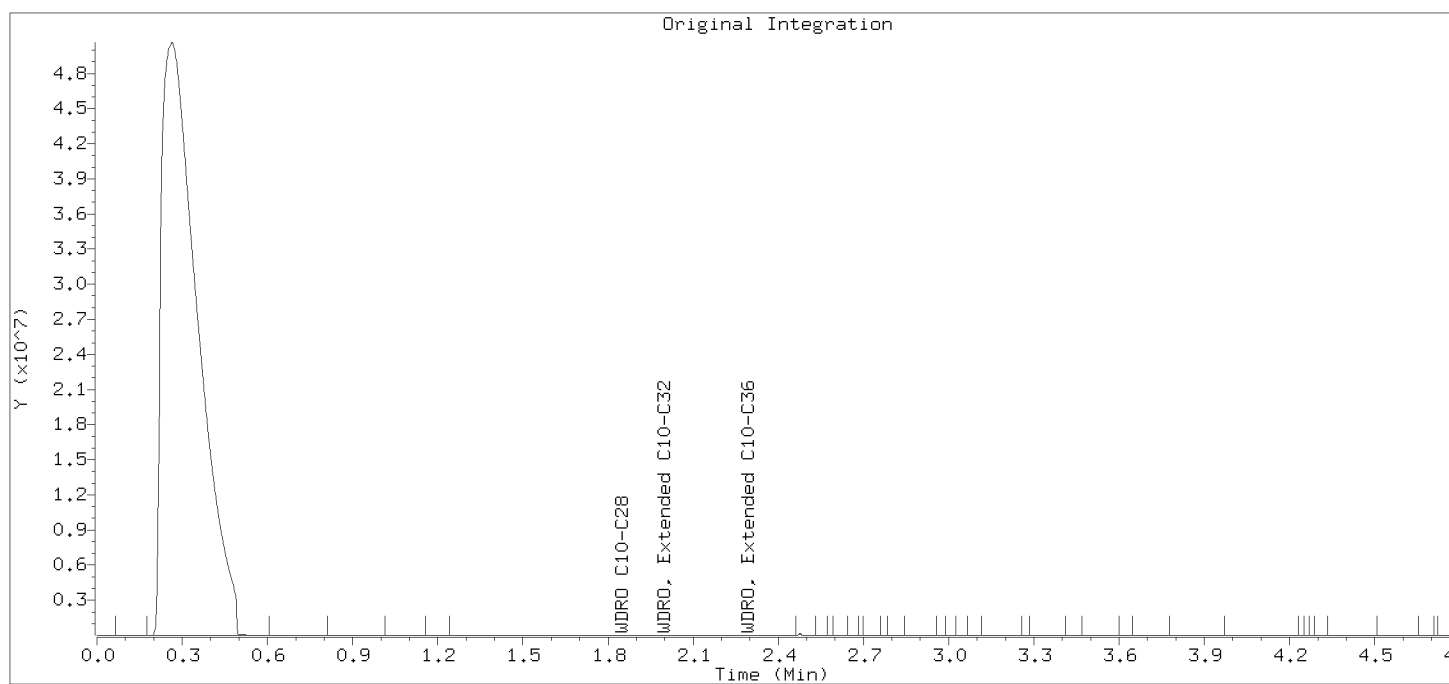
Column phase: DB-5MS



Injection Date: 23-JUN-2015 09:24

Instrument: 10gcs4.i

Lab Sample ID: 10310936011



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	2318015	2268945
WDRO, Extended C10-C32	2414617	2851735
WDRO, Extended C10-C36	2528368	3577448
n-Triacontane (S)	0	1423627

Date : 23-JUN-2015 09:32

Client ID: MW-18

Instrument: 10gcs4.i

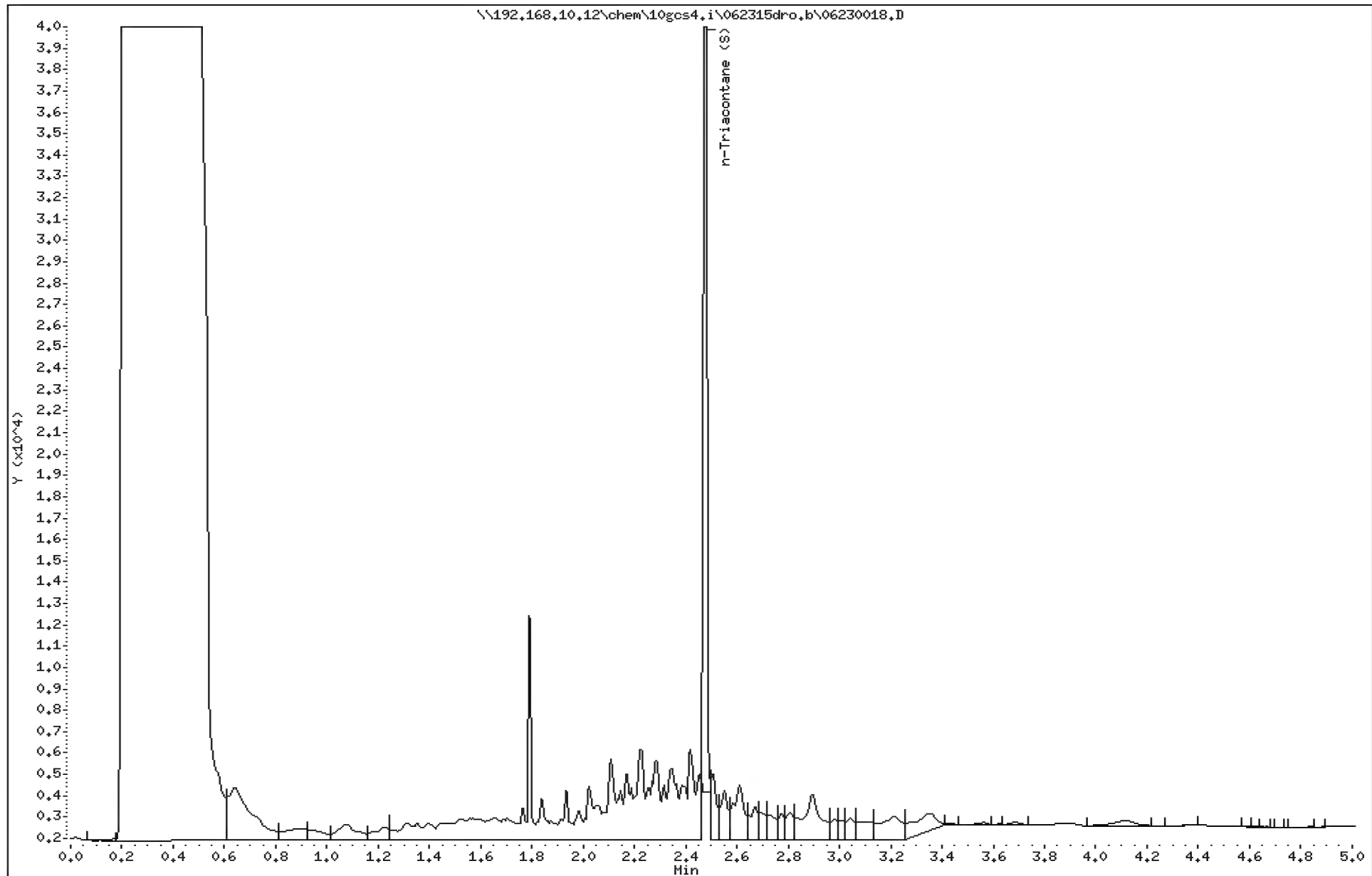
Sample Info: 10310936012

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

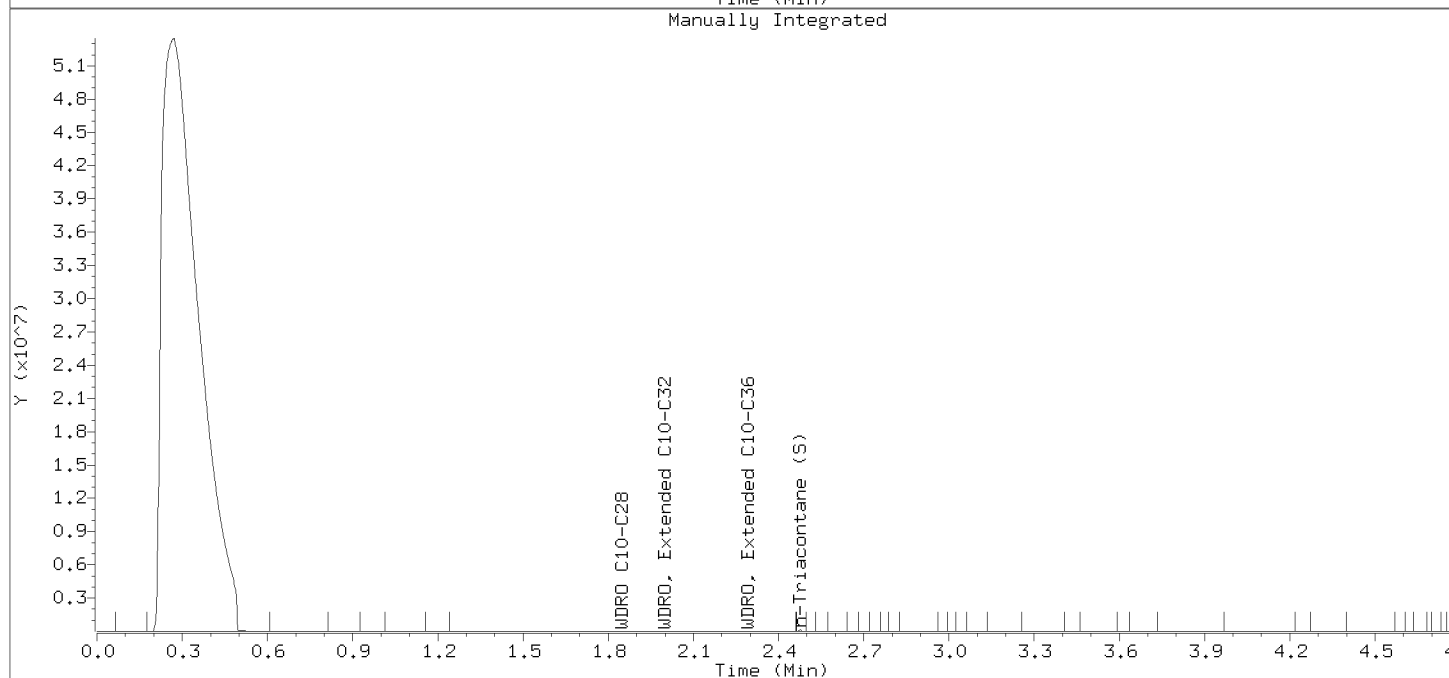
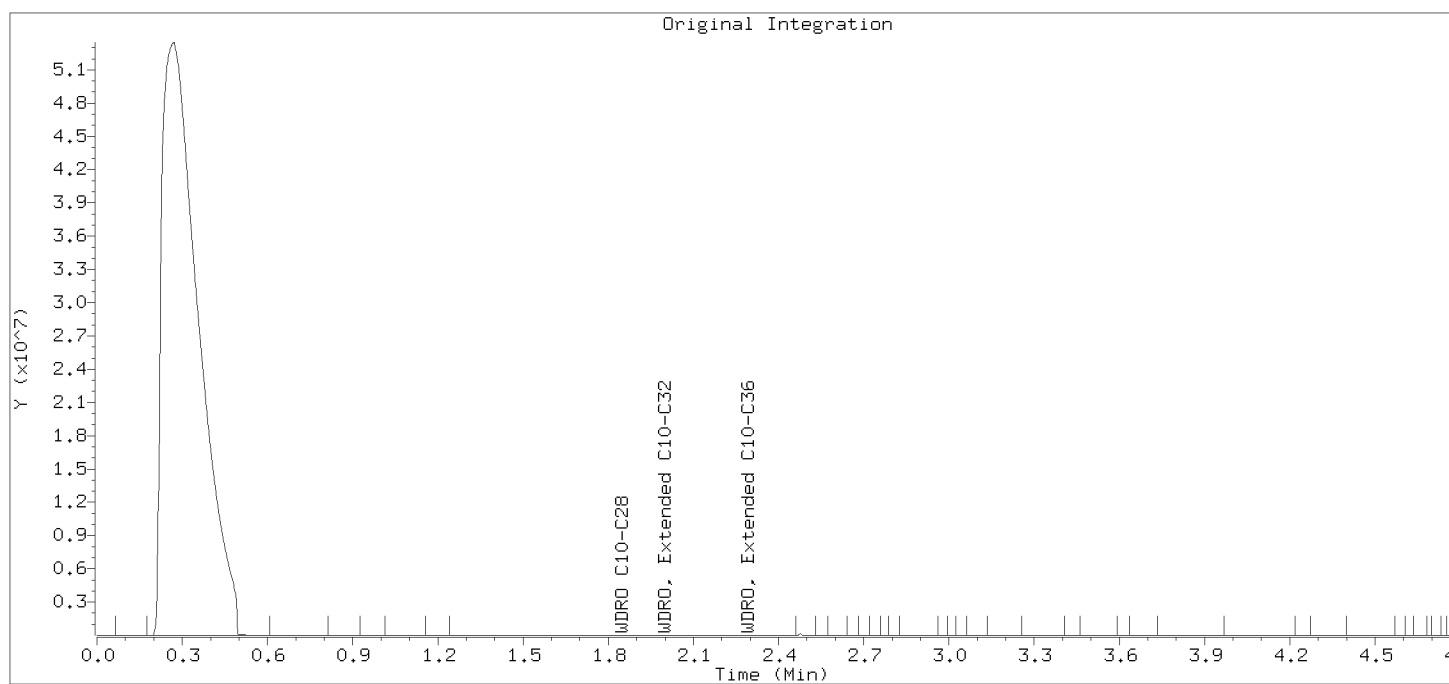
Column phase: DB-5MS



Injection Date: 23-JUN-2015 09:32

Instrument: 10gcs4.i

Lab Sample ID: 10310936012



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	2053106	2060813
WDRO, Extended C10-C32	2122174	2548314
WDRO, Extended C10-C36	2210371	3154500
n-Triacontane (S)	0	1470079

Date : 23-JUN-2015 09:40

Client ID: MW-20

Sample Info: 10310936014

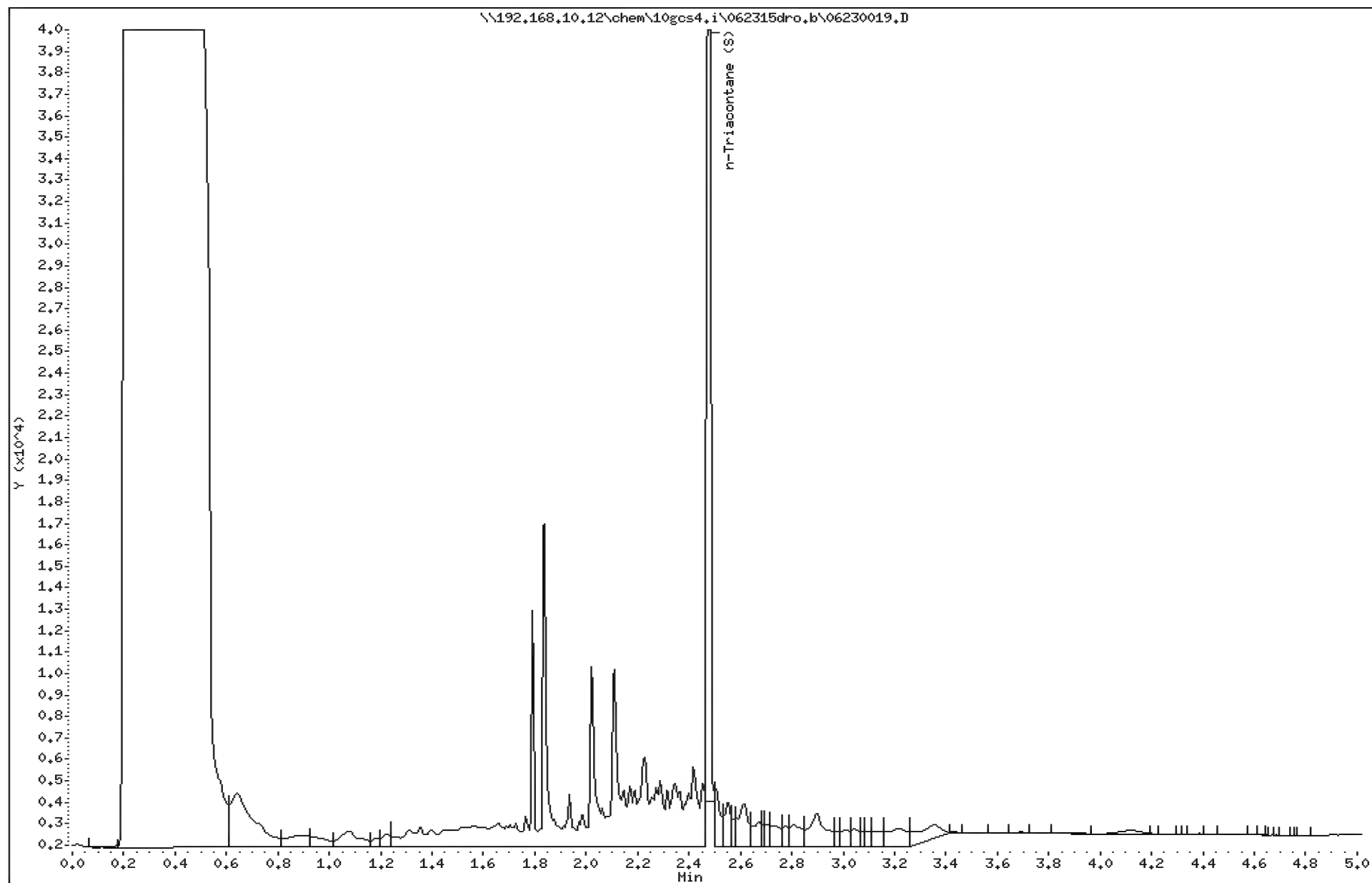
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

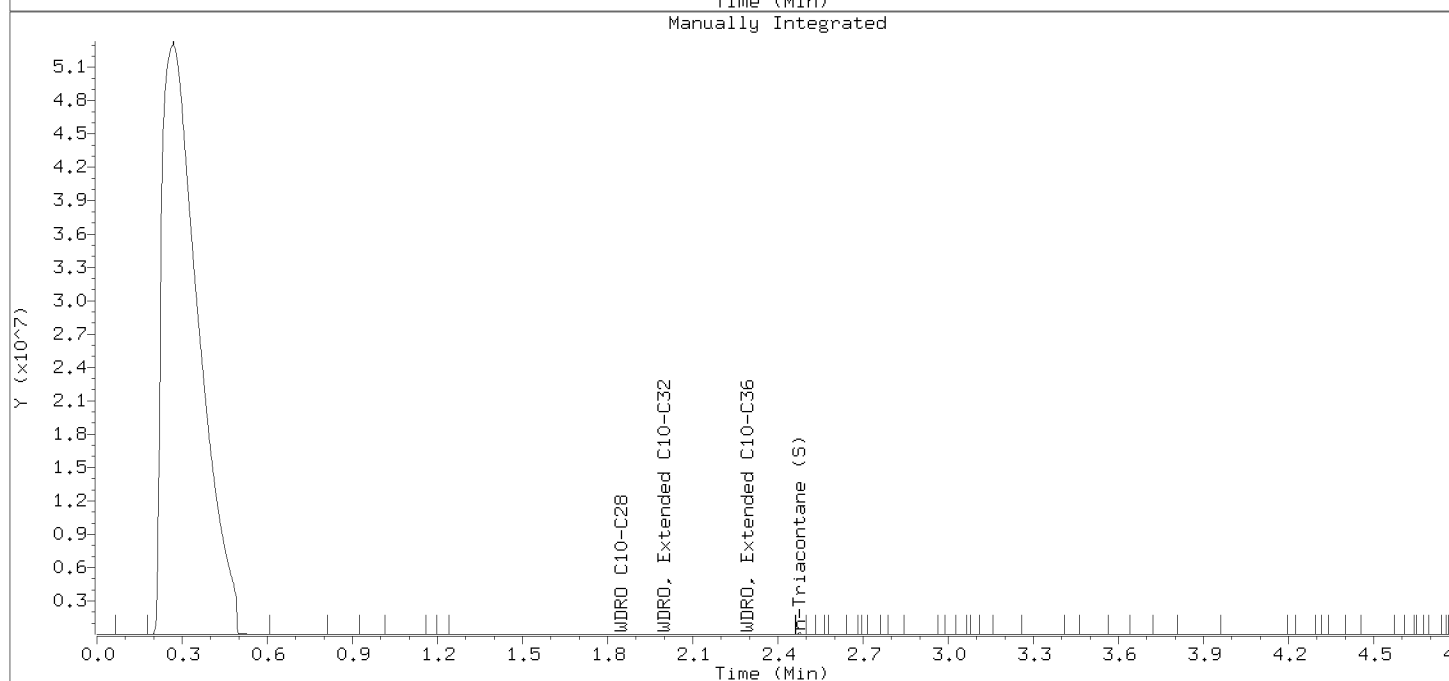
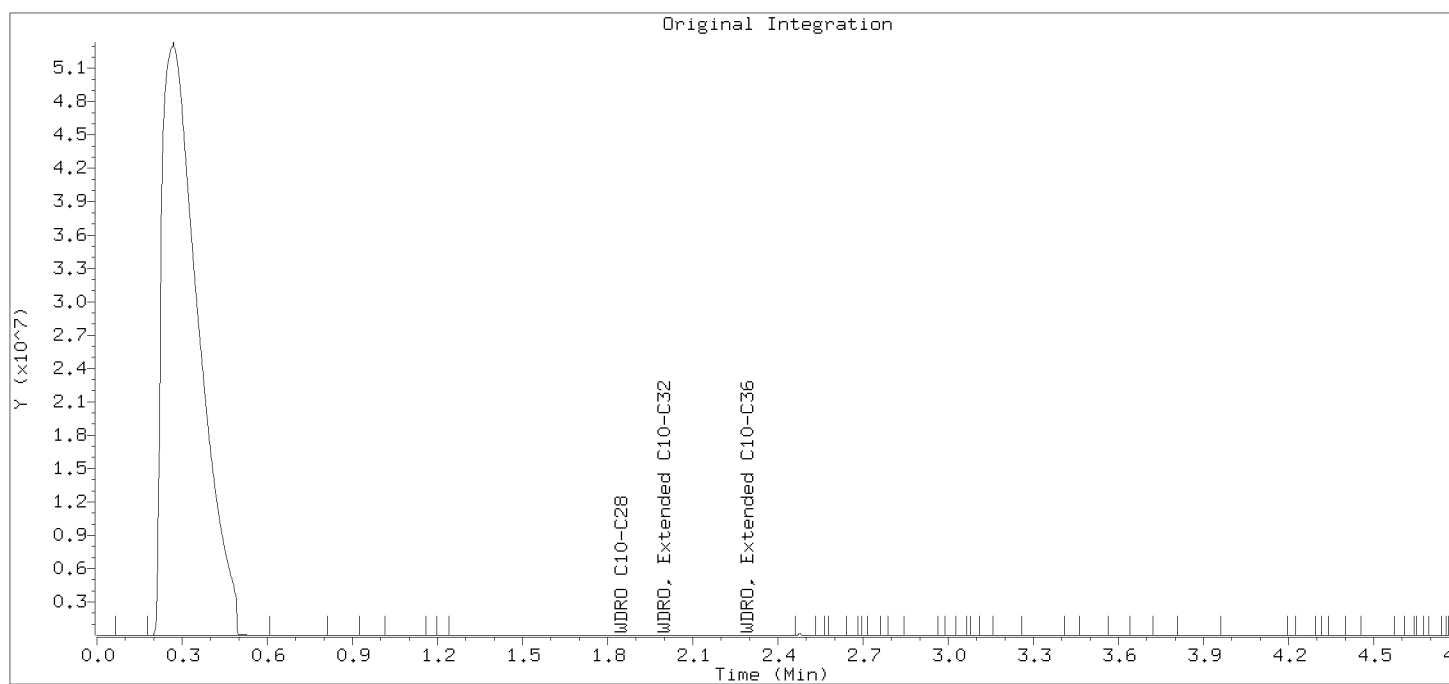
Column diameter: 0.25



Injection Date: 23-JUN-2015 09:40

Instrument: 10gcs4.i

Lab Sample ID: 10310936014



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	2310322	2304486
WDRO, Extended C10-C32	2351351	4273060
WDRO, Extended C10-C36	2400114	4775355
n-Triacontane (S)	0	1548399

Date : 23-JUN-2015 09:48

Client ID: MW-21

Instrument: 10gcs4.i

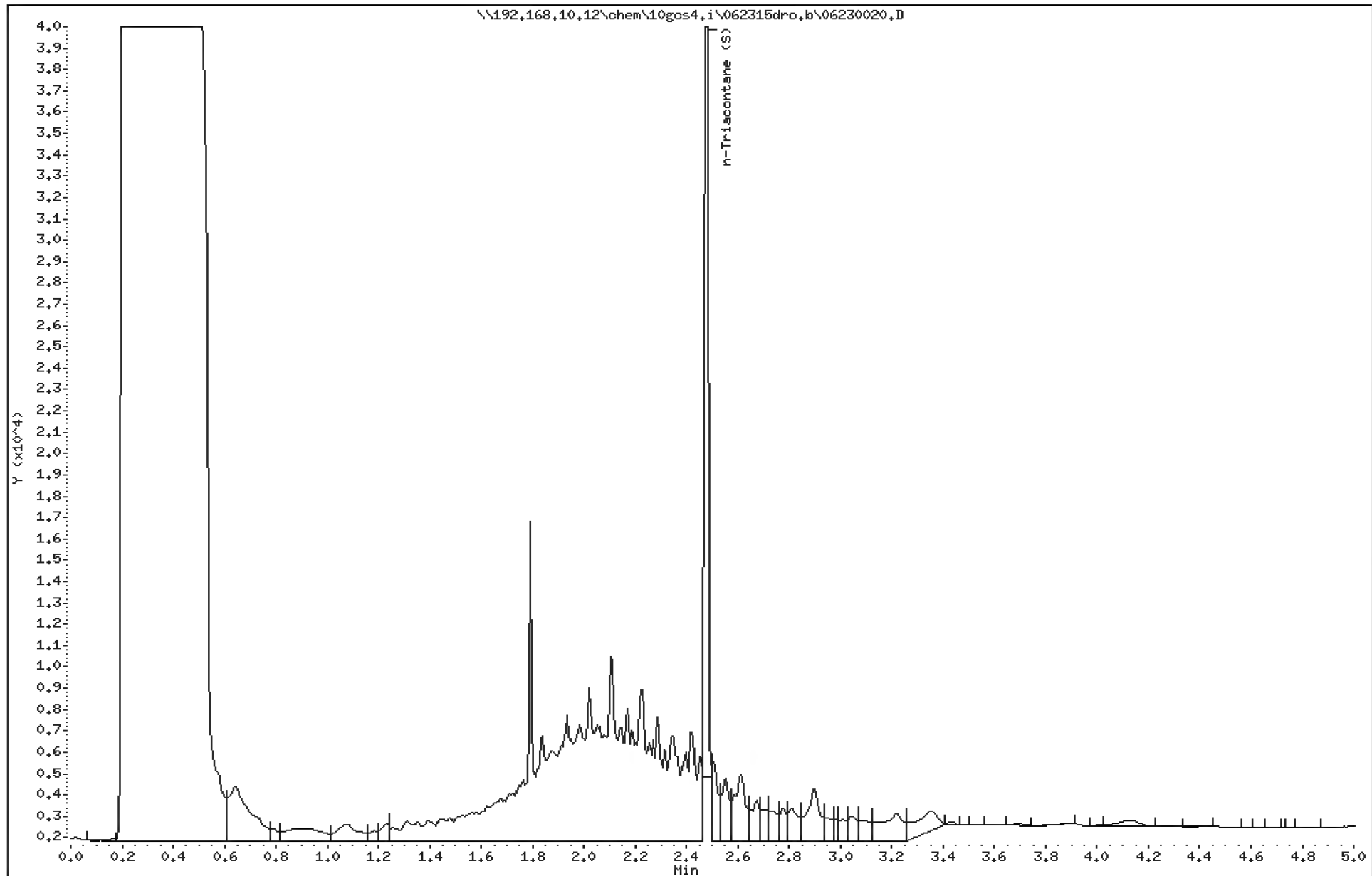
Sample Info: 10310936015

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

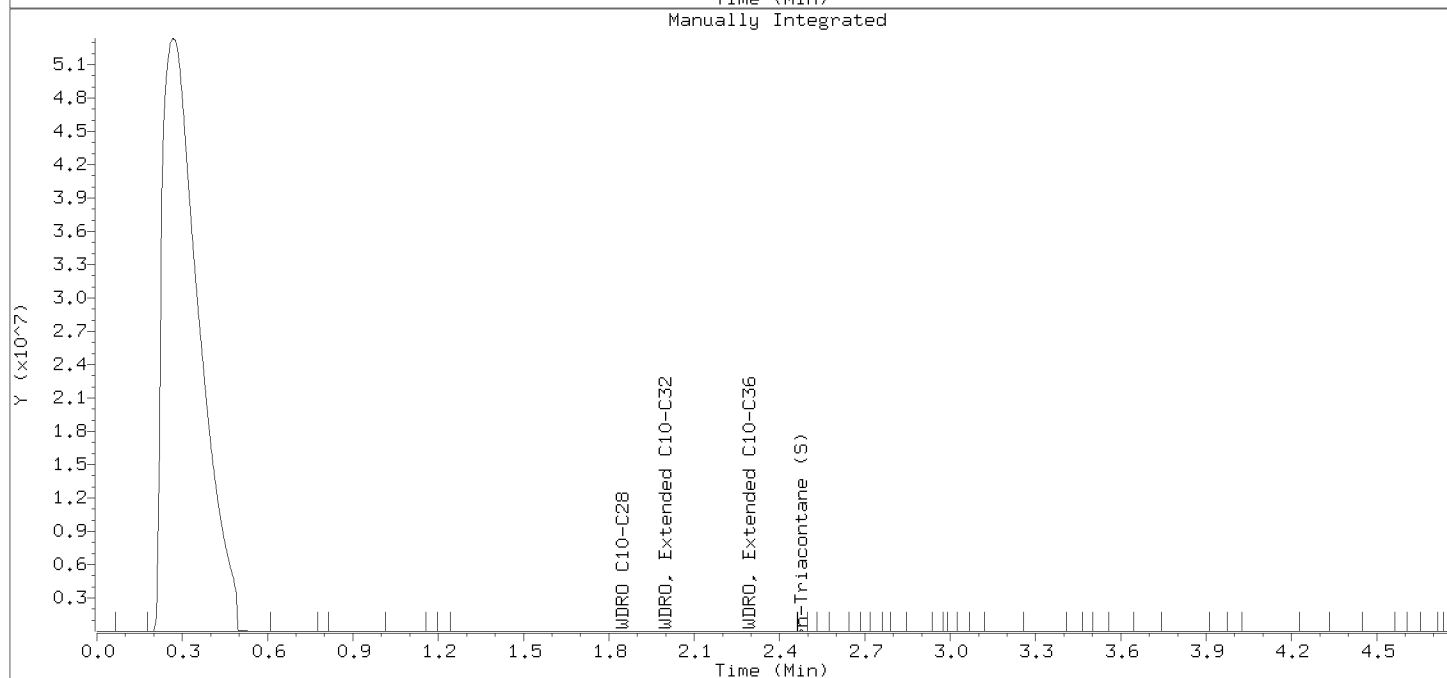
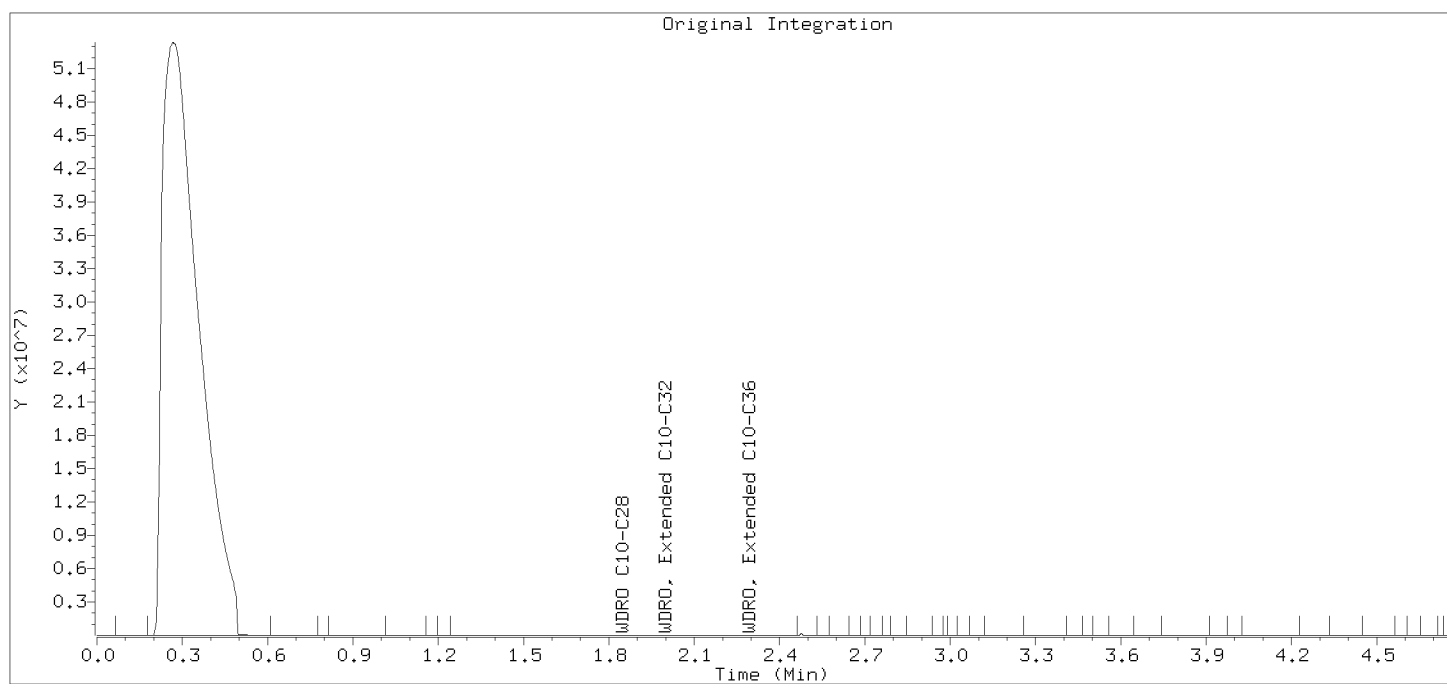
Column phase: DB-5MS



Injection Date: 23-JUN-2015 09:48

Instrument: 10gcs4.i

Lab Sample ID: 10310936015



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	4458991	4477218
WDRO, Extended C10-C32	4519605	6653833
WDRO, Extended C10-C36	4606869	7323523
n-Triacontane (S)	0	1562441

Date : 23-JUN-2015 09:56

Client ID: MW-1

Sample Info: 10310936001

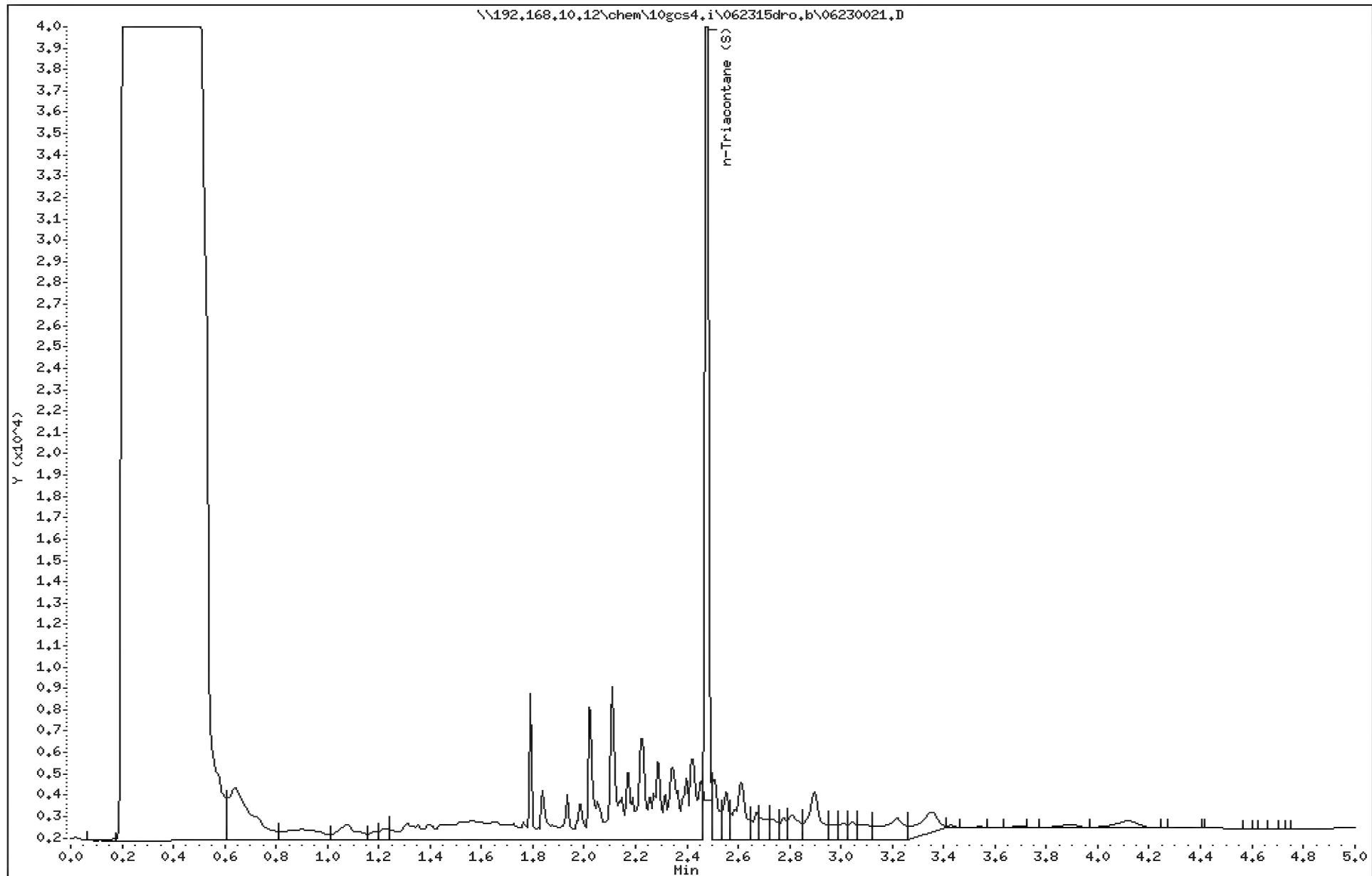
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

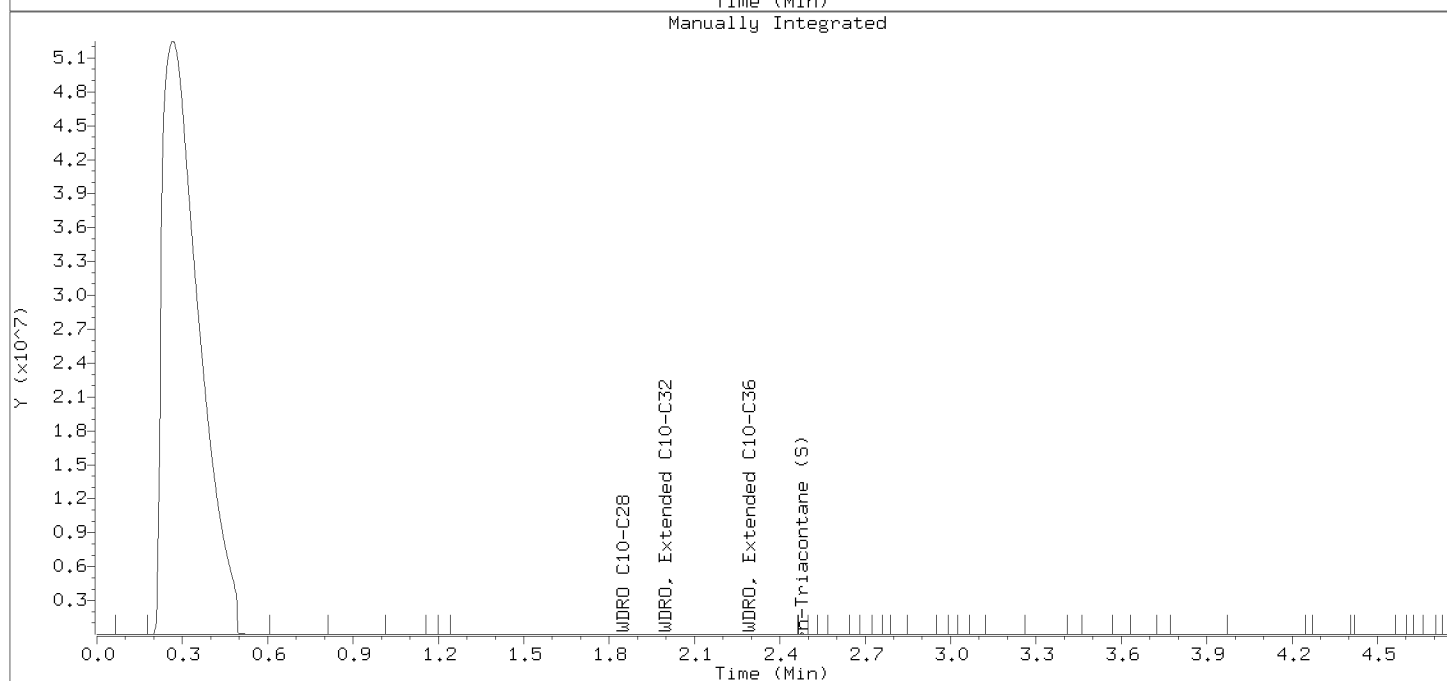
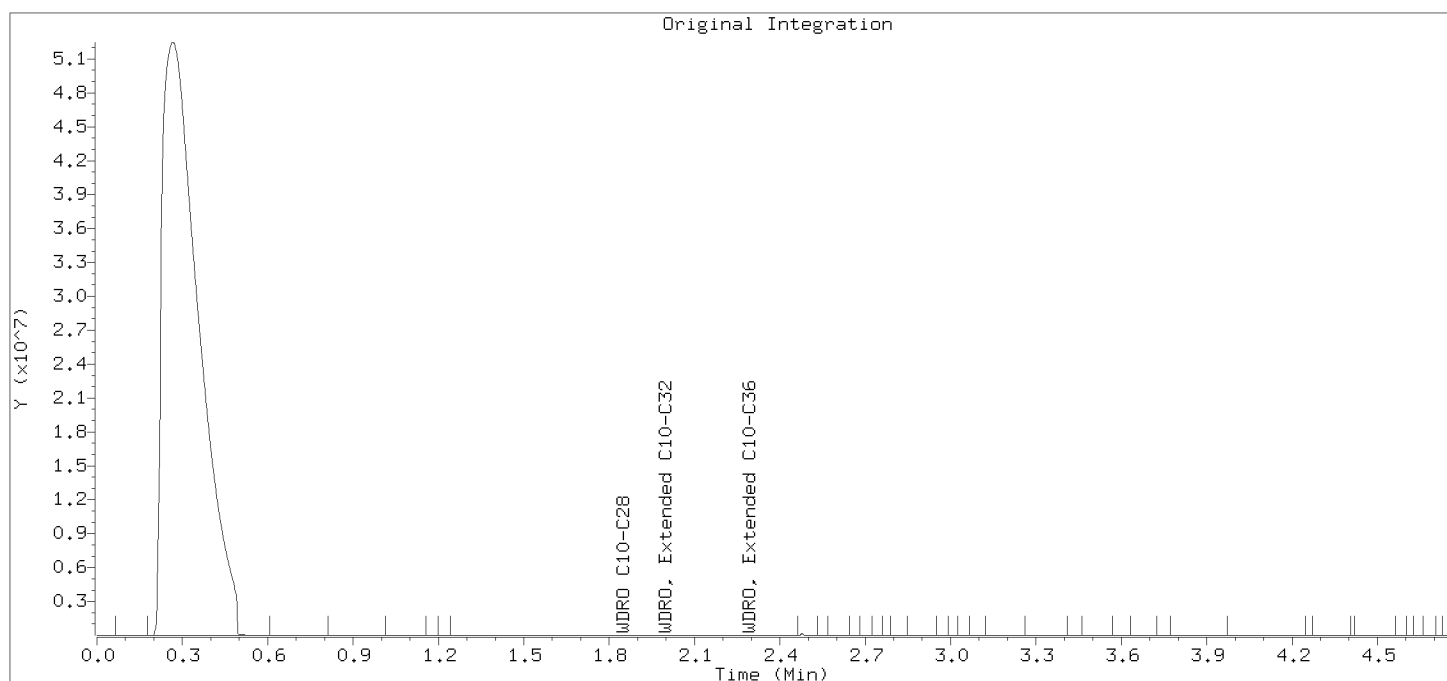
Column diameter: 0.25



Injection Date: 23-JUN-2015 09:56

Instrument: 10gcs4.i

Lab Sample ID: 10310936001



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	1843553	1838790
WDRO, Extended C10-C32	1921062	3820661
WDRO, Extended C10-C36	2020048	4338444
n-Triacontane (S)	0	1554577

Date : 23-JUN-2015 10:03

Client ID: MW-4

Instrument: 10gcs4.i

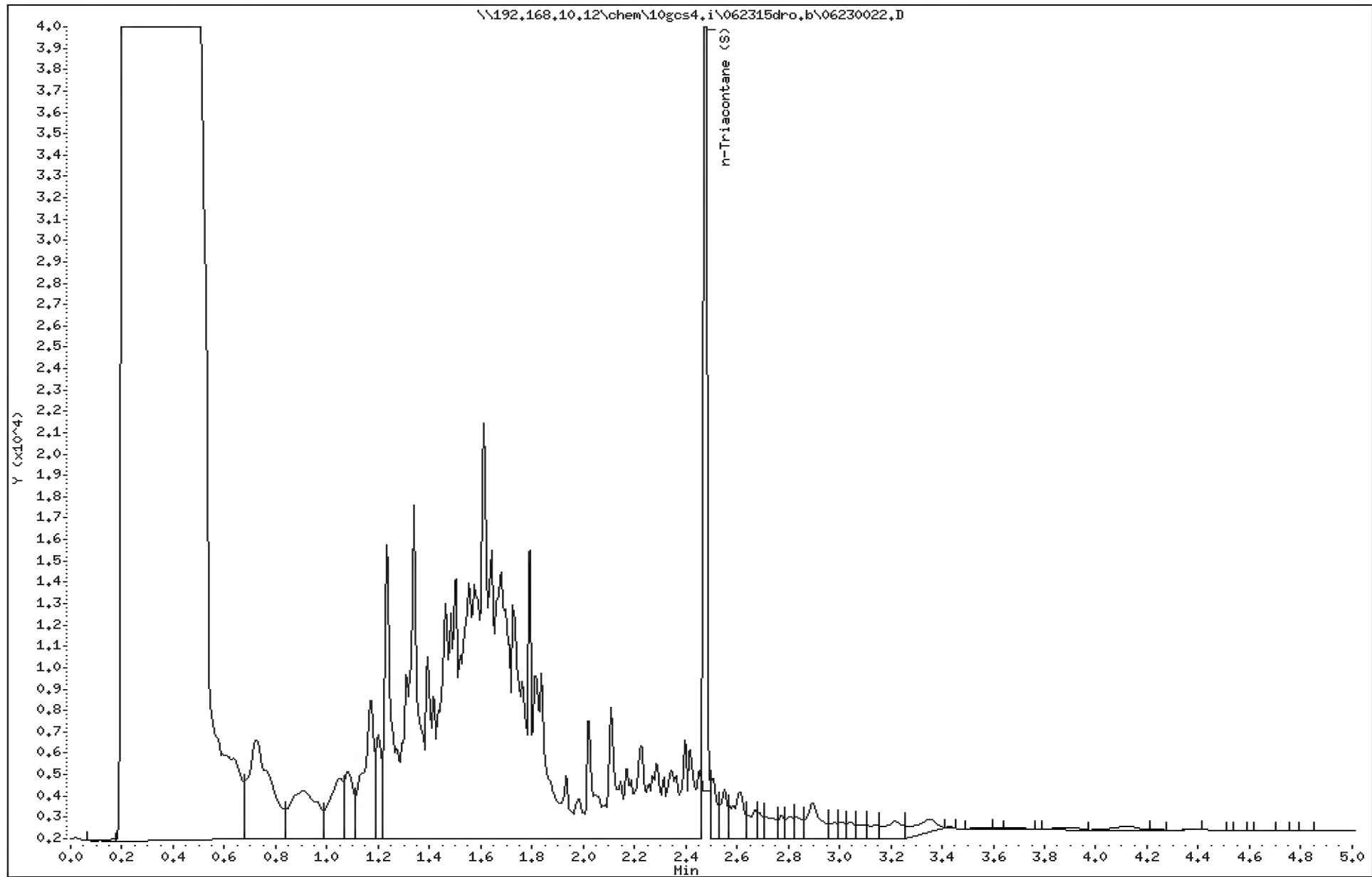
Sample Info: 10310936002

Volume Injected (uL): 1.0

Operator: MT

Column phase: DB-5MS

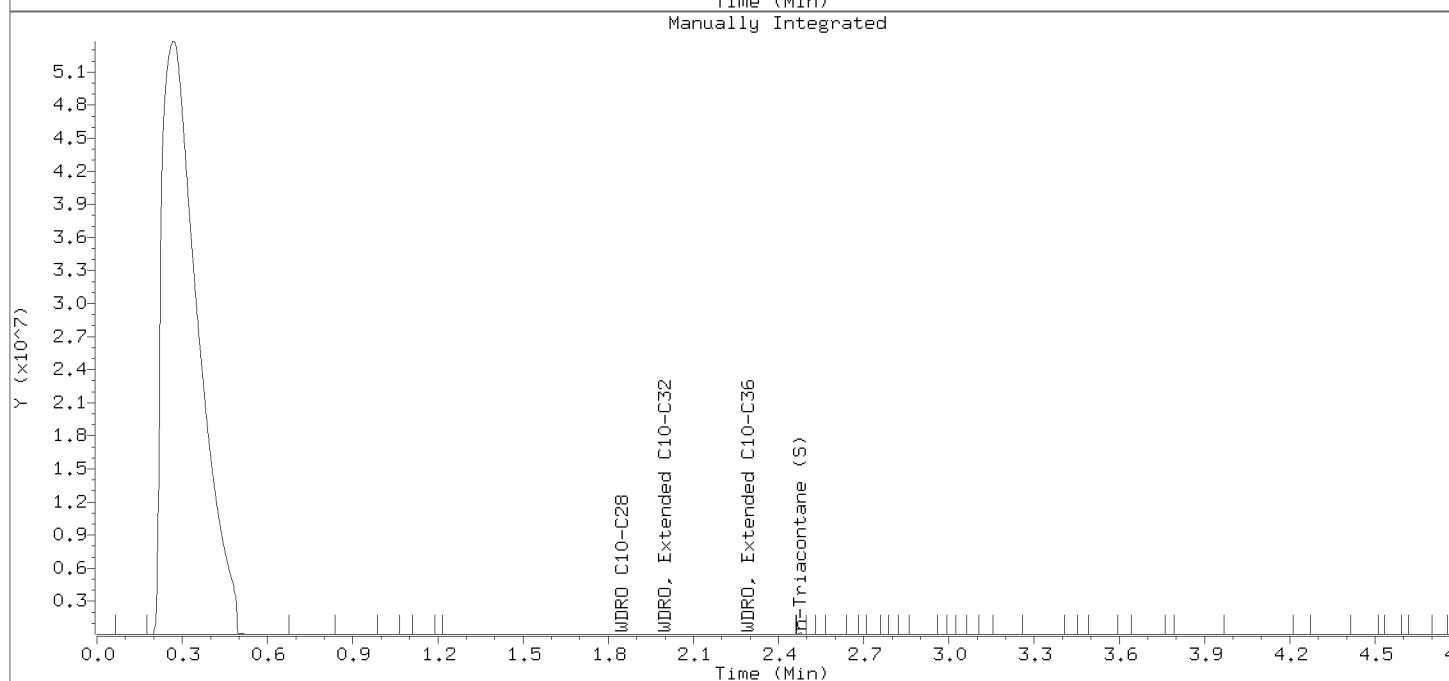
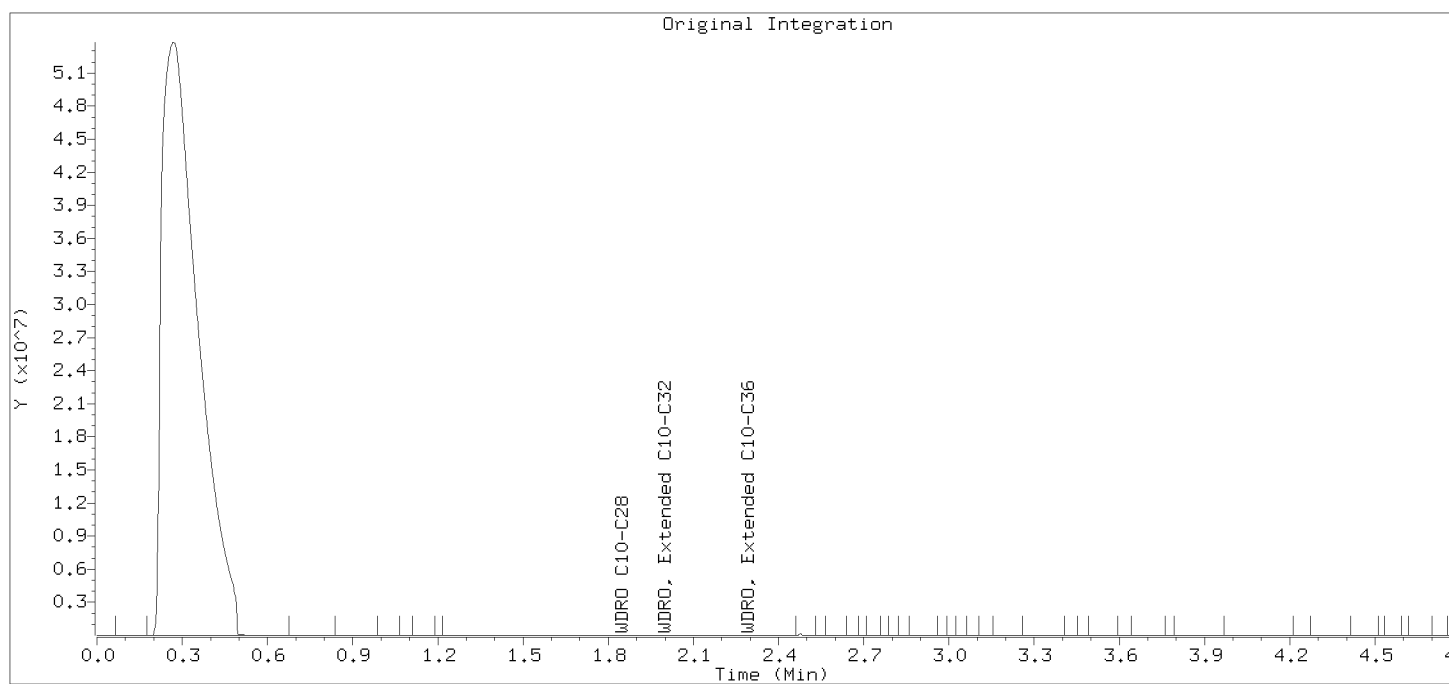
Column diameter: 0.25



Injection Date: 23-JUN-2015 10:03

Instrument: 10gcs4.i

Lab Sample ID: 10310936002



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	7901123	7794796
WDRO, Extended C10-C32	7948028	9778194
WDRO, Extended C10-C36	8021660	10268607
n-Triacontane (S)	0	1526019

Date : 23-JUN-2015 10:11

Client ID: MW-7

Instrument: 10gcs4,i

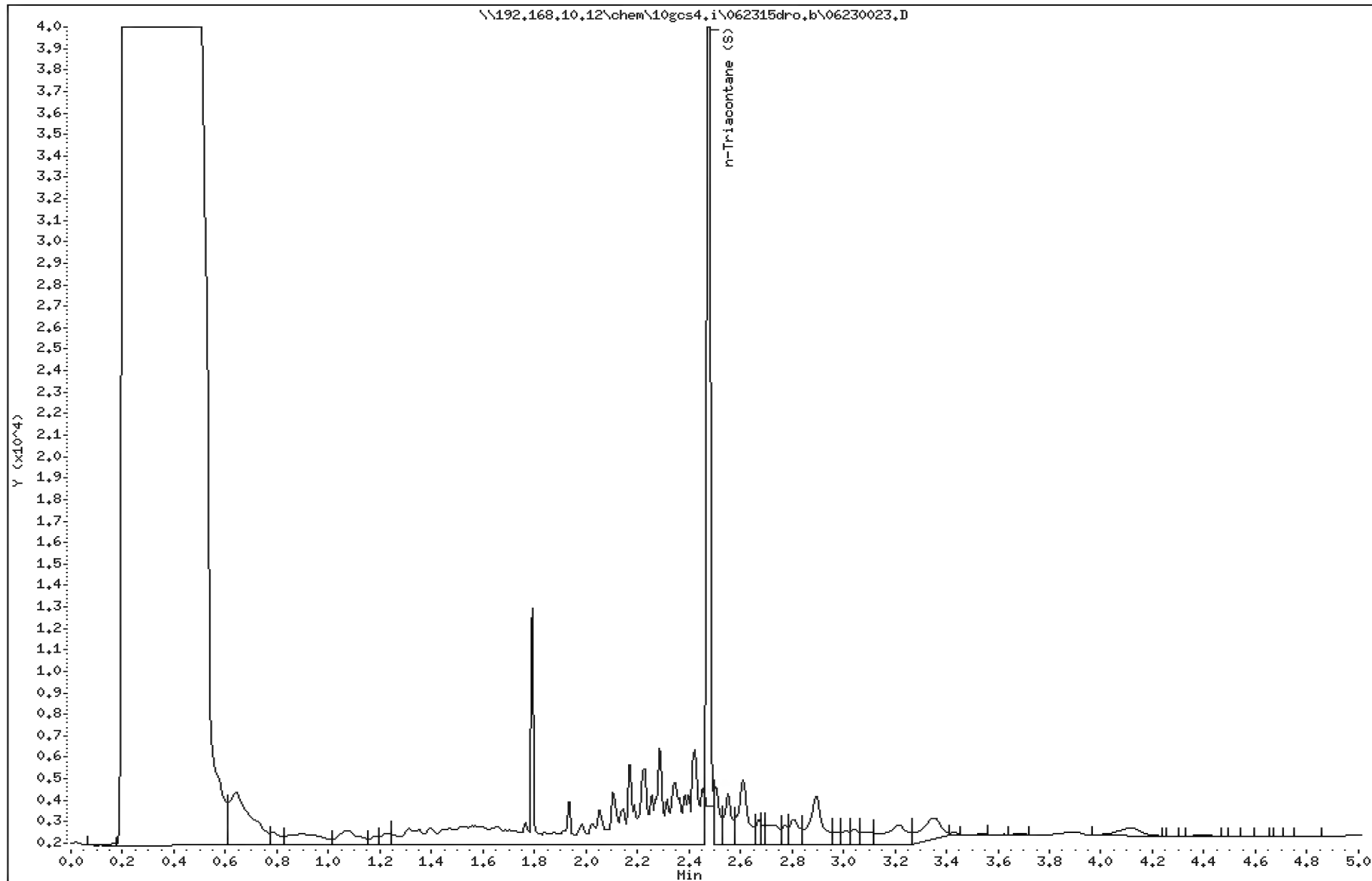
Sample Info: 10310936004

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

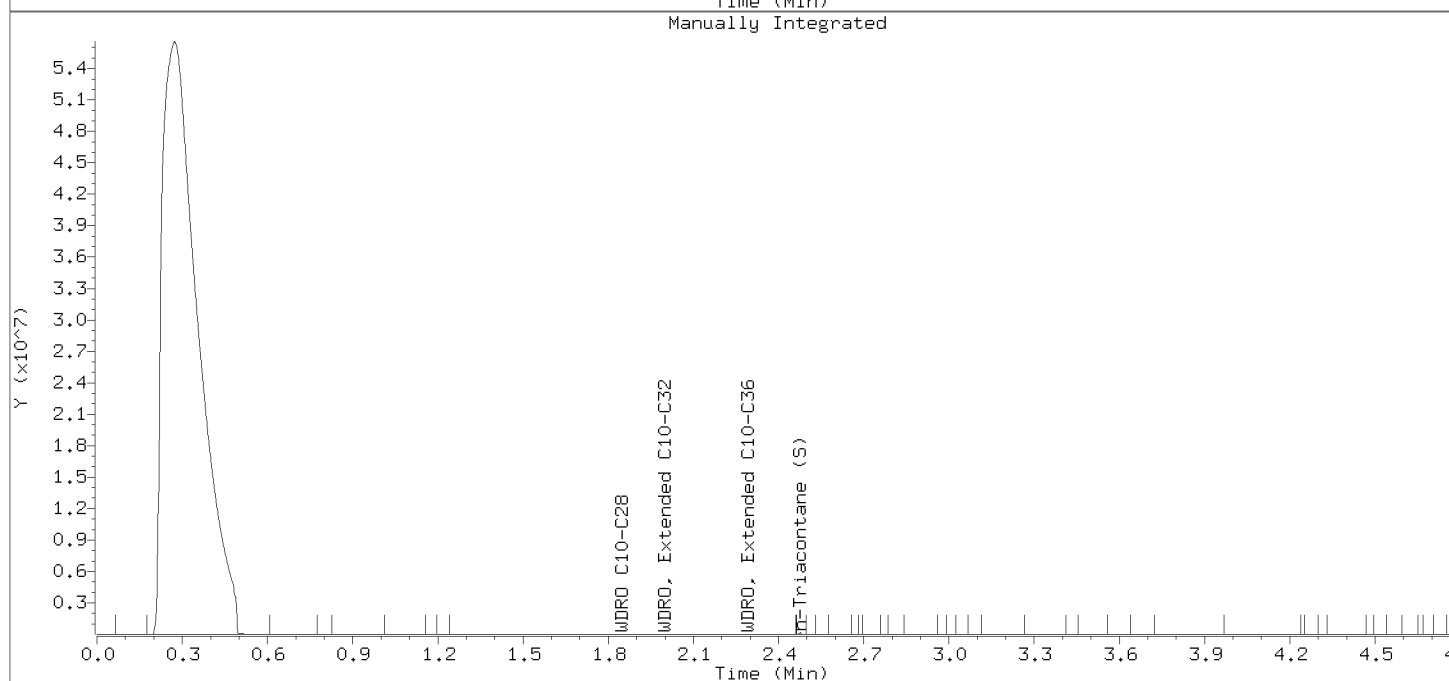
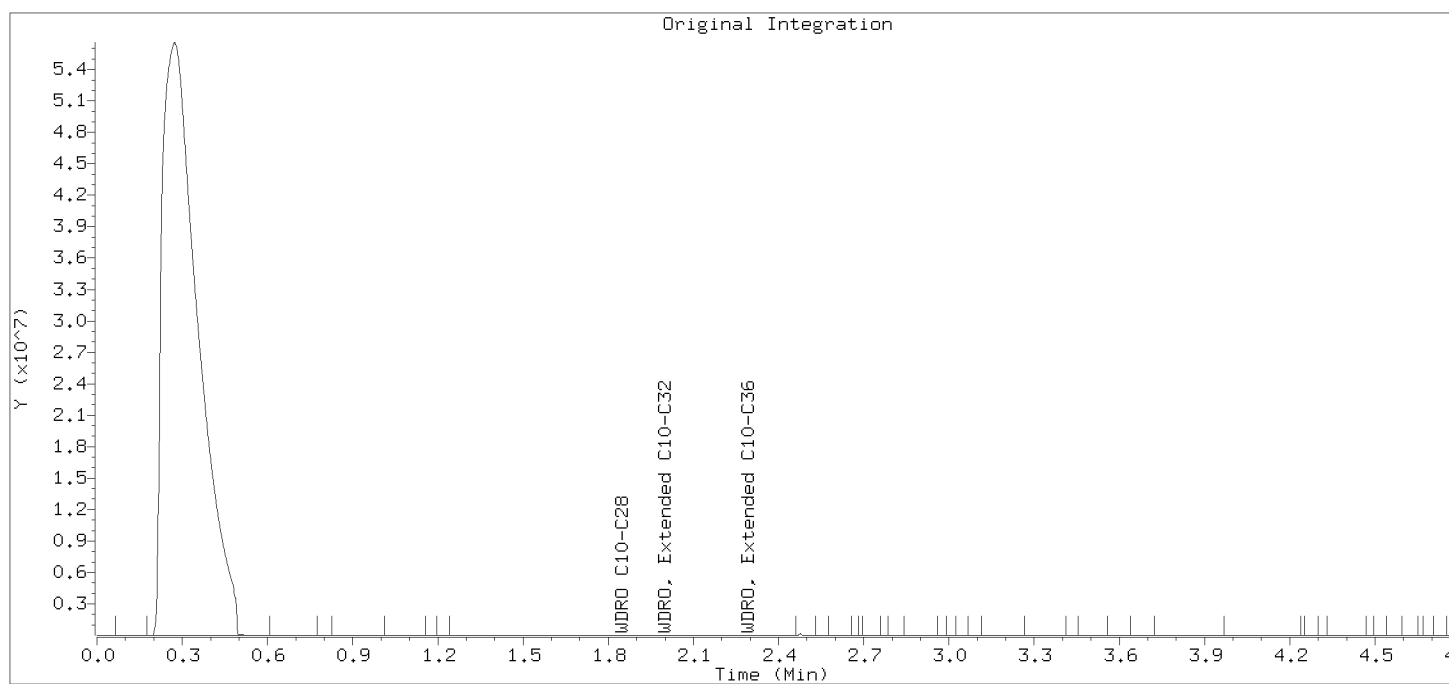
Column phase: DB-5MS



Injection Date: 23-JUN-2015 10:11

Instrument: 10gcs4.i

Lab Sample ID: 10310936004



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	1613732	1601765
WDRO, Extended C10-C32	1707553	3491233
WDRO, Extended C10-C36	1815287	3959269
n-Triacontane (S)	0	1475570

Date : 23-JUN-2015 10:19

Client ID: MW-8

Instrument: 10gcs4.i

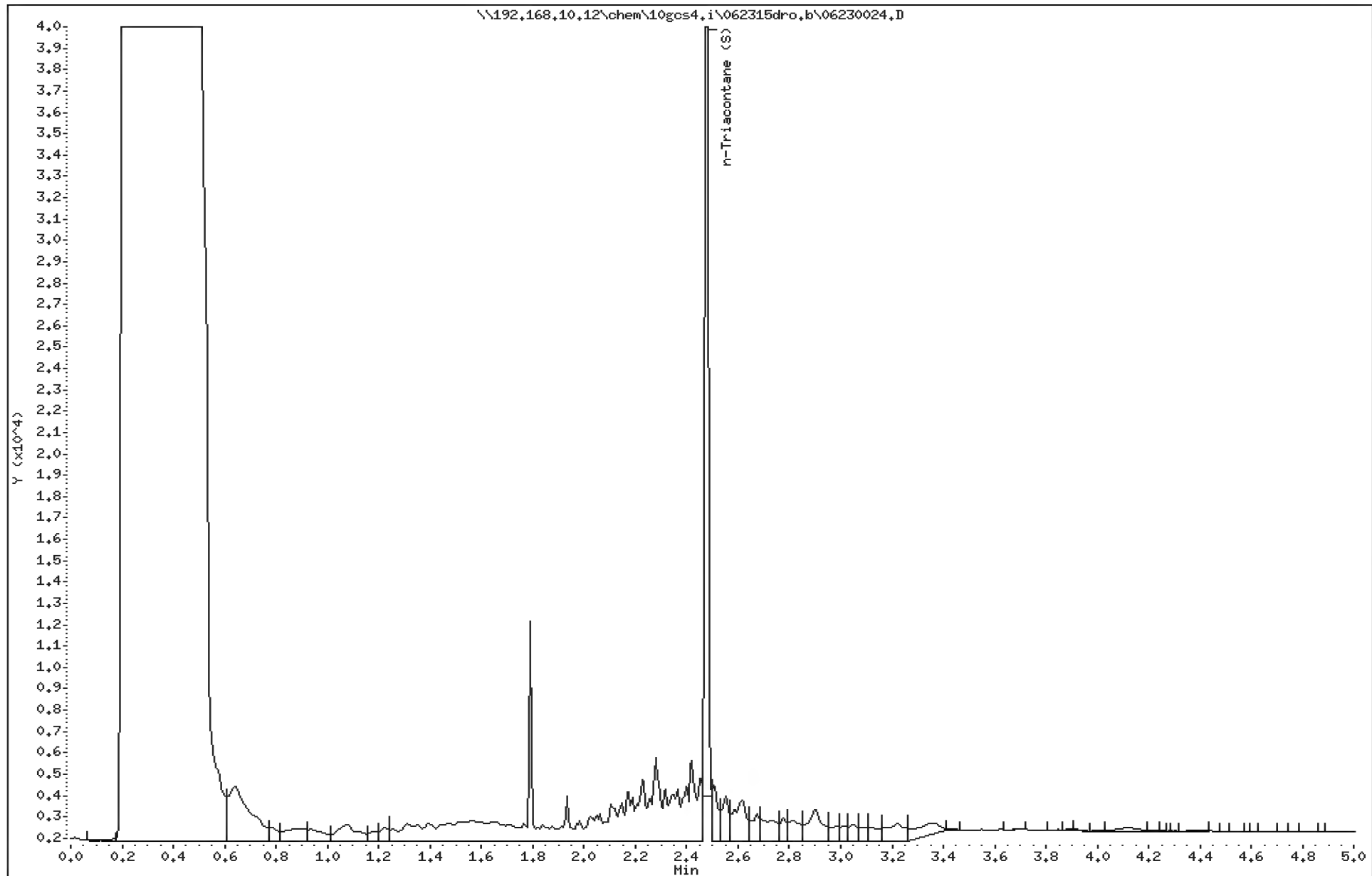
Sample Info: 10310936005

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

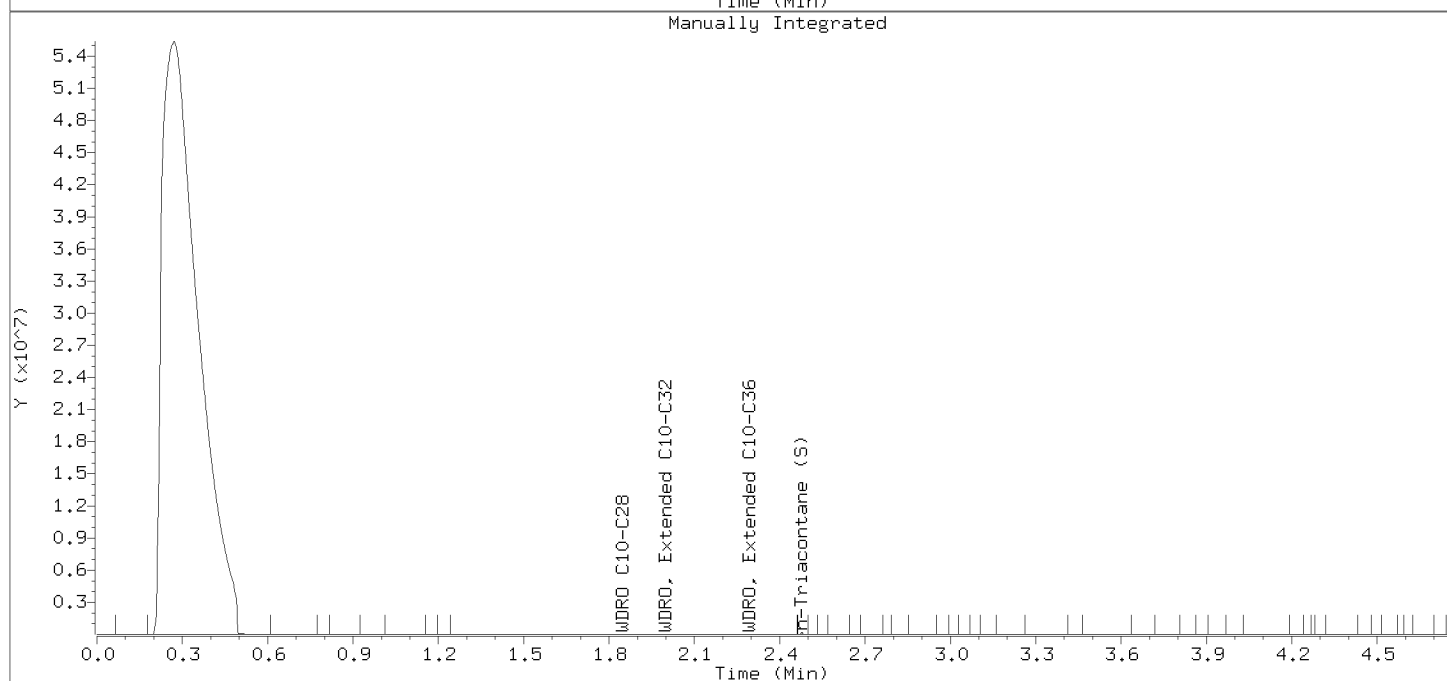
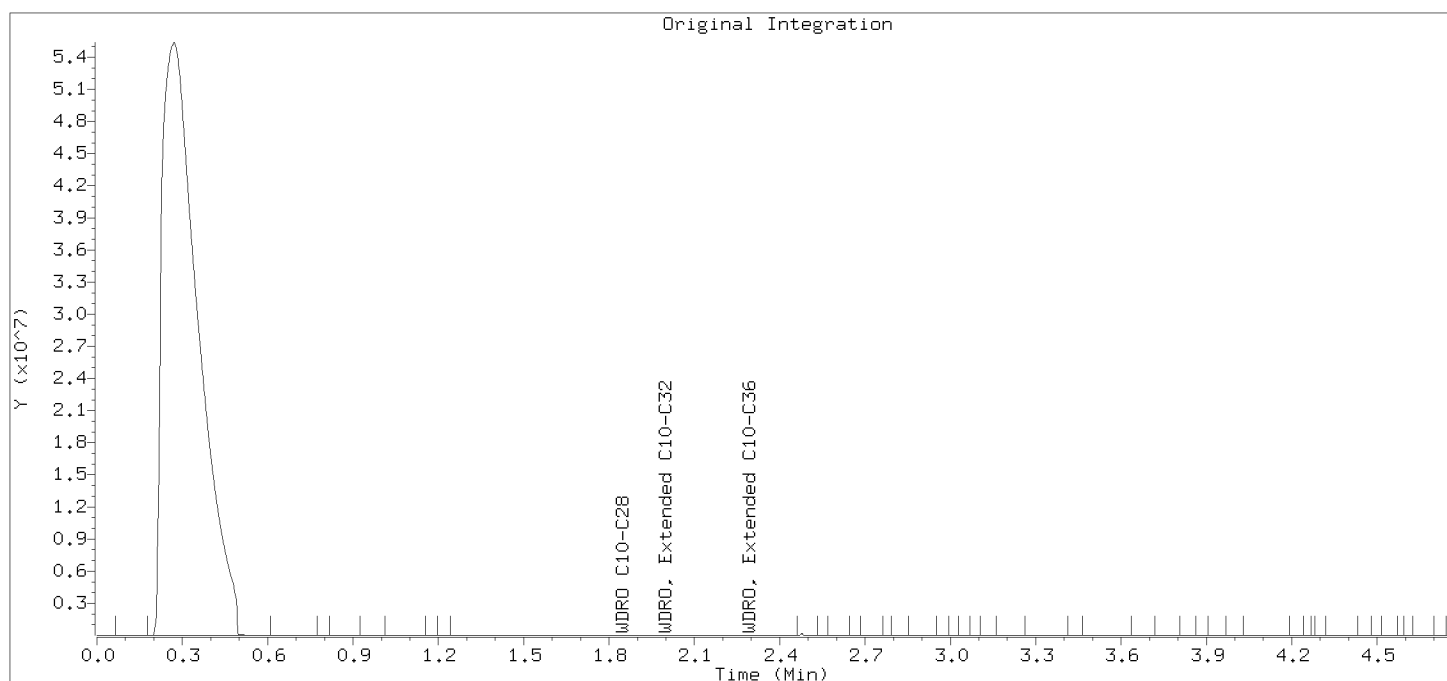
Column phase: DB-5MS



Injection Date: 23-JUN-2015 10:19

Instrument: 10gcs4.i

Lab Sample ID: 10310936005



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	1610780	1620600
WDRO, Extended C10-C32	1653018	3600031
WDRO, Extended C10-C36	1705014	4039569
n-Triacontane (S)	0	1575310

Date : 23-JUN-2015 10:27

Client ID: SCL DW

Instrument: 10gcs4.i

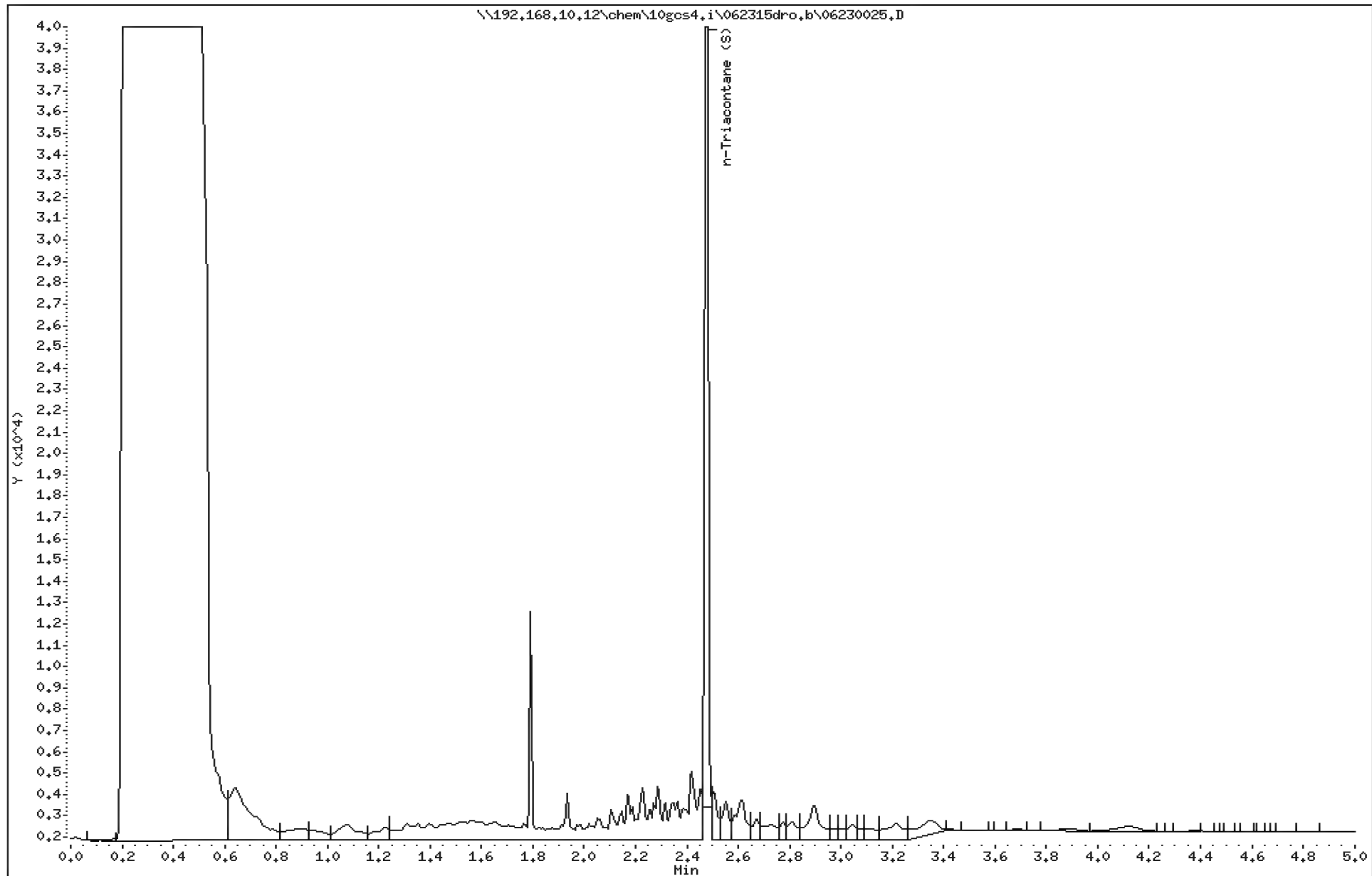
Sample Info: 10310936021

Operator: MT

Volume Injected (uL): 1.0

Column diameter: 0.25

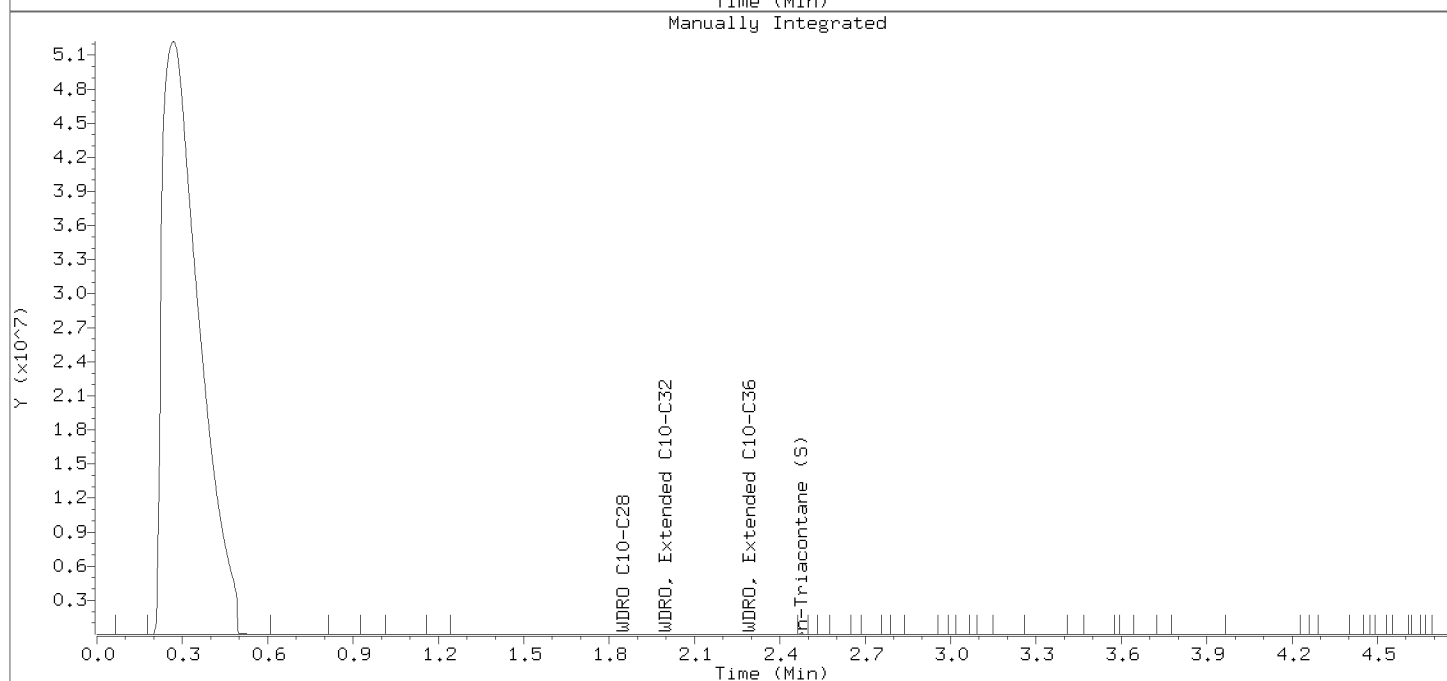
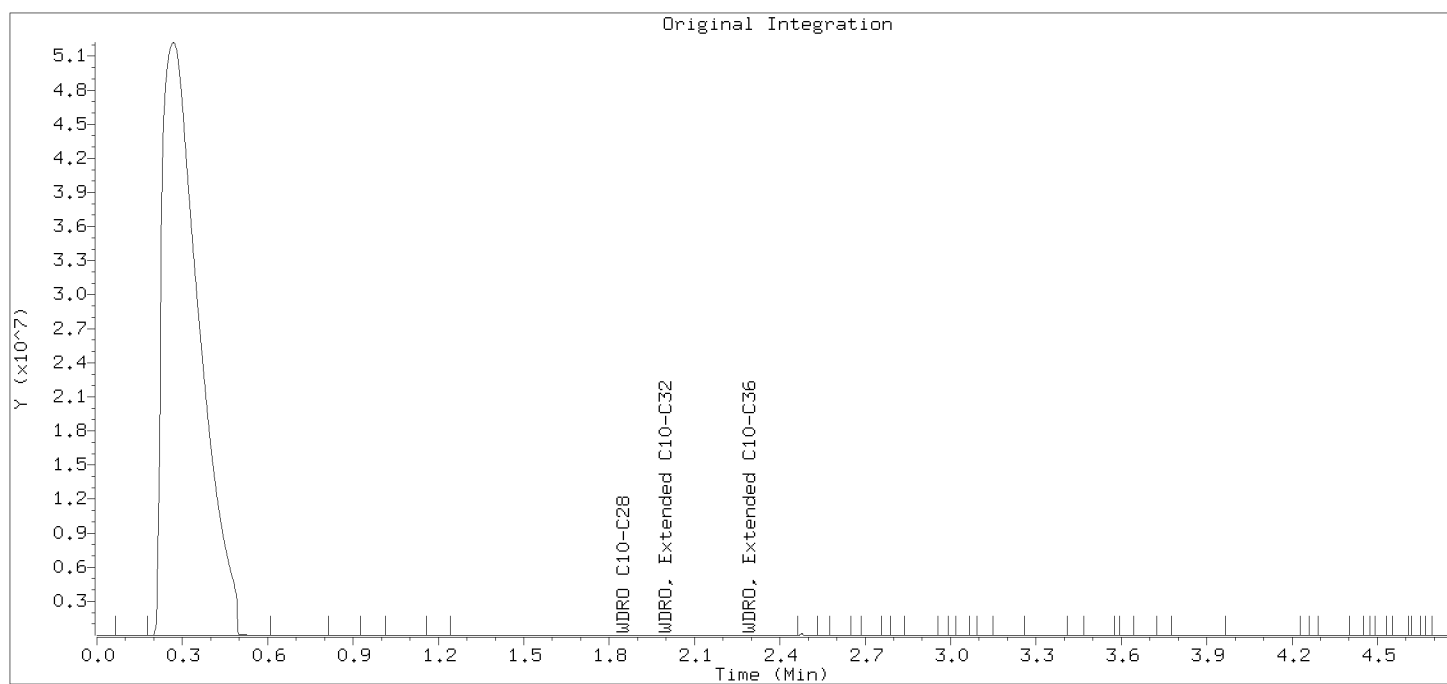
Column phase: DB-5MS



Injection Date: 23-JUN-2015 10:27

Instrument: 10gcs4.i

Lab Sample ID: 10310936021



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	1333802	1292068
WDRO, Extended C10-C32	1393180	3151165
WDRO, Extended C10-C36	0	3521677
n-Triacontane (S)	0	1547911

Date : 23-JUN-2015 10:34

Client ID: Field Blank

Sample Info: 10310936022

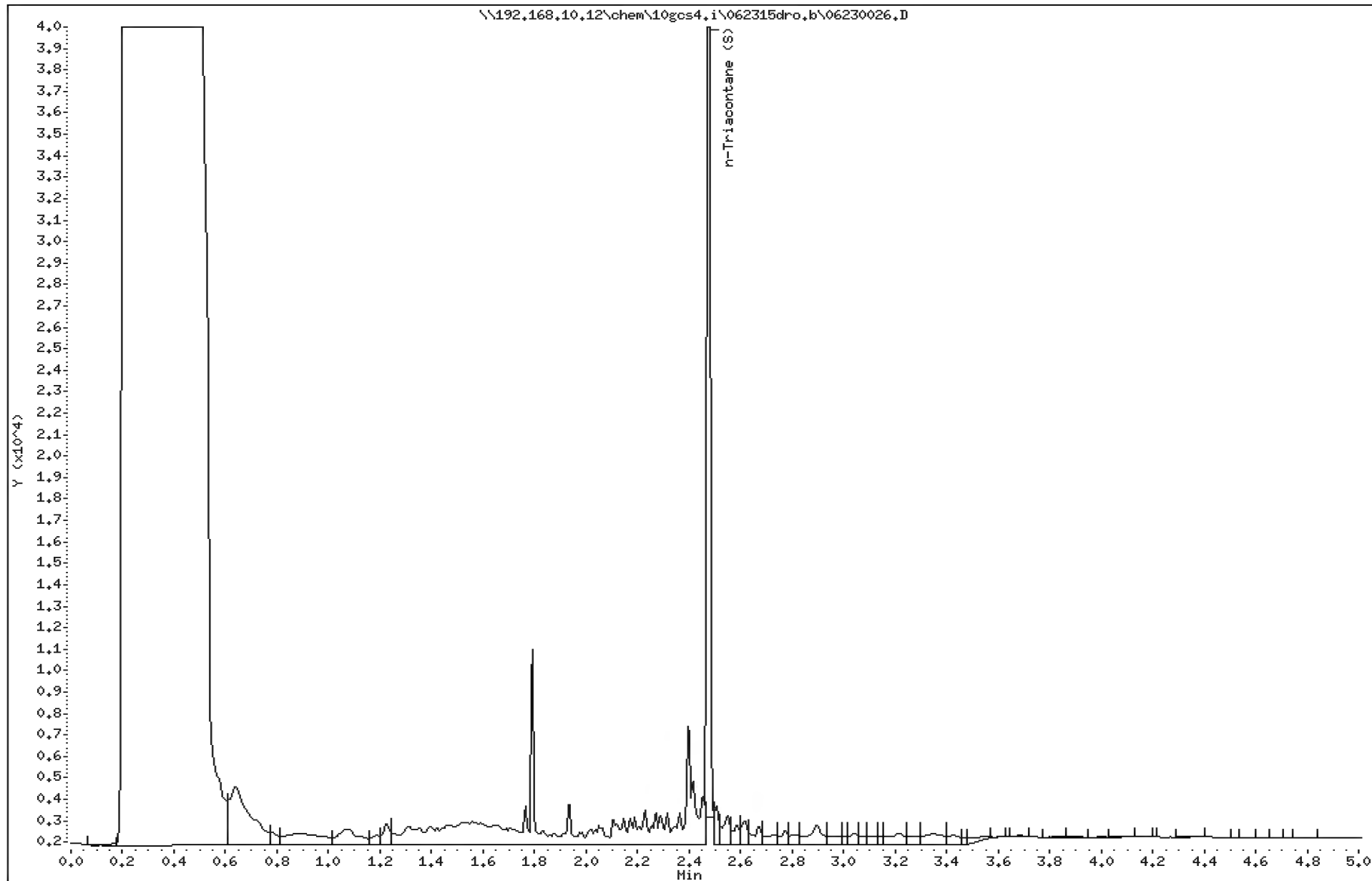
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs4.i

Operator: MT

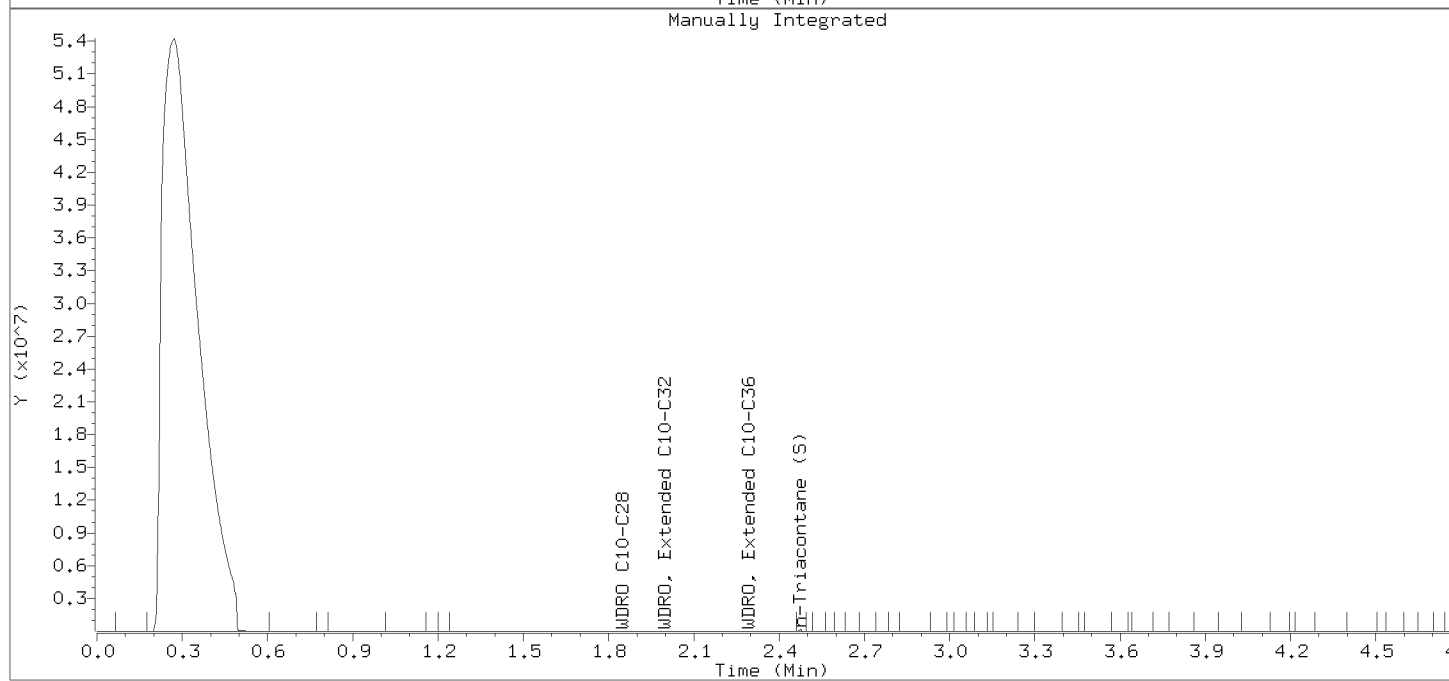
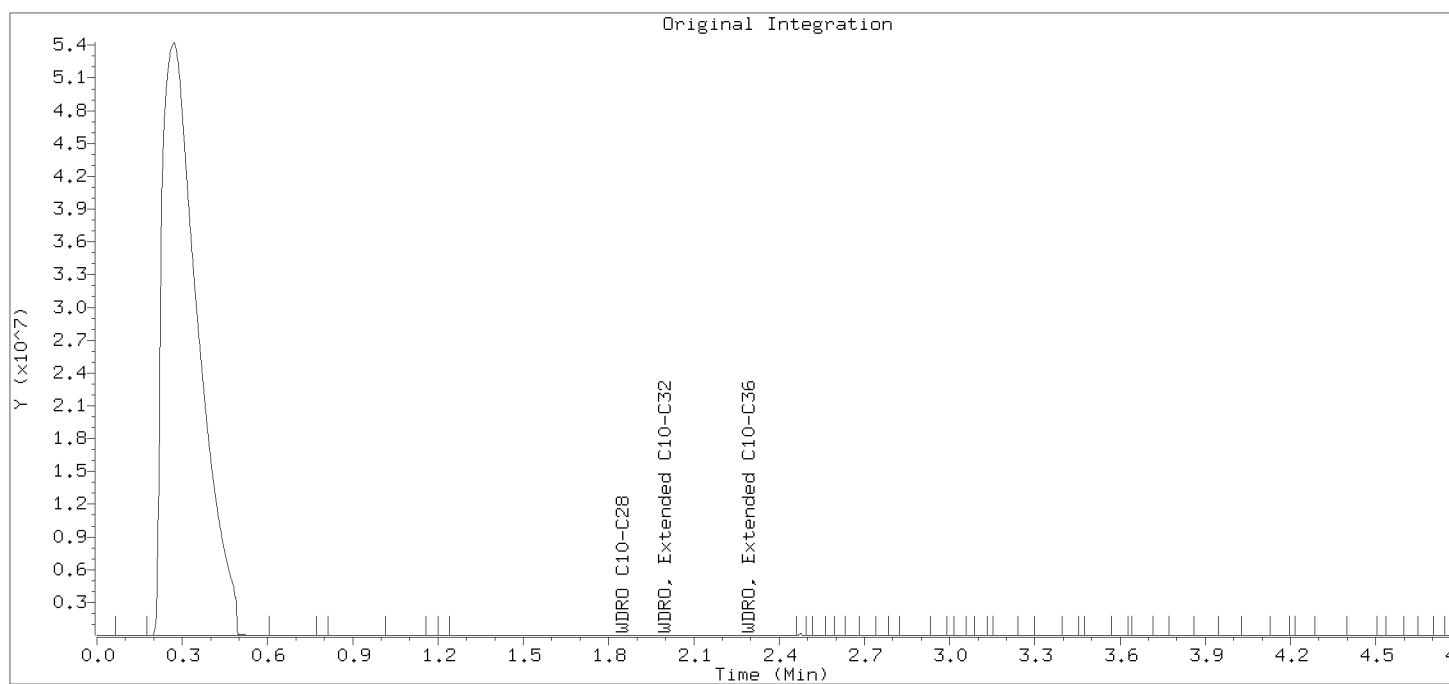
Column diameter: 0.25



Injection Date: 23-JUN-2015 10:34

Instrument: 10gcs4.i

Lab Sample ID: 10310936022



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	1242013	1248981
WDRO, Extended C10-C32	1270565	3059750
WDRO, Extended C10-C36	0	3412813
n-Triacontane (S)	0	1591479

Date : 24-JUN-2015 10:23

Client ID: USGS-3A

Instrument: 10gcs9,i

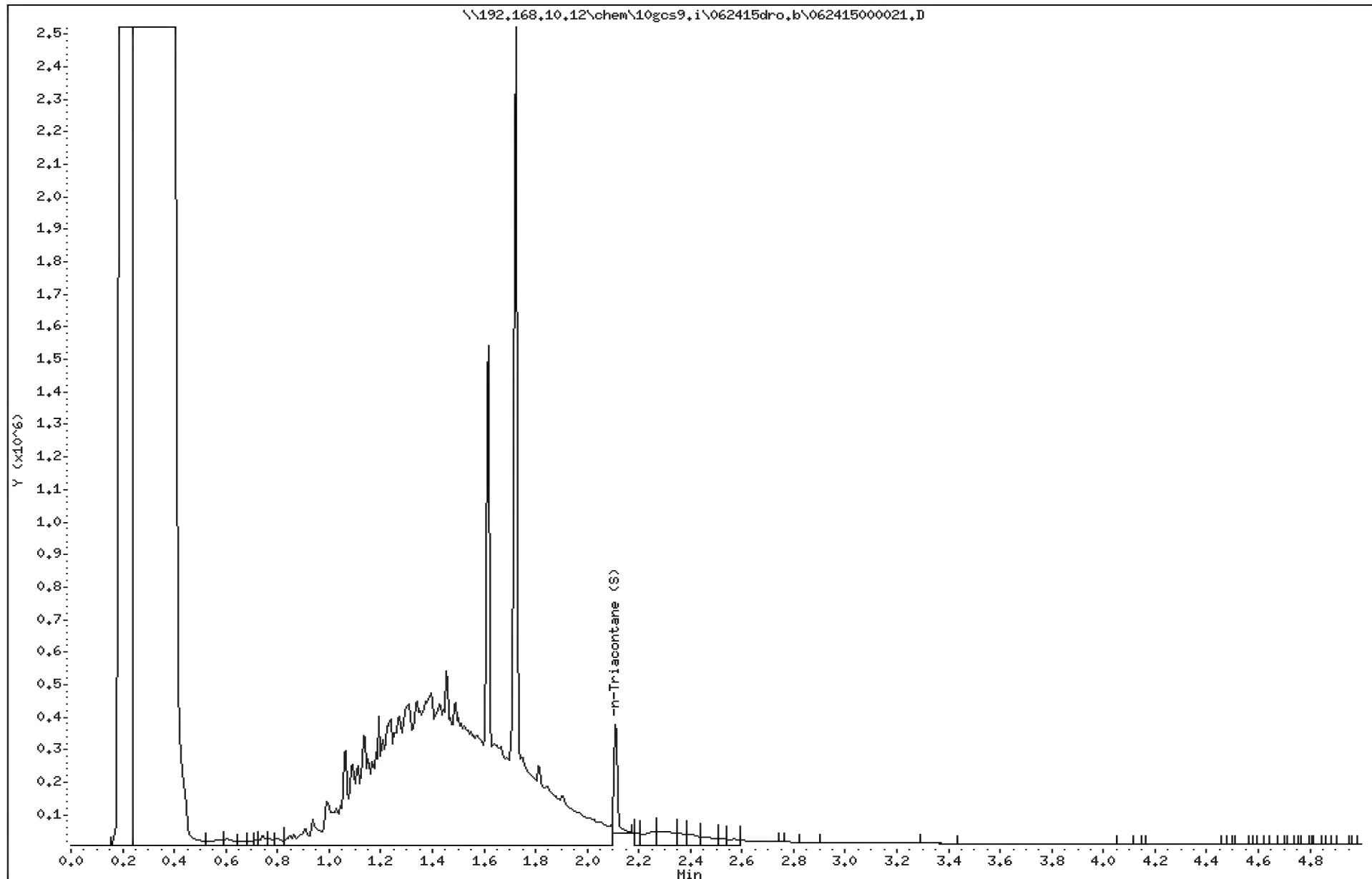
Sample Info: 10310936019

Operator: MT

Volume Injected (uL): 1,0

Column diameter: 0,25

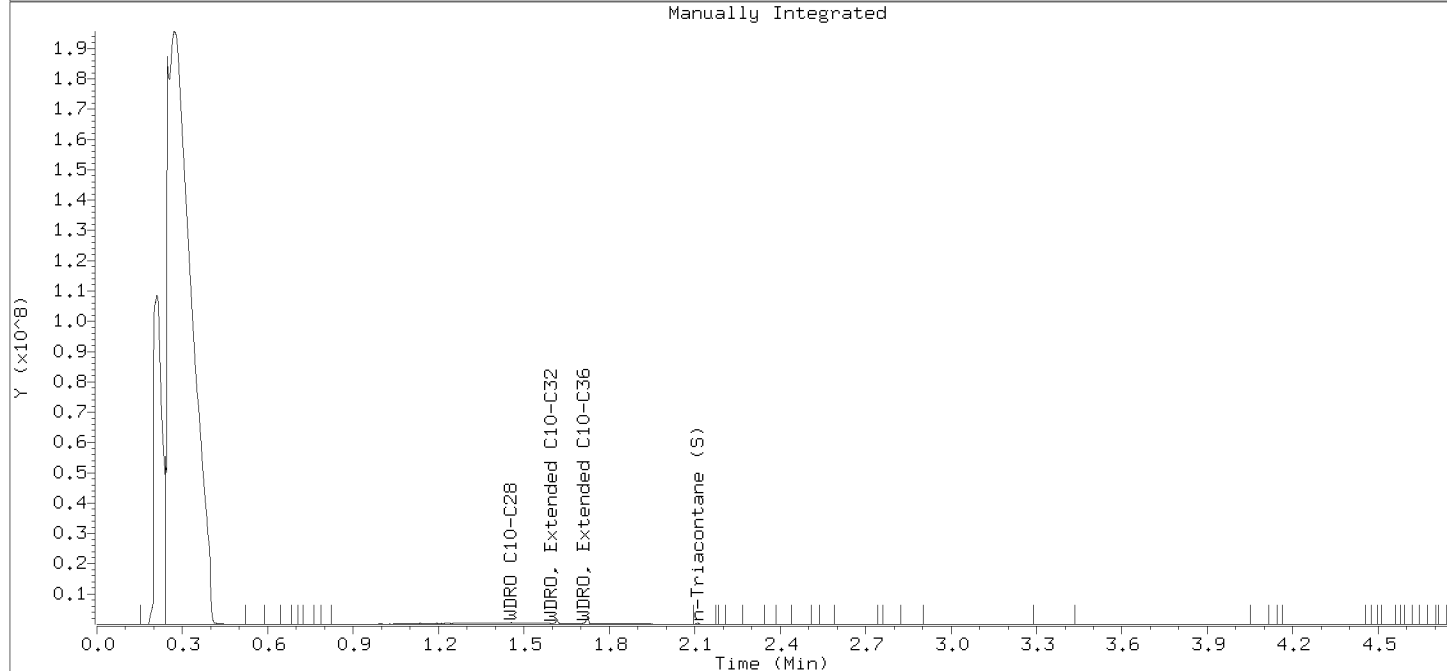
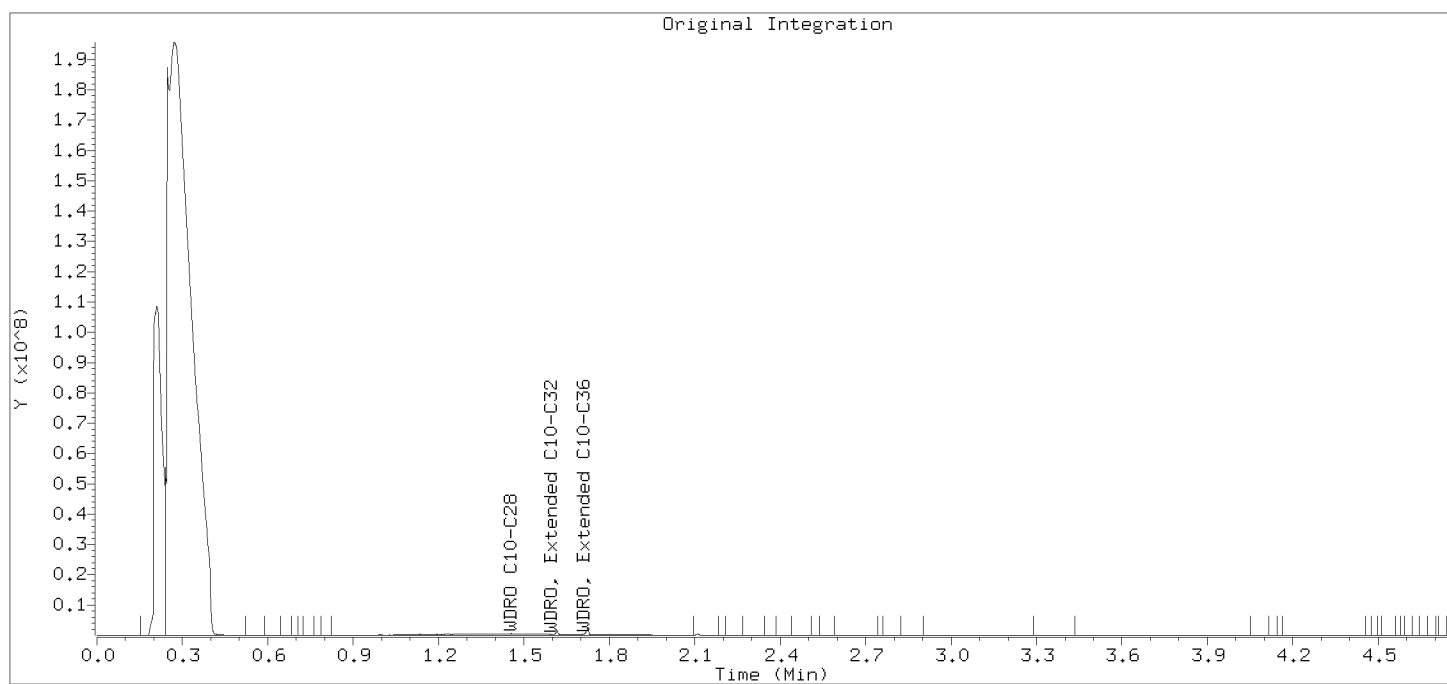
Column phase: DB-5MS



Injection Date: 24-JUN-2015 10:23

Instrument: 10gcs9.i

Lab Sample ID: 10310936019



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	932219964	938325517
WDRO, Extended C10-C32	935677018	961800301
WDRO, Extended C10-C36	936324448	976329815
n-Triacontane (S)	0	11721577

Date : 24-JUN-2015 10:30

Client ID: USGS-4A

Sample Info: 10310936020

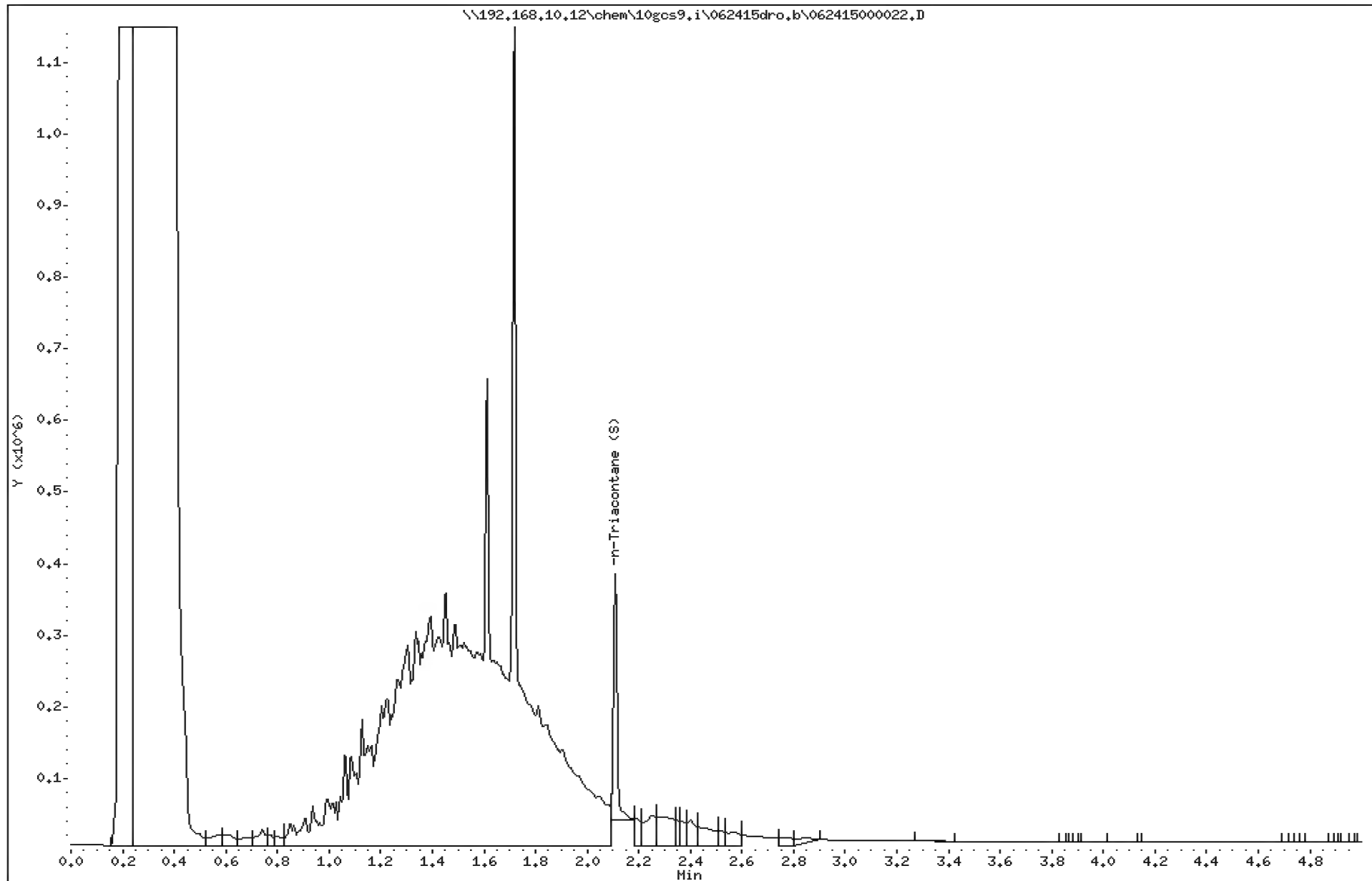
Volume Injected (uL): 1.0

Column phase: DB-5MS

Instrument: 10gcs9,i

Operator: MT

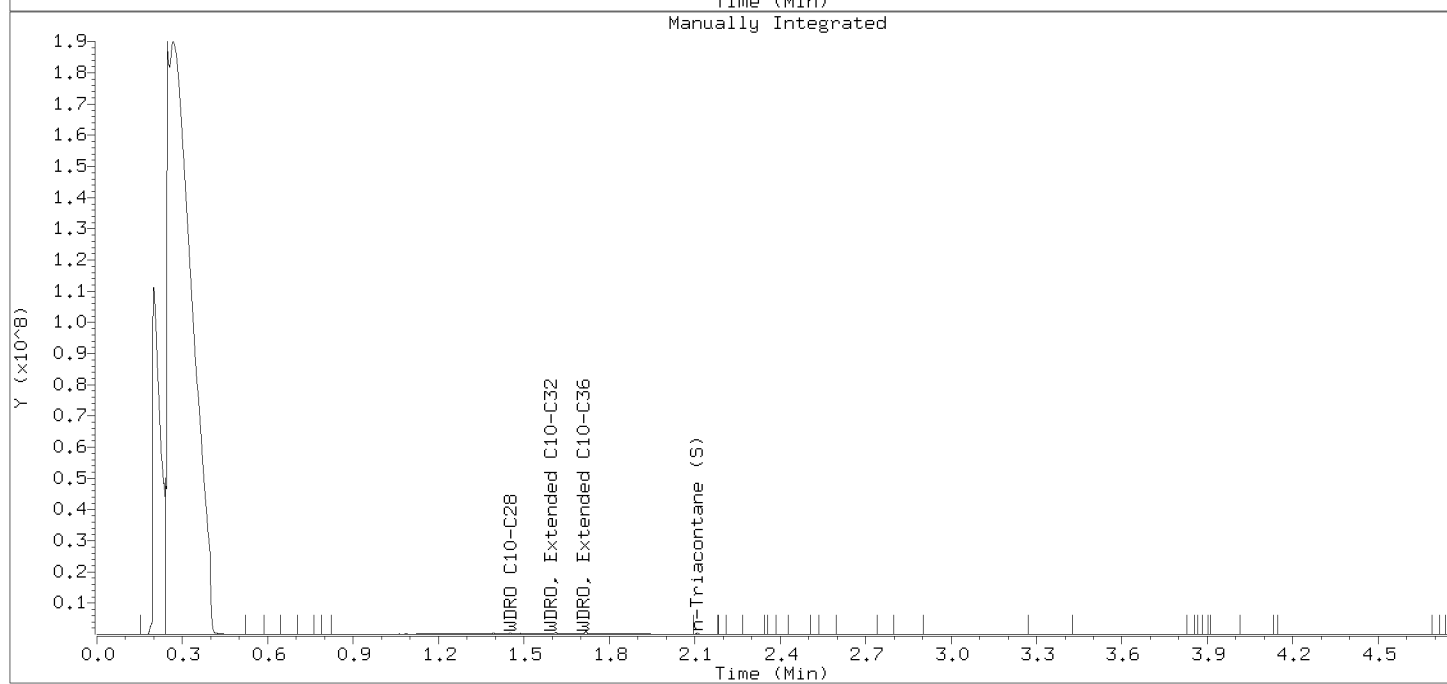
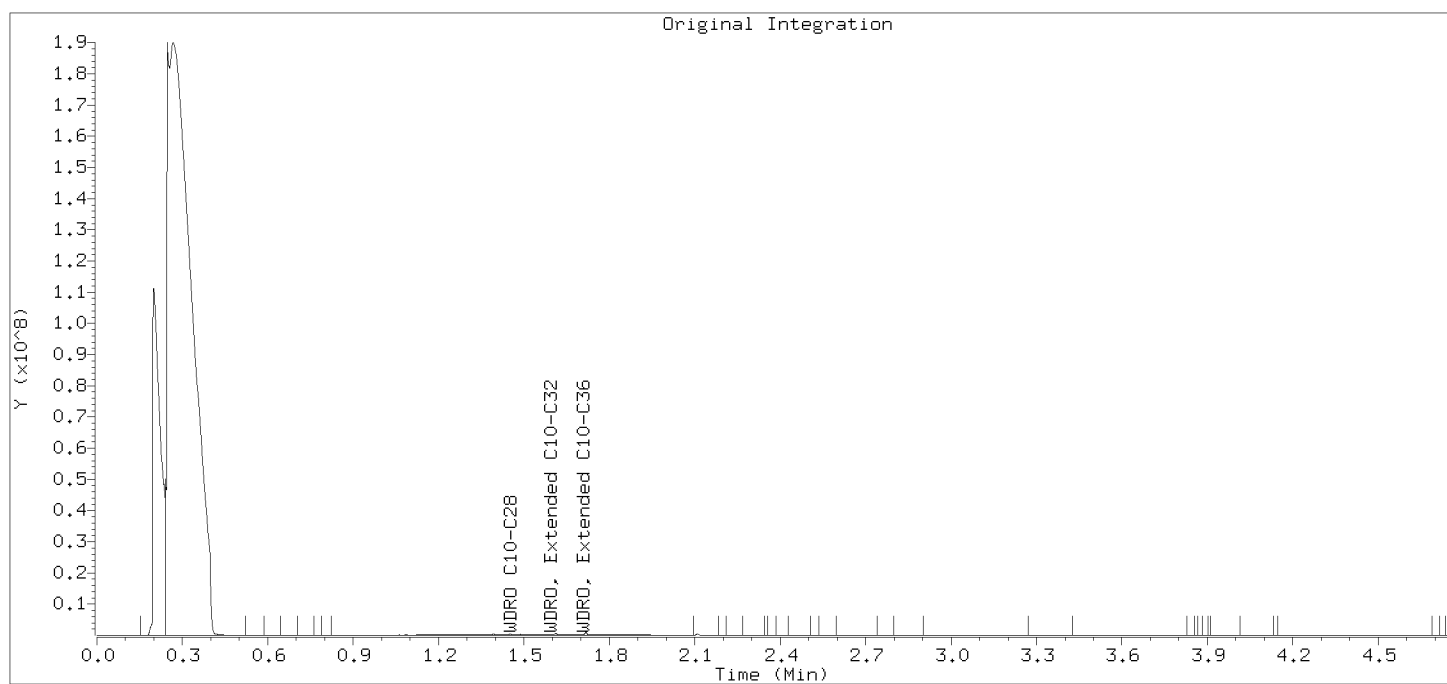
Column diameter: 0.25



Injection Date: 24-JUN-2015 10:30

Instrument: 10gcs9.i

Lab Sample ID: 10310936020



Manually Integrated Compounds

Compound	Area (before)	Area (after)
WDRO C10-C28	635189582	641846125
WDRO, Extended C10-C32	638682515	664436749
WDRO, Extended C10-C36	639410602	679019106
n-Triacontane (S)	0	12245118

September 18, 2015

Darin Albrecht
AECOM
Duluth Technology Village
11 E Superior St, Suite 260
Duluth, MN 55802

RE: Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Dear Darin Albrecht:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2015. 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.

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

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures

cc: Amanda Lanning, AECOM



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

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 #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

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

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

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

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10321532001	MW-1	Water	09/08/15 15:36	09/10/15 09:50
10321532002	MW-4	Water	09/08/15 16:43	09/10/15 09:50
10321532003	MW-6	Water	09/08/15 12:53	09/10/15 09:50
10321532004	MW-7	Water	09/08/15 13:26	09/10/15 09:50
10321532005	MW-8	Water	09/08/15 14:52	09/10/15 09:50
10321532006	MW-9	Water	09/08/15 14:05	09/10/15 09:50
10321532007	MW-10	Water	09/08/15 17:21	09/10/15 09:50
10321532008	DUP	Water	09/08/15 17:28	09/10/15 09:50
10321532009	MW-16A	Water	09/09/15 09:40	09/10/15 09:50
10321532010	MW-16B	Water	09/09/15 09:00	09/10/15 09:50
10321532011	MW-17	Water	09/08/15 17:15	09/10/15 09:50
10321532012	MW-18	Water	09/08/15 16:10	09/10/15 09:50
10321532013	MW-19	Water	09/08/15 14:40	09/10/15 09:50
10321532014	MW-20	Water	09/08/15 12:55	09/10/15 09:50
10321532015	MW-21	Water	09/08/15 13:55	09/10/15 09:50
10321532016	MW-22	Water	09/08/15 15:40	09/10/15 09:50
10321532017	USGS-1A	Water	09/09/15 08:51	09/10/15 09:50
10321532018	USGS-2A	Water	09/09/15 09:29	09/10/15 09:50
10321532019	USGS-3A	Water	09/09/15 10:06	09/10/15 09:50
10321532020	USGS-4A	Water	09/09/15 10:15	09/10/15 09:50
10321532021	SCL DW	Water	09/08/15 15:57	09/10/15 09:50
10321532022	Field Blank	Water	09/08/15 15:44	09/10/15 09:50
10321532023	Trip Blank	Water	09/08/15 00:00	09/10/15 09:50

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10321532001	MW-1	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532002	MW-4	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532003	MW-6	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532004	MW-7	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532005	MW-8	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532006	MW-9	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532007	MW-10	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532008	DUP	RSK 175	DR1	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10321532009	MW-16A	EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	DJB	7
		SM 4500-NO3 H	PH1	1
10321532010	MW-16B	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
10321532011	MW-17	Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
10321532012	MW-18	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532013	MW-19	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10321532014	MW-20	EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
10321532015	MW-21	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10321532016	MW-22	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
10321532017	USGS-1A	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10321532018	USGS-2A	EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
10321532019	USGS-3A	Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10321532020	USGS-4A	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
10321532021	SCL DW	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	AH2	7
10321532022	Field Blank	SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10321532023	Trip Blank	EPA 8260B	AH2	7
		SM 4500-NO3 H	PH1	1
		EPA 8260B	AH2	7

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10321532001	MW-1					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.47	mg/L	0.10	09/16/15 14:54	
10321532002	MW-4					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.4	mg/L	0.10	09/16/15 14:55	
ASTM D516	Sulfate	3.6	mg/L	2.5	09/15/15 09:32	
10321532003	MW-6					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.8	mg/L	0.10	09/16/15 14:55	
ASTM D516	Sulfate	4.7	mg/L	2.5	09/15/15 09:32	
10321532004	MW-7					
Diesel Range Organics	WDRO, Extended C10-C32	0.22	mg/L	0.11	09/17/15 18:24	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	09/16/15 14:56	
ASTM D516	Sulfate	7.8	mg/L	2.5	09/15/15 09:35	
10321532005	MW-8					
Diesel Range Organics	WDRO, Extended C10-C32	0.11	mg/L	0.11	09/17/15 18:31	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.15	mg/L	0.10	09/16/15 14:59	
ASTM D516	Sulfate	7.8	mg/L	2.5	09/15/15 09:35	
10321532006	MW-9					
RSK 175	Methane	6940	ug/L	10.0	09/12/15 05:08	
Diesel Range Organics	WDRO, Extended C10-C32	5.0	mg/L	1.0	09/17/15 19:05	
EPA 8260B	Benzene	240	ug/L	1.0	09/15/15 17:44	
10321532007	MW-10					
RSK 175	Methane	4730	ug/L	10.0	09/12/15 05:16	
Diesel Range Organics	WDRO, Extended C10-C32	5.2	mg/L	1.1	09/17/15 19:12	
EPA 8260B	Benzene	31.1	ug/L	1.0	09/11/15 19:56	
EPA 8260B	Ethylbenzene	33.5	ug/L	1.0	09/11/15 19:56	
EPA 8260B	Xylene (Total)	16.7	ug/L	3.0	09/11/15 19:56	
10321532008	DUP					
RSK 175	Methane	4900	ug/L	10.0	09/12/15 05:24	
Diesel Range Organics	WDRO, Extended C10-C32	5.9	mg/L	0.10	09/17/15 16:42	
EPA 8260B	Benzene	26.3	ug/L	1.0	09/15/15 18:00	
EPA 8260B	Ethylbenzene	34.9	ug/L	1.0	09/15/15 18:00	
EPA 8260B	Xylene (Total)	16.3	ug/L	3.0	09/15/15 18:00	
10321532009	MW-16A					
RSK 175	Methane	151	ug/L	10.0	09/13/15 08:46	
Diesel Range Organics	WDRO, Extended C10-C32	1.9	mg/L	0.10	09/17/15 16:49	
10321532010	MW-16B					
RSK 175	Methane	56.8	ug/L	10.0	09/13/15 08:54	
Diesel Range Organics	WDRO, Extended C10-C32	0.74	mg/L	0.10	09/17/15 17:30	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.46	mg/L	0.10	09/16/15 15:09	
ASTM D516	Sulfate	8.7	mg/L	2.5	09/15/15 09:38	M1
10321532011	MW-17					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.44	mg/L	0.10	09/16/15 15:10	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10321532011	MW-17					
ASTM D516	Sulfate	8.3	mg/L	2.5	09/15/15 09:40	
10321532012	MW-18					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	4.1	mg/L	0.10	09/16/15 15:10	
ASTM D516	Sulfate	5.2	mg/L	2.5	09/15/15 09:40	
10321532013	MW-19					
RSK 175	Methane	24.4	ug/L	10.0	09/12/15 05:49	
Diesel Range Organics	WDRO, Extended C10-C32	0.70	mg/L	0.10	09/17/15 17:50	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.14	mg/L	0.10	09/16/15 15:15	
ASTM D516	Sulfate	4.7	mg/L	2.5	09/15/15 09:40	
10321532014	MW-20					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.4	mg/L	0.10	09/16/15 15:20	
ASTM D516	Sulfate	6.4	mg/L	2.5	09/15/15 09:43	
10321532015	MW-21					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.5	mg/L	0.10	09/16/15 15:23	
ASTM D516	Sulfate	8.4	mg/L	2.5	09/15/15 09:43	
10321532016	MW-22					
RSK 175	Methane	10.2	ug/L	10.0	09/12/15 06:30	
Diesel Range Organics	WDRO, Extended C10-C32	0.23	mg/L	0.10	09/17/15 17:23	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.13	mg/L	0.10	09/16/15 15:23	
ASTM D516	Sulfate	6.6	mg/L	2.5	09/15/15 09:43	
10321532017	USGS-1A					
RSK 175	Methane	10200	ug/L	10.0	09/13/15 09:02	
Diesel Range Organics	WDRO, Extended C10-C32	11.7	mg/L	1.1	09/17/15 18:58	
EPA 8260B	Benzene	474	ug/L	10.0	09/16/15 18:46	
EPA 8260B	Ethylbenzene	24.2	ug/L	1.0	09/15/15 20:28	
EPA 8260B	Xylene (Total)	8.6	ug/L	3.0	09/15/15 20:28	
10321532018	USGS-2A					
RSK 175	Methane	2300	ug/L	10.0	09/13/15 09:10	
Diesel Range Organics	WDRO, Extended C10-C32	4.3	mg/L	0.11	09/17/15 16:56	
10321532019	USGS-3A					
RSK 175	Methane	2150	ug/L	10.0	09/13/15 09:18	
Diesel Range Organics	WDRO, Extended C10-C32	4.6	mg/L	0.10	09/17/15 17:03	
EPA 8260B	Benzene	4.5	ug/L	1.0	09/15/15 19:38	
10321532020	USGS-4A					
RSK 175	Methane	649	ug/L	10.0	09/13/15 09:26	
Diesel Range Organics	WDRO, Extended C10-C32	1.9	mg/L	0.10	09/17/15 17:10	
10321532021	SCL DW					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	1.1	mg/L	0.10	09/16/15 15:29	
ASTM D516	Sulfate	3.1	mg/L	2.5	09/15/15 09:56	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: AECOM

Date: September 18, 2015

General Information:

22 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Method: Diesel Range Organics
Description: WIDRO Extended GCS
Client: AECOM
Date: September 18, 2015

General Information:

22 samples were analyzed for Diesel Range Organics. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Diesel Range Organics with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Method: EPA 8260B

Description: 8260B MSV UST

Client: AECOM

Date: September 18, 2015

General Information:

23 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Method: SM 4500-NO3 H
Description: SM4500NO3-H, NO2 + NO3 pres.
Client: AECOM
Date: September 18, 2015

General Information:

22 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/24693

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320830002, 10321532007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2077975)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 2077976)
 - Nitrogen, NO2 plus NO3

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Method: ASTM D516

Description: ASTM D516 Sulfate Water

Client: AECOM

Date: September 18, 2015

General Information:

22 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/24673

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10321532001,10321532010

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2077315)
 - Sulfate
- MSD (Lab ID: 2077316)
 - Sulfate

QC Batch: WETA/24674

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10321532021,10321709008

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2077329)
 - Sulfate
- MSD (Lab ID: 2077330)
 - Sulfate

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-1 Lab ID: 10321532001 Collected: 09/08/15 15:36 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		09/12/15 04:02	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:16		
Surrogates									
n-Triacontane (S)	75	%	50-150		1	09/15/15 08:01	09/17/15 17:16	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 18:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 18:16	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 18:16	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 18:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		09/11/15 18:16	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/11/15 18:16	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/11/15 18:16	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.47	mg/L	0.10	0.050	1		09/16/15 14:54		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:30	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-4		Lab ID: 10321532002		Collected: 09/08/15 16:43	Received: 09/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		09/12/15 04:10	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	09/15/15 08:01	09/17/15 18:10			
Surrogates										
n-Triacontane (S)	96	%	50-150		1	09/15/15 08:01	09/17/15 18:10	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 18:30	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 18:30	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 18:30	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 18:30	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		09/11/15 18:30	17060-07-0		
Toluene-d8 (S)	100	%	75-125		1		09/11/15 18:30	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		09/11/15 18:30	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.4	mg/L	0.10	0.050	1		09/16/15 14:55			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	3.6	mg/L	2.5	1.2	1		09/15/15 09:32	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-6 Lab ID: 10321532003 Collected: 09/08/15 12:53 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		09/12/15 04:18	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	09/15/15 08:01	09/17/15 18:17		
Surrogates									
n-Triacontane (S)	77	%	50-150		1	09/15/15 08:01	09/17/15 18:17	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 19:13	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 19:13	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 19:13	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 19:13	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-125		1		09/11/15 19:13	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/11/15 19:13	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		09/11/15 19:13	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	3.8	mg/L	0.10	0.050	1		09/16/15 14:55		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	4.7	mg/L	2.5	1.2	1		09/15/15 09:32	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-7		Lab ID: 10321532004		Collected: 09/08/15 13:26	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		09/12/15 04:27	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	0.22	mg/L	0.11	0.11	1	09/15/15 08:01	09/17/15 18:24		
Surrogates									
n-Triacontane (S)	72	%	50-150		1	09/15/15 08:01	09/17/15 18:24	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 19:27	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 19:27	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 19:27	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 19:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		09/11/15 19:27	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/11/15 19:27	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		09/11/15 19:27	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	0.050	1		09/16/15 14:56		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	7.8	mg/L	2.5	1.2	1		09/15/15 09:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-8		Lab ID: 10321532005		Collected: 09/08/15 14:52	Received: 09/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		09/12/15 04:51	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.11	mg/L	0.11	0.11	1	09/15/15 08:01	09/17/15 18:31			
Surrogates										
n-Triacontane (S)	81	%	50-150		1	09/15/15 08:01	09/17/15 18:31	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 19:41	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 19:41	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 19:41	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 19:41	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		09/11/15 19:41	17060-07-0		
Toluene-d8 (S)	101	%	75-125		1		09/11/15 19:41	2037-26-5		
4-Bromofluorobenzene (S)	102	%	75-125		1		09/11/15 19:41	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.15	mg/L	0.10	0.050	1		09/16/15 14:59			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	7.8	mg/L	2.5	1.2	1		09/15/15 09:35	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-9		Lab ID: 10321532006		Collected: 09/08/15 14:05		Received: 09/10/15 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	6940	ug/L	10.0	0.63	1		09/12/15 05:08	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	5.0	mg/L	1.0	1.0	10	09/15/15 08:01	09/17/15 19:05		
Surrogates									
n-Triacontane (S)	74	%	50-150		10	09/15/15 08:01	09/17/15 19:05	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	240	ug/L	1.0	0.21	1		09/15/15 17:44	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 17:44	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 17:44	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 17:44	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/15/15 17:44	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		09/15/15 17:44	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/15/15 17:44	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 14:59		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-10		Lab ID: 10321532007		Collected: 09/08/15 17:21	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	4730	ug/L	10.0	0.63	1		09/12/15 05:16	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	5.2	mg/L	1.1	1.1	10	09/15/15 08:01	09/17/15 19:12		
Surrogates									
n-Triacontane (S)	79	%	50-150		10	09/15/15 08:01	09/17/15 19:12	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	31.1	ug/L	1.0	0.21	1		09/11/15 19:56	71-43-2	
Ethylbenzene	33.5	ug/L	1.0	0.23	1		09/11/15 19:56	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 19:56	108-88-3	
Xylene (Total)	16.7	ug/L	3.0	0.60	1		09/11/15 19:56	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		09/11/15 19:56	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/11/15 19:56	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		09/11/15 19:56	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:00		M1
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: DUP		Lab ID: 10321532008		Collected: 09/08/15 17:28	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	4900	ug/L	10.0	0.63	1		09/12/15 05:24	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	5.9	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 16:42		
Surrogates									
n-Triacontane (S)	115	%	50-150		1	09/15/15 08:01	09/17/15 16:42	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	26.3	ug/L	1.0	0.21	1		09/15/15 18:00	71-43-2	
Ethylbenzene	34.9	ug/L	1.0	0.23	1		09/15/15 18:00	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 18:00	108-88-3	
Xylene (Total)	16.3	ug/L	3.0	0.60	1		09/15/15 18:00	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/15/15 18:00	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/15/15 18:00	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/15/15 18:00	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:05		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-16A		Lab ID: 10321532009		Collected: 09/09/15 09:40	Received: 09/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	151	ug/L	10.0	0.63	1		09/13/15 08:46	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	1.9	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 16:49			
Surrogates										
n-Triacontane (S)	91	%	50-150		1	09/15/15 08:01	09/17/15 16:49	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		09/11/15 20:10	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/11/15 20:10	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		09/11/15 20:10	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/11/15 20:10	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	92	%	75-125		1		09/11/15 20:10	17060-07-0		
Toluene-d8 (S)	99	%	75-125		1		09/11/15 20:10	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		09/11/15 20:10	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:09			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:38	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-16B Lab ID: 10321532010 Collected: 09/09/15 09:00 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	56.8	ug/L	10.0	0.63	1		09/13/15 08:54	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	0.74	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:30		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	09/15/15 08:01	09/17/15 17:30	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 18:16	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 18:16	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 18:16	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 18:16	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/15/15 18:16	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/15/15 18:16	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/15/15 18:16	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.46	mg/L	0.10	0.050	1		09/16/15 15:09		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	8.7	mg/L	2.5	1.2	1		09/15/15 09:38	14808-79-8	M1

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-17 Lab ID: 10321532011 Collected: 09/08/15 17:15 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		09/12/15 05:32	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:37		
Surrogates									
n-Triacontane (S)	91	%	50-150		1	09/15/15 08:01	09/17/15 17:37	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 15:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 15:32	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 15:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 15:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/15/15 15:32	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 15:32	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		09/15/15 15:32	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.44	mg/L	0.10	0.050	1		09/16/15 15:10		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	8.3	mg/L	2.5	1.2	1		09/15/15 09:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-18		Lab ID: 10321532012		Collected: 09/08/15 16:10	Received: 09/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		09/12/15 05:40	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:43			
Surrogates										
n-Triacontane (S)	79	%	50-150		1	09/15/15 08:01	09/17/15 17:43	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 15:49	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 15:49	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 15:49	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 15:49	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/15/15 15:49	17060-07-0		
Toluene-d8 (S)	100	%	75-125		1		09/15/15 15:49	2037-26-5		
4-Bromofluorobenzene (S)	104	%	75-125		1		09/15/15 15:49	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	4.1	mg/L	0.10	0.050	1		09/16/15 15:10			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	5.2	mg/L	2.5	1.2	1		09/15/15 09:40	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-19 Lab ID: 10321532013 Collected: 09/08/15 14:40 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	24.4	ug/L	10.0	0.63	1		09/12/15 05:49	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	0.70	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:50		
Surrogates									
n-Triacontane (S)	99	%	50-150		1	09/15/15 08:01	09/17/15 17:50	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 18:33	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 18:33	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 18:33	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 18:33	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/15/15 18:33	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 18:33	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/15/15 18:33	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.14	mg/L	0.10	0.050	1		09/16/15 15:15		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	4.7	mg/L	2.5	1.2	1		09/15/15 09:40	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-20		Lab ID: 10321532014		Collected: 09/08/15 12:55	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		09/12/15 05:57	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:57		
Surrogates									
n-Triacontane (S)	98	%	50-150		1	09/15/15 08:01	09/17/15 17:57	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 18:49	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 18:49	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 18:49	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 18:49	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/15/15 18:49	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/15/15 18:49	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1		09/15/15 18:49	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	3.4	mg/L	0.10	0.050	1		09/16/15 15:20		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	6.4	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-21		Lab ID: 10321532015		Collected: 09/08/15 13:55	Received: 09/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		09/12/15 06:05	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 18:04			
Surrogates										
n-Triacontane (S)	97	%	50-150		1	09/15/15 08:01	09/17/15 18:04	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 19:05	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 19:05	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 19:05	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 19:05	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/15/15 19:05	17060-07-0		
Toluene-d8 (S)	100	%	75-125		1		09/15/15 19:05	2037-26-5		
4-Bromofluorobenzene (S)	106	%	75-125		1		09/15/15 19:05	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.5	mg/L	0.10	0.050	1		09/16/15 15:23			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	8.4	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: MW-22 Lab ID: 10321532016 Collected: 09/08/15 15:40 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	10.2	ug/L	10.0	0.63	1		09/12/15 06:30	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	0.23	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:23		
Surrogates									
n-Triacontane (S)	74	%	50-150		1	09/15/15 08:01	09/17/15 17:23	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 19:22	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 19:22	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 19:22	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 19:22	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/15/15 19:22	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/15/15 19:22	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		09/15/15 19:22	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.13	mg/L	0.10	0.050	1		09/16/15 15:23		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	6.6	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: USGS-1A		Lab ID: 10321532017		Collected: 09/09/15 08:51	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	10200	ug/L	10.0	0.63	1		09/13/15 09:02	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	11.7	mg/L	1.1	1.1	10	09/15/15 08:01	09/17/15 18:58		
Surrogates									
n-Triacontane (S)	77	%	50-150		10	09/15/15 08:01	09/17/15 18:58	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	474	ug/L	10.0	2.1	10		09/16/15 18:46	71-43-2	
Ethylbenzene	24.2	ug/L	1.0	0.23	1		09/15/15 20:28	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 20:28	108-88-3	
Xylene (Total)	8.6	ug/L	3.0	0.60	1		09/15/15 20:28	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	75-125		1		09/15/15 20:28	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/15/15 20:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/15/15 20:28	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:24		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: USGS-2A Lab ID: 10321532018 Collected: 09/09/15 09:29 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	2300	ug/L	10.0	0.63	1		09/13/15 09:10	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	4.3	mg/L	0.11	0.11	1	09/15/15 08:01	09/17/15 16:56		
Surrogates									
n-Triacontane (S)	122	%	50-150		1	09/15/15 08:01	09/17/15 16:56	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/17/15 22:03	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/17/15 22:03	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/17/15 22:03	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/17/15 22:03	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	111	%	75-125		1		09/17/15 22:03	17060-07-0	
Toluene-d8 (S)	101	%	75-125		1		09/17/15 22:03	2037-26-5	
4-Bromofluorobenzene (S)	107	%	75-125		1		09/17/15 22:03	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:25		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: USGS-3A Lab ID: 10321532019 Collected: 09/09/15 10:06 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	2150	ug/L	10.0	0.63	1		09/13/15 09:18	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	4.6	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:03		
Surrogates									
n-Triacontane (S)	113	%	50-150		1	09/15/15 08:01	09/17/15 17:03	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	4.5	ug/L	1.0	0.21	1		09/15/15 19:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 19:38	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 19:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 19:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	75-125		1		09/15/15 19:38	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 19:38	2037-26-5	
4-Bromofluorobenzene (S)	104	%	75-125		1		09/15/15 19:38	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:28		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:43	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: USGS-4A Lab ID: 10321532020 Collected: 09/09/15 10:15 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	649	ug/L	10.0	0.63	1		09/13/15 09:26	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	1.9	mg/L	0.10	0.10	1	09/15/15 08:01	09/17/15 17:10		
Surrogates									
n-Triacontane (S)	91	%	50-150		1	09/15/15 08:01	09/17/15 17:10	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 19:55	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 19:55	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 19:55	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 19:55	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%	75-125		1		09/15/15 19:55	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		09/15/15 19:55	2037-26-5	
4-Bromofluorobenzene (S)	105	%	75-125		1		09/15/15 19:55	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:28		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:45	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: SCL DW									
Lab ID: 10321532021									
Collected: 09/08/15 15:57 Received: 09/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		09/12/15 06:46	74-82-8	
WIDRO Extended GCS									
Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 11:20	09/17/15 19:39		
Surrogates									
n-Triacontane (S)	98	%	50-150		1	09/15/15 11:20	09/17/15 19:39	638-68-6	
8260B MSV UST									
Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 20:11	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 20:11	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 20:11	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 20:11	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	75-125		1		09/15/15 20:11	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 20:11	2037-26-5	
4-Bromofluorobenzene (S)	106	%	75-125		1		09/15/15 20:11	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.									
Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	1.1	mg/L	0.10	0.050	1		09/16/15 15:29		
ASTM D516 Sulfate Water									
Analytical Method: ASTM D516									
Sulfate	3.1	mg/L	2.5	1.2	1		09/15/15 09:56	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: Field Blank		Lab ID: 10321532022		Collected: 09/08/15 15:44	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		09/12/15 06:54	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	09/15/15 11:20	09/17/15 19:45		
Surrogates									
n-Triacontane (S)	80	%	50-150		1	09/15/15 11:20	09/17/15 19:45	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 14:10	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 14:10	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 14:10	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 14:10	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	75-125		1		09/15/15 14:10	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 14:10	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/15/15 14:10	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		09/16/15 15:33		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		09/15/15 09:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Sample: Trip Blank		Lab ID: 10321532023		Collected: 09/08/15 00:00	Received: 09/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		09/15/15 14:27	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/15/15 14:27	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		09/15/15 14:27	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/15/15 14:27	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	100	%	75-125		1		09/15/15 14:27	17060-07-0	
Toluene-d8 (S)	99	%	75-125		1		09/15/15 14:27	2037-26-5	
4-Bromofluorobenzene (S)	103	%	75-125		1		09/15/15 14:27	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: AIR/24103 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004

METHOD BLANK: 2075690 Matrix: Water
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	09/12/15 01:26	

LABORATORY CONTROL SAMPLE & LCSD: 2075691

2075692

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	64.3	65.6	106	108	85-115	2	20	

SAMPLE DUPLICATE: 2075693

Parameter	Units	92266691004 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	1.9J	1.9J		20	

SAMPLE DUPLICATE: 2075740

Parameter	Units	92266669005 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	1.1J	3.1J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch:	AIR/24104	Analysis Method:	RSK 175
QC Batch Method:	RSK 175	Analysis Description:	RSK 175 AIR HEADSPACE
Associated Lab Samples:	10321532005, 10321532006, 10321532007, 10321532008, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532021, 10321532022		

METHOD BLANK:	2075696	Matrix:	Water
Associated Lab Samples:	10321532005, 10321532006, 10321532007, 10321532008, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532021, 10321532022		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	09/12/15 04:43	

LABORATORY CONTROL SAMPLE & LCSD: 2075697		2075698								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	65.6	64.0	108	106	85-115	2	20	

SAMPLE DUPLICATE: 2075699		10321532005	Dup Result	RPD	Max RPD	Qualifiers
Parameter	Units	Result				
Methane	ug/L	ND	1.8J		20	

SAMPLE DUPLICATE: 2075700		10321532016	Dup Result	RPD	Max RPD	Qualifiers
Parameter	Units	Result				
Methane	ug/L	10.2	9.8J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: AIR/24112 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10321532009, 10321532010, 10321532017, 10321532018, 10321532019, 10321532020

METHOD BLANK: 2076119 Matrix: Water
 Associated Lab Samples: 10321532009, 10321532010, 10321532017, 10321532018, 10321532019, 10321532020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	09/13/15 08:21	

LABORATORY CONTROL SAMPLE & LCSD: 2076120 2076121

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	63.4	61.0	105	101	85-115	4	20	

SAMPLE DUPLICATE: 2076122

Parameter	Units	10321523008 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	1820	1960	8	20	

SAMPLE DUPLICATE: 2076124

Parameter	Units	92266916002 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	3.0J	3.1J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: MSV/33144 Analysis Method: EPA 8260B
 QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532007, 10321532009

METHOD BLANK: 2075420 Matrix: Water
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532007, 10321532009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/11/15 17:59	
Ethylbenzene	ug/L	ND	1.0	09/11/15 17:59	
Toluene	ug/L	ND	1.0	09/11/15 17:59	
Xylene (Total)	ug/L	ND	3.0	09/11/15 17:59	
1,2-Dichloroethane-d4 (S)	%	90	75-125	09/11/15 17:59	
4-Bromofluorobenzene (S)	%	101	75-125	09/11/15 17:59	
Toluene-d8 (S)	%	100	75-125	09/11/15 17:59	

LABORATORY CONTROL SAMPLE: 2075421

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.1	86	71-125	
Ethylbenzene	ug/L	20	16.9	85	75-125	
Toluene	ug/L	20	17.3	87	74-125	
Xylene (Total)	ug/L	60	56.4	94	75-125	
1,2-Dichloroethane-d4 (S)	%			99	75-125	
4-Bromofluorobenzene (S)	%			101	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE SAMPLE: 2075485

Parameter	Units	10321532001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	17.6	88	53-139	
Ethylbenzene	ug/L	ND	20	17.6	88	55-139	
Toluene	ug/L	ND	20	17.3	86	52-148	
Xylene (Total)	ug/L	ND	60	57.7	96	54-144	
1,2-Dichloroethane-d4 (S)	%				97	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				101	75-125	

SAMPLE DUPLICATE: 2075486

Parameter	Units	10321532002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	.24J		30	
Xylene (Total)	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

SAMPLE DUPLICATE: 2075486

Parameter	Units	10321532002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	94	91	3		
4-Bromofluorobenzene (S)	%.	100	102	2		
Toluene-d8 (S)	%.	100	99	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch:	MSV/33160	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV UST-WATER
Associated Lab Samples:	10321532006, 10321532008, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532019, 10321532020, 10321532021, 10321532022, 10321532023		

METHOD BLANK:	2077586	Matrix:	Water
Associated Lab Samples:	10321532006, 10321532008, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532019, 10321532020, 10321532021, 10321532022, 10321532023		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/15/15 13:54	
Ethylbenzene	ug/L	ND	1.0	09/15/15 13:54	
Toluene	ug/L	ND	1.0	09/15/15 13:54	
Xylene (Total)	ug/L	ND	3.0	09/15/15 13:54	
1,2-Dichloroethane-d4 (S)	%	100	75-125	09/15/15 13:54	
4-Bromofluorobenzene (S)	%	102	75-125	09/15/15 13:54	
Toluene-d8 (S)	%	99	75-125	09/15/15 13:54	

LABORATORY CONTROL SAMPLE: 2077587

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.7	93	71-125	
Ethylbenzene	ug/L	20	19.0	95	75-125	
Toluene	ug/L	20	19.2	96	74-125	
Xylene (Total)	ug/L	60	57.1	95	75-125	
1,2-Dichloroethane-d4 (S)	%			101	75-125	
4-Bromofluorobenzene (S)	%			102	75-125	
Toluene-d8 (S)	%			101	75-125	

MATRIX SPIKE SAMPLE: 2077596

Parameter	Units	10321532011 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	20.6	103	53-139	
Ethylbenzene	ug/L	ND	20	21.3	107	55-139	
Toluene	ug/L	ND	20	21.1	105	52-148	
Xylene (Total)	ug/L	ND	60	63.8	106	54-144	
1,2-Dichloroethane-d4 (S)	%				104	75-125	
4-Bromofluorobenzene (S)	%				102	75-125	
Toluene-d8 (S)	%				102	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

SAMPLE DUPLICATE: 2077597

Parameter	Units	10321532012 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	101	101	0		
4-Bromofluorobenzene (S)	%.	104	105	1		
Toluene-d8 (S)	%.	100	100	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

QC Batch: MSV/33182 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10321532018

METHOD BLANK: 2079680 Matrix: Water
Associated Lab Samples: 10321532018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	09/17/15 20:09	
Ethylbenzene	ug/L	ND	1.0	09/17/15 20:09	
Toluene	ug/L	ND	1.0	09/17/15 20:09	
Xylene (Total)	ug/L	ND	3.0	09/17/15 20:09	
1,2-Dichloroethane-d4 (S)	%	109	75-125	09/17/15 20:09	
4-Bromofluorobenzene (S)	%	108	75-125	09/17/15 20:09	
Toluene-d8 (S)	%	100	75-125	09/17/15 20:09	

LABORATORY CONTROL SAMPLE: 2079681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	18.2	91	71-125	
Ethylbenzene	ug/L	20	17.5	88	75-125	
Toluene	ug/L	20	18.1	91	74-125	
Xylene (Total)	ug/L	60	53.0	88	75-125	
1,2-Dichloroethane-d4 (S)	%			112	75-125	
4-Bromofluorobenzene (S)	%			106	75-125	
Toluene-d8 (S)	%			103	75-125	

MATRIX SPIKE SAMPLE: 2080683

Parameter	Units	10321709004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	24.6	123	53-139	
Ethylbenzene	ug/L	ND	20	23.6	118	55-139	
Toluene	ug/L	ND	20	24.0	120	52-148	
Xylene (Total)	ug/L	ND	60	70.2	117	54-144	
1,2-Dichloroethane-d4 (S)	%				113	75-125	
4-Bromofluorobenzene (S)	%				105	75-125	
Toluene-d8 (S)	%				103	75-125	

SAMPLE DUPLICATE: 2080684

Parameter	Units	10321709005 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

SAMPLE DUPLICATE: 2080684

Parameter	Units	10321709005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	112	110	2		
4-Bromofluorobenzene (S)	%.	108	109	1		
Toluene-d8 (S)	%.	101	101	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

QC Batch: OEXT/30780 Analysis Method: Diesel Range Organics
QC Batch Method: Diesel Range Organics Analysis Description: WIDRO Extended GCS
Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020

METHOD BLANK: 2077301 Matrix: Water
Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	09/17/15 16:09	
n-Triacontane (S)	%	91	50-150	09/17/15 16:09	

LABORATORY CONTROL SAMPLE & LCSD: 2077302 2077303

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO, Extended C10-C32	mg/L	2	1.6	1.8	79	88	75-115	11	20	
n-Triacontane (S)	%				76	83	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch:	OEXT/30784	Analysis Method:	Diesel Range Organics
QC Batch Method:	Diesel Range Organics	Analysis Description:	WIDRO Extended GCS
Associated Lab Samples:	10321532021, 10321532022		

METHOD BLANK: 2077578 Matrix: Water

Associated Lab Samples: 10321532021, 10321532022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	09/17/15 19:25	
n-Triacontane (S)	%.	82	50-150	09/17/15 19:25	

LABORATORY CONTROL SAMPLE & LCSD: 2077579

2077580

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO, Extended C10-C32	mg/L	2	2.0	2.0	100	99	75-115	1	20	
n-Triacontane (S)	%.				97	93	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: WETA/24693 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012

METHOD BLANK: 2077971 Matrix: Water
 Associated Lab Samples: 10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	09/16/15 14:36	

LABORATORY CONTROL SAMPLE: 2077972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077973 2077974

Parameter	Units	10320830002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.28	2.5	2.5	2.6	2.6	95	92	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077975 2077976

Parameter	Units	10321532007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	2.0	2.0	77	77	80-120	0	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: WETA/24694 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020, 10321532021, 10321532022

METHOD BLANK: 2078097 Matrix: Water
 Associated Lab Samples: 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020, 10321532021, 10321532022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	09/16/15 15:13	

LABORATORY CONTROL SAMPLE: 2078098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.6	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078099 2078100

Parameter	Units	10321532013 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.14	2.5	2.5	2.3	2.1	87	80	80-120	8	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078101 2078102

Parameter	Units	10320827005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	1.3	2.5	2.5	3.7	3.6	96	93	80-120	2	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch:	WETA/24673	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020		

METHOD BLANK:	2077310	Matrix:	Water
Associated Lab Samples:	10321532001, 10321532002, 10321532003, 10321532004, 10321532005, 10321532006, 10321532007, 10321532008, 10321532009, 10321532010, 10321532011, 10321532012, 10321532013, 10321532014, 10321532015, 10321532016, 10321532017, 10321532018, 10321532019, 10321532020		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/15/15 09:30	

Parameter	Units	2077311		2077312		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCSD % Rec				
Sulfate	mg/L	7.5	8.0	8.0	106	106	80-120	0	20

Parameter	Units	2077313		2077314		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10321532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	ND	20	20	18.8	19.2	88	90	80-120	2	30

Parameter	Units	2077315		2077316		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10321532010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	8.7	20	20	22.2	21.7	68	65	80-120	2	30 M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

QC Batch: WETA/24674

Analysis Method: ASTM D516

QC Batch Method: ASTM D516

Analysis Description: ASTM D516 Sulfate Water

Associated Lab Samples: 10321532021, 10321532022

METHOD BLANK: 2077324

Matrix: Water

Associated Lab Samples: 10321532021, 10321532022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/15/15 09:56	

LABORATORY CONTROL SAMPLE & LCSD: 2077325

2077326

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.0	8.1	93	108	80-120	14	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077327

2077328

Parameter	Units	10321532021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	3.1	20	20	19.7	19.7	83	83	80-120	0	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077329

2077330

Parameter	Units	10321709008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	12.0	20	20	23.3	23.3	56	57	80-120	0	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10321532001	MW-1	RSK 175	AIR/24103		
10321532002	MW-4	RSK 175	AIR/24103		
10321532003	MW-6	RSK 175	AIR/24103		
10321532004	MW-7	RSK 175	AIR/24103		
10321532005	MW-8	RSK 175	AIR/24104		
10321532006	MW-9	RSK 175	AIR/24104		
10321532007	MW-10	RSK 175	AIR/24104		
10321532008	DUP	RSK 175	AIR/24104		
10321532009	MW-16A	RSK 175	AIR/24112		
10321532010	MW-16B	RSK 175	AIR/24112		
10321532011	MW-17	RSK 175	AIR/24104		
10321532012	MW-18	RSK 175	AIR/24104		
10321532013	MW-19	RSK 175	AIR/24104		
10321532014	MW-20	RSK 175	AIR/24104		
10321532015	MW-21	RSK 175	AIR/24104		
10321532016	MW-22	RSK 175	AIR/24104		
10321532017	USGS-1A	RSK 175	AIR/24112		
10321532018	USGS-2A	RSK 175	AIR/24112		
10321532019	USGS-3A	RSK 175	AIR/24112		
10321532020	USGS-4A	RSK 175	AIR/24112		
10321532021	SCL DW	RSK 175	AIR/24104		
10321532022	Field Blank	RSK 175	AIR/24104		
10321532001	MW-1	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532002	MW-4	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532003	MW-6	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532004	MW-7	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532005	MW-8	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532006	MW-9	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532007	MW-10	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532008	DUP	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532009	MW-16A	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532010	MW-16B	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532011	MW-17	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532012	MW-18	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532013	MW-19	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532014	MW-20	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532015	MW-21	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532016	MW-22	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532017	USGS-1A	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532018	USGS-2A	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532019	USGS-3A	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532020	USGS-4A	Diesel Range Organics	OEXT/30780	Diesel Range Organics	GCSV/16707
10321532021	SCL DW	Diesel Range Organics	OEXT/30784	Diesel Range Organics	GCSV/16706
10321532022	Field Blank	Diesel Range Organics	OEXT/30784	Diesel Range Organics	GCSV/16706
10321532001	MW-1	EPA 8260B	MSV/33144		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake

Pace Project No.: 10321532

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10321532002	MW-4	EPA 8260B	MSV/33144		
10321532003	MW-6	EPA 8260B	MSV/33144		
10321532004	MW-7	EPA 8260B	MSV/33144		
10321532005	MW-8	EPA 8260B	MSV/33144		
10321532006	MW-9	EPA 8260B	MSV/33160		
10321532007	MW-10	EPA 8260B	MSV/33144		
10321532008	DUP	EPA 8260B	MSV/33160		
10321532009	MW-16A	EPA 8260B	MSV/33144		
10321532010	MW-16B	EPA 8260B	MSV/33160		
10321532011	MW-17	EPA 8260B	MSV/33160		
10321532012	MW-18	EPA 8260B	MSV/33160		
10321532013	MW-19	EPA 8260B	MSV/33160		
10321532014	MW-20	EPA 8260B	MSV/33160		
10321532015	MW-21	EPA 8260B	MSV/33160		
10321532016	MW-22	EPA 8260B	MSV/33160		
10321532017	USGS-1A	EPA 8260B	MSV/33160		
10321532018	USGS-2A	EPA 8260B	MSV/33182		
10321532019	USGS-3A	EPA 8260B	MSV/33160		
10321532020	USGS-4A	EPA 8260B	MSV/33160		
10321532021	SCL DW	EPA 8260B	MSV/33160		
10321532022	Field Blank	EPA 8260B	MSV/33160		
10321532023	Trip Blank	EPA 8260B	MSV/33160		
10321532001	MW-1	SM 4500-NO3 H	WETA/24693		
10321532002	MW-4	SM 4500-NO3 H	WETA/24693		
10321532003	MW-6	SM 4500-NO3 H	WETA/24693		
10321532004	MW-7	SM 4500-NO3 H	WETA/24693		
10321532005	MW-8	SM 4500-NO3 H	WETA/24693		
10321532006	MW-9	SM 4500-NO3 H	WETA/24693		
10321532007	MW-10	SM 4500-NO3 H	WETA/24693		
10321532008	DUP	SM 4500-NO3 H	WETA/24693		
10321532009	MW-16A	SM 4500-NO3 H	WETA/24693		
10321532010	MW-16B	SM 4500-NO3 H	WETA/24693		
10321532011	MW-17	SM 4500-NO3 H	WETA/24693		
10321532012	MW-18	SM 4500-NO3 H	WETA/24693		
10321532013	MW-19	SM 4500-NO3 H	WETA/24694		
10321532014	MW-20	SM 4500-NO3 H	WETA/24694		
10321532015	MW-21	SM 4500-NO3 H	WETA/24694		
10321532016	MW-22	SM 4500-NO3 H	WETA/24694		
10321532017	USGS-1A	SM 4500-NO3 H	WETA/24694		
10321532018	USGS-2A	SM 4500-NO3 H	WETA/24694		
10321532019	USGS-3A	SM 4500-NO3 H	WETA/24694		
10321532020	USGS-4A	SM 4500-NO3 H	WETA/24694		
10321532021	SCL DW	SM 4500-NO3 H	WETA/24694		
10321532022	Field Blank	SM 4500-NO3 H	WETA/24694		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60316885 South Cass Lake
Pace Project No.: 10321532

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10321532001	MW-1	ASTM D516	WETA/24673		
10321532002	MW-4	ASTM D516	WETA/24673		
10321532003	MW-6	ASTM D516	WETA/24673		
10321532004	MW-7	ASTM D516	WETA/24673		
10321532005	MW-8	ASTM D516	WETA/24673		
10321532006	MW-9	ASTM D516	WETA/24673		
10321532007	MW-10	ASTM D516	WETA/24673		
10321532008	DUP	ASTM D516	WETA/24673		
10321532009	MW-16A	ASTM D516	WETA/24673		
10321532010	MW-16B	ASTM D516	WETA/24673		
10321532011	MW-17	ASTM D516	WETA/24673		
10321532012	MW-18	ASTM D516	WETA/24673		
10321532013	MW-19	ASTM D516	WETA/24673		
10321532014	MW-20	ASTM D516	WETA/24673		
10321532015	MW-21	ASTM D516	WETA/24673		
10321532016	MW-22	ASTM D516	WETA/24673		
10321532017	USGS-1A	ASTM D516	WETA/24673		
10321532018	USGS-2A	ASTM D516	WETA/24673		
10321532019	USGS-3A	ASTM D516	WETA/24673		
10321532020	USGS-4A	ASTM D516	WETA/24673		
10321532021	SCL DW	ASTM D516	WETA/24674		
10321532022	Field Blank	ASTM D516	WETA/24674		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..



CHAIN-OF-CUSTODY / Analytical Request Document

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

Bm 9/10/15

RUSH

Page: 1 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		REGULATORY AGENCY		
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beaster		NPDES GROUND WATER DRINKING WATER		
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy		UST RCRA OTHER		
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St. Ste 3000 Houston, TX 77002		Site Location		
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass Lake		Pace Quote Reference: Carol Davy		STATE: MN		
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60316885		Pace Project Manager: 32482				

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analysis Test Y/N	Requested Analysis Filtered (Y/N)					Residual Chlorine (Y/N)	Pace Project No. / Lab I.D.
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	BTEX	Extended Range DRO		Sulfate	Nitrate + Nitrite	Methane				
					DATE	TIME	DATE	TIME																				
1	MW-1	WT	G		9/8/15	1536			10	4	1	5										3	2	1	1	3	901	
2	MW-4	WT	G		9/8/15	1643			10	4	1	5										3	2	1	1	3	902	
3	MW-6	WT	G		9/8/15	1253			10	4	1	5										3	2	1	1	3	903	
4	MW-7	WT	G		9/8/15	1326			10	4	1	5										3	2	1	1	3	904	
5	MW-8	WT	G		9/8/15	1452			10	4	1	5										3	2	1	1	3	905	
6	MW-9	WT	G		9/8/15	1405			10	4	1	5										3	2	1	1	3	906	
7	MW-10	WT	G		9/8/15	1721			10	4	1	5										3	2	1	1	3	907	
8	DUP	WT	G		9/8/15	1728			10	4	1	5										3	2	1	1	3	908	
9	MW-16A	WT	G		9/9/15	0940			10	4	1	5										3	2	1	1	3	909	
10	MW-16B	WT	G		9/9/15	0900			10	4	1	5										3	2	1	1	3	910	
11	MW-17	WT	G		9/8/15	1715			10	4	1	5										3	2	1	1	3	911	
12	MW-18	WT	G		9/8/15	1610			10	4	1	5										3	2	1	1	3	912	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Please send Chroms with GRO or DRO hits	Beth Bernhardt - AECOM	9/9/15	1720	B/L The Pace	9/10/15	950	Y N Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Beth Bernhardt					
SIGNATURE of SAMPLER: <i>Beth Bernhardt</i>	DATE Signed (MM/DD/YY): 9/9/15				

*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.

Page 56 of 81



CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:		REGULATORY AGENCY		
Company: AECOM	Address: 11 East Superior Street, Suite 260 Duluth, MN 55802	Report To: Darin Albrecht	Copy To:	Attention: Karl Beater	Company Name: Enbridge Energy	NPDES	GROUND WATER	DRINKING WATER
Email To: darin.albrecht@aecom.com	Phone: (218) 625-8768 Fax: (218) 625-2201	Purchase Order No.:	Project Name: South Cass lake	Pace Quote Reference: Houston, TX 77002	Address: 1100 Louisiana St Suite 3000	UST	RCRA	OTHER
Requested Due Date/TAT: 5 Day Enbridge Standard	Project Number: 60316885			Pace Project Manager: Carol Davy	Pace Profile #: 32482	Site Location	MN	
						STATE:		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	MATRIX TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.			
				COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol		Other	BTEX	Extended Range DRO	Sulfate	Nitrate + Nitrite	Methane									
				DATE	TIME	DATE	TIME																									
1	MW-19	WT	G	9/8/15	1440			10	4	1		5																03				
2	MW-20	WT	G	9/8/15	1255			10	4	1		5																04				
3	MW-21	WT	G	9/8/15	1355			10	4	1		5																05				
4	MW-22	WT	G	9/8/15	1540			10	4	1		5																06				
5	USGS-1A	WT	G	9/9/15	1851			10	4	1		5																07				
6	USGS-2A	WT	G	9/9/15	0929			10	4	1		5																08				
7	USGS-3A	WT	G	9/9/15	1006			10	4	1		5																09				
8	USGS-4A	WT	G	9/9/15	1015			10	4	1		5																020				
9	SCL DW	DW	G	9/8/15	1557			10	4	1		5																021				
10	Field Blank	WT	G	9/8/15	1544			10	4	1		5																022				
11	Trip Blank	OT	-	-	-			4				4																023				
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
Please send Chroms with GRO or DRO hits	Beth Bernhardt - AECOM	9/9/15	1720	Bl. Wm. Pica	9/10/15	950	4	N	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Beth Bernhardt	SIGNATURE of SAMPLER: <i>Beth Bernhardt</i>				

Page 57 of 81

*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.

Sample Condition Upon Receipt

Client Name: AFCOM Project #: **WO#: 10321532**



Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____
 Tracking Number: See exception

Custody Seal on Cooler/Box Present? Yes No Seals Intact? Yes No
 Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No
 Thermometer Used: B88A9130516413 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun
 Cooler Temp Read (°C): _____ Cooler Temp Corrected (°C): See exception Biological Tissue Frozen? Yes No N/A
 Temp should be above freezing to 6°C Correction Factor: _____ Date and Initials of Person Examining Contents: BM 9/10/15
 USDA Regulated Soil (N/A, water sample)
 Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No
If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>01-22</u>
(HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, <u>DOC</u> 8015 (water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14. <u>One Empty vial for sample 004</u>
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>070615-3B2A</u>	

CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No
 Person Contacted: _____ Date/Time: _____
 Comments/Resolution: _____

Project Manager Review: DRD Date: 9-11-15

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).

Workorder #: 10321532

Issue	Sample ID	Container Type/#
6413 7221 8229	0.4°c	
" " 8218	1.8°c	
" " 8240	5.2°c	
" " 8230	3.8°c	
" " 8207	0.3°c	
" " 8251	1.3°c	

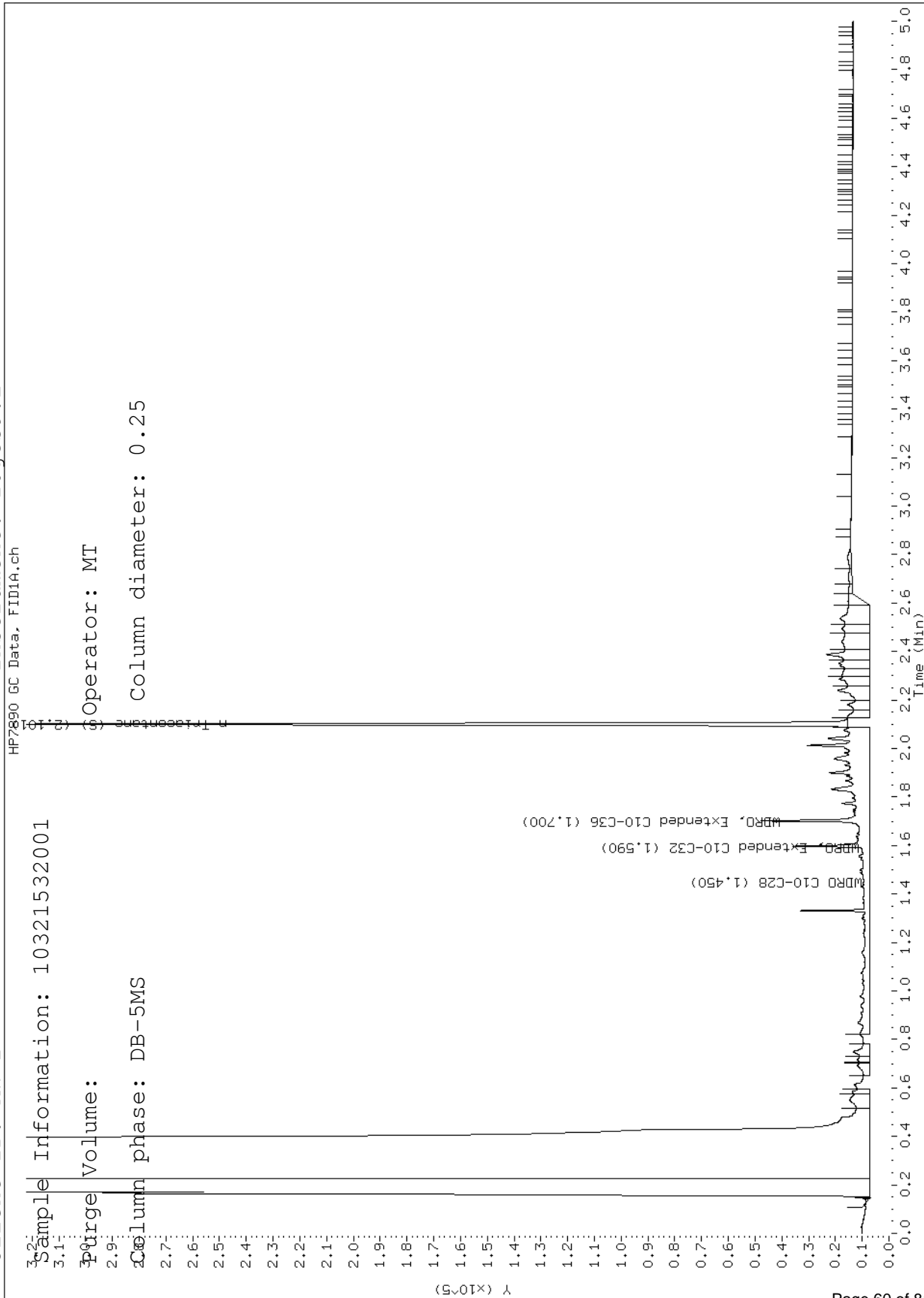
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000060.D

Report Date: 09/18/2015

Sample ID: 10321532001

Client ID: MW-1

Instrument: 10gcs9.i



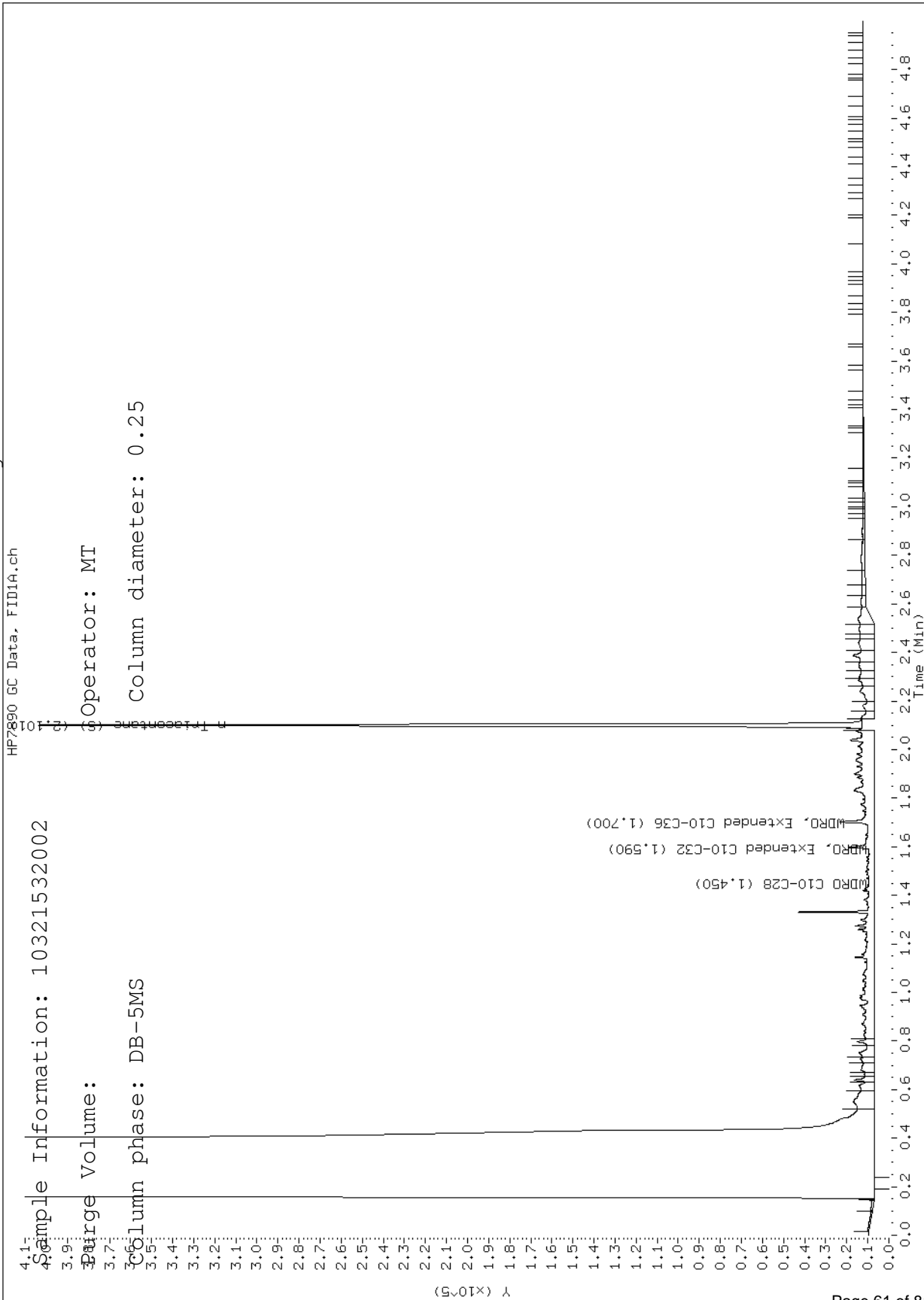
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000068.D

Report Date: 09/18/2015

Sample ID: 10321532002

Client ID: MW-4

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000069.D

Report Date: 09/18/2015

Sample ID: 10321532003

Client ID: MW-6

Instrument: 10gcs9.i

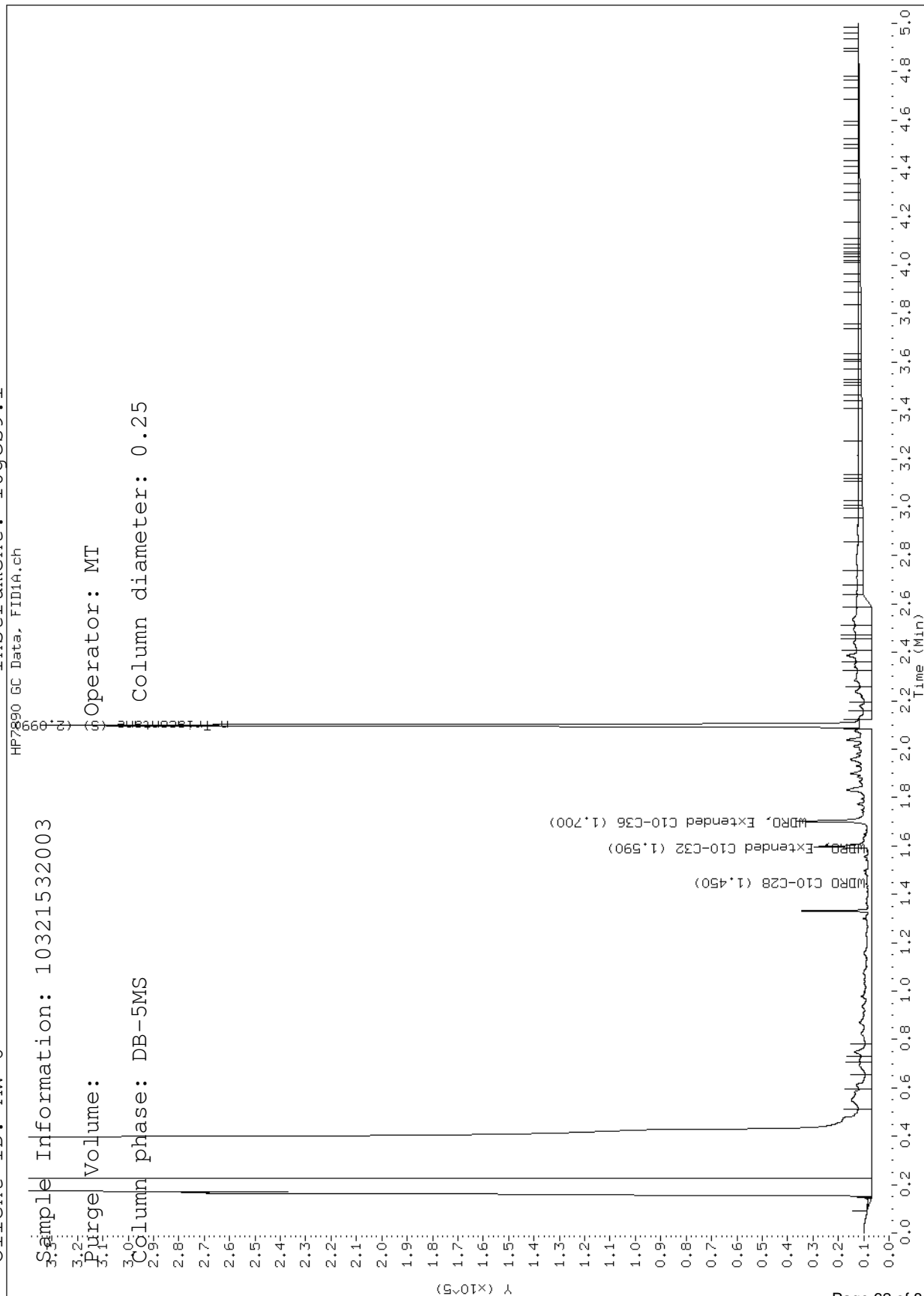
Sample Information: 10321532003

Purge Volume: 3.2

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



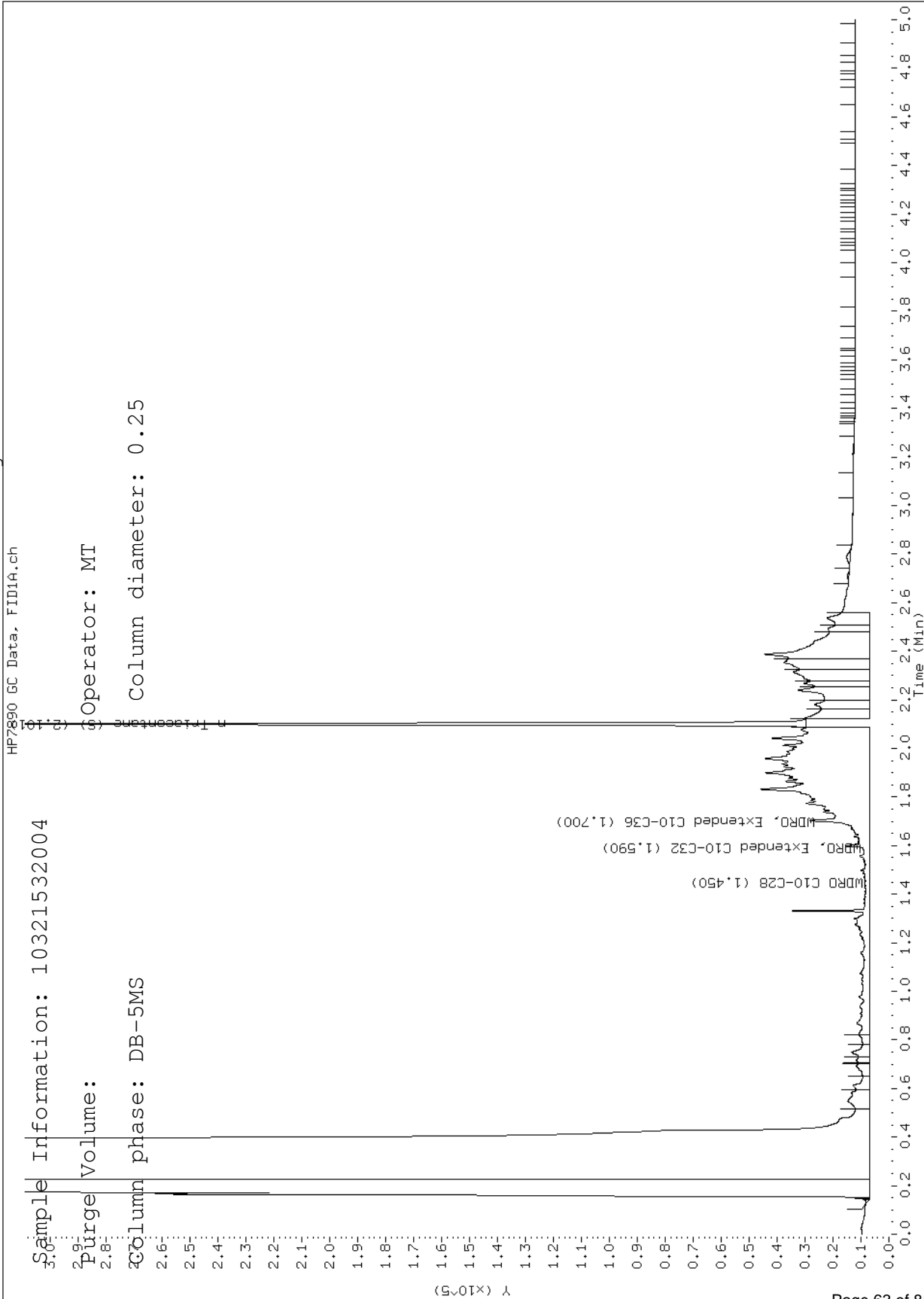
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000070.D

Report Date: 09/18/2015

Sample ID: 10321532004

Client ID: MW-7

Instrument: 10gcs9.i



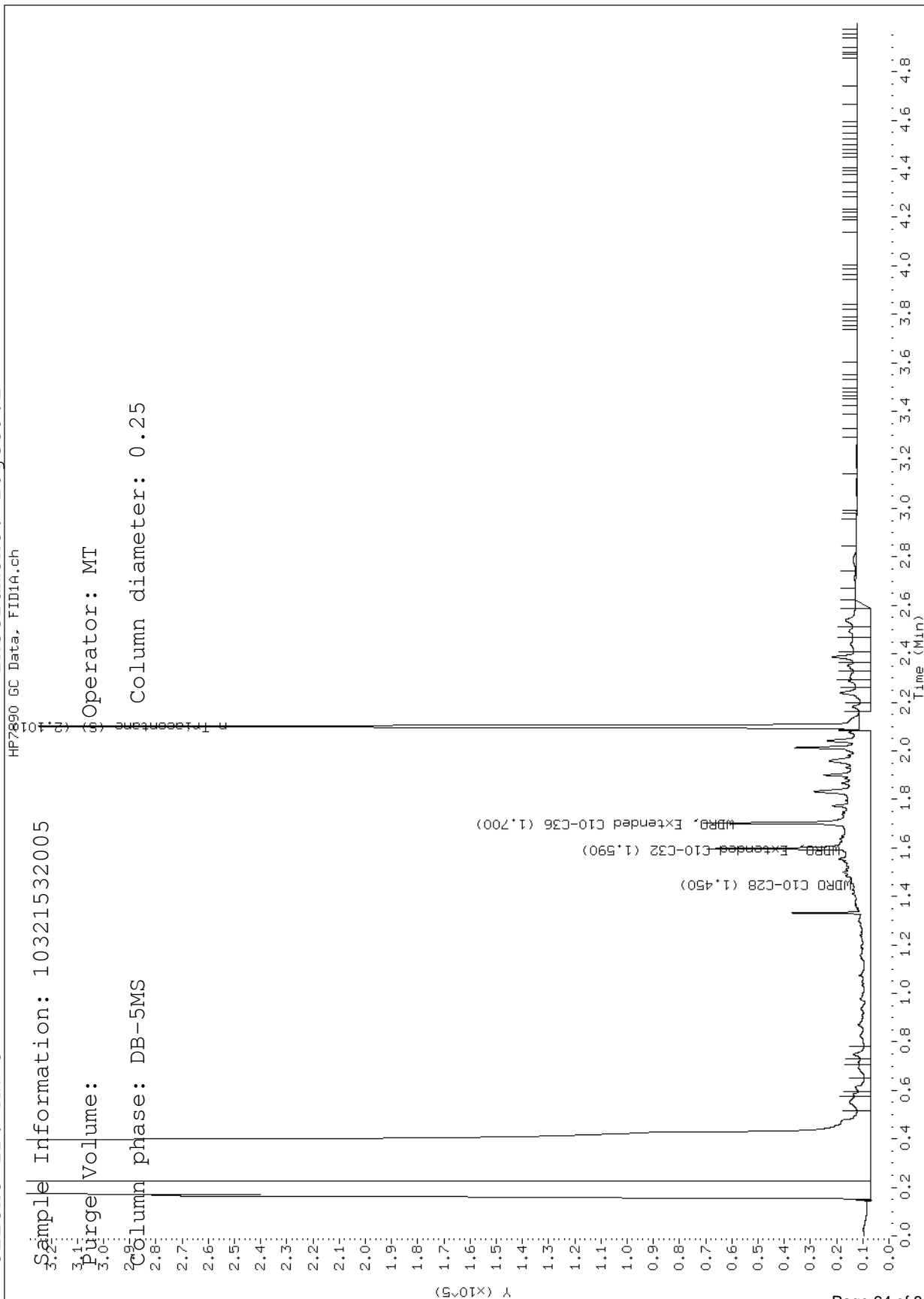
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000071.D

Report Date: 09/18/2015

Sample ID: 10321532005

Client ID: MW-8

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000076.D

Report Date: 09/18/2015

Sample ID: 10321532006

Client ID: MW-9

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

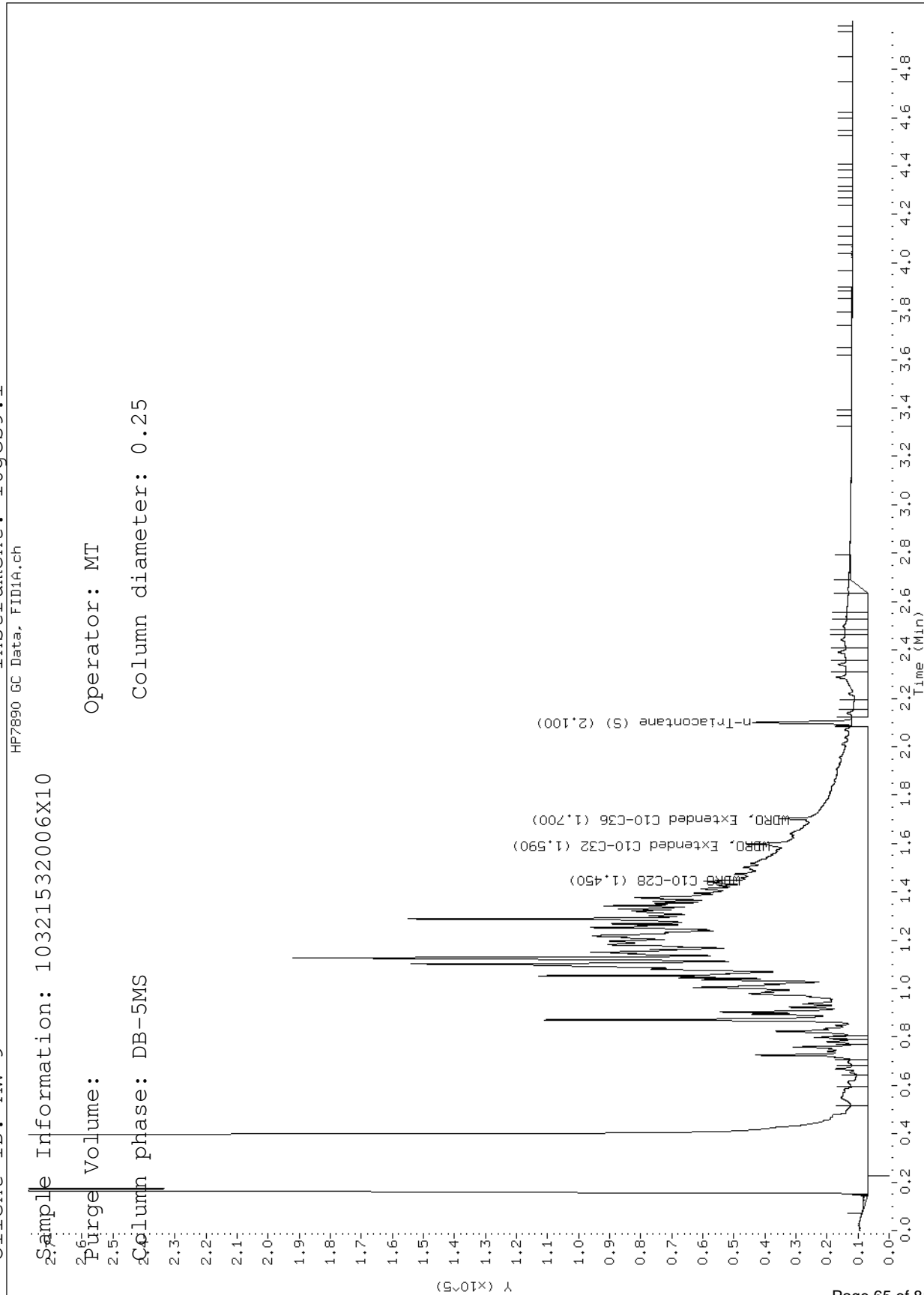
Sample Information: 10321532006X10

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000077.D

Report Date: 09/18/2015

Sample ID: 10321532007

Client ID: MW-10

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

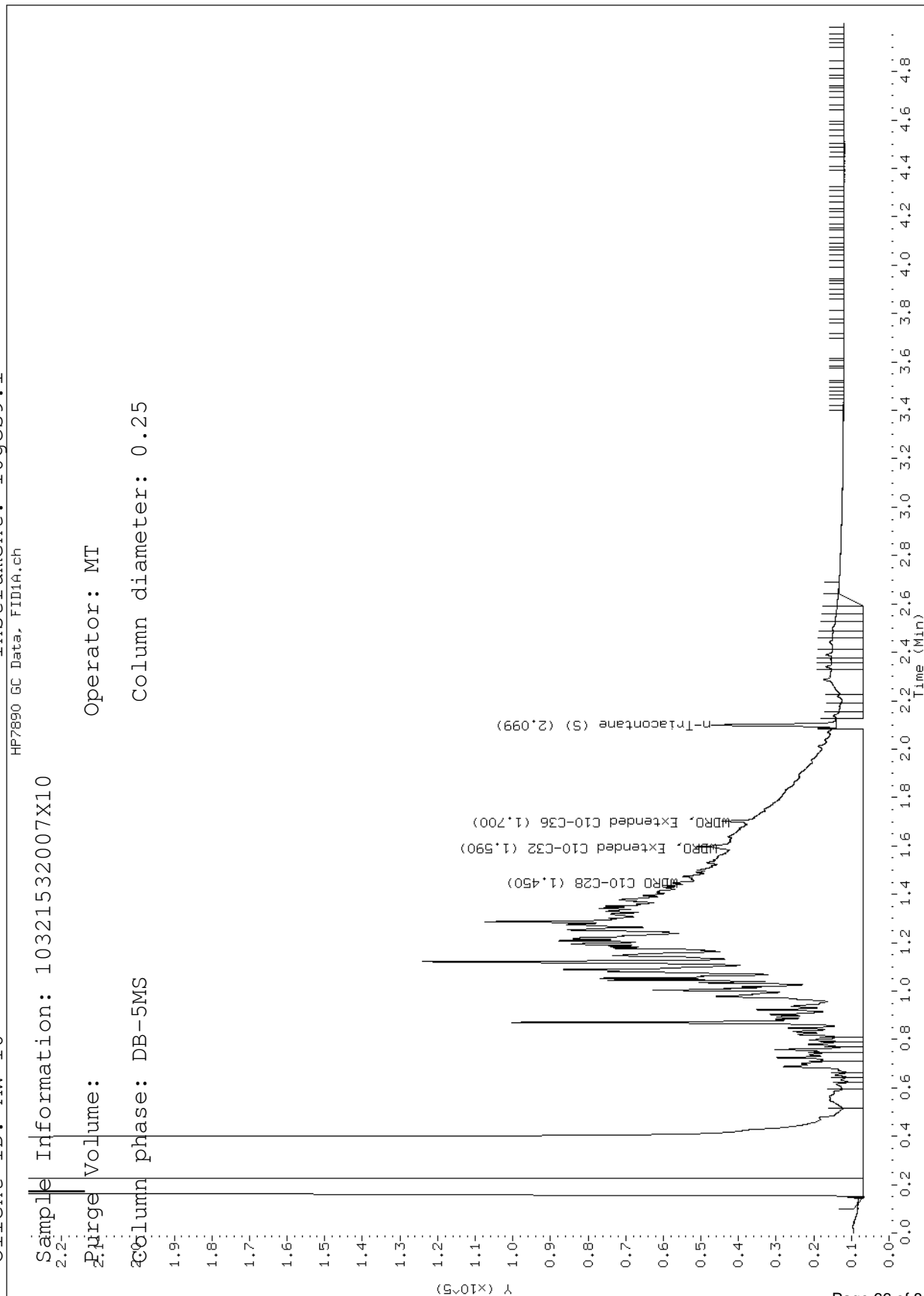
Sample Information: 10321532007X10

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000055.D

Report Date: 09/18/2015

Sample ID: 10321532008

Client ID: DUP

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

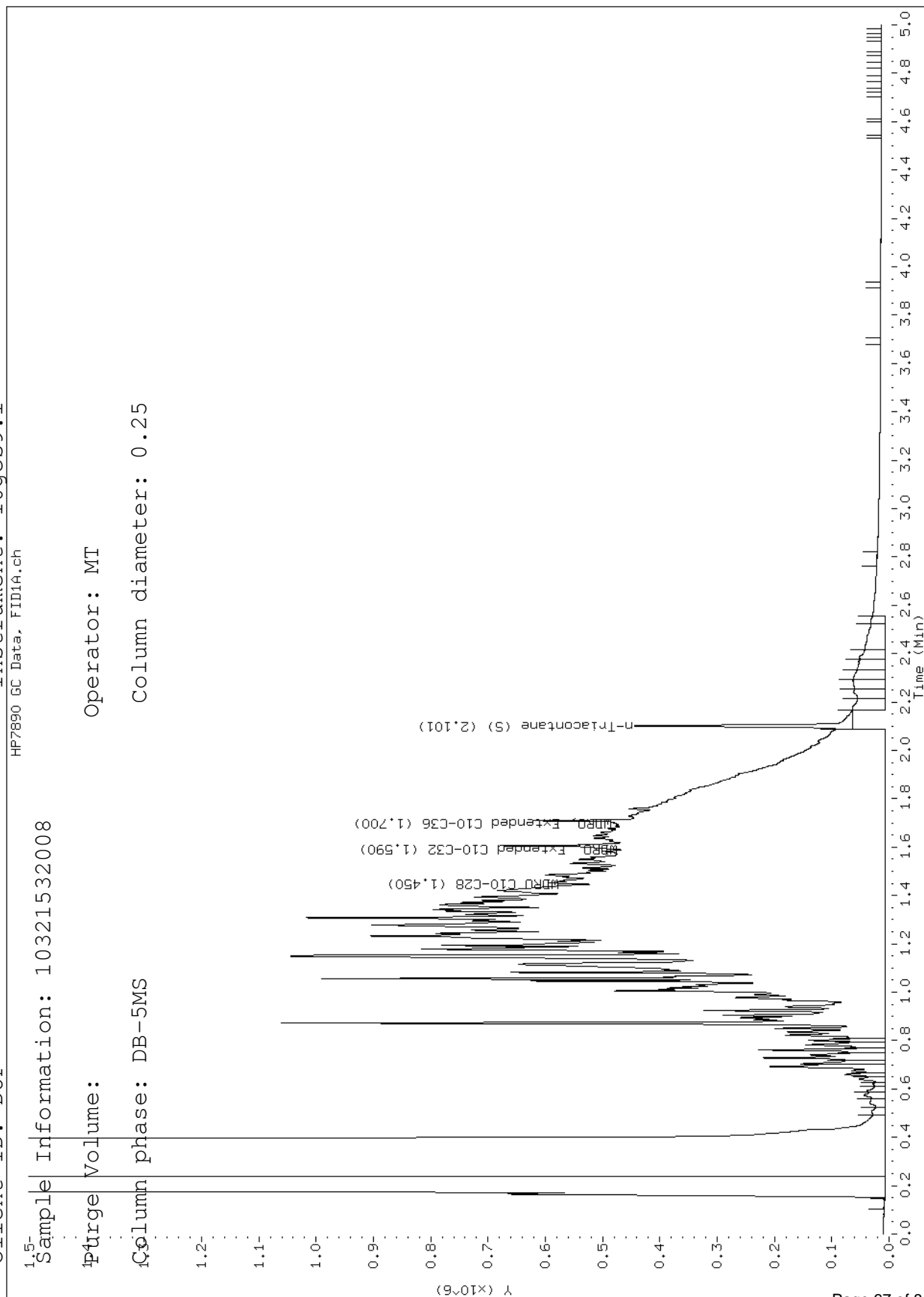
Sample Information: 10321532008

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000056.D

Report Date: 09/18/2015

Sample ID: 10321532009

Client ID: MW-16A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

Sample Information: 10321532009

Purge Volume: 5.0

Operator: MT

Column phase: DB-5MS

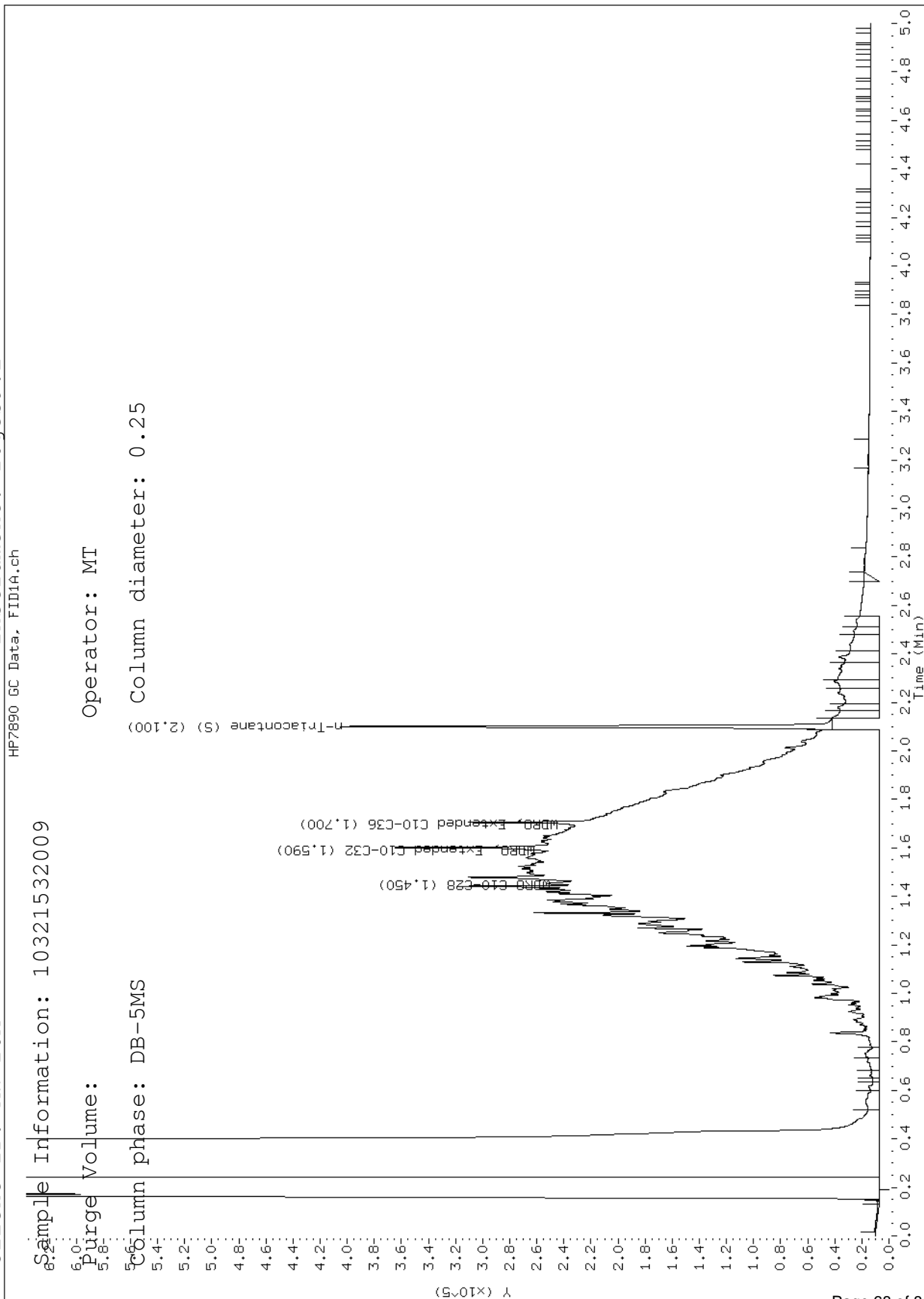
Column diameter: 0.25

n-Triacontane (S) (2.100)

MPRO_Extended C10-C32 (1.590)

MPRO_Extended C10-C36 (1.700)

MPRO_C10-C28 (1.450)



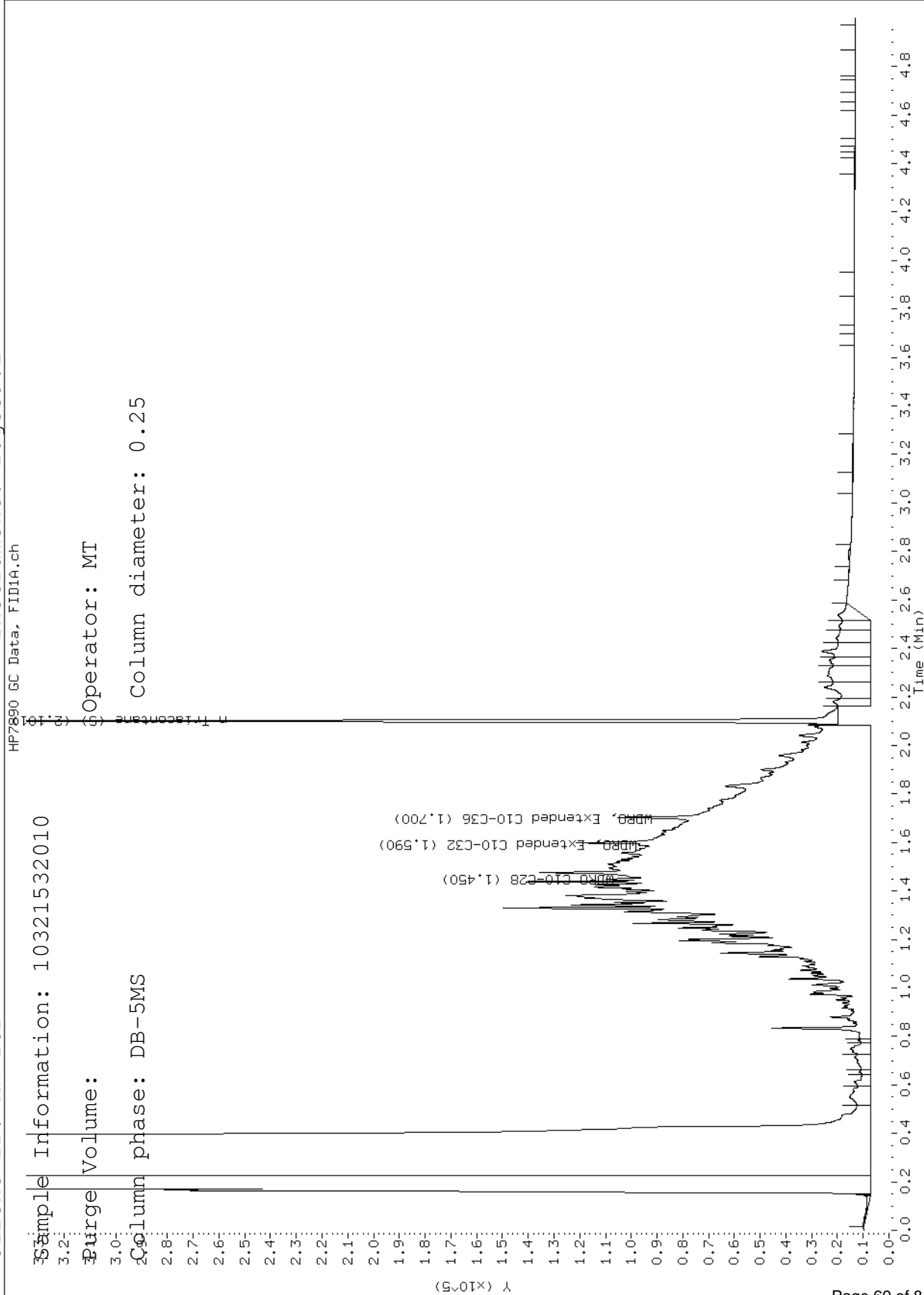
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000062.D

Report Date: 09/18/2015

Sample ID: 10321532010

Client ID: MW-16B

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000063.D

Report Date: 09/18/2015

Sample ID: 10321532011

Client ID: MW-17

Instrument: 10gcs9.i

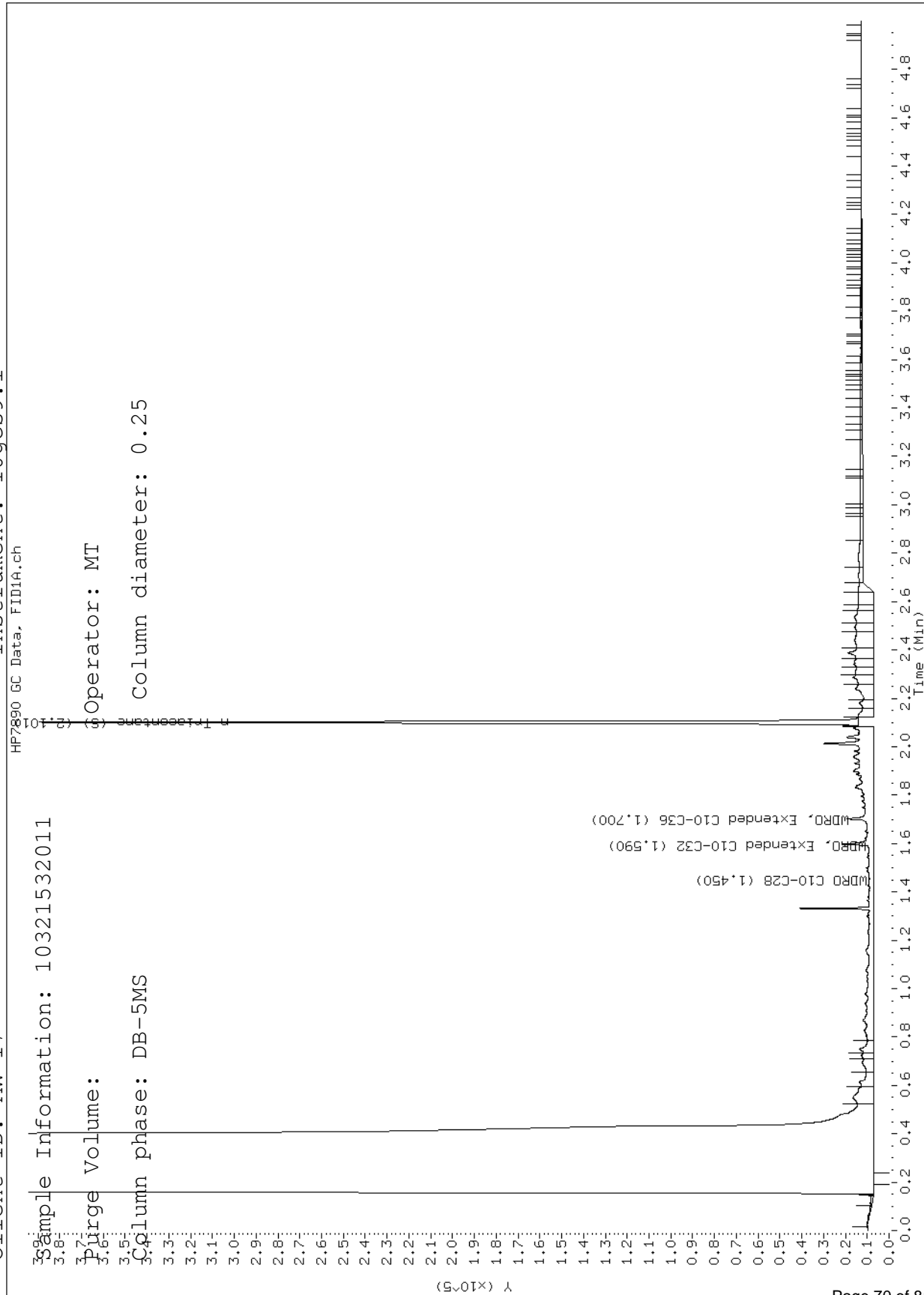
Sample Information: 10321532011

Purge Volume: 3.6

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000064.D

Report Date: 09/18/2015

Sample ID: 10321532012

Client ID: MW-18

Instrument: 10gcs9.i

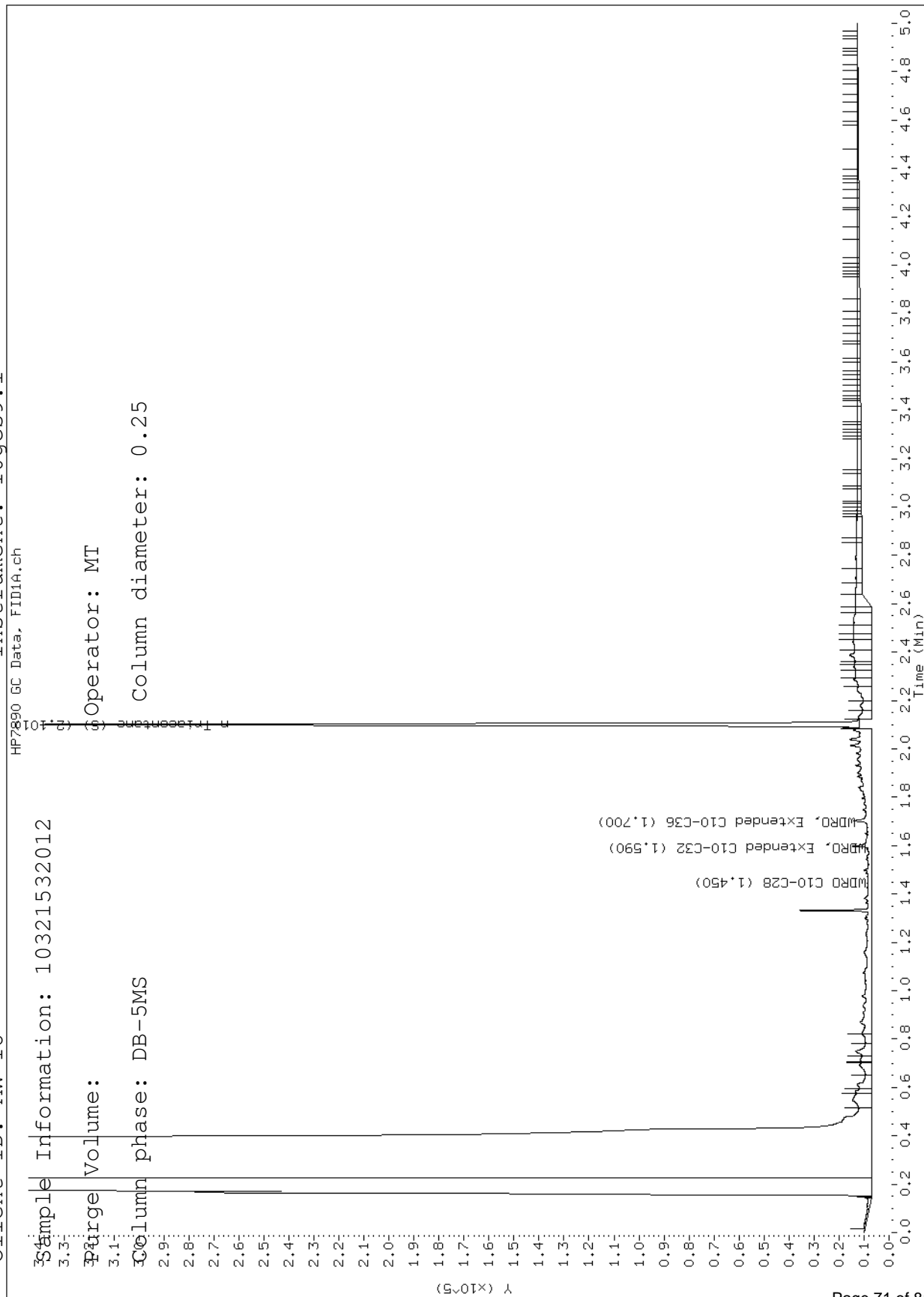
Sample Information: 10321532012

Purge Volume: 3.3

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



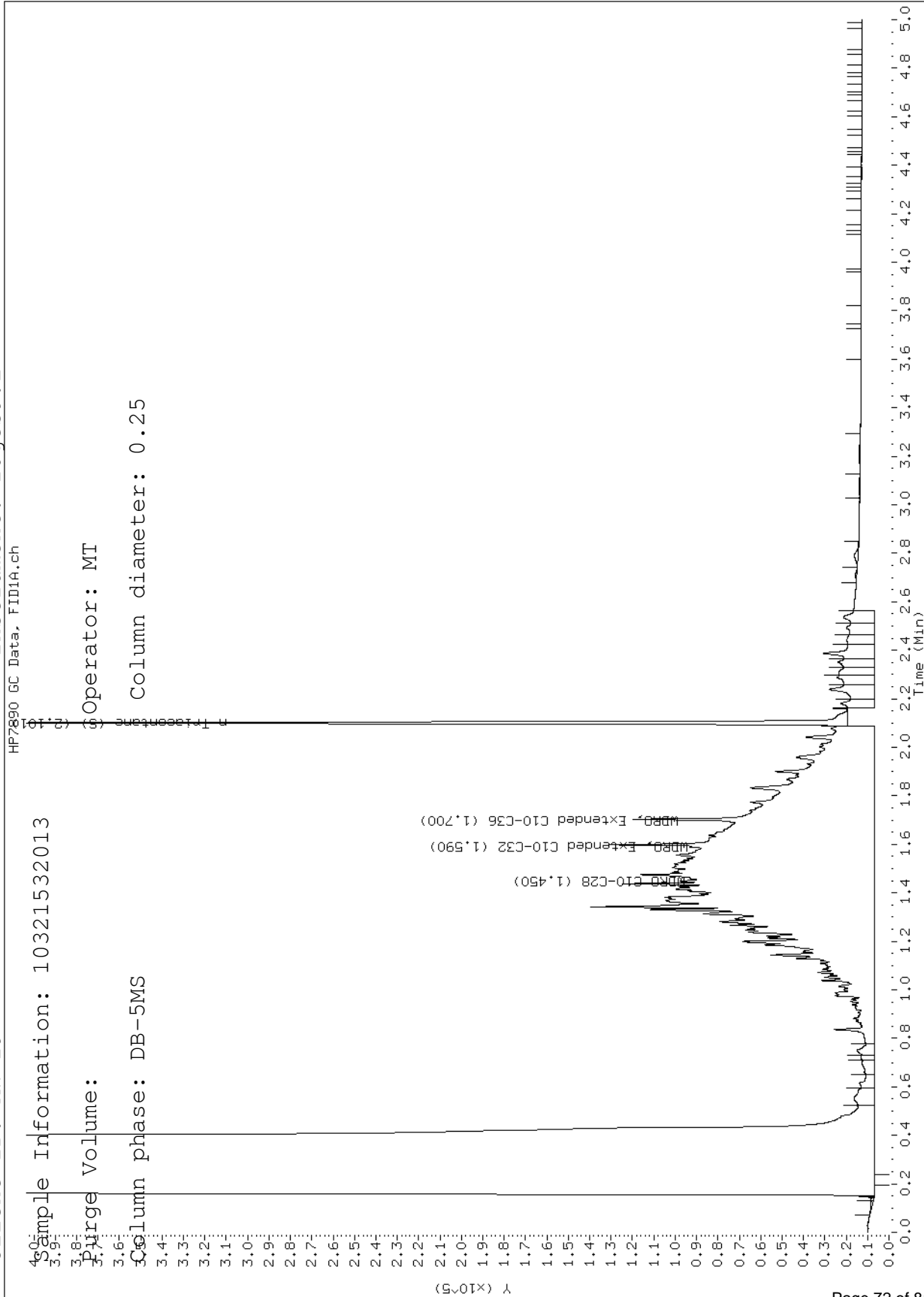
Sample Information: 10321532013

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000066.D

Report Date: 09/18/2015

Sample ID: 10321532014

Client ID: MW-20

Instrument: 10gcs9.i

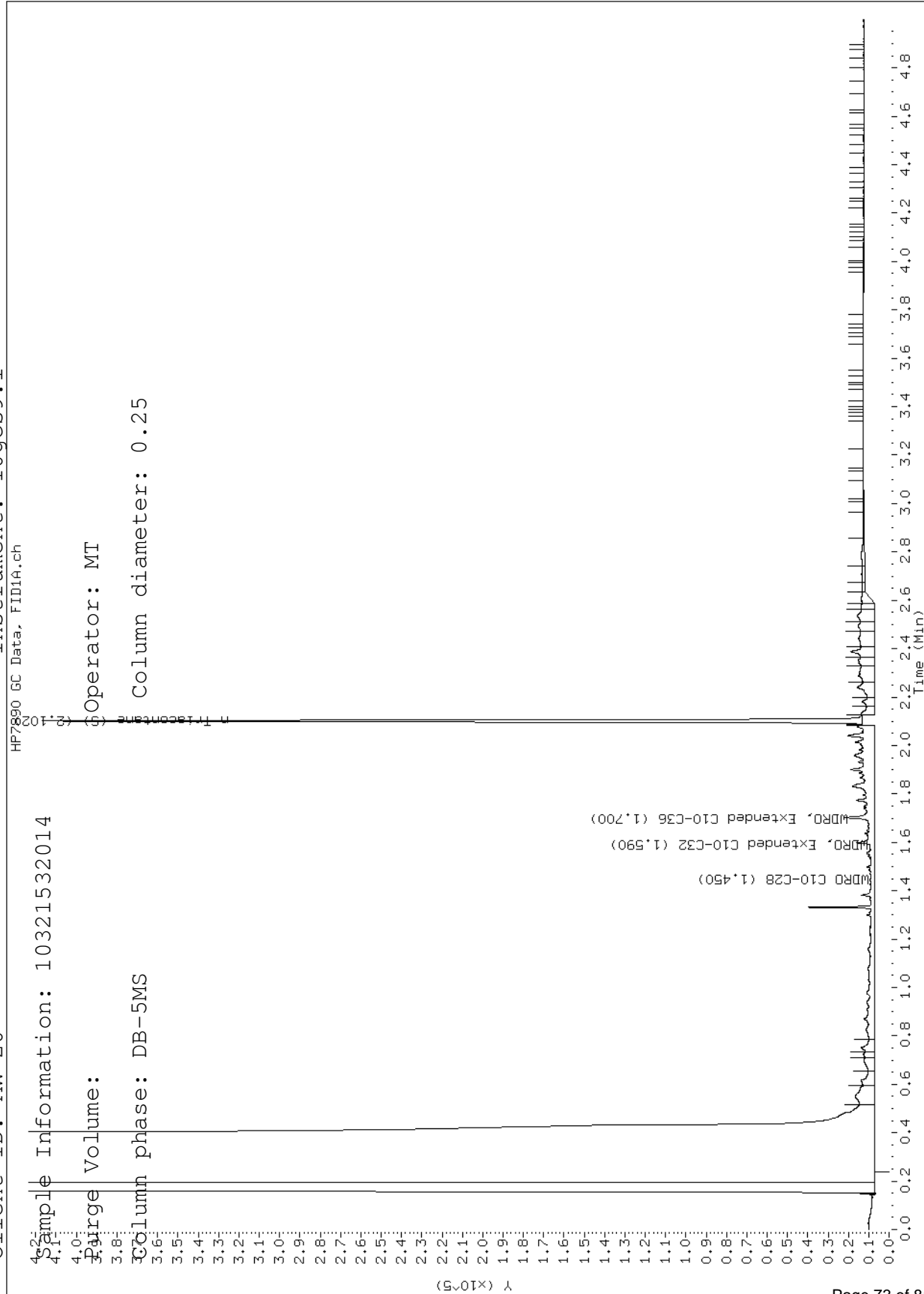
Sample Information: 10321532014

Purge Volume: 3.8

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



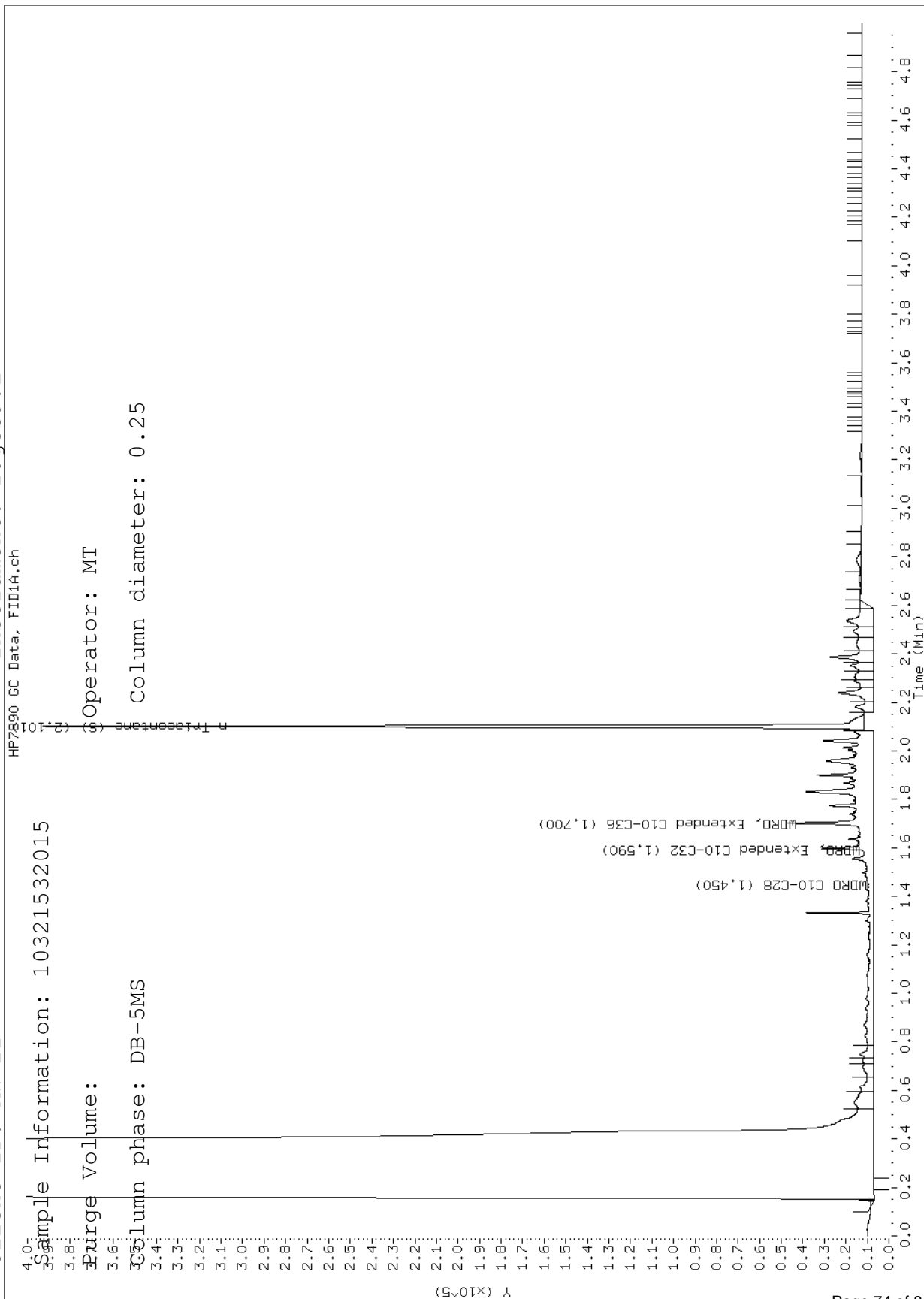
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000067.D

Report Date: 09/18/2015

Sample ID: 10321532015

Client ID: MW-21

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000061.D

Report Date: 09/18/2015

Sample ID: 10321532016

Client ID: MW-22

Instrument: 10gcs9.i

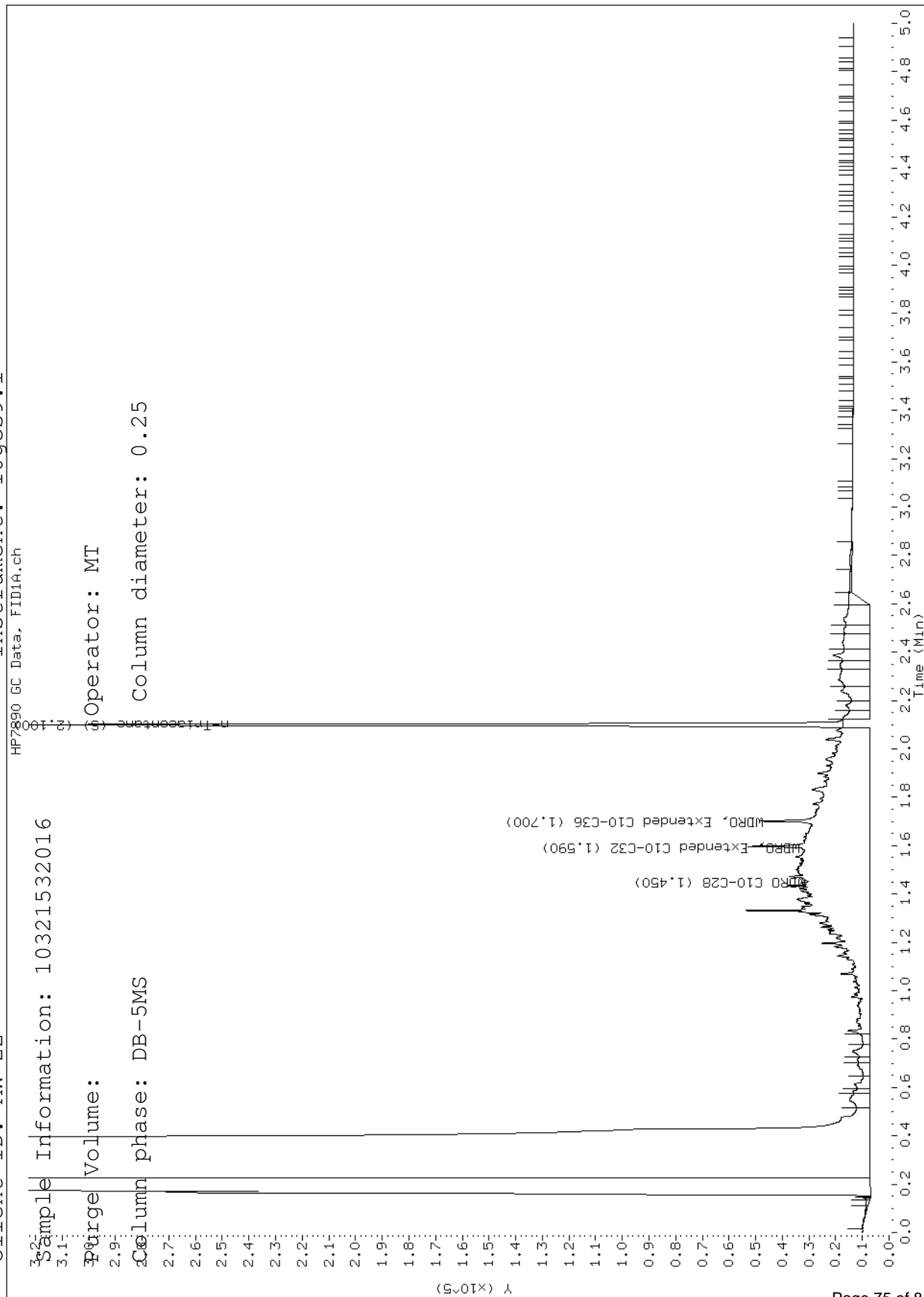
Sample Information: 10321532016

Purge Volume: 2.9

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000075.D

Report Date: 09/18/2015

Sample ID: 10321532017

Client ID: USGS-1A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

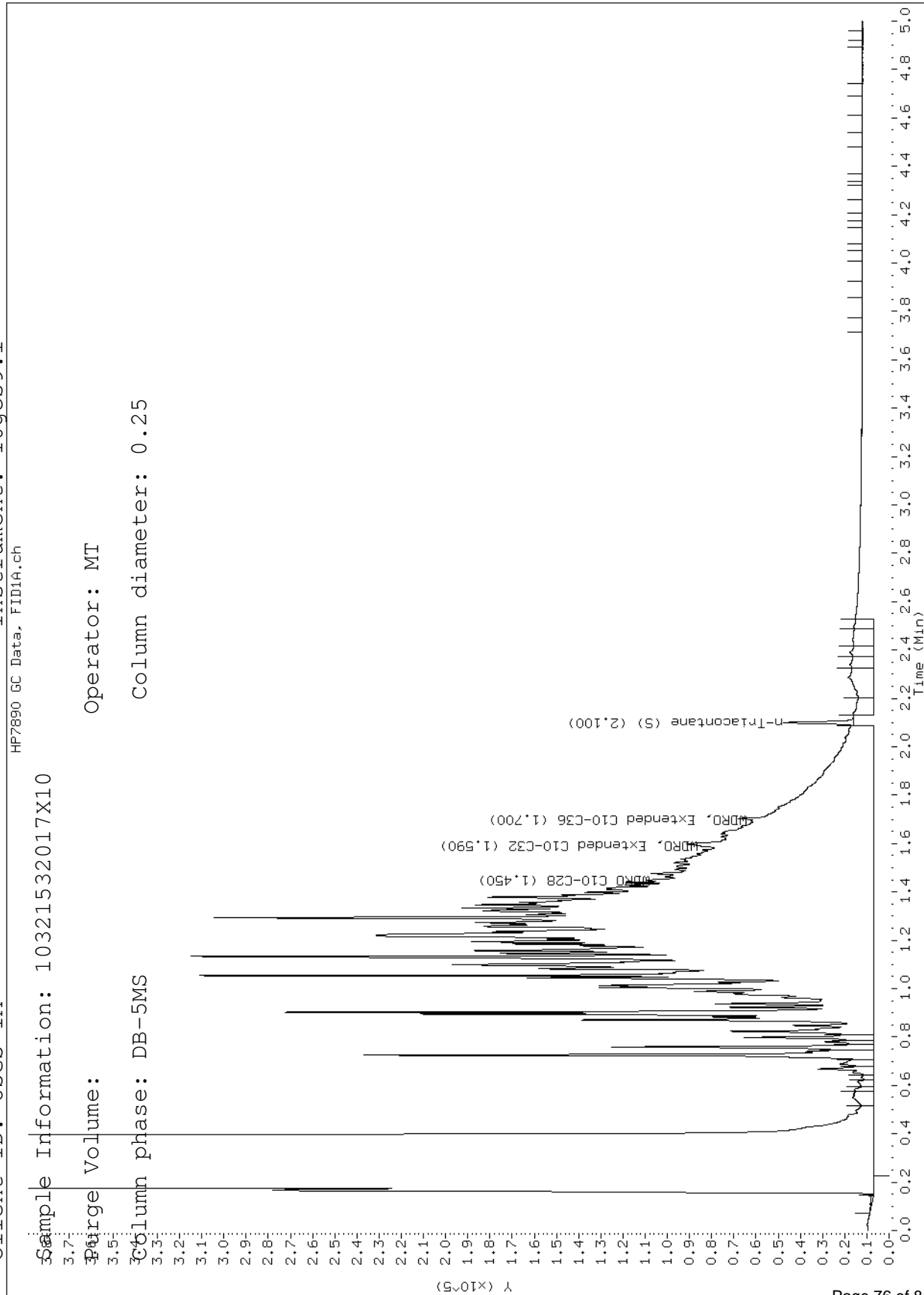
Sample Information: 10321532017X10

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000057.D

Report Date: 09/18/2015

Sample ID: 10321532018

Client ID: USGS-2A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

Sample Information: 10321532018

Purge Volume:

Operator: MT

0.9-

Column phase: DB-5MS

Column diameter: 0.25

0.8-

0.7-

0.6-

0.5-

0.4-

0.3-

0.2-

0.1-

0.0-

0.0

0.2

0.4

0.6

0.8

1.0

1.2

1.4

1.6

1.8

2.0

2.2

2.4

2.6

2.8

3.0

3.2

3.4

3.6

3.8

4.0

4.2

4.4

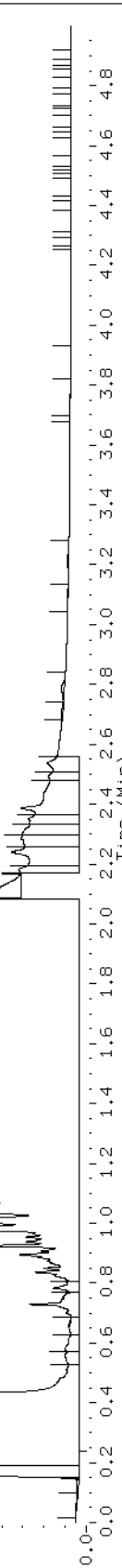
4.6

4.8

Y (x10⁻⁶)

Time (Min)

HRD C10-C28 (1.450)
HRD Extended C10-C32 (1.590)
HRD Extended C10-C36 (1.700)
n-Triacontane (S) (2.102)



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000058.D

Report Date: 09/18/2015

Sample ID: 10321532019

Client ID: USGS-3A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

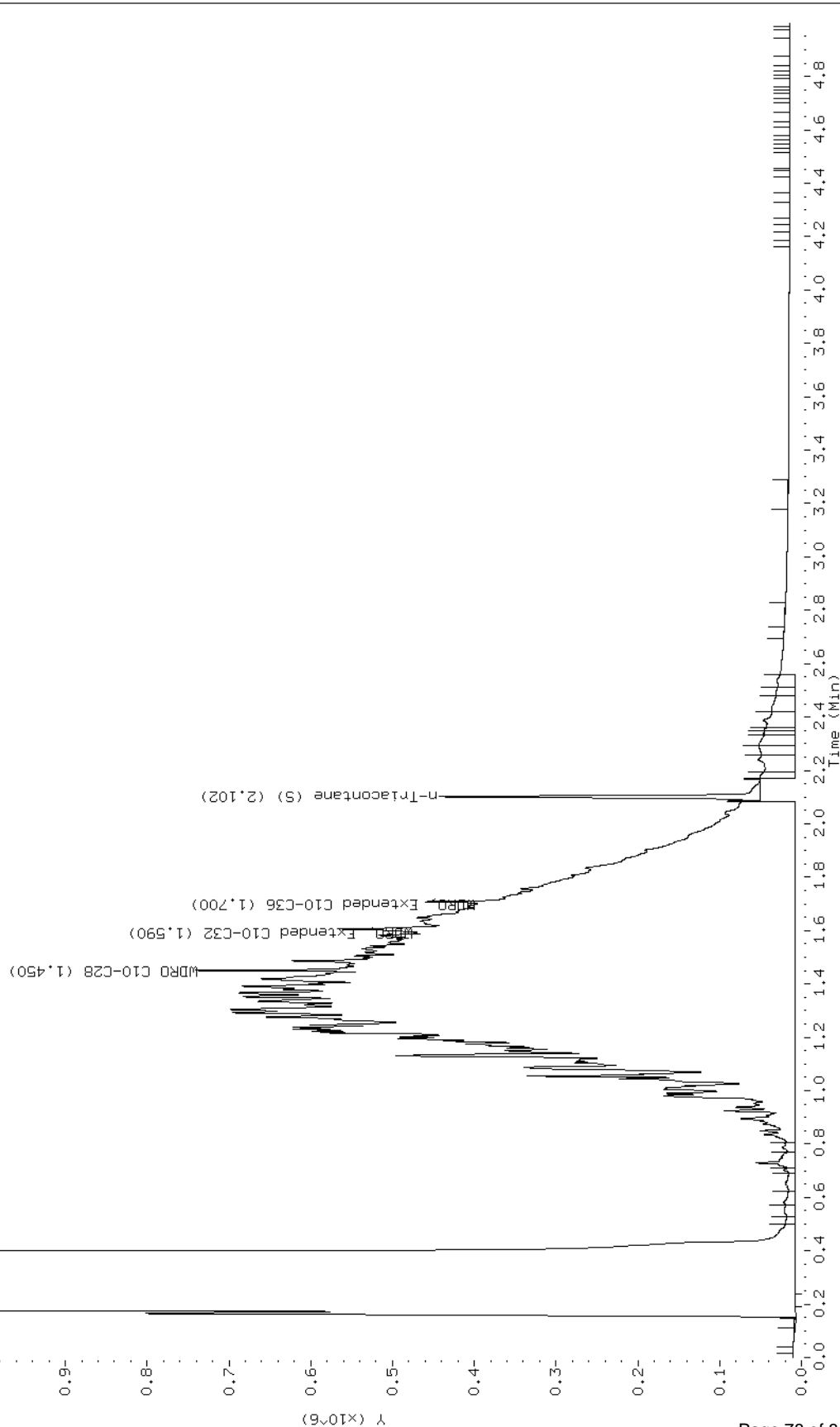
Sample Information: 10321532019

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



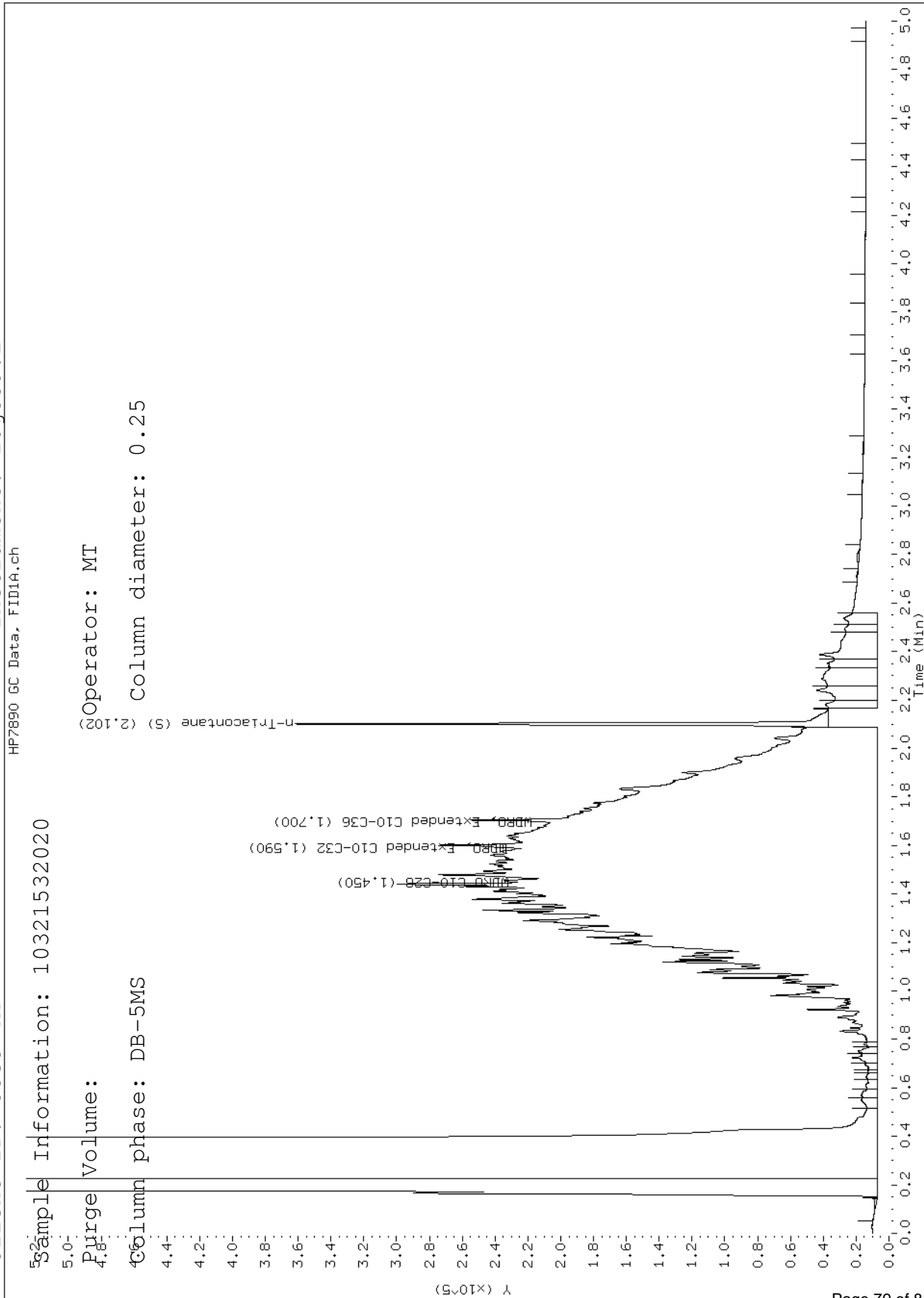
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000059.D

Report Date: 09/18/2015

Sample ID: 10321532020

Client ID: USGS-4A

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000081.D

Report Date: 09/18/2015

Sample ID: 10321532021

Client ID: SCL DW

Instrument: 10gcs9.i

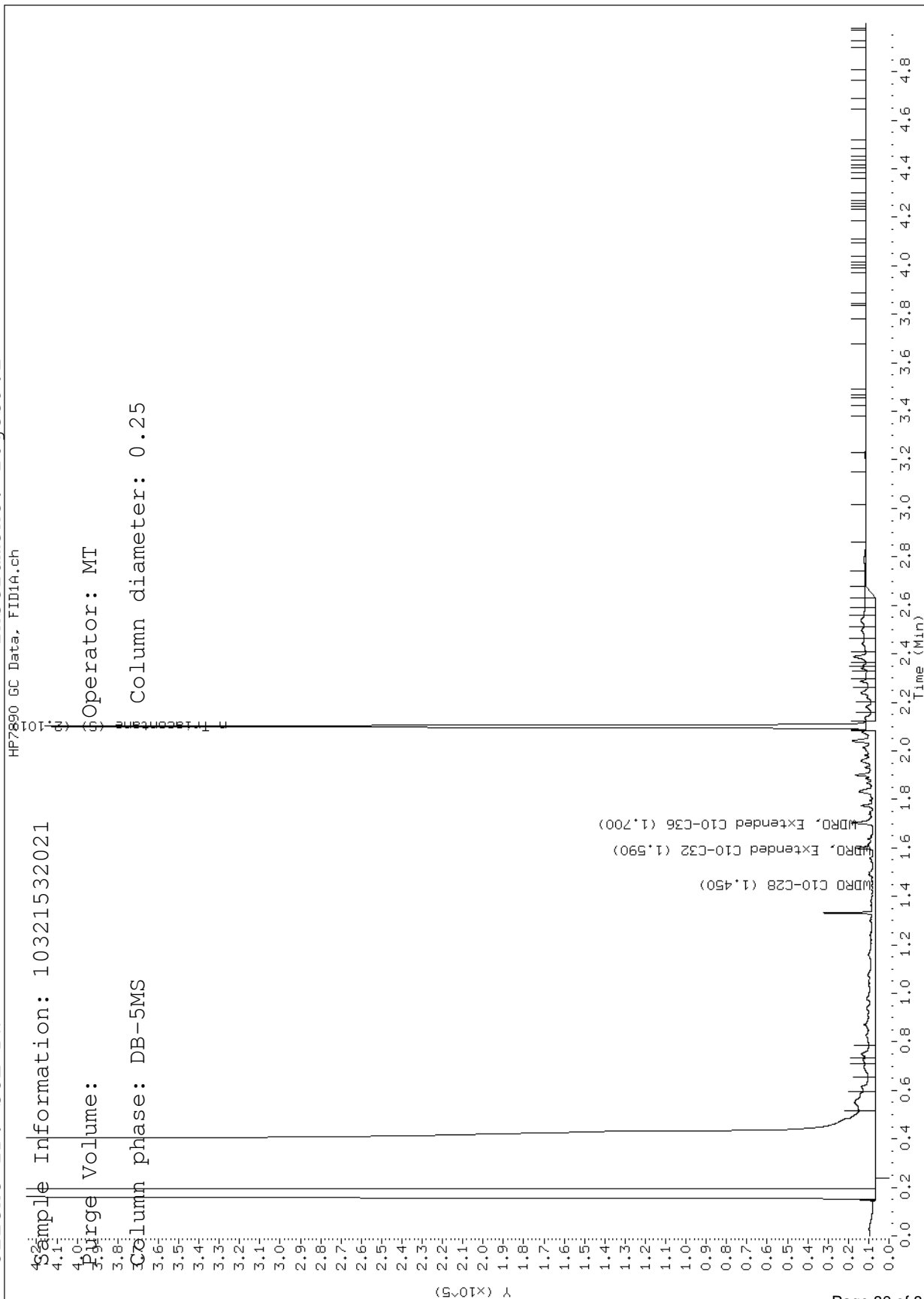
Sample Information: 10321532021

Injection Volume: 3.0

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



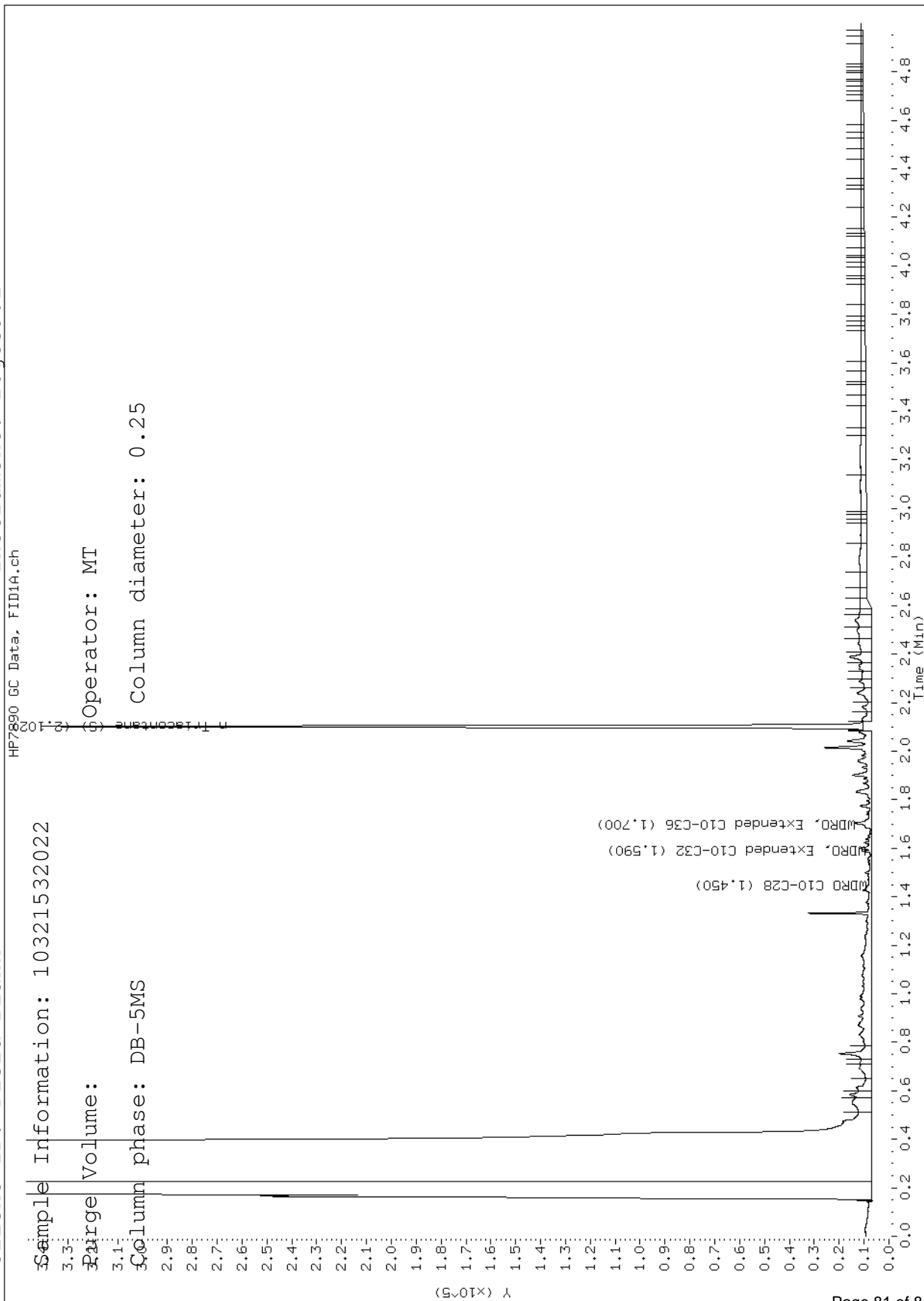
Data File: \\192.168.10.12\chem\10gcs9.i\091715dro.b\091715000082.D

Report Date: 09/18/2015

Sample ID: 10321532022

Client ID: Field Blank

Instrument: 10gcs9.i



December 17, 2015

Darin Albrecht
AECOM
Duluth Technology Village
11 E Superior St, Suite 260
Duluth, MN 55802

RE: Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Dear Darin Albrecht:

Enclosed are the analytical results for sample(s) received by the laboratory on December 10, 2015. 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.

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

Sincerely,



Carol Davy
carol.davy@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414

A2LA Certification #: 2926.01

Alaska Certification #: UST-078

Alaska Certification #MN00064

Alabama Certification #40770

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 #:14-008r

Georgia Certification #: 959

Georgia EPD #: Pace

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

Nevada Certification #: MN_00064

Nebraska Certification #: Pace

New Jersey Certification #: MN-002

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

Washington Certification #: C486

West Virginia Certification #: 382

West Virginia DHHR #:9952C

Wisconsin Certification #: 999407970

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE SUMMARY

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10332834001	MW-1	Water	12/08/15 13:40	12/10/15 09:50
10332834002	MW-4	Water	12/08/15 14:11	12/10/15 09:50
10332834003	MW-6	Water	12/08/15 16:27	12/10/15 09:50
10332834004	MW-7	Water	12/09/15 09:46	12/10/15 09:50
10332834005	MW-8	Water	12/09/15 10:56	12/10/15 09:50
10332834006	MW-9	Water	12/09/15 09:02	12/10/15 09:50
10332834007	MW-10	Water	12/09/15 16:45	12/10/15 09:50
10332834008	DUP	Water	12/09/15 00:00	12/10/15 09:50
10332834009	MW-16A	Water	12/09/15 12:00	12/10/15 09:50
10332834010	MW-16B	Water	12/09/15 14:45	12/10/15 09:50
10332834011	MW-17	Water	12/09/15 11:10	12/10/15 09:50
10332834012	MW-18	Water	12/09/15 15:45	12/10/15 09:50
10332834013	MW-19	Water	12/09/15 08:30	12/10/15 09:50
10332834014	MW-20	Water	12/09/15 10:20	12/10/15 09:50
10332834015	MW-21	Water	12/09/15 09:30	12/10/15 09:50
10332834016	MW-22	Water	12/08/15 16:05	12/10/15 09:50
10332834017	USGS-1A	Water	12/09/15 15:16	12/10/15 09:50
10332834018	USGS-2A	Water	12/09/15 11:42	12/10/15 09:50
10332834019	USGS-3A	Water	12/09/15 14:36	12/10/15 09:50
10332834020	USGS-4A	Water	12/09/15 13:50	12/10/15 09:50
10332834021	SCL DW	Water	12/08/15 14:10	12/10/15 09:50
10332834022	Field Blank	Water	12/08/15 00:00	12/10/15 09:50
10332834023	Trip Blank	Water	12/08/15 00:00	12/10/15 09:50

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10332834001	MW-1	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834002	MW-4	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834003	MW-6	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834004	MW-7	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834005	MW-8	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834006	MW-9	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834007	MW-10	RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
10332834008	DUP	RSK 175	DR1	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10332834009	MW-16A	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834010	MW-16B	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834011	MW-17	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834012	MW-18	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834013	MW-19	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834014	MW-20	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
10332834015	MW-21	EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
		ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Lab ID	Sample ID	Method	Analysts	Analytes Reported
10332834016	MW-22	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834017	USGS-1A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834018	USGS-2A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834019	USGS-3A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834020	USGS-4A	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	MT	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834021	SCL DW	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	JRH	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834022	Field Blank	ASTM D516	KEO	1
		RSK 175	DR1	1
		Diesel Range Organics	JRH	2
		EPA 8260B	PRD	7
		SM 4500-NO3 H	PH1	1
10332834023	Trip Blank	ASTM D516	KEO	1
		EPA 8260B	PRD	7

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10332834001	MW-1					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.76	mg/L	0.10	12/16/15 14:55	
10332834002	MW-4					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.5	mg/L	0.10	12/16/15 14:55	
ASTM D516	Sulfate	5.5	mg/L	2.5	12/15/15 09:02	
10332834003	MW-6					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.4	mg/L	0.10	12/16/15 14:56	
ASTM D516	Sulfate	4.9	mg/L	2.5	12/15/15 09:12	
10332834004	MW-7					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.21	mg/L	0.10	12/16/15 15:00	
ASTM D516	Sulfate	6.6	mg/L	2.5	12/15/15 09:15	
10332834005	MW-8					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.17	mg/L	0.10	12/16/15 15:01	
ASTM D516	Sulfate	7.2	mg/L	2.5	12/15/15 09:15	
10332834006	MW-9					
RSK 175	Methane	3650	ug/L	10.0	12/15/15 17:29	
Diesel Range Organics	WDRO, Extended C10-C32	7.3	mg/L	0.54	12/14/15 15:10	T7
EPA 8260B	Benzene	13.0	ug/L	1.0	12/13/15 22:28	
10332834007	MW-10					
RSK 175	Methane	4270	ug/L	10.0	12/15/15 17:37	
Diesel Range Organics	WDRO, Extended C10-C32	6.0	mg/L	0.11	12/14/15 12:37	T7
EPA 8260B	Benzene	12.4	ug/L	1.0	12/13/15 23:01	
EPA 8260B	Ethylbenzene	10.5	ug/L	1.0	12/13/15 23:01	
10332834008	DUP					
RSK 175	Methane	3100	ug/L	10.0	12/15/15 17:45	
Diesel Range Organics	WDRO, Extended C10-C32	6.6	mg/L	0.55	12/14/15 15:17	
EPA 8260B	Benzene	11.8	ug/L	1.0	12/13/15 23:17	
EPA 8260B	Ethylbenzene	9.6	ug/L	1.0	12/13/15 23:17	
10332834009	MW-16A					
RSK 175	Methane	151	ug/L	10.0	12/15/15 17:53	
Diesel Range Organics	WDRO, Extended C10-C32	1.9	mg/L	0.10	12/14/15 12:58	
10332834010	MW-16B					
RSK 175	Methane	29.4	ug/L	10.0	12/15/15 18:02	
Diesel Range Organics	WDRO, Extended C10-C32	0.68	mg/L	0.11	12/14/15 14:14	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	12/16/15 15:10	
ASTM D516	Sulfate	7.6	mg/L	2.5	12/15/15 09:20	
10332834011	MW-17					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	12/16/15 15:10	
ASTM D516	Sulfate	8.6	mg/L	2.5	12/15/15 09:20	
10332834012	MW-18					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	3.5	mg/L	0.10	12/16/15 15:14	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

SUMMARY OF DETECTION

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
10332834012	MW-18					
ASTM D516	Sulfate	5.6	mg/L	2.5	12/15/15 09:20	
10332834013	MW-19					
Diesel Range Organics	WDRO, Extended C10-C32	0.54	mg/L	0.11	12/14/15 13:40	
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	0.11	mg/L	0.10	12/16/15 15:15	
ASTM D516	Sulfate	4.9	mg/L	2.5	12/15/15 09:35	
10332834014	MW-20					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.9	mg/L	0.10	12/16/15 15:16	
ASTM D516	Sulfate	6.9	mg/L	2.5	12/15/15 09:35	
10332834015	MW-21					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	2.1	mg/L	0.10	12/16/15 15:20	M1
ASTM D516	Sulfate	8.9	mg/L	2.5	12/15/15 09:35	
10332834016	MW-22					
Diesel Range Organics	WDRO, Extended C10-C32	0.34	mg/L	0.11	12/14/15 14:07	
ASTM D516	Sulfate	6.1	mg/L	2.5	12/15/15 09:38	
10332834017	USGS-1A					
RSK 175	Methane	7460	ug/L	10.0	12/15/15 19:15	
Diesel Range Organics	WDRO, Extended C10-C32	11.9	mg/L	1.1	12/14/15 15:24	T7
EPA 8260B	Benzene	247	ug/L	5.0	12/15/15 21:29	
10332834018	USGS-2A					
RSK 175	Methane	1920	ug/L	10.0	12/15/15 19:23	
Diesel Range Organics	WDRO, Extended C10-C32	4.0	mg/L	0.11	12/14/15 13:12	
EPA 8260B	Benzene	1.2	ug/L	1.0	12/15/15 17:08	
10332834019	USGS-3A					
RSK 175	Methane	515	ug/L	10.0	12/15/15 19:32	
Diesel Range Organics	WDRO, Extended C10-C32	2.2	mg/L	0.10	12/14/15 13:19	
10332834020	USGS-4A					
RSK 175	Methane	359	ug/L	10.0	12/15/15 19:40	
Diesel Range Organics	WDRO, Extended C10-C32	2.4	mg/L	0.11	12/14/15 13:26	
10332834021	SCL DW					
SM 4500-NO3 H	Nitrogen, NO2 plus NO3	1.2	mg/L	0.10	12/16/15 15:33	
ASTM D516	Sulfate	4.1	mg/L	2.5	12/15/15 09:38	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Method: RSK 175

Description: RSK 175 AIR Headspace

Client: AECOM

Date: December 17, 2015

General Information:

22 samples were analyzed for RSK 175. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Method: Diesel Range Organics

Description: WIDRO Extended GCS

Client: AECOM

Date: December 17, 2015

General Information:

22 samples were analyzed for Diesel Range Organics. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:

The samples were prepared in accordance with Diesel Range Organics with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: OEXT/31965

T7: Low boiling point hydrocarbons are present in the sample.

- MW-10 (Lab ID: 10332834007)
 - WDRO, Extended C10-C32
- MW-9 (Lab ID: 10332834006)
 - WDRO, Extended C10-C32
- USGS-1A (Lab ID: 10332834017)
 - WDRO, Extended C10-C32

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Method: EPA 8260B
Description: 8260B MSV UST
Client: AECOM
Date: December 17, 2015

General Information:

23 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:

All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Method: SM 4500-NO3 H

Description: SM4500NO3-H, NO2 + NO3 pres.

Client: AECOM

Date: December 17, 2015

General Information:

22 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/25870

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10332669015,10332834009

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2157951)
 - Nitrogen, NO2 plus NO3
- MS (Lab ID: 2157953)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 2157952)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 2157954)
 - Nitrogen, NO2 plus NO3

QC Batch: WETA/25871

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10332479002,10332834015

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2157973)
 - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 2157974)
 - Nitrogen, NO2 plus NO3

Additional Comments:

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

PROJECT NARRATIVE

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Method: ASTM D516

Description: ASTM D516 Sulfate Water

Client: AECOM

Date: December 17, 2015

General Information:

22 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-1		Lab ID: 10332834001		Collected: 12/08/15 13:40	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/14/15 19:20	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:42			
Surrogates										
n-Triacontane (S)	79	%	50-150		1	12/10/15 15:12	12/14/15 14:42	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 20:16	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 20:16	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 20:16	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 20:16	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/13/15 20:16	17060-07-0		
Toluene-d8 (S)	96	%	75-125		1		12/13/15 20:16	2037-26-5		
4-Bromofluorobenzene (S)	98	%	75-125		1		12/13/15 20:16	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.76	mg/L	0.10	0.050	1		12/16/15 14:55			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:00	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-4		Lab ID: 10332834002		Collected: 12/08/15 14:11	Received: 12/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		12/14/15 19:29	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 12:44		
Surrogates									
n-Triacontane (S)	82	%	50-150		1	12/10/15 15:12	12/14/15 12:44	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 20:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 20:32	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 20:32	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 20:32	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-125		1		12/13/15 20:32	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/13/15 20:32	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/13/15 20:32	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	2.5	mg/L	0.10	0.050	1		12/16/15 14:55		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	5.5	mg/L	2.5	1.2	1		12/15/15 09:02	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-6		Lab ID: 10332834003		Collected: 12/08/15 16:27	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/14/15 19:37	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:35			
Surrogates										
n-Triacontane (S)	78	%	50-150		1	12/10/15 15:12	12/14/15 14:35	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 20:49	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 20:49	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 20:49	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 20:49	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/13/15 20:49	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/13/15 20:49	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		12/13/15 20:49	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	3.4	mg/L	0.10	0.050	1		12/16/15 14:56			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	4.9	mg/L	2.5	1.2	1		12/15/15 09:12	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-7		Lab ID: 10332834004		Collected: 12/09/15 09:46	Received: 12/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		12/15/15 17:12	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:21		
Surrogates									
n-Triacontane (S)	77	%	50-150		1	12/10/15 15:12	12/14/15 14:21	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 21:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 21:06	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 21:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 21:06	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/13/15 21:06	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/13/15 21:06	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/13/15 21:06	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.21	mg/L	0.10	0.050	1		12/16/15 15:00		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	6.6	mg/L	2.5	1.2	1		12/15/15 09:15	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-8		Lab ID: 10332834005		Collected: 12/09/15 10:56	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/15/15 17:21	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:28			
Surrogates										
n-Triacontane (S)	84	%	50-150		1	12/10/15 15:12	12/14/15 14:28	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 21:23	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 21:23	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 21:23	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 21:23	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/13/15 21:23	17060-07-0		
Toluene-d8 (S)	98	%	75-125		1		12/13/15 21:23	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		12/13/15 21:23	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.17	mg/L	0.10	0.050	1		12/16/15 15:01			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	7.2	mg/L	2.5	1.2	1		12/15/15 09:15	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-9		Lab ID: 10332834006		Collected: 12/09/15 09:02	Received: 12/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	3650	ug/L	10.0	0.63	1		12/15/15 17:29	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	7.3	mg/L	0.54	0.54	5	12/10/15 15:12	12/14/15 15:10		T7
Surrogates									
n-Triacontane (S)	86	%	50-150		5	12/10/15 15:12	12/14/15 15:10	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	13.0	ug/L	1.0	0.21	1		12/13/15 22:28	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 22:28	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 22:28	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 22:28	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		12/13/15 22:28	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/13/15 22:28	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/13/15 22:28	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:01		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-10		Lab ID: 10332834007		Collected: 12/09/15 16:45	Received: 12/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	4270	ug/L	10.0	0.63	1		12/15/15 17:37	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	6.0	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 12:37		T7
Surrogates									
n-Triacontane (S)	74	%	50-150		1	12/10/15 15:12	12/14/15 12:37	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	12.4	ug/L	1.0	0.21	1		12/13/15 23:01	71-43-2	
Ethylbenzene	10.5	ug/L	1.0	0.23	1		12/13/15 23:01	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 23:01	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 23:01	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%	75-125		1		12/13/15 23:01	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/13/15 23:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/13/15 23:01	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:04		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: DUP									
Lab ID: 10332834008									
Collected: 12/09/15 00:00									
Received: 12/10/15 09:50									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace									
Analytical Method: RSK 175									
Methane	3100	ug/L	10.0	0.63	1		12/15/15 17:45	74-82-8	
WIDRO Extended GCS									
Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	6.6	mg/L	0.55	0.55	5	12/10/15 15:12	12/14/15 15:17		
Surrogates									
n-Triacontane (S)	83	%	50-150		5	12/10/15 15:12	12/14/15 15:17	638-68-6	
8260B MSV UST									
Analytical Method: EPA 8260B									
Benzene	11.8	ug/L	1.0	0.21	1		12/13/15 23:17	71-43-2	
Ethylbenzene	9.6	ug/L	1.0	0.23	1		12/13/15 23:17	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 23:17	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 23:17	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/13/15 23:17	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/13/15 23:17	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		12/13/15 23:17	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.									
Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:05		
ASTM D516 Sulfate Water									
Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:18	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-16A		Lab ID: 10332834009		Collected: 12/09/15 12:00	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	151	ug/L	10.0	0.63	1		12/15/15 17:53	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	1.9	mg/L	0.10	0.10	1	12/10/15 15:12	12/14/15 12:58			
Surrogates										
n-Triacontane (S)	80	%	50-150		1	12/10/15 15:12	12/14/15 12:58	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/13/15 23:33	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/13/15 23:33	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/13/15 23:33	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/13/15 23:33	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	97	%	75-125		1		12/13/15 23:33	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/13/15 23:33	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		12/13/15 23:33	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:06		M1	
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:18	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-16B		Lab ID: 10332834010		Collected: 12/09/15 14:45	Received: 12/10/15 09:50	Matrix: Water			
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	29.4	ug/L	10.0	0.63	1		12/15/15 18:02	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	0.68	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:14		
Surrogates									
n-Triacontane (S)	83	%	50-150		1	12/10/15 15:12	12/14/15 14:14	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 09:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 09:38	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 09:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 09:38	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		12/14/15 09:38	17060-07-0	
Toluene-d8 (S)	98	%	75-125		1		12/14/15 09:38	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 09:38	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	0.050	1		12/16/15 15:10		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	7.6	mg/L	2.5	1.2	1		12/15/15 09:20	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-17		Lab ID: 10332834011		Collected: 12/09/15 11:10	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/15/15 18:26	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 13:33			
Surrogates										
n-Triacontane (S)	82	%	50-150		1	12/10/15 15:12	12/14/15 13:33	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 17:51	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 17:51	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 17:51	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 17:51	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		12/14/15 17:51	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/14/15 17:51	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 17:51	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	0.28	mg/L	0.10	0.050	1		12/16/15 15:10			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	8.6	mg/L	2.5	1.2	1		12/15/15 09:20	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-18		Lab ID: 10332834012		Collected: 12/09/15 15:45	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/15/15 18:43	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 13:47			
Surrogates										
n-Triacontane (S)	78	%	50-150		1	12/10/15 15:12	12/14/15 13:47	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 18:07	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 18:07	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 18:07	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 18:07	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	98	%	75-125		1		12/14/15 18:07	17060-07-0		
Toluene-d8 (S)	98	%	75-125		1		12/14/15 18:07	2037-26-5		
4-Bromofluorobenzene (S)	98	%	75-125		1		12/14/15 18:07	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	3.5	mg/L	0.10	0.050	1		12/16/15 15:14			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	5.6	mg/L	2.5	1.2	1		12/15/15 09:20	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-19 Lab ID: 10332834013 Collected: 12/09/15 08:30 Received: 12/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	ND	ug/L	10.0	0.63	1		12/15/15 18:51	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	0.54	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 13:40		
Surrogates									
n-Triacontane (S)	79	%	50-150		1	12/10/15 15:12	12/14/15 13:40	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 18:24	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 18:24	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 18:24	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 18:24	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/14/15 18:24	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/14/15 18:24	2037-26-5	
4-Bromofluorobenzene (S)	101	%	75-125		1		12/14/15 18:24	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	0.11	mg/L	0.10	0.050	1		12/16/15 15:15		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	4.9	mg/L	2.5	1.2	1		12/15/15 09:35	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-20		Lab ID: 10332834014		Collected: 12/09/15 10:20	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/15/15 18:59	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.10	0.10	1	12/10/15 15:12	12/14/15 13:54			
Surrogates										
n-Triacontane (S)	79	%	50-150		1	12/10/15 15:12	12/14/15 13:54	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 18:40	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 18:40	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 18:40	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 18:40	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	96	%	75-125		1		12/14/15 18:40	17060-07-0		
Toluene-d8 (S)	98	%	75-125		1		12/14/15 18:40	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		12/14/15 18:40	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.9	mg/L	0.10	0.050	1		12/16/15 15:16			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	6.9	mg/L	2.5	1.2	1		12/15/15 09:35	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-21		Lab ID: 10332834015		Collected: 12/09/15 09:30	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/15/15 19:07	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:00			
Surrogates										
n-Triacontane (S)	78	%	50-150		1	12/10/15 15:12	12/14/15 14:00	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 16:13	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 16:13	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 16:13	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 16:13	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/14/15 16:13	17060-07-0		
Toluene-d8 (S)	99	%	75-125		1		12/14/15 16:13	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 16:13	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	2.1	mg/L	0.10	0.050	1		12/16/15 15:20		M1	
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	8.9	mg/L	2.5	1.2	1		12/15/15 09:35	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: MW-22		Lab ID: 10332834016		Collected: 12/08/15 16:05	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/14/15 19:45	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	0.34	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 14:07			
Surrogates										
n-Triacontane (S)	85	%	50-150		1	12/10/15 15:12	12/14/15 14:07	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 17:18	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 17:18	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 17:18	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 17:18	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	92	%	75-125		1		12/14/15 17:18	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/14/15 17:18	2037-26-5		
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 17:18	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:24			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	6.1	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: USGS-1A Lab ID: 10332834017 Collected: 12/09/15 15:16 Received: 12/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	7460	ug/L	10.0	0.63	1		12/15/15 19:15	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	11.9	mg/L	1.1	1.1	10	12/10/15 15:12	12/14/15 15:24		T7
Surrogates									
n-Triacontane (S)	65	%	50-150		10	12/10/15 15:12	12/14/15 15:24	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	247	ug/L	5.0	1.1	5		12/15/15 21:29	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 18:57	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 18:57	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 18:57	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		12/14/15 18:57	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		12/14/15 18:57	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 18:57	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:25		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: USGS-2A		Lab ID: 10332834018		Collected: 12/09/15 11:42	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	1920	ug/L	10.0	0.63	1		12/15/15 19:23	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	4.0	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 13:12			
Surrogates										
n-Triacontane (S)	89	%	50-150		1	12/10/15 15:12	12/14/15 13:12	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	1.2	ug/L	1.0	0.21	1		12/15/15 17:08	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/15/15 17:08	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/15/15 17:08	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/15/15 17:08	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	95	%	75-125		1		12/15/15 17:08	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/15/15 17:08	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		12/15/15 17:08	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:29			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: USGS-3A		Lab ID: 10332834019		Collected: 12/09/15 14:36	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	515	ug/L	10.0	0.63	1		12/15/15 19:32	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	2.2	mg/L	0.10	0.10	1	12/10/15 15:12	12/14/15 13:19			
Surrogates										
n-Triacontane (S)	74	%	50-150		1	12/10/15 15:12	12/14/15 13:19	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 19:29	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 19:29	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 19:29	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 19:29	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	93	%	75-125		1		12/14/15 19:29	17060-07-0		
Toluene-d8 (S)	99	%	75-125		1		12/14/15 19:29	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		12/14/15 19:29	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:30			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: USGS-4A Lab ID: 10332834020 Collected: 12/09/15 13:50 Received: 12/10/15 09:50 Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace Analytical Method: RSK 175									
Methane	359	ug/L	10.0	0.63	1		12/15/15 19:40	74-82-8	
WIDRO Extended GCS Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics									
WDRO, Extended C10-C32	2.4	mg/L	0.11	0.11	1	12/10/15 15:12	12/14/15 13:26		
Surrogates									
n-Triacontane (S)	86	%	50-150		1	12/10/15 15:12	12/14/15 13:26	638-68-6	
8260B MSV UST Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 19:46	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 19:46	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 19:46	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 19:46	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/14/15 19:46	17060-07-0	
Toluene-d8 (S)	96	%	75-125		1		12/14/15 19:46	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		12/14/15 19:46	460-00-4	
SM4500NO3-H, NO2 + NO3 pres. Analytical Method: SM 4500-NO3 H									
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:30		
ASTM D516 Sulfate Water Analytical Method: ASTM D516									
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: SCL DW		Lab ID: 10332834021		Collected: 12/08/15 14:10		Received: 12/10/15 09:50		Matrix: Water	
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
RSK 175 AIR Headspace		Analytical Method: RSK 175							
Methane	ND	ug/L	10.0	0.63	1		12/14/15 19:53	74-82-8	
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics							
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 14:45	12/13/15 17:11		
Surrogates									
n-Triacontane (S)	91	%	50-150		1	12/10/15 14:45	12/13/15 17:11	638-68-6	
8260B MSV UST		Analytical Method: EPA 8260B							
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 20:02	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 20:02	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 20:02	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 20:02	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%	75-125		1		12/14/15 20:02	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/14/15 20:02	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 20:02	460-00-4	
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H							
Nitrogen, NO2 plus NO3	1.2	mg/L	0.10	0.050	1		12/16/15 15:33		
ASTM D516 Sulfate Water		Analytical Method: ASTM D516							
Sulfate	4.1	mg/L	2.5	1.2	1		12/15/15 09:38	14808-79-8	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: Field Blank		Lab ID: 10332834022		Collected: 12/08/15 00:00	Received: 12/10/15 09:50	Matrix: Water				
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual	
RSK 175 AIR Headspace		Analytical Method: RSK 175								
Methane	ND	ug/L	10.0	0.63	1		12/14/15 20:02	74-82-8		
WIDRO Extended GCS		Analytical Method: Diesel Range Organics Preparation Method: Diesel Range Organics								
WDRO, Extended C10-C32	ND	mg/L	0.11	0.11	1	12/10/15 14:45	12/13/15 17:18			
Surrogates										
n-Triacontane (S)	79	%	50-150		1	12/10/15 14:45	12/13/15 17:18	638-68-6		
8260B MSV UST		Analytical Method: EPA 8260B								
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 15:24	71-43-2		
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 15:24	100-41-4		
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 15:24	108-88-3		
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 15:24	1330-20-7		
Surrogates										
1,2-Dichloroethane-d4 (S)	92	%	75-125		1		12/14/15 15:24	17060-07-0		
Toluene-d8 (S)	97	%	75-125		1		12/14/15 15:24	2037-26-5		
4-Bromofluorobenzene (S)	99	%	75-125		1		12/14/15 15:24	460-00-4		
SM4500NO3-H, NO2 + NO3 pres.		Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	ND	mg/L	0.10	0.050	1		12/16/15 15:34			
ASTM D516 Sulfate Water		Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		12/15/15 09:39	14808-79-8		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

ANALYTICAL RESULTS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Sample: Trip Blank									
Lab ID: 10332834023									
Collected: 12/08/15 00:00									
Received: 12/10/15 09:50									
Matrix: Water									
Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV UST									
Analytical Method: EPA 8260B									
Benzene	ND	ug/L	1.0	0.21	1		12/14/15 15:40	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.23	1		12/14/15 15:40	100-41-4	
Toluene	ND	ug/L	1.0	0.13	1		12/14/15 15:40	108-88-3	
Xylene (Total)	ND	ug/L	3.0	0.60	1		12/14/15 15:40	1330-20-7	
Surrogates									
1,2-Dichloroethane-d4 (S)	92	%	75-125		1		12/14/15 15:40	17060-07-0	
Toluene-d8 (S)	97	%	75-125		1		12/14/15 15:40	2037-26-5	
4-Bromofluorobenzene (S)	100	%	75-125		1		12/14/15 15:40	460-00-4	

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: AIR/24845 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834016, 10332834021, 10332834022

METHOD BLANK: 2157719 Matrix: Water
 Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834016, 10332834021, 10332834022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	0.63	12/14/15 17:09	

LABORATORY CONTROL SAMPLE & LCSD: 2157720 2157721

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	57.1	58.6	94	97	85-115	3	20	

SAMPLE DUPLICATE: 2157861

Parameter	Units	7535604006 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	0.0013J mg/L	1.8J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: AIR/24853 Analysis Method: RSK 175
 QC Batch Method: RSK 175 Analysis Description: RSK 175 AIR HEADSPACE
 Associated Lab Samples: 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010

METHOD BLANK: 2158782 Matrix: Water
 Associated Lab Samples: 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	0.63	12/15/15 14:31	

LABORATORY CONTROL SAMPLE & LCSD: 2158783 2158784

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	57.2	58.8	94	97	85-115	3	20	

SAMPLE DUPLICATE: 2158831

Parameter	Units	92278963007 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	9.1J	ND		20	

SAMPLE DUPLICATE: 2158832

Parameter	Units	92279394003 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	2.5J	3J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: AIR/24854

Analysis Method: RSK 175

QC Batch Method: RSK 175

Analysis Description: RSK 175 AIR HEADSPACE

Associated Lab Samples: 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834017, 10332834018, 10332834019, 10332834020

METHOD BLANK: 2158785

Matrix: Water

Associated Lab Samples: 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834017, 10332834018, 10332834019, 10332834020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Methane	ug/L	ND	10.0	0.63	12/15/15 18:18	

LABORATORY CONTROL SAMPLE & LCSD: 2158786

2158787

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Methane	ug/L	60.7	58.8	57.9	97	96	85-115	1	20	

SAMPLE DUPLICATE: 2158885

Parameter	Units	10332834011 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	2.9J		20	

SAMPLE DUPLICATE: 2158887

Parameter	Units	60209169001 Result	Dup Result	RPD	Max RPD	Qualifiers
Methane	ug/L	ND	2.8J		20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch:	MSV/34073	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV UST-WATER
Associated Lab Samples:	10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009		

METHOD BLANK:	2156036	Matrix:	Water
Associated Lab Samples:	10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.21	12/13/15 19:10	
Ethylbenzene	ug/L	ND	1.0	0.23	12/13/15 19:10	
Toluene	ug/L	ND	1.0	0.13	12/13/15 19:10	
Xylene (Total)	ug/L	ND	3.0	0.60	12/13/15 19:10	
1,2-Dichloroethane-d4 (S)	%	89	75-125		12/13/15 19:10	
4-Bromofluorobenzene (S)	%	100	75-125		12/13/15 19:10	
Toluene-d8 (S)	%	98	75-125		12/13/15 19:10	

LABORATORY CONTROL SAMPLE: 2156037

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	16.4	82	71-125	
Ethylbenzene	ug/L	20	17.7	88	75-125	
Toluene	ug/L	20	17.4	87	74-125	
Xylene (Total)	ug/L	60	56.2	94	75-125	
1,2-Dichloroethane-d4 (S)	%			91	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			99	75-125	

MATRIX SPIKE SAMPLE: 2156044

Parameter	Units	10332834005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	17.4	87	53-139	
Ethylbenzene	ug/L	ND	20	18.7	93	55-139	
Toluene	ug/L	ND	20	17.7	88	52-148	
Xylene (Total)	ug/L	ND	60	56.6	94	54-144	
1,2-Dichloroethane-d4 (S)	%				94	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2156045

Parameter	Units	10332834006 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	13.0	13.3	3	30	
Ethylbenzene	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

SAMPLE DUPLICATE: 2156045

Parameter	Units	10332834006 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	98	92	7		
4-Bromofluorobenzene (S)	%.	100	100	0		
Toluene-d8 (S)	%.	98	98	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: MSV/34083

Analysis Method: EPA 8260B

QC Batch Method: EPA 8260B

Analysis Description: 8260B MSV UST-WATER

Associated Lab Samples: 10332834010

METHOD BLANK: 2156703

Matrix: Water

Associated Lab Samples: 10332834010

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.21	12/14/15 04:10	
Ethylbenzene	ug/L	ND	1.0	0.23	12/14/15 04:10	
Toluene	ug/L	ND	1.0	0.13	12/14/15 04:10	
Xylene (Total)	ug/L	ND	3.0	0.60	12/14/15 04:10	
1,2-Dichloroethane-d4 (S)	%	94	75-125		12/14/15 04:10	
4-Bromofluorobenzene (S)	%	98	75-125		12/14/15 04:10	
Toluene-d8 (S)	%	100	75-125		12/14/15 04:10	

LABORATORY CONTROL SAMPLE: 2156704

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	42.0	84	71-125	
Ethylbenzene	ug/L	50	45.2	90	75-125	
Toluene	ug/L	50	43.9	88	74-125	
Xylene (Total)	ug/L	150	143	95	75-125	
1,2-Dichloroethane-d4 (S)	%			90	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE SAMPLE: 2156705

Parameter	Units	10332939001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	0.35J	20	18.0	88	53-139	
Ethylbenzene	ug/L	<0.23	20	18.9	95	55-139	
Toluene	ug/L	0.15J	20	18.2	90	52-148	
Xylene (Total)	ug/L	<0.60	60	57.4	96	54-144	
1,2-Dichloroethane-d4 (S)	%				95	75-125	
4-Bromofluorobenzene (S)	%				100	75-125	
Toluene-d8 (S)	%				99	75-125	

SAMPLE DUPLICATE: 2156706

Parameter	Units	10332939002 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	139	143	3	30	
Ethylbenzene	ug/L	1.5	1.6	5	30	
Toluene	ug/L	1.6	1.5	6	30	
Xylene (Total)	ug/L	4.8	4.8	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

SAMPLE DUPLICATE: 2156706

Parameter	Units	10332939002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	91	94	3		
4-Bromofluorobenzene (S)	%.	100	100	0		
Toluene-d8 (S)	%.	98	99	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch:	MSV/34092	Analysis Method:	EPA 8260B
QC Batch Method:	EPA 8260B	Analysis Description:	8260B MSV UST-WATER
Associated Lab Samples:	10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834019, 10332834020, 10332834021, 10332834022, 10332834023		

METHOD BLANK:	2156931	Matrix:	Water
Associated Lab Samples:	10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834019, 10332834020, 10332834021, 10332834022, 10332834023		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.21	12/14/15 15:07	
Ethylbenzene	ug/L	ND	1.0	0.23	12/14/15 15:07	
Toluene	ug/L	ND	1.0	0.13	12/14/15 15:07	
Xylene (Total)	ug/L	ND	3.0	0.60	12/14/15 15:07	
1,2-Dichloroethane-d4 (S)	%	91	75-125		12/14/15 15:07	
4-Bromofluorobenzene (S)	%	99	75-125		12/14/15 15:07	
Toluene-d8 (S)	%	97	75-125		12/14/15 15:07	

LABORATORY CONTROL SAMPLE: 2156933

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.5	88	71-125	
Ethylbenzene	ug/L	20	18.9	95	75-125	
Toluene	ug/L	20	17.9	89	74-125	
Xylene (Total)	ug/L	60	56.0	93	75-125	
1,2-Dichloroethane-d4 (S)	%			92	75-125	
4-Bromofluorobenzene (S)	%			100	75-125	
Toluene-d8 (S)	%			99	75-125	

MATRIX SPIKE SAMPLE: 2157776

Parameter	Units	10332834015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	18.9	94	53-139	
Ethylbenzene	ug/L	ND	20	20.6	103	55-139	
Toluene	ug/L	ND	20	19.8	99	52-148	
Xylene (Total)	ug/L	ND	60	61.8	103	54-144	
1,2-Dichloroethane-d4 (S)	%				95	75-125	
4-Bromofluorobenzene (S)	%				99	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2157777

Parameter	Units	10332834016 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

SAMPLE DUPLICATE: 2157777

Parameter	Units	10332834016 Result	Dup Result	RPD	Max RPD	Qualifiers
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	92	94	3		
4-Bromofluorobenzene (S)	%.	100	99	2		
Toluene-d8 (S)	%.	97	97	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

QC Batch: MSV/34110 Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B Analysis Description: 8260B MSV UST-WATER
Associated Lab Samples: 10332834018

METHOD BLANK: 2157690 Matrix: Water
Associated Lab Samples: 10332834018

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	0.21	12/15/15 16:19	
Ethylbenzene	ug/L	ND	1.0	0.23	12/15/15 16:19	
Toluene	ug/L	ND	1.0	0.13	12/15/15 16:19	
Xylene (Total)	ug/L	ND	3.0	0.60	12/15/15 16:19	
1,2-Dichloroethane-d4 (S)	%	93	75-125		12/15/15 16:19	
4-Bromofluorobenzene (S)	%	98	75-125		12/15/15 16:19	
Toluene-d8 (S)	%	99	75-125		12/15/15 16:19	

LABORATORY CONTROL SAMPLE: 2157691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	20	17.7	88	71-125	
Ethylbenzene	ug/L	20	18.5	93	75-125	
Toluene	ug/L	20	17.7	89	74-125	
Xylene (Total)	ug/L	60	55.4	92	75-125	
1,2-Dichloroethane-d4 (S)	%			98	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			98	75-125	

MATRIX SPIKE SAMPLE: 2158814

Parameter	Units	10333267025 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	ND	20	20.3	101	53-139	
Ethylbenzene	ug/L	ND	20	21.2	106	55-139	
Toluene	ug/L	ND	20	20.0	99	52-148	
Xylene (Total)	ug/L	ND	60	63.0	105	54-144	
1,2-Dichloroethane-d4 (S)	%				98	75-125	
4-Bromofluorobenzene (S)	%				97	75-125	
Toluene-d8 (S)	%				100	75-125	

SAMPLE DUPLICATE: 2158815

Parameter	Units	10333267026 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

SAMPLE DUPLICATE: 2158815

Parameter	Units	10333267026 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane-d4 (S)	%.	95	99	5		
4-Bromofluorobenzene (S)	%.	100	100	0		
Toluene-d8 (S)	%.	100	99	1		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch:	OEXT/31957	Analysis Method:	Diesel Range Organics
QC Batch Method:	Diesel Range Organics	Analysis Description:	WIDRO Extended GCS
Associated Lab Samples:	10332834021, 10332834022		

METHOD BLANK: 2154270 Matrix: Water

Associated Lab Samples: 10332834021, 10332834022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	0.10	12/13/15 14:53	
n-Triacontane (S)	%.	70	50-150		12/13/15 14:53	

LABORATORY CONTROL SAMPLE & LCSD: 2154271

2154272

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
n-Triacontane (S)	%.				81	68	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

QC Batch: OEXT/31965 Analysis Method: Diesel Range Organics
QC Batch Method: Diesel Range Organics Analysis Description: WIDRO Extended GCS
Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020

METHOD BLANK: 2154643 Matrix: Water
Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
WDRO, Extended C10-C32	mg/L	ND	0.10	0.10	12/14/15 12:16	
n-Triacontane (S)	%	67	50-150		12/14/15 12:16	

LABORATORY CONTROL SAMPLE & LCSD: 2154644 2154645

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
WDRO, Extended C10-C32	mg/L	2	1.6	1.6	80	80	75-115	0	20	
n-Triacontane (S)	%				67	66	50-150			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: WETA/25870 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014

METHOD BLANK: 2157949 Matrix: Water
 Associated Lab Samples: 10332834001, 10332834002, 10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.050	12/16/15 14:40	

LABORATORY CONTROL SAMPLE: 2157950

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157951 2157952

Parameter	Units	10332669015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	1.9	1.8	75	71	80-120	6	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157953 2157954

Parameter	Units	10332834009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	1.3	1.2	51	48	80-120	7	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch: WETA/25871 Analysis Method: SM 4500-NO3 H
 QC Batch Method: SM 4500-NO3 H Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
 Associated Lab Samples: 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020, 10332834021, 10332834022

METHOD BLANK: 2157971 Matrix: Water
 Associated Lab Samples: 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020, 10332834021, 10332834022

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	0.050	12/16/15 15:19	

LABORATORY CONTROL SAMPLE: 2157972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.4	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157973 2157974

Parameter	Units	10332834015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	2.1	2.5	2.5	3.1	2.9	40	33	80-120	6	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157975 2157976

Parameter	Units	10332479002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	2.2	2.1	84	83	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

QC Batch: WETA/25864 Analysis Method: ASTM D516
QC Batch Method: ASTM D516 Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10332834001, 10332834002

METHOD BLANK: 2157678 Matrix: Water
Associated Lab Samples: 10332834001, 10332834002

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	1.2	12/15/15 08:47	

LABORATORY CONTROL SAMPLE & LCSD: 2157679 2157680

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.3	7.2	98	96	80-120	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157681 2157682

Parameter	Units	10332669001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	ND	20	20	22.7	21.8	108	103	80-120	4	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2157683 2157684

Parameter	Units	10332669010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	4.5	20	20	23.5	24.3	95	99	80-120	3	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

QC Batch:	WETA/25865	Analysis Method:	ASTM D516
QC Batch Method:	ASTM D516	Analysis Description:	ASTM D516 Sulfate Water
Associated Lab Samples:	10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020, 10332834021, 10332834022		

METHOD BLANK:	2157704	Matrix:	Water
Associated Lab Samples:	10332834003, 10332834004, 10332834005, 10332834006, 10332834007, 10332834008, 10332834009, 10332834010, 10332834011, 10332834012, 10332834013, 10332834014, 10332834015, 10332834016, 10332834017, 10332834018, 10332834019, 10332834020, 10332834021, 10332834022		

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	1.2	12/15/15 09:12	

Parameter	Units	2157705		2157706		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCSD % Rec				
Sulfate	mg/L	7.5	7.4	7.4	99	99	80-120	0	20

Parameter	Units	2157707		2157708		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10332834003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	4.9	20	20	25.8	25.7	104	104	80-120	0	30

Parameter	Units	2157709		2157710		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
		10332834012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result						
Sulfate	mg/L	5.6	20	20	27.0	27.0	107	107	80-120	0	30

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALIFIERS

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

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.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

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.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

T7 Low boiling point hydrocarbons are present in the sample.

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60341413 South Cass Lake

Pace Project No.: 10332834

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10332834001	MW-1	RSK 175	AIR/24845		
10332834002	MW-4	RSK 175	AIR/24845		
10332834003	MW-6	RSK 175	AIR/24845		
10332834004	MW-7	RSK 175	AIR/24853		
10332834005	MW-8	RSK 175	AIR/24853		
10332834006	MW-9	RSK 175	AIR/24853		
10332834007	MW-10	RSK 175	AIR/24853		
10332834008	DUP	RSK 175	AIR/24853		
10332834009	MW-16A	RSK 175	AIR/24853		
10332834010	MW-16B	RSK 175	AIR/24853		
10332834011	MW-17	RSK 175	AIR/24854		
10332834012	MW-18	RSK 175	AIR/24854		
10332834013	MW-19	RSK 175	AIR/24854		
10332834014	MW-20	RSK 175	AIR/24854		
10332834015	MW-21	RSK 175	AIR/24854		
10332834016	MW-22	RSK 175	AIR/24845		
10332834017	USGS-1A	RSK 175	AIR/24854		
10332834018	USGS-2A	RSK 175	AIR/24854		
10332834019	USGS-3A	RSK 175	AIR/24854		
10332834020	USGS-4A	RSK 175	AIR/24854		
10332834021	SCL DW	RSK 175	AIR/24845		
10332834022	Field Blank	RSK 175	AIR/24845		
10332834001	MW-1	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834002	MW-4	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834003	MW-6	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834004	MW-7	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834005	MW-8	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834006	MW-9	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834007	MW-10	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834008	DUP	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834009	MW-16A	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834010	MW-16B	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834011	MW-17	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834012	MW-18	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834013	MW-19	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834014	MW-20	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834015	MW-21	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834016	MW-22	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834017	USGS-1A	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834018	USGS-2A	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834019	USGS-3A	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834020	USGS-4A	Diesel Range Organics	OEXT/31965	Diesel Range Organics	GCSV/17491
10332834021	SCL DW	Diesel Range Organics	OEXT/31957	Diesel Range Organics	GCSV/17485
10332834022	Field Blank	Diesel Range Organics	OEXT/31957	Diesel Range Organics	GCSV/17485
10332834001	MW-1	EPA 8260B	MSV/34073		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10332834002	MW-4	EPA 8260B	MSV/34073		
10332834003	MW-6	EPA 8260B	MSV/34073		
10332834004	MW-7	EPA 8260B	MSV/34073		
10332834005	MW-8	EPA 8260B	MSV/34073		
10332834006	MW-9	EPA 8260B	MSV/34073		
10332834007	MW-10	EPA 8260B	MSV/34073		
10332834008	DUP	EPA 8260B	MSV/34073		
10332834009	MW-16A	EPA 8260B	MSV/34073		
10332834010	MW-16B	EPA 8260B	MSV/34083		
10332834011	MW-17	EPA 8260B	MSV/34092		
10332834012	MW-18	EPA 8260B	MSV/34092		
10332834013	MW-19	EPA 8260B	MSV/34092		
10332834014	MW-20	EPA 8260B	MSV/34092		
10332834015	MW-21	EPA 8260B	MSV/34092		
10332834016	MW-22	EPA 8260B	MSV/34092		
10332834017	USGS-1A	EPA 8260B	MSV/34092		
10332834018	USGS-2A	EPA 8260B	MSV/34110		
10332834019	USGS-3A	EPA 8260B	MSV/34092		
10332834020	USGS-4A	EPA 8260B	MSV/34092		
10332834021	SCL DW	EPA 8260B	MSV/34092		
10332834022	Field Blank	EPA 8260B	MSV/34092		
10332834023	Trip Blank	EPA 8260B	MSV/34092		
10332834001	MW-1	SM 4500-NO3 H	WETA/25870		
10332834002	MW-4	SM 4500-NO3 H	WETA/25870		
10332834003	MW-6	SM 4500-NO3 H	WETA/25870		
10332834004	MW-7	SM 4500-NO3 H	WETA/25870		
10332834005	MW-8	SM 4500-NO3 H	WETA/25870		
10332834006	MW-9	SM 4500-NO3 H	WETA/25870		
10332834007	MW-10	SM 4500-NO3 H	WETA/25870		
10332834008	DUP	SM 4500-NO3 H	WETA/25870		
10332834009	MW-16A	SM 4500-NO3 H	WETA/25870		
10332834010	MW-16B	SM 4500-NO3 H	WETA/25870		
10332834011	MW-17	SM 4500-NO3 H	WETA/25870		
10332834012	MW-18	SM 4500-NO3 H	WETA/25870		
10332834013	MW-19	SM 4500-NO3 H	WETA/25870		
10332834014	MW-20	SM 4500-NO3 H	WETA/25870		
10332834015	MW-21	SM 4500-NO3 H	WETA/25871		
10332834016	MW-22	SM 4500-NO3 H	WETA/25871		
10332834017	USGS-1A	SM 4500-NO3 H	WETA/25871		
10332834018	USGS-2A	SM 4500-NO3 H	WETA/25871		
10332834019	USGS-3A	SM 4500-NO3 H	WETA/25871		
10332834020	USGS-4A	SM 4500-NO3 H	WETA/25871		
10332834021	SCL DW	SM 4500-NO3 H	WETA/25871		
10332834022	Field Blank	SM 4500-NO3 H	WETA/25871		
10332834001	MW-1	ASTM D516	WETA/25864		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 60341413 South Cass Lake
Pace Project No.: 10332834

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10332834002	MW-4	ASTM D516	WETA/25864		
10332834003	MW-6	ASTM D516	WETA/25865		
10332834004	MW-7	ASTM D516	WETA/25865		
10332834005	MW-8	ASTM D516	WETA/25865		
10332834006	MW-9	ASTM D516	WETA/25865		
10332834007	MW-10	ASTM D516	WETA/25865		
10332834008	DUP	ASTM D516	WETA/25865		
10332834009	MW-16A	ASTM D516	WETA/25865		
10332834010	MW-16B	ASTM D516	WETA/25865		
10332834011	MW-17	ASTM D516	WETA/25865		
10332834012	MW-18	ASTM D516	WETA/25865		
10332834013	MW-19	ASTM D516	WETA/25865		
10332834014	MW-20	ASTM D516	WETA/25865		
10332834015	MW-21	ASTM D516	WETA/25865		
10332834016	MW-22	ASTM D516	WETA/25865		
10332834017	USGS-1A	ASTM D516	WETA/25865		
10332834018	USGS-2A	ASTM D516	WETA/25865		
10332834019	USGS-3A	ASTM D516	WETA/25865		
10332834020	USGS-4A	ASTM D516	WETA/25865		
10332834021	SCL DW	ASTM D516	WETA/25865		
10332834022	Field Blank	ASTM D516	WETA/25865		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

CHAIN-OF-CUSTODY / Analytical Request Document

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

Bm 12/10/15
RUSH
10332834
Page: 1 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beaster	
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy	
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St. Ste 3000	
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass Lake		Pace Quote Reference: Houston, TX 77002	
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60341413		Pace Project Manager: Carol Davy	
				Pace Profile #: 32482	
				REGULATORY AGENCY	
				NPDES <u>GROUND WATER</u> DRINKING WATER	
				UST RCRA OTHER	
				Site Location: MN	
				STATE: MN	

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 /, -,) Sample IDs MUST BE UNIQUE	Valid Matrix Codes		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.		
		MATRIX	CODE			COMPOSITE START	COMPOSITE END/GRAB	Unpreserved	H ₂ SO ₄			HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	BTEX				Extended Range DRO	Sulfate
1	MW-1	WT	G			12-8	1340	10	4	1	5							3	2	1	1	3	001
2	MW-4	WT	G			12-8	1411	10	4	1	5							3	2	1	1	3	002
3	MW-6	WT	G			12-8	1627	10	4	1	5							3	2	1	1	3	003
4	MW-7	WT	G			12-9	0946	10	4	1	5							3	2	1	1	3	004
5	MW-8	WT	G			12-9	1056	10	4	1	5							3	2	1	1	3	005
6	MW-9	WT	G			12-9	0902	10	4	1	5							3	2	1	1	3	006
7	MW-10	WT	G			12-9	1645	10	4	1	5							3	2	1	1	3	007
8	DUP	WT	G			12-9	---	10	4	1	5							3	2	1	1	3	008
9	MW-16A	WT	G			12-9	1200	10	4	1	5							3	2	1	1	3	009
10	MW-16B	WT	G			12-9	1445	10	4	1	5							3	2	1	1	3	010
11	MW-17	WT	G			12-9	1110	10	4	1	5							3	2	1	1	3	011
12	MW-18	WT	G			12-9	1545	10	4	1	5							3	2	1	1	3	012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Please send Chroms with GRO or DRO hits	<i>[Signature]</i>	12-9-15	1745	<i>[Signature]</i> The Pace	12/10/15	950	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
							5-20	except		

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	<i>Bill Brown</i>				
SIGNATURE of SAMPLER:	<i>[Signature]</i>				
		DATE Signed (MM/DD/YY):	12-9-15		

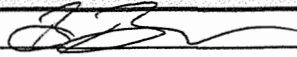
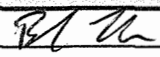
CHAIN-OF-CUSTODY / Analytical Request Document


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


Page: 2 of 2

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:				
Company: AECOM		Report To: Darin Albrecht		Attention: Karl Beater		REGULATORY AGENCY		
Address: 11 East Superior Street, Suite 260 Duluth, MN 55802		Copy To:		Company Name: Enbridge Energy				NPDES <u>GROUND WATER</u> DRINKING WATER
Email To: darin.albrecht@aecom.com		Purchase Order No.:		Address: 1100 Louisiana St Suite 3000 Houston, TX 77002				UST RCRA OTHEF _____
Phone: (218) 625-8768 Fax: (218) 625-2201		Project Name: South Cass lake		Pace Quote Reference:		Site Location		
Requested Due Date/TAT: 5 Day Enbridge Standard		Project Number: 60341413		Pace Project Manager: Carol Davy				MN
				Pace Profile #: 32482		STATE: _____		

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE	DATE	TIME	DATE	TIME	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test Y/N	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.							
									COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol		Other	Analysis Test	BTEX	Extended Range DRO	Sulfate	Nitrate + Nitrite	Methane												
1	MW-19	WT			12-9-15	1340		G			10	4	1	5																							013		
2	MW-20	WT			12-9	1020		G			10	4	1	5																						014			
3	MW-21	WT			12-9	0930		G			10	4	1	5																						015			
4	MW-22	WT			12-8-15	1605		G			10	4	1	5																						016			
5	USGS-1A	WT			12-9	1516		G			10	4	1	5																						017			
6	USGS-2A	WT			12-9	1140		G			10	4	1	5																						018			
7	USGS-3A	WT			12-9	1436		G			10	4	1	5																						019			
8	USGS-4A	WT			12-9	1350		G			10	4	1	5																						020			
9	SCL DW	DW			12-8	1420		G			10	4	1	5																						021			
10	Field Blank	WT						G			10	4	1	5																						022			
11	Trip Blank	OT						-			4			4																						023			
12																																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS		
Please send Chroms with GRO or DRO hits		12-9-15	1745	 Pace	12/16/15	950	Y	N	Y

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER: <u>Bill Brown</u>		DATE Signed (MM/DD/YY): <u>12-9-15</u>	Temp in °C
SIGNATURE OF SAMPLER: 			
			Custody Sealed Cooler (Y/N)
			Samples Intact (Y/N)

	Document Name: Sample Condition Upon Receipt Form	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: F-MN-L-213-rev.13	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt Client Name: Accom Project #: **WO# : 10332834**

Courier: Fed Ex UPS USPS Client
 Commercial Pace Speedee Other: _____

Tracking Number: See exception



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

Packing Material: Bubble Wrap Bubble Bags None Other: _____ Temp Blank? Yes No

Thermometer Used: B88A9130516413 B88A912167504 B88A0143310098 Type of Ice: Wet Blue None Samples on ice, cooling process has begun

Cooler Temp Read (°C): _____ Cooler Temp Corrected (°C): see exception Biological Tissue Frozen? Yes No N/A

Temp should be above freezing to 6°C Correction Factor: to 1 exception Date and Initials of Person Examining Contents: Bm 12/10/15

USDA Regulated Soil (N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? Yes No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

	COMMENTS:
Chain of Custody Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name and/or Signature on COC? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	5.
Short Hold Time Analysis (<72 hr)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	6.
Rush Turn Around Time Requested? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	7.
Sufficient Volume? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	8.
Correct Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	9.
-Pace Containers Used? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Containers Intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	10.
Filtered Volume Received for Dissolved Tests? <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	12. Times don't match for 013 & 021 on container; 013: 8:30 021: 14:10
-Includes Date/Time/ID/Analysis Matrix: <u>WT</u>	
All containers needing acid/base preservation have been checked? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input checked="" type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO ₃ , H ₂ SO ₄ , HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Sample # <u>01-22</u>
Exceptions: <u>VOA</u> , Coliform, TOC, Oil and Grease, <u>PRO/8015</u> (water) DOC <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____
Headspace in VOA Vials (>6mm)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	14.
Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	15.
Trip Blank Custody Seals Present? <u>Bm 12/10/15</u> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased): <u>102615-382A 112515-01</u>	

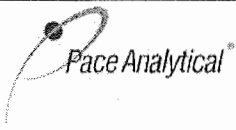
CLIENT NOTIFICATION/RESOLUTION Field Data Required? Yes No

Person Contacted: Dawn Albrecht Date/Time: 12-10-15

Comments/Resolution: see times on sample labels

Project Manager Review: AWD Date: 12-10-15

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).



Document Name:
SCUR Exceptions Form

Document Revised: 16Apr2012
Page 1 of 1

Document No.:
F-MN-L-220-Rev.00

Issuing Authority:
Pace Minnesota Quality Office

Workorder #: 10332834

Issue	Sm 12/10/15	Sample ID	Container Type/#
7819 0217	82577	0.4 °C	
7819 0220	8100	5.6 °C	
7819 0221	4583	4.4 °C	
7819 0219	4382	1.9 °C	
7819 0220	1388	1.5 °C	
7819 0218	8836	5.2 °C	
7819 0222	4780	5.8 °C	

Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000026.D

Report Date: 12/14/2015

Sample ID: 10332834001

Client ID: MW-1

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

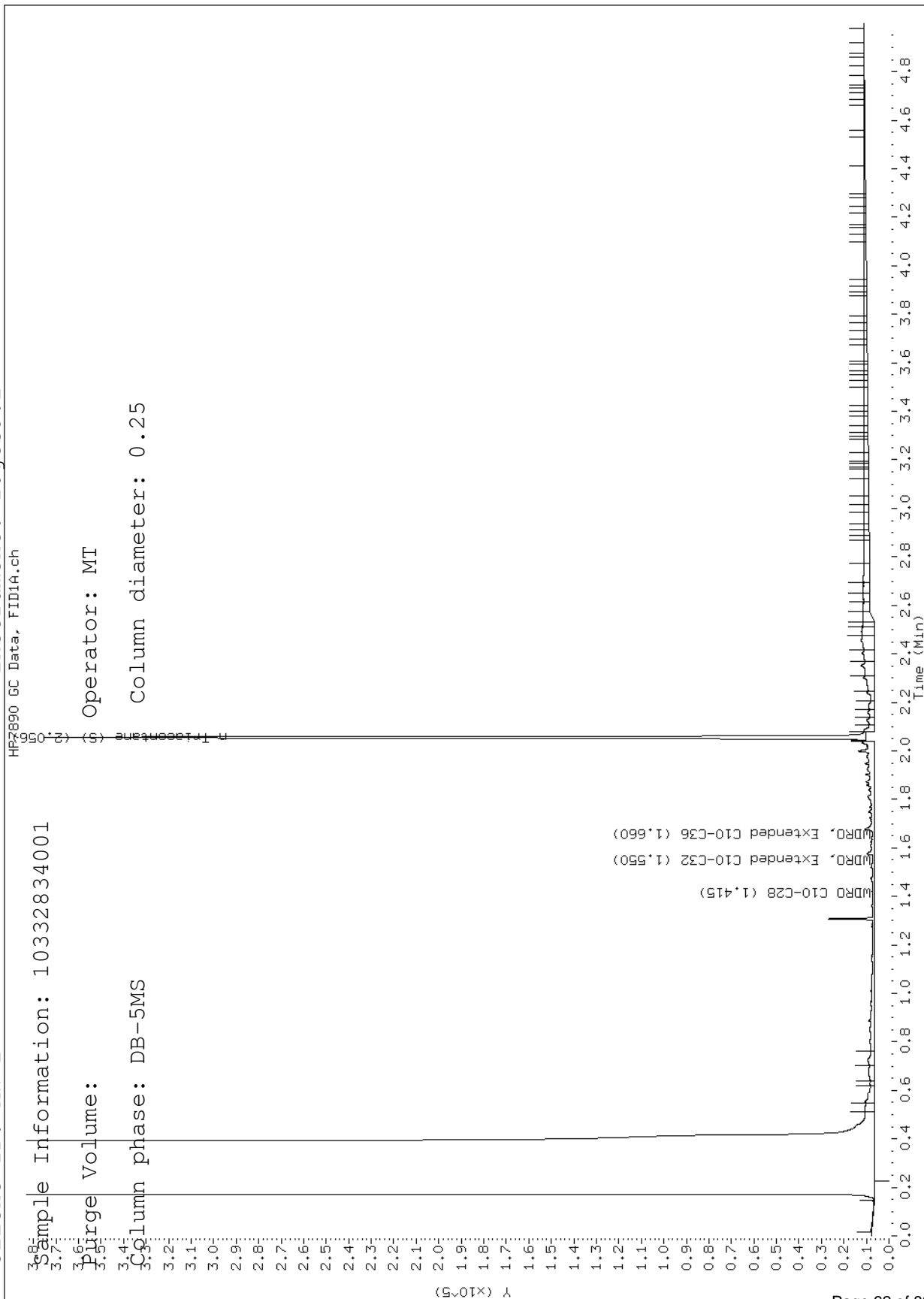
Sample Information: 10332834001

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



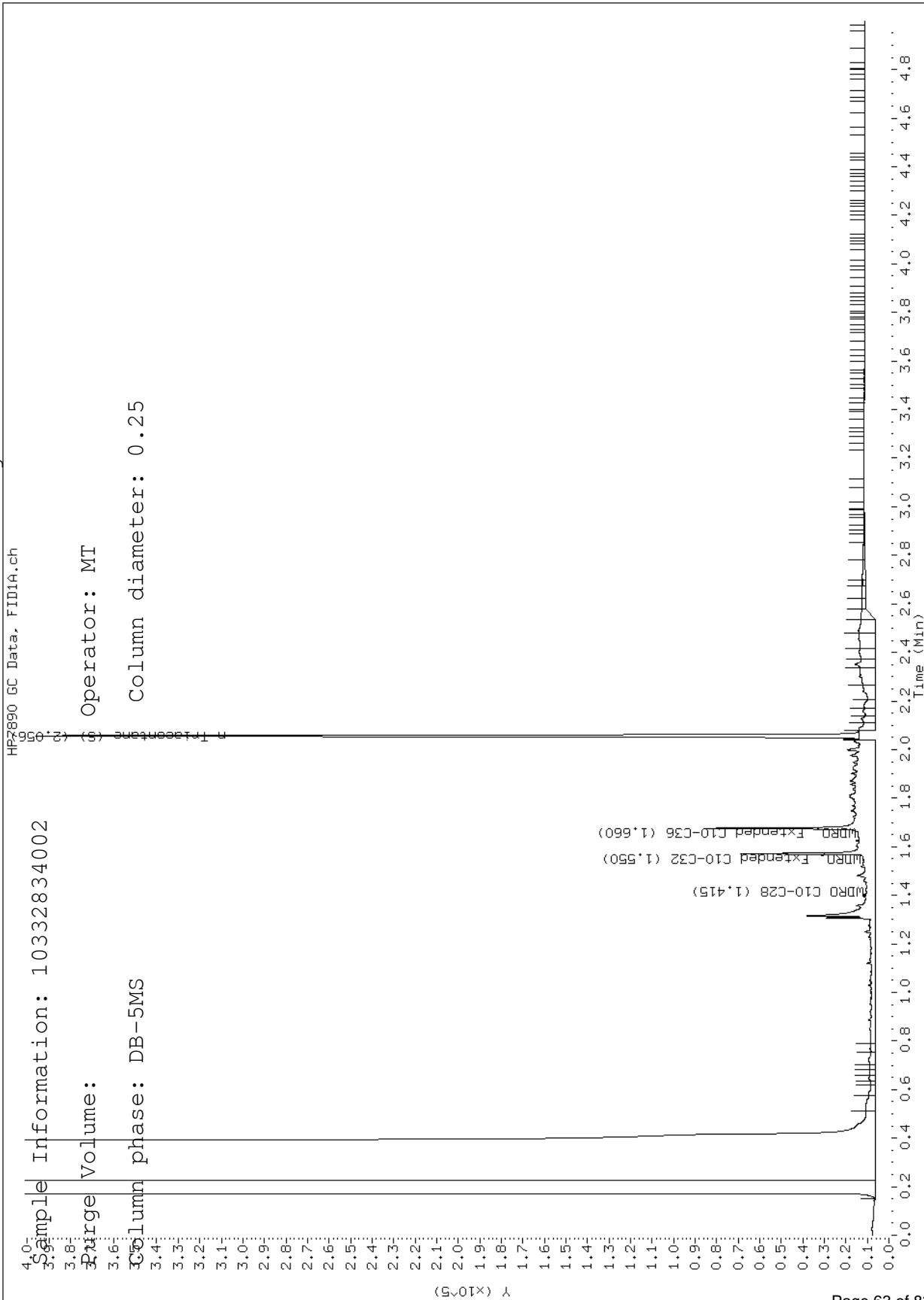
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000009.D

Report Date: 12/14/2015

Sample ID: 10332834002

Client ID: MW-4

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000025.D

Report Date: 12/14/2015

Sample ID: 10332834003

Client ID: MW-6

Instrument: 10gcs9.i

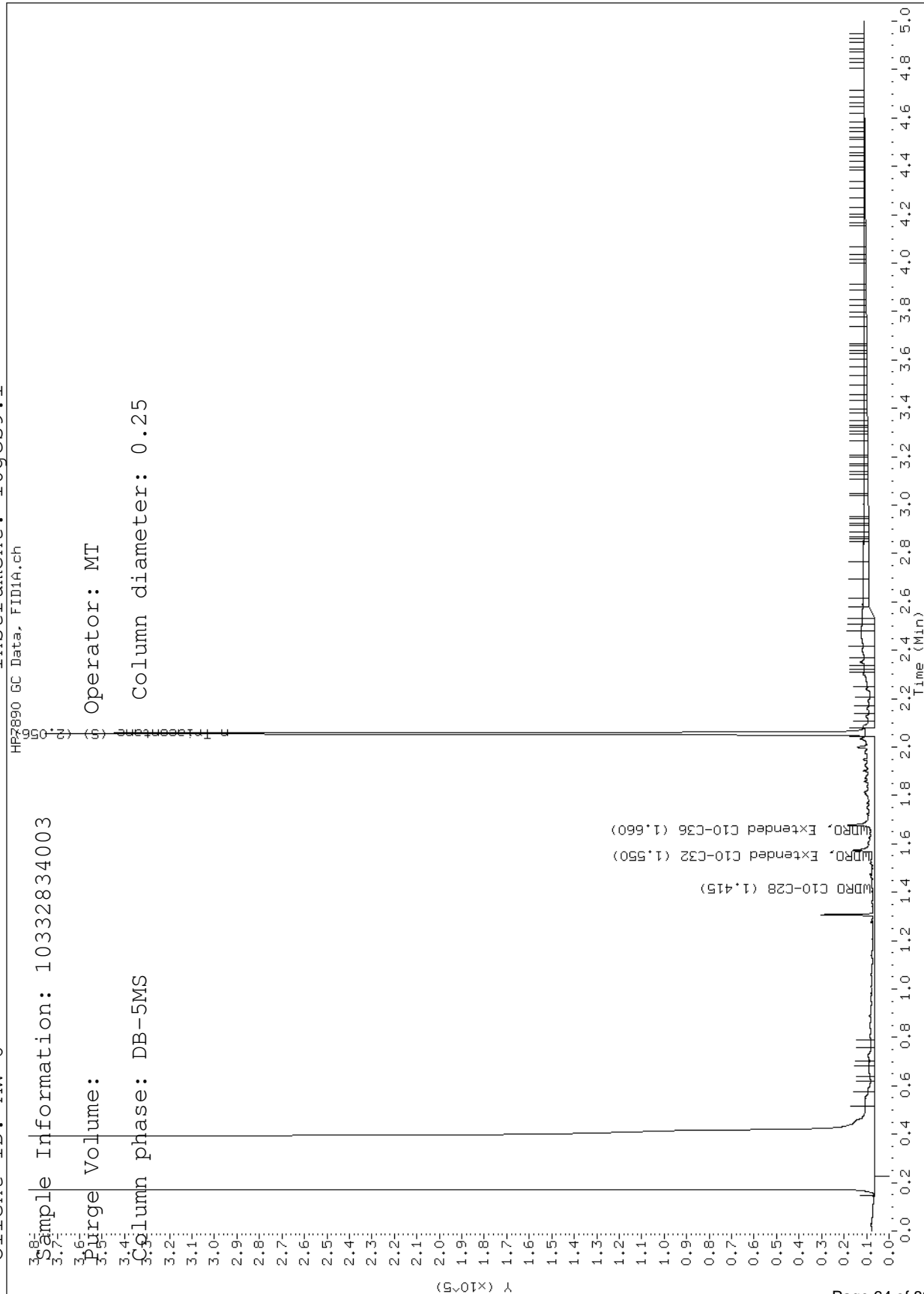
Sample Information: 10332834003

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000023.D

Report Date: 12/14/2015

Sample ID: 10332834004

Client ID: MW-7

Instrument: 10gcs9.i

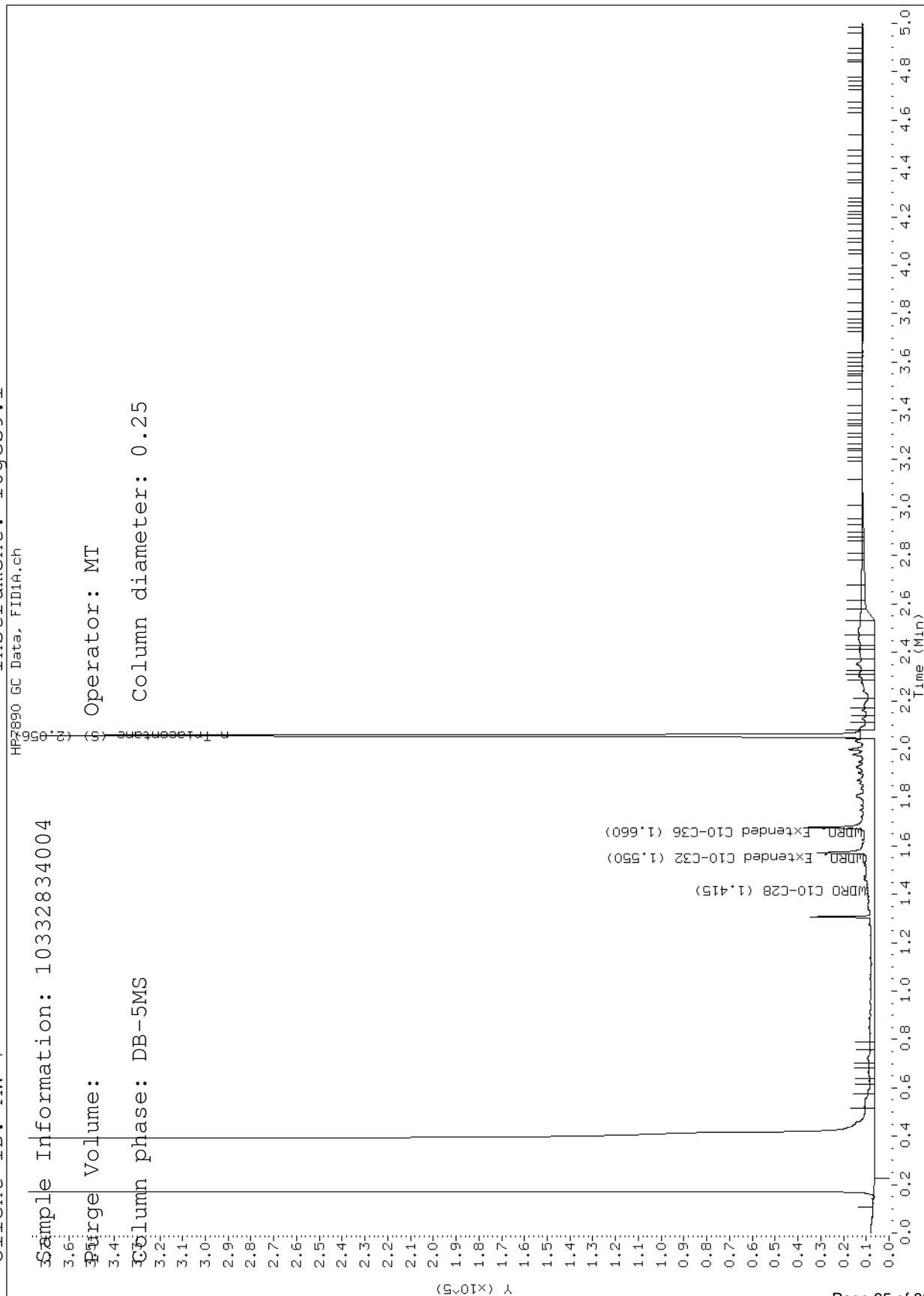
Sample Information: 10332834004

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



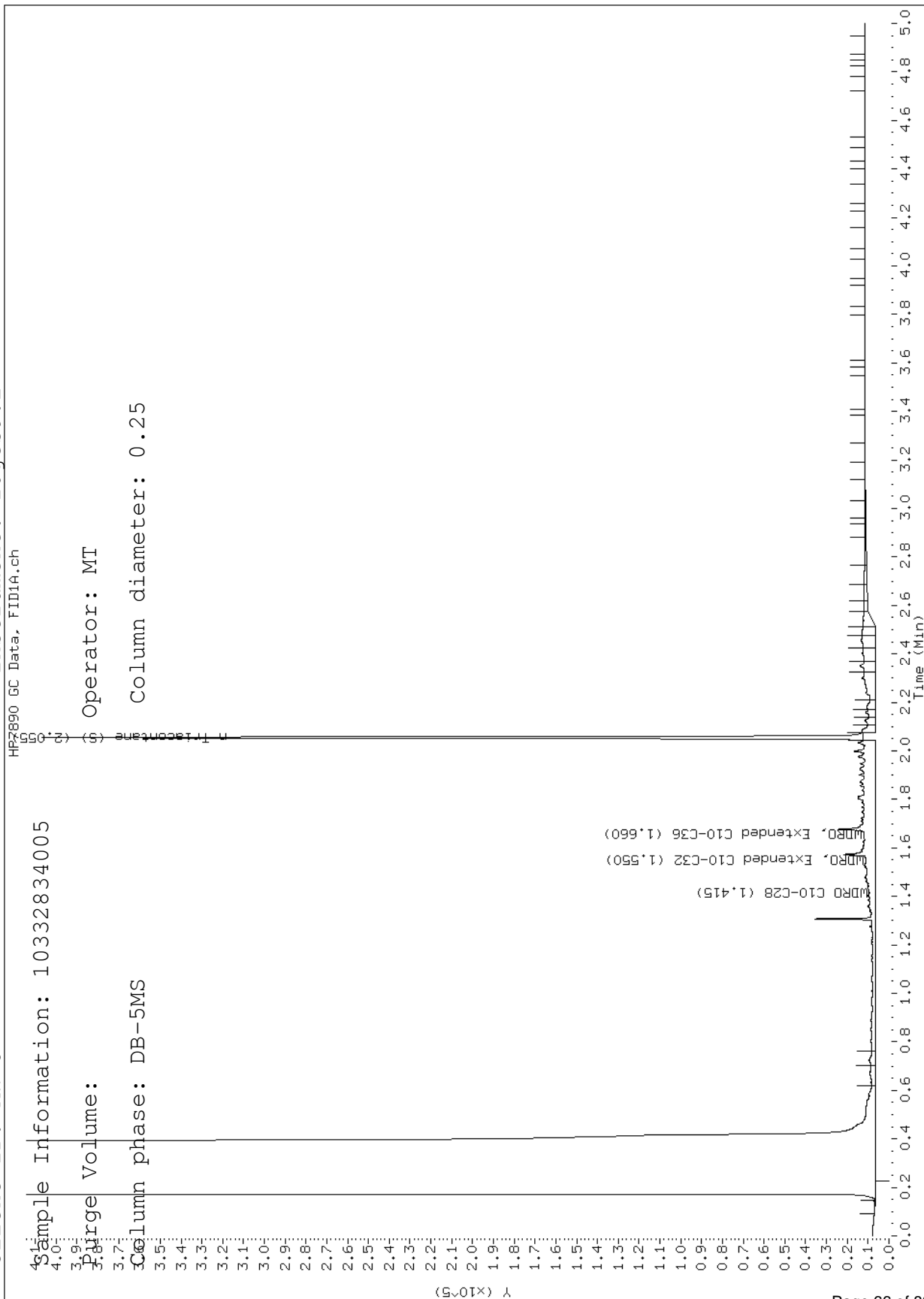
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000024.D

Report Date: 12/14/2015

Sample ID: 10332834005

Client ID: MW-8

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000030.D

Report Date: 12/14/2015

Sample ID: 10332834006

Client ID: MW-9

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

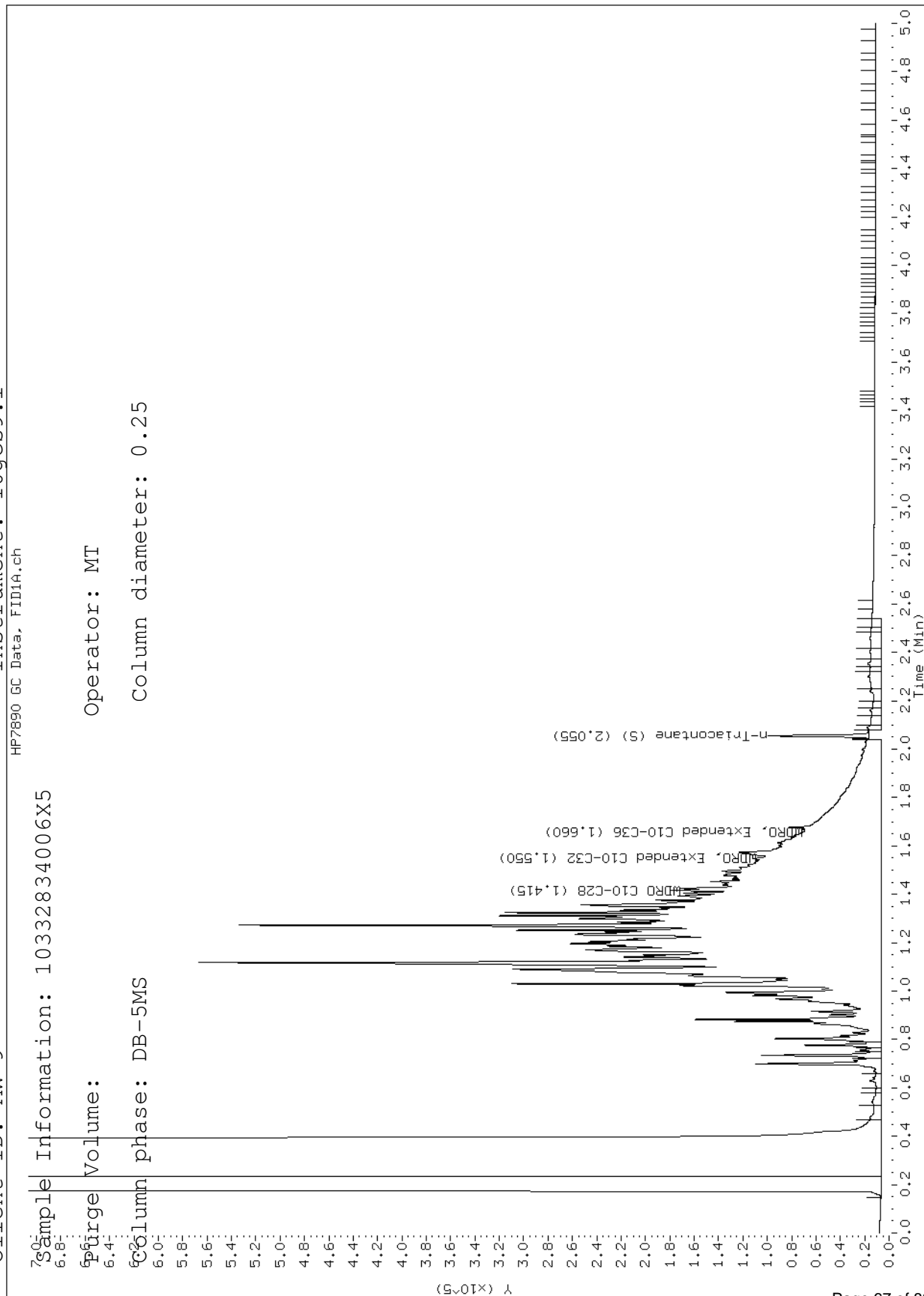
Sample Information: 10332834006X5

Purge Volume: 6.4

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000008.D

Report Date: 12/14/2015

Sample ID: 10332834007

Client ID: MW-10

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

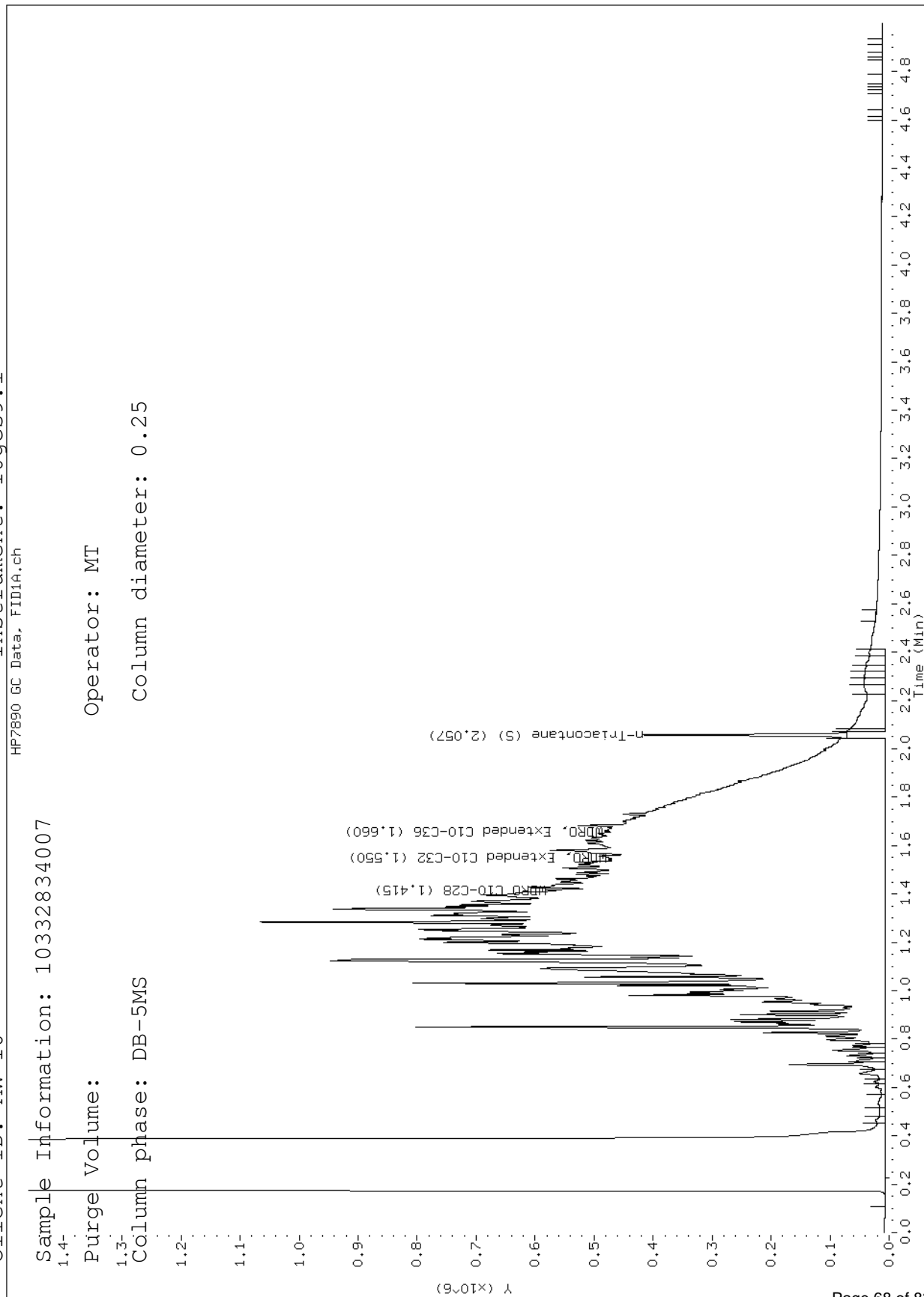
Sample Information: 10332834007

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000031.D

Report Date: 12/14/2015

Sample ID: 10332834008

Client ID: DUP

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

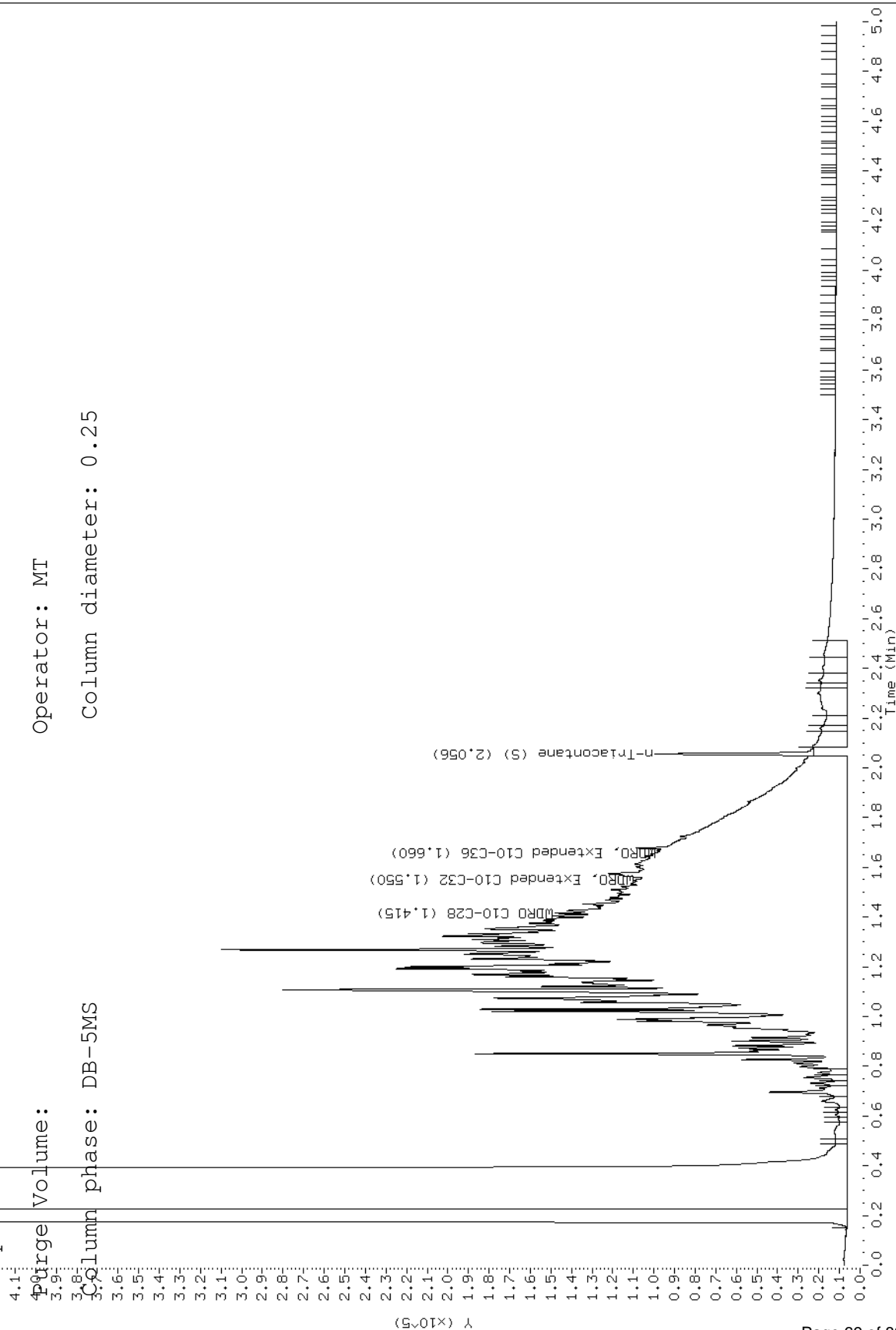
Sample Information: 10332834008X5

Purge Volume: 3.9

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



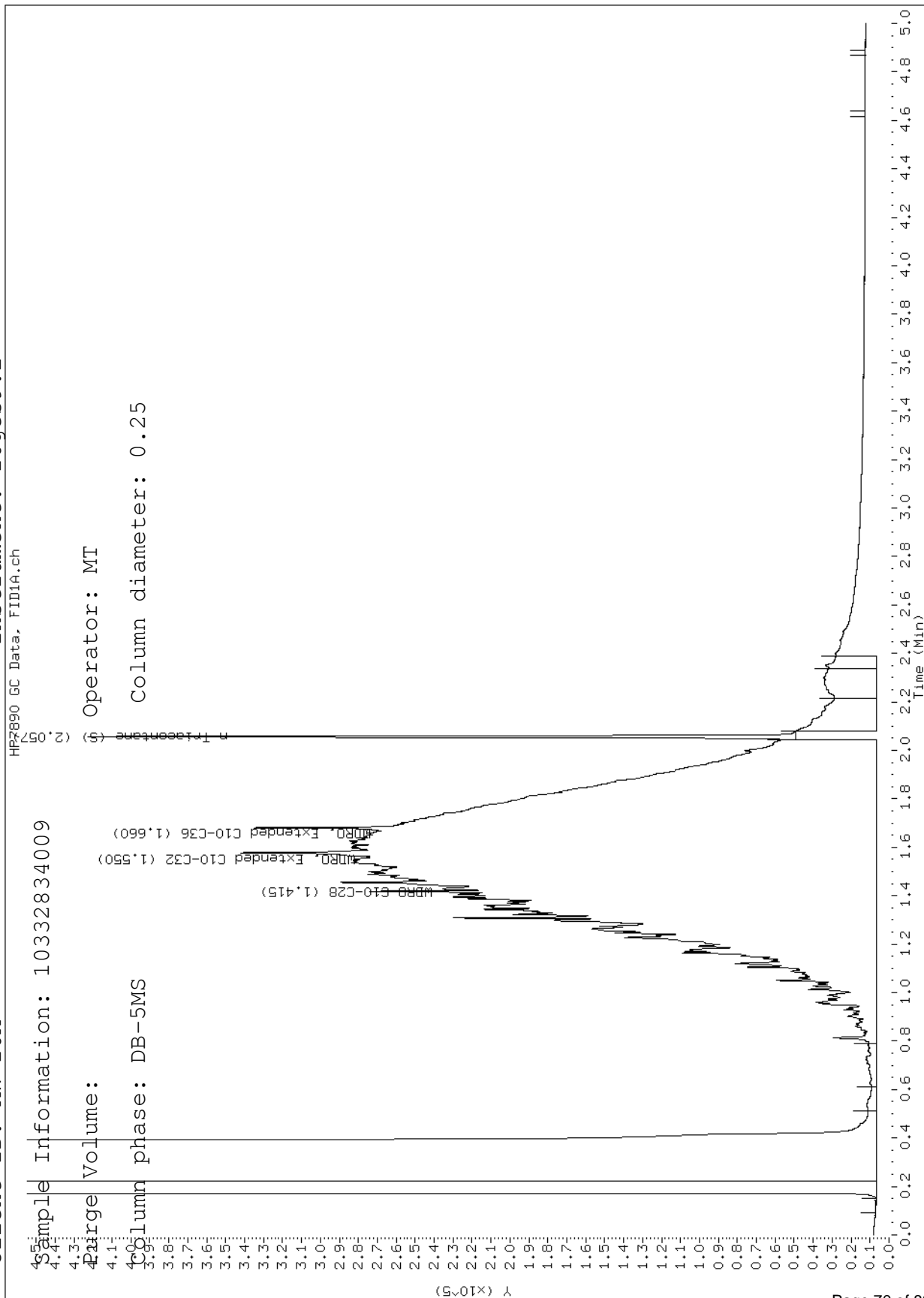
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000011.D

Report Date: 12/14/2015

Sample ID: 10332834009

Client ID: MW-16A

Instrument: 10gcs9.i



Sample Information: 10332834009

Purge Volume:

Column phase: DB-5MS

Operator: MT

Column diameter: 0.25

Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000022.D

Report Date: 12/14/2015

Sample ID: 10332834010

Client ID: MW-16B

Instrument: 10gcs9.i

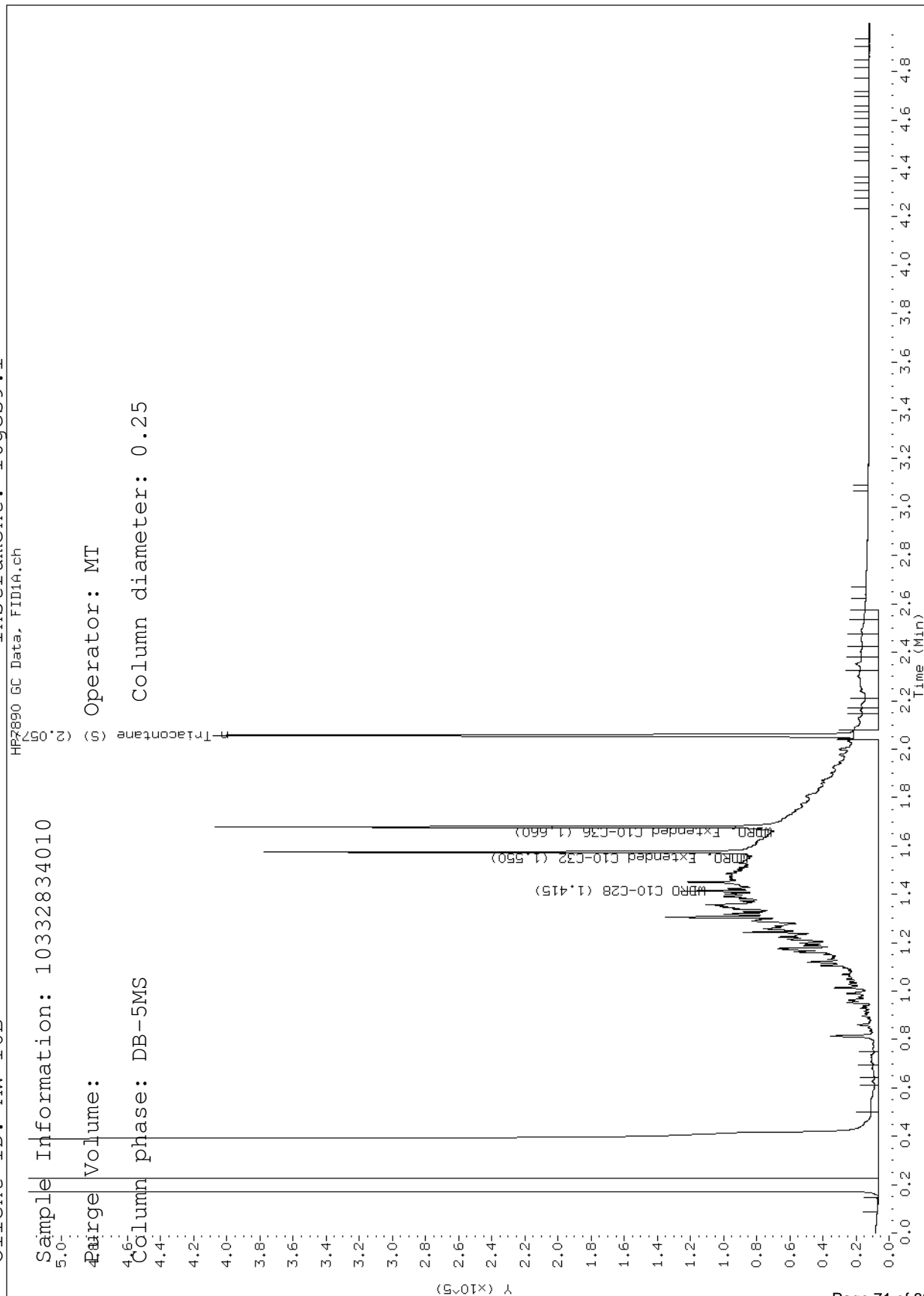
Sample Information: 10332834010

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000016.D

Report Date: 12/14/2015

Sample ID: 10332834011

Client ID: MW-17

Instrument: 10gcs9.i

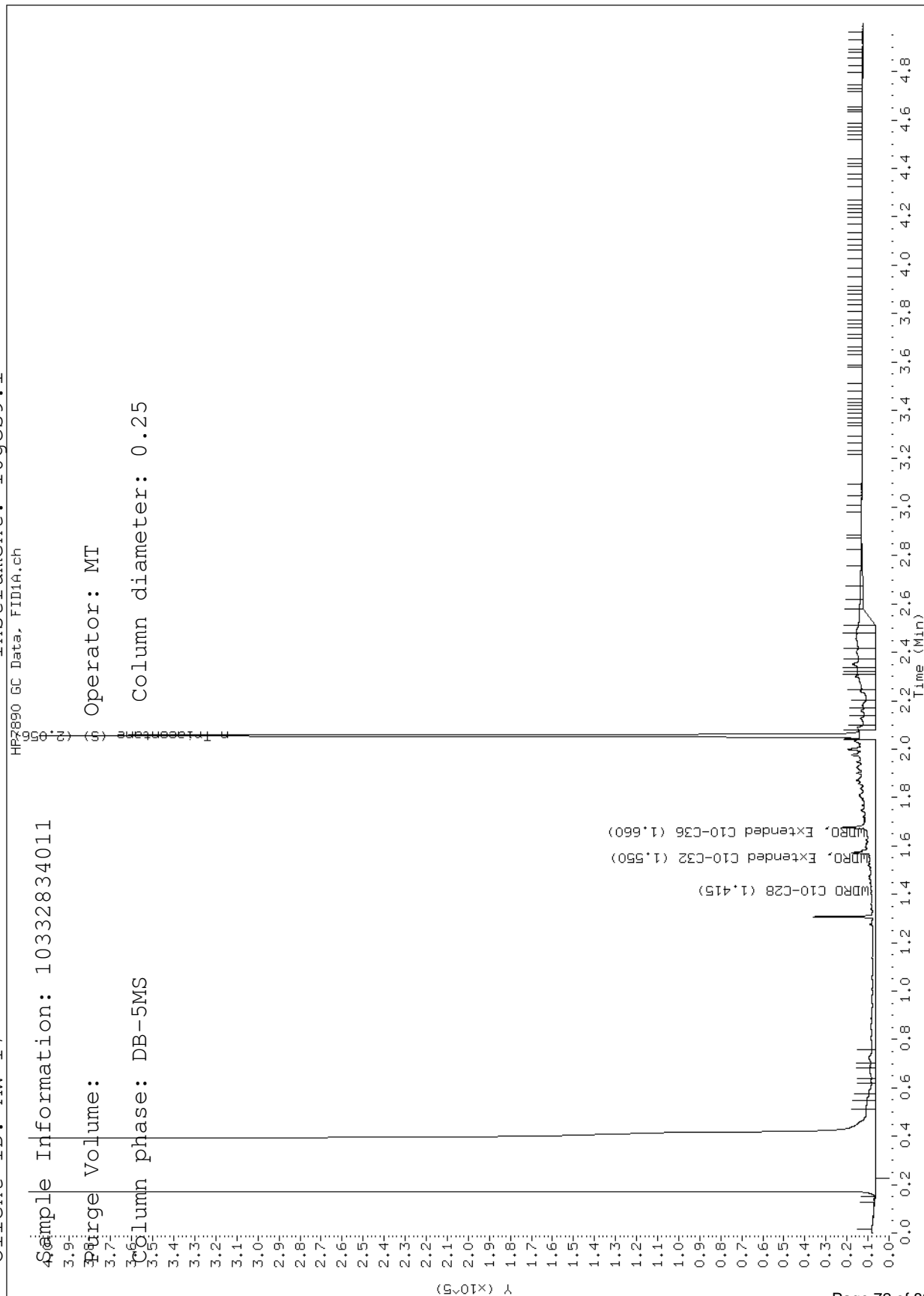
Sample Information: 10332834011

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000018.D

Report Date: 12/14/2015

Sample ID: 10332834012

Client ID: MW-18

Instrument: 10gcs9.i

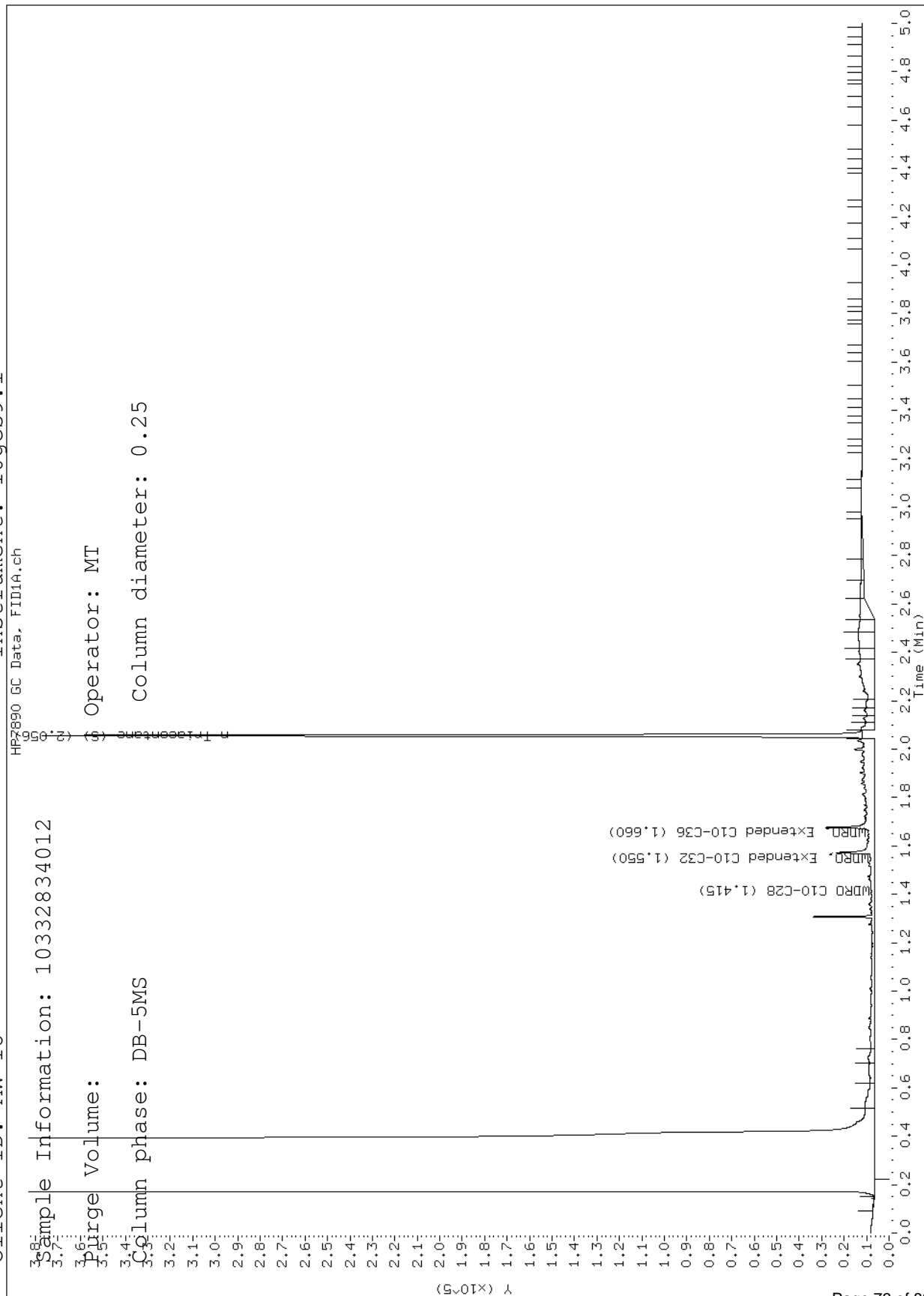
Sample Information: 10332834012

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000017.D

Report Date: 12/14/2015

Sample ID: 10332834013

Client ID: MW-19

Instrument: 10gcs9.i

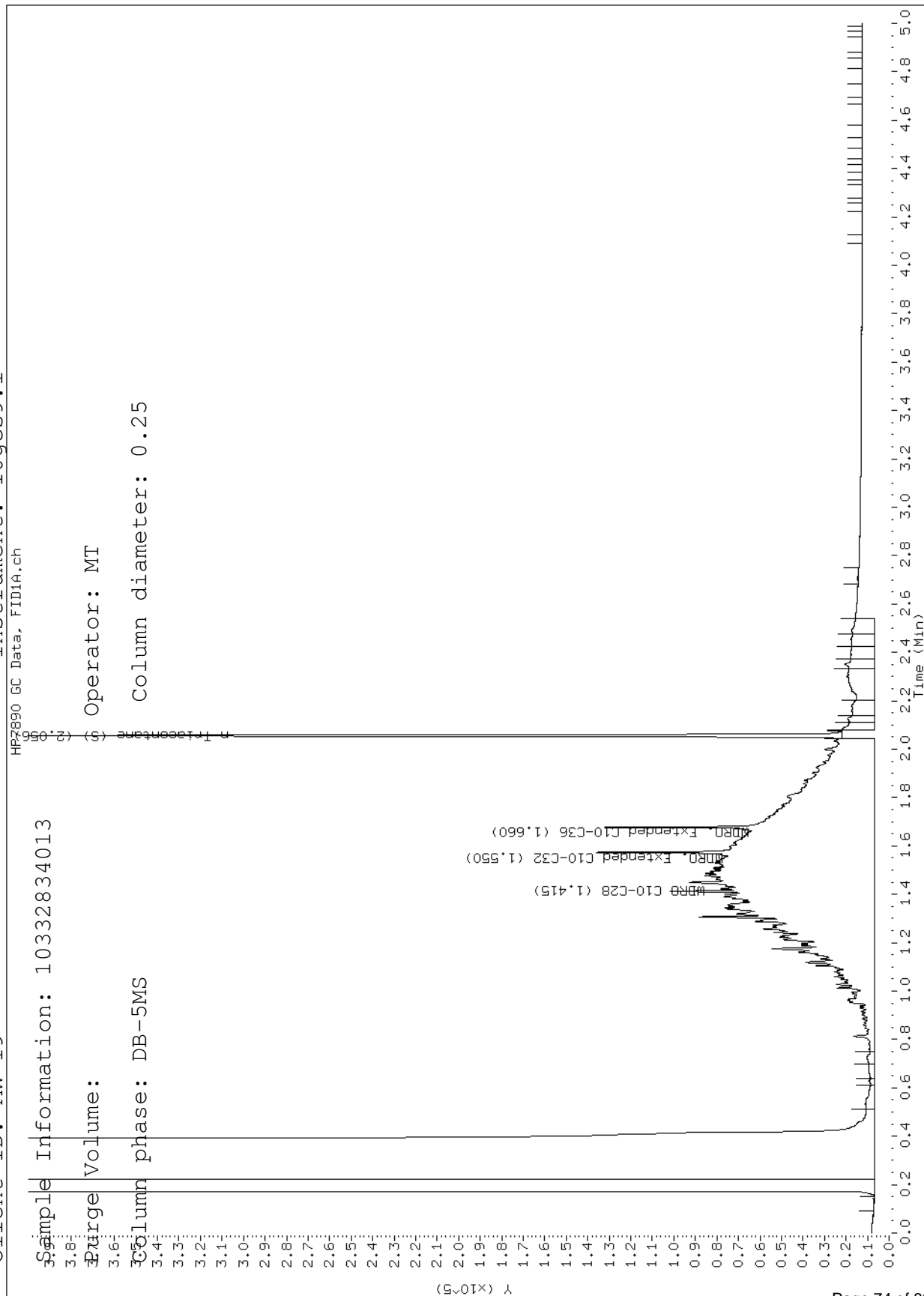
Sample Information: 10332834013

Purge Volume:

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000019.D

Report Date: 12/14/2015

Sample ID: 10332834014

Client ID: MW-20

Instrument: 10gcs9.i

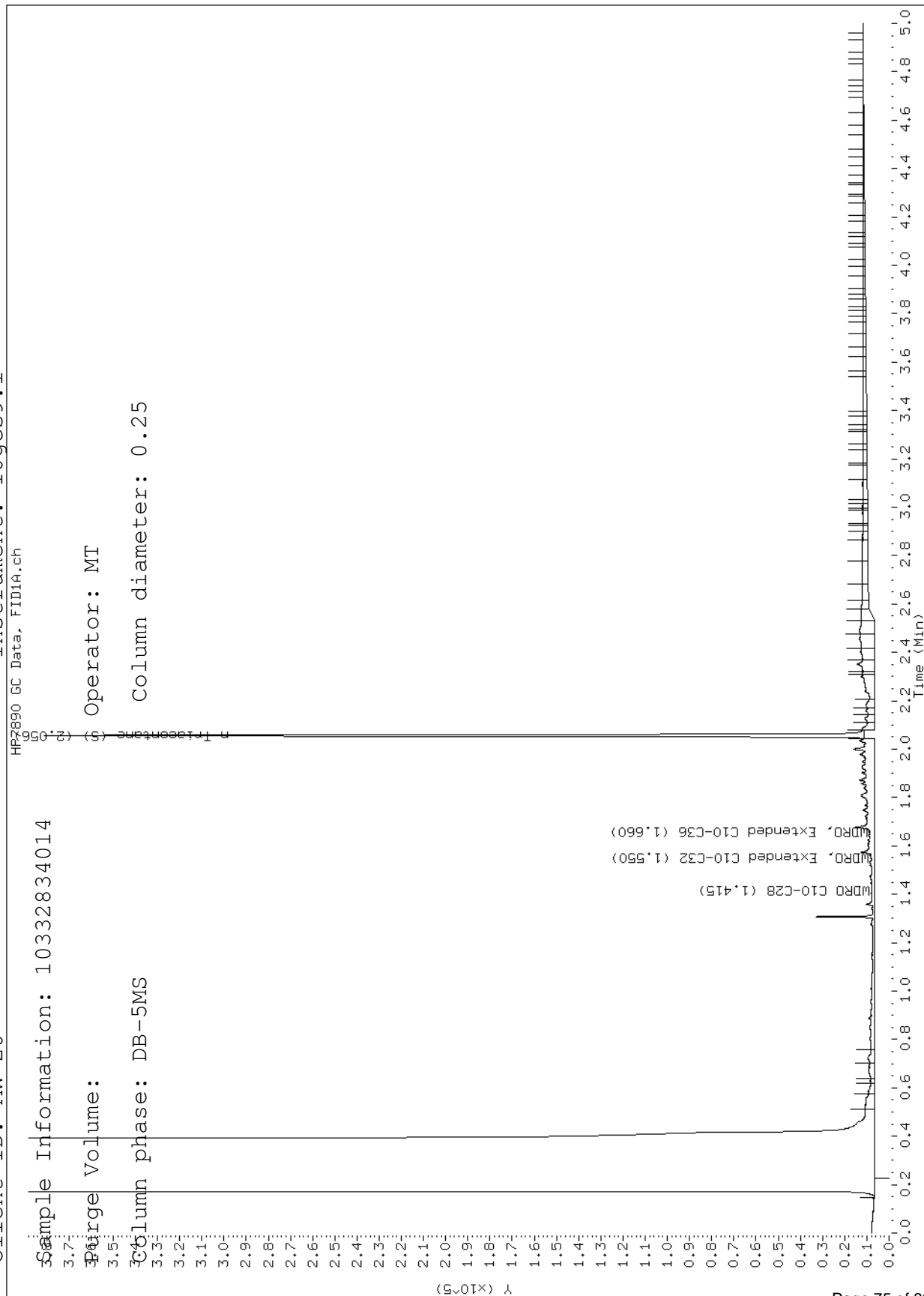
Sample Information: 10332834014

Purge Volume: 3.5

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



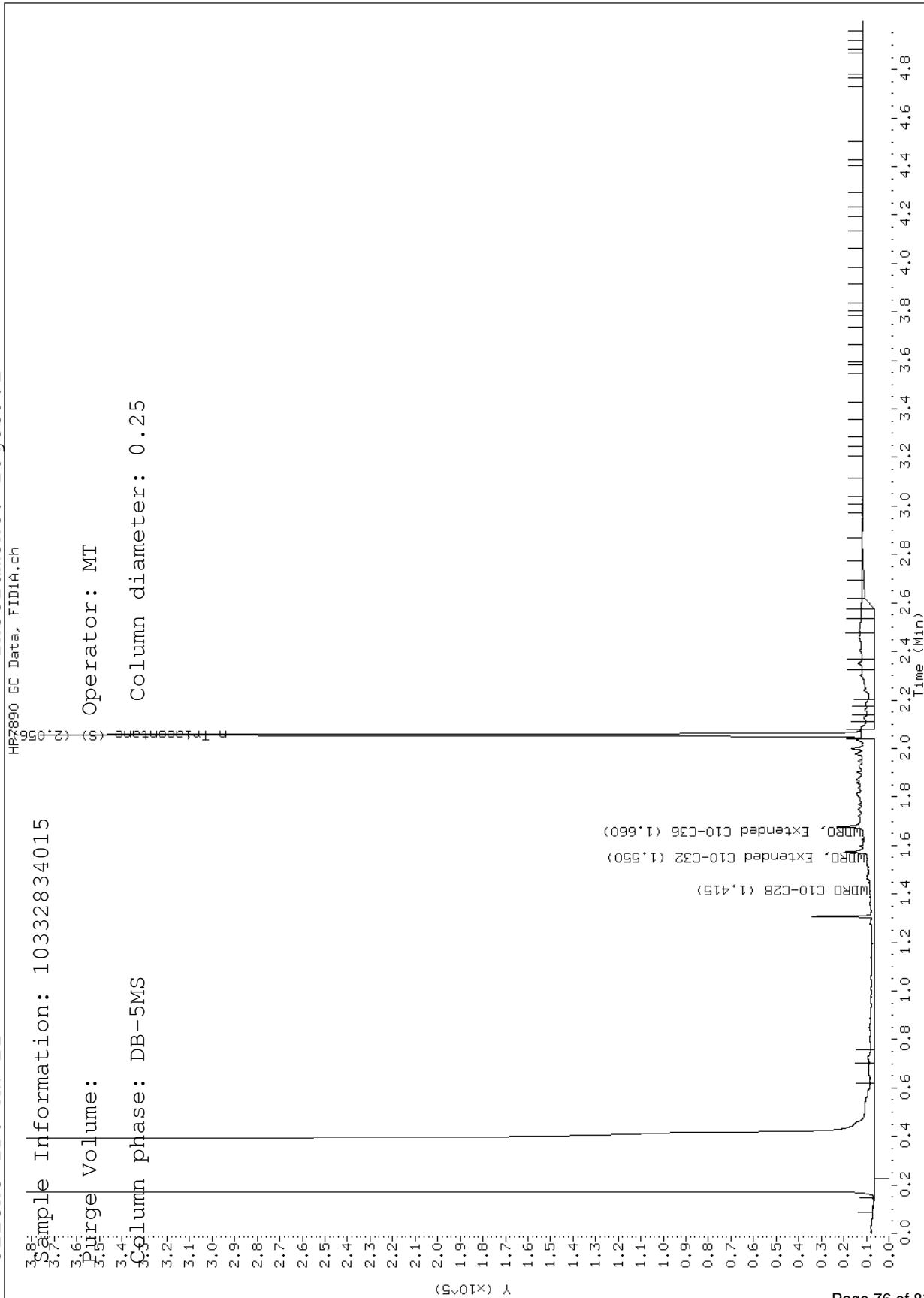
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000020.D

Report Date: 12/14/2015

Sample ID: 10332834015

Client ID: MW-21

Instrument: 10gcs9.i



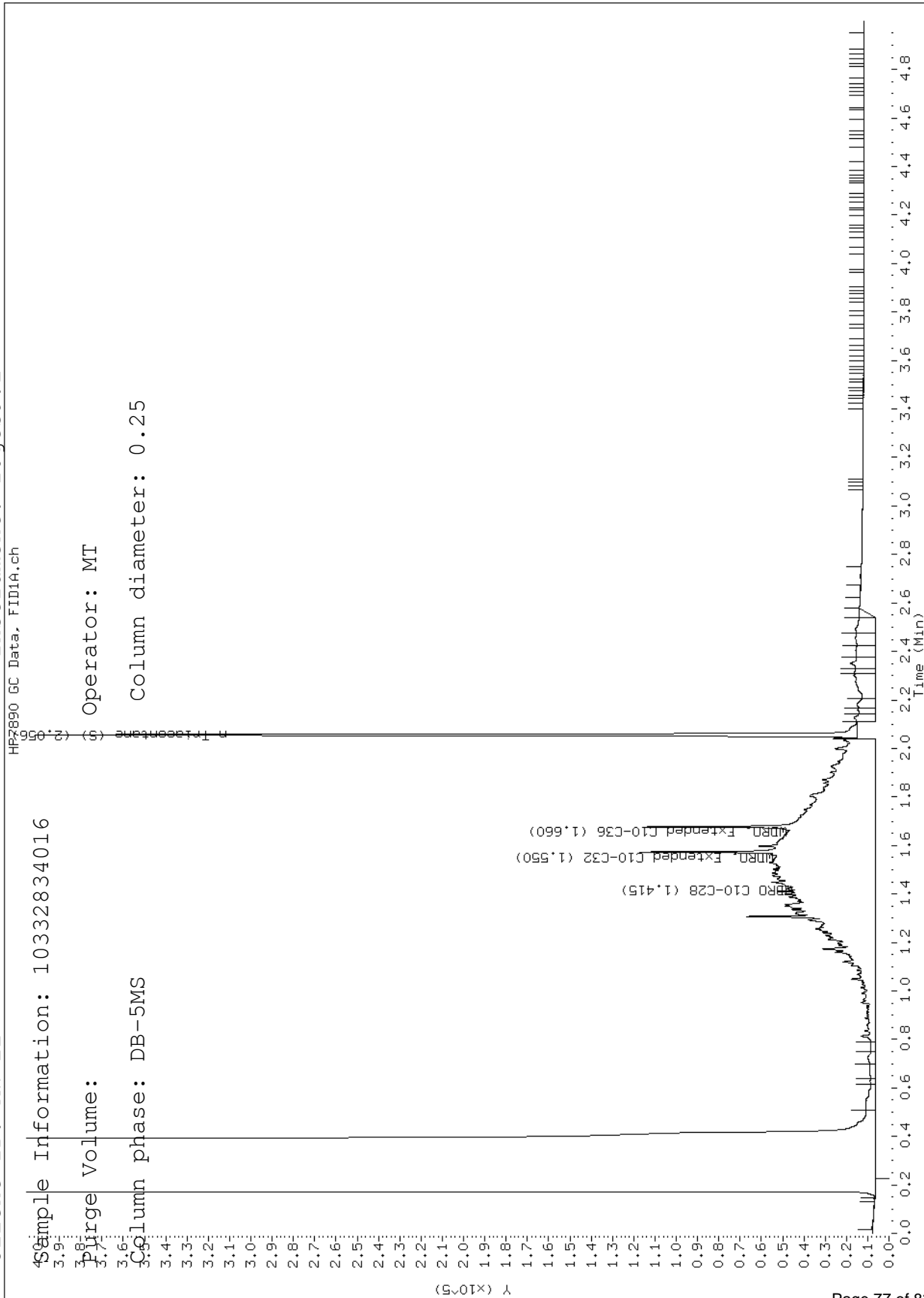
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000021.D

Report Date: 12/14/2015

Sample ID: 10332834016

Client ID: MW-22

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000032.D

Report Date: 12/14/2015

Sample ID: 10332834017

Client ID: USGS-1A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

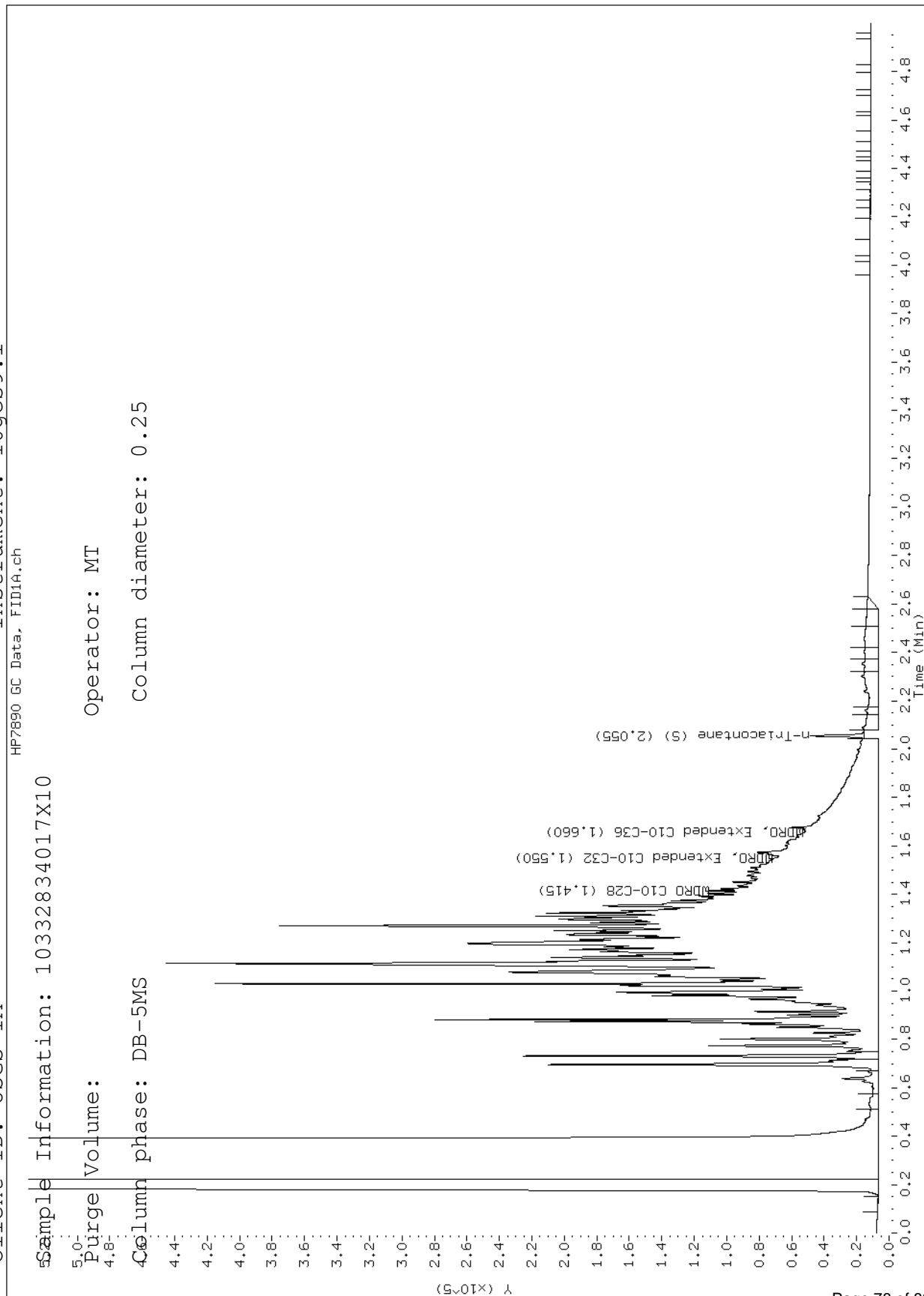
Sample Information: 10332834017X10

Purge Volume: 4.8

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000013.D

Report Date: 12/14/2015

Sample ID: 10332834018

Client ID: USGS-2A

Instrument: 10gcs9.i

HP7890 GC Data, FID1A.ch

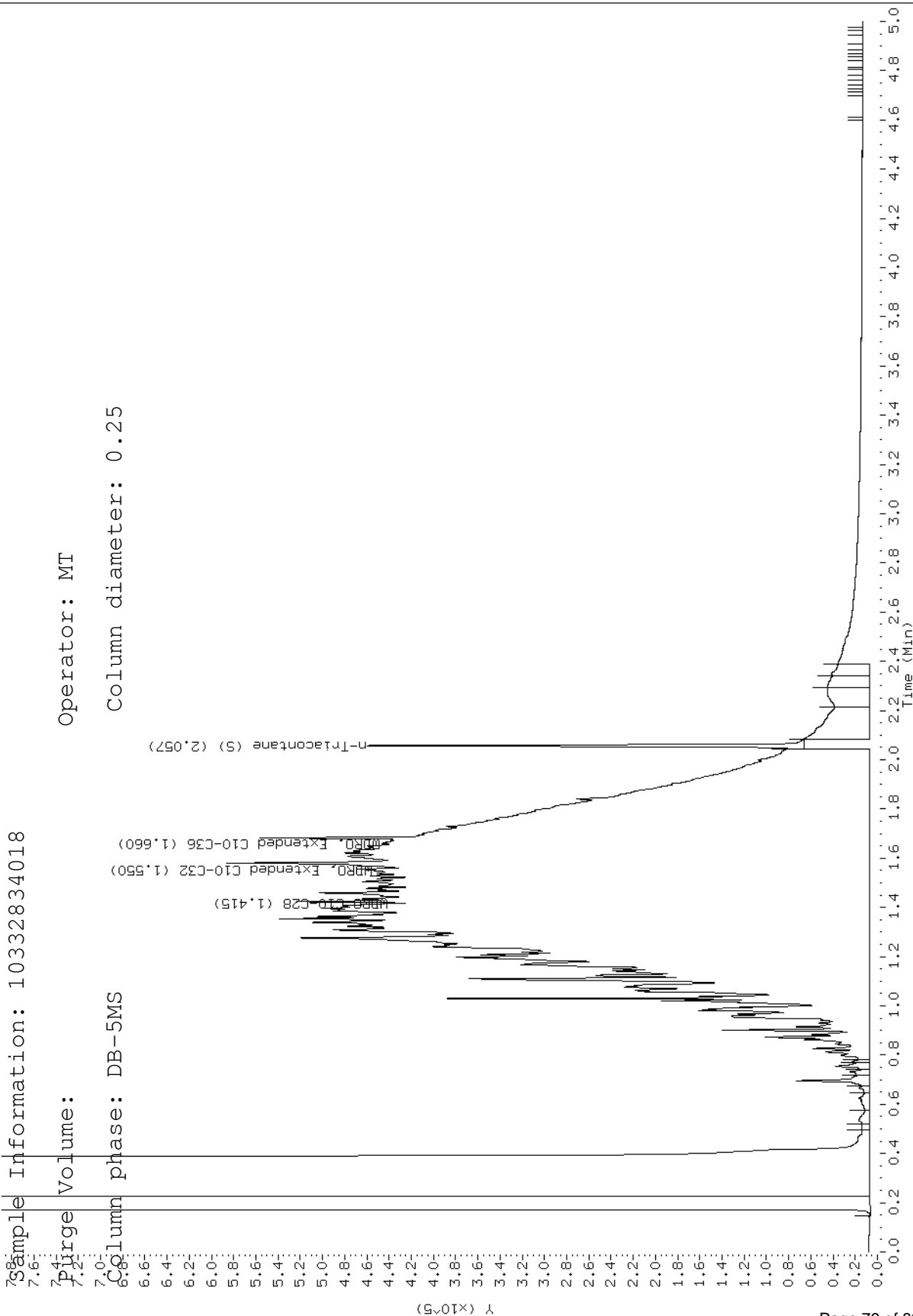
Sample Information: 10332834018

Purge Volume: 7.2

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



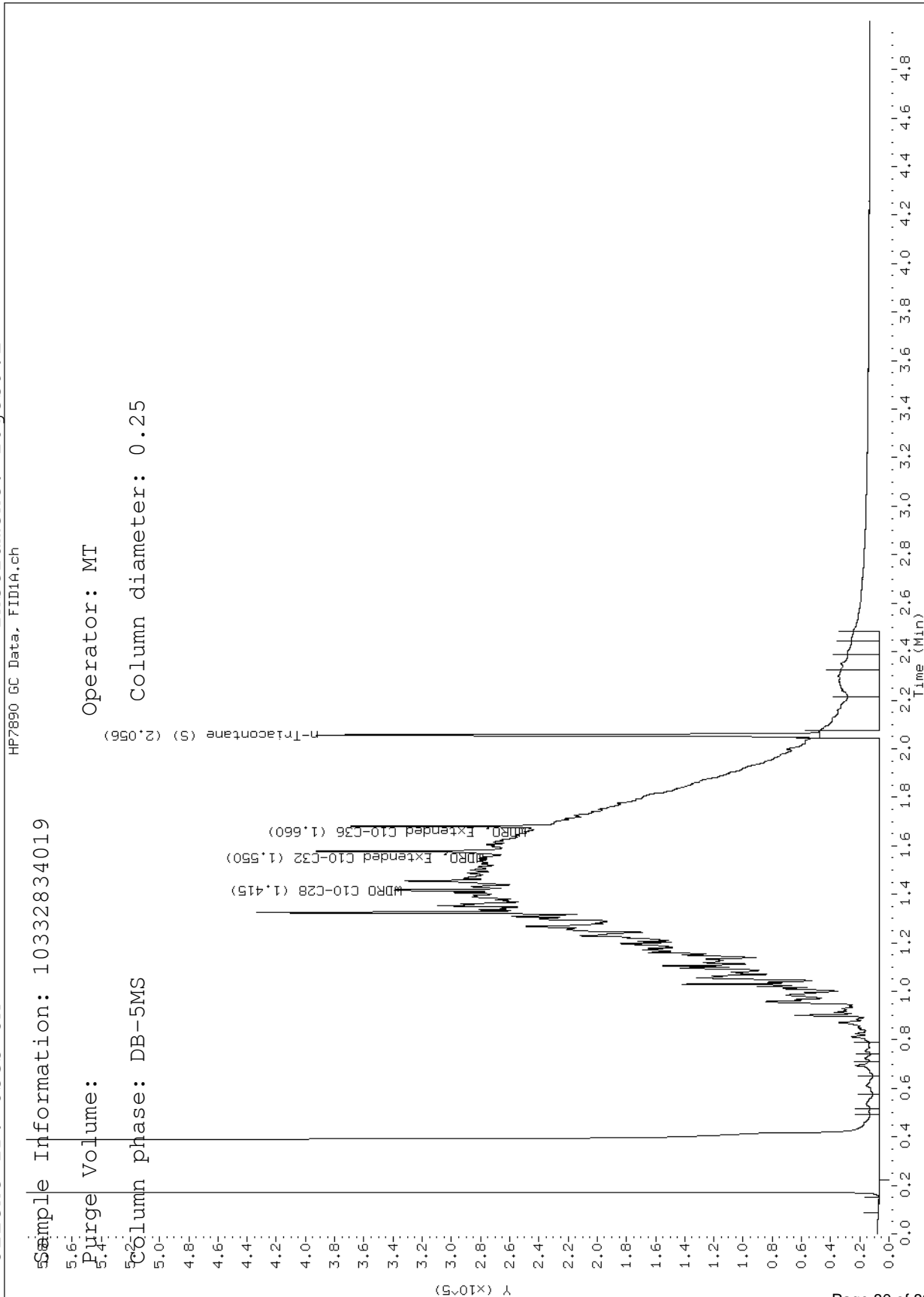
Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000014.D

Report Date: 12/14/2015

Sample ID: 10332834019

Client ID: USGS-3A

Instrument: 10gcs9.i



Data File: \\192.168.10.12\chem\10gcs9.i\121415dro.b\121415000015.D

Report Date: 12/14/2015

Sample ID: 10332834020

Client ID: USGS-4A

Instrument: 10gcs9.i

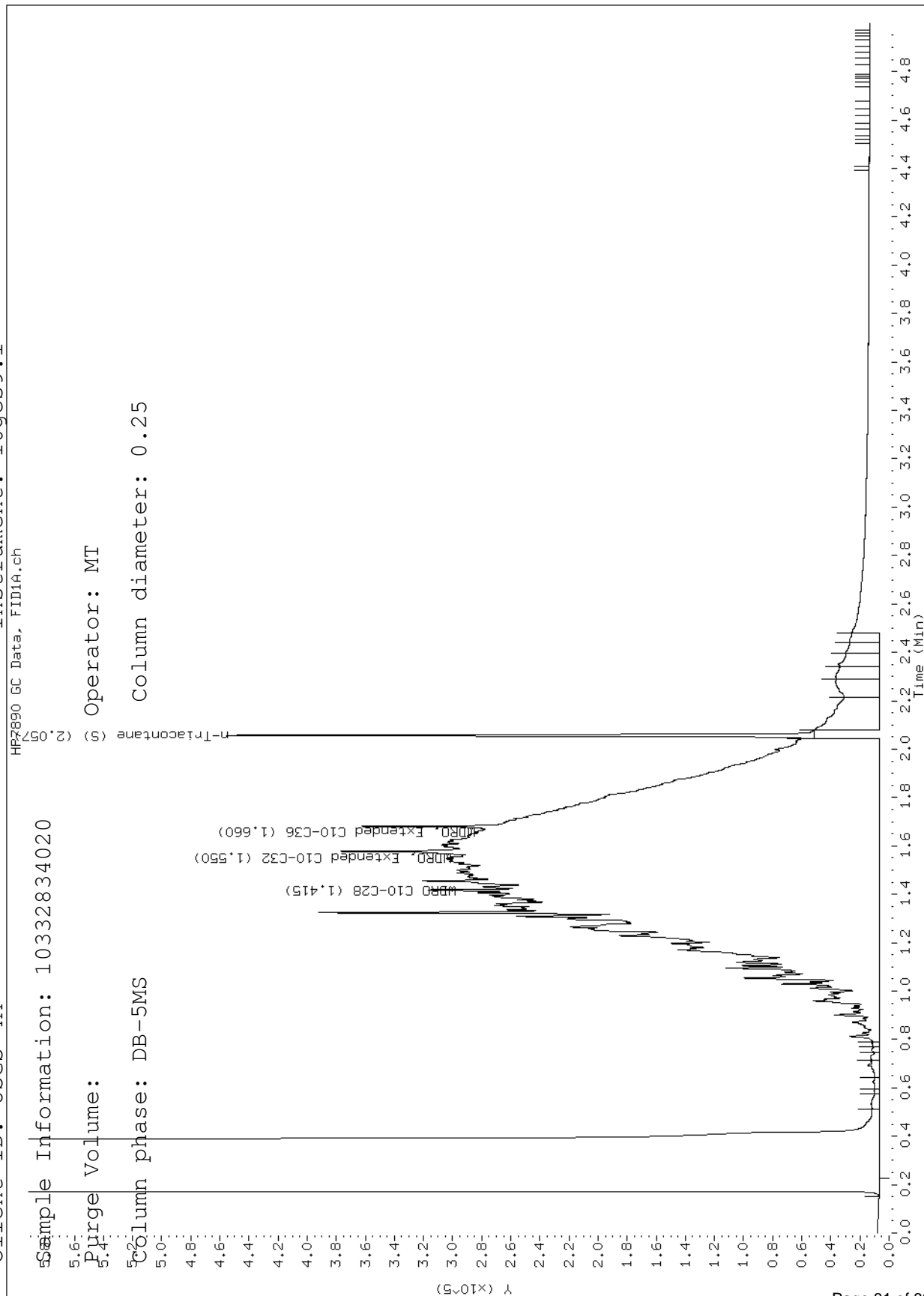
Sample Information: 10332834020

Purge Volume: 5.4

Operator: MT

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121315dro.b\121315000058.D

Report Date: 12/13/2015

Sample ID: 10332834021

Client ID: SCL DW

Instrument: 10gcs9.i

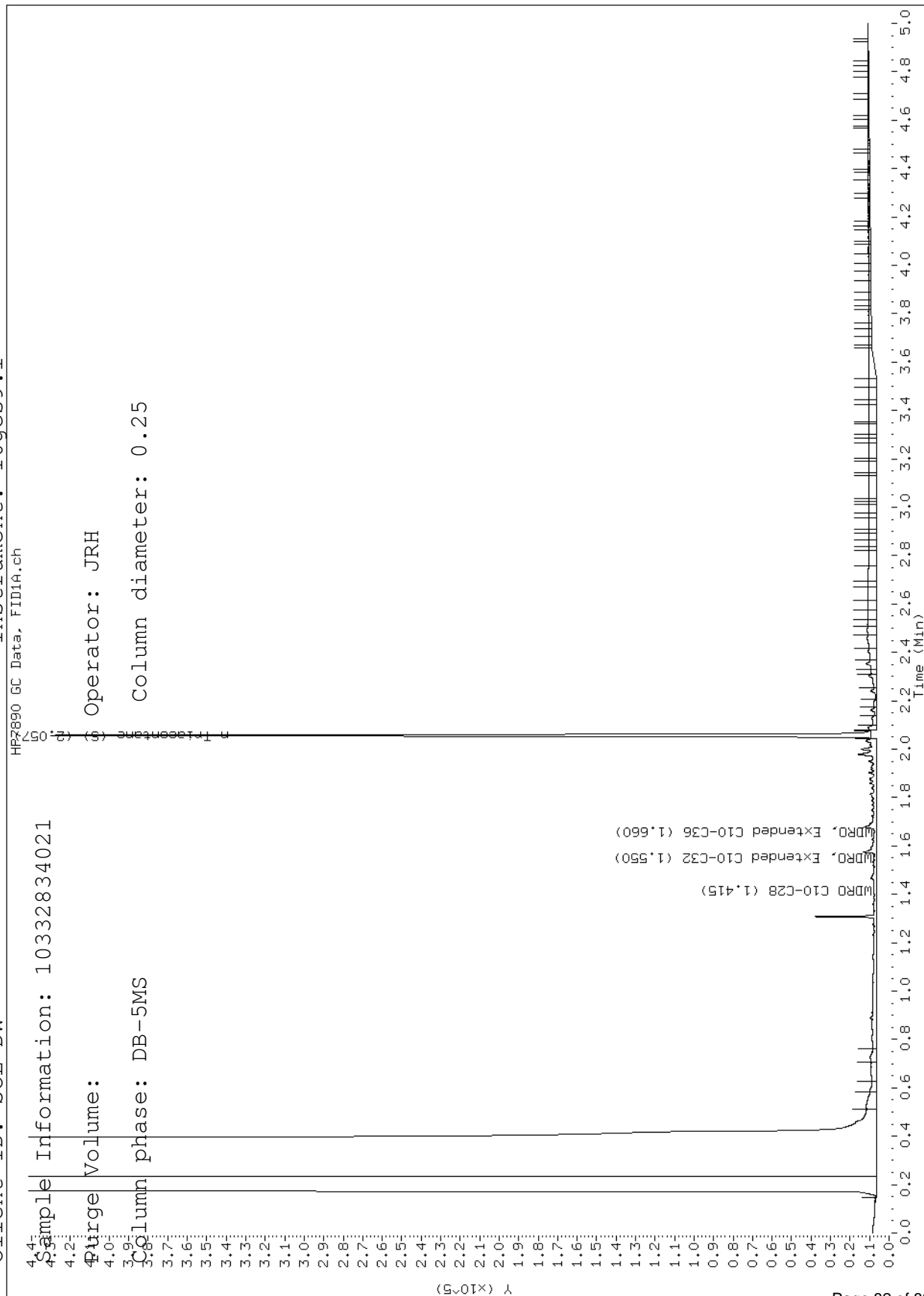
Sample Information: 10332834021

Purge Volume: 4.2

Operator: JRH

Column phase: DB-5MS

Column diameter: 0.25



Data File: \\192.168.10.12\chem\10gcs9.i\121315dro.b\121315000059.D

Report Date: 12/13/2015

Sample ID: 10332834022

Client ID: Field Blank Instrument: 10gcs9.i

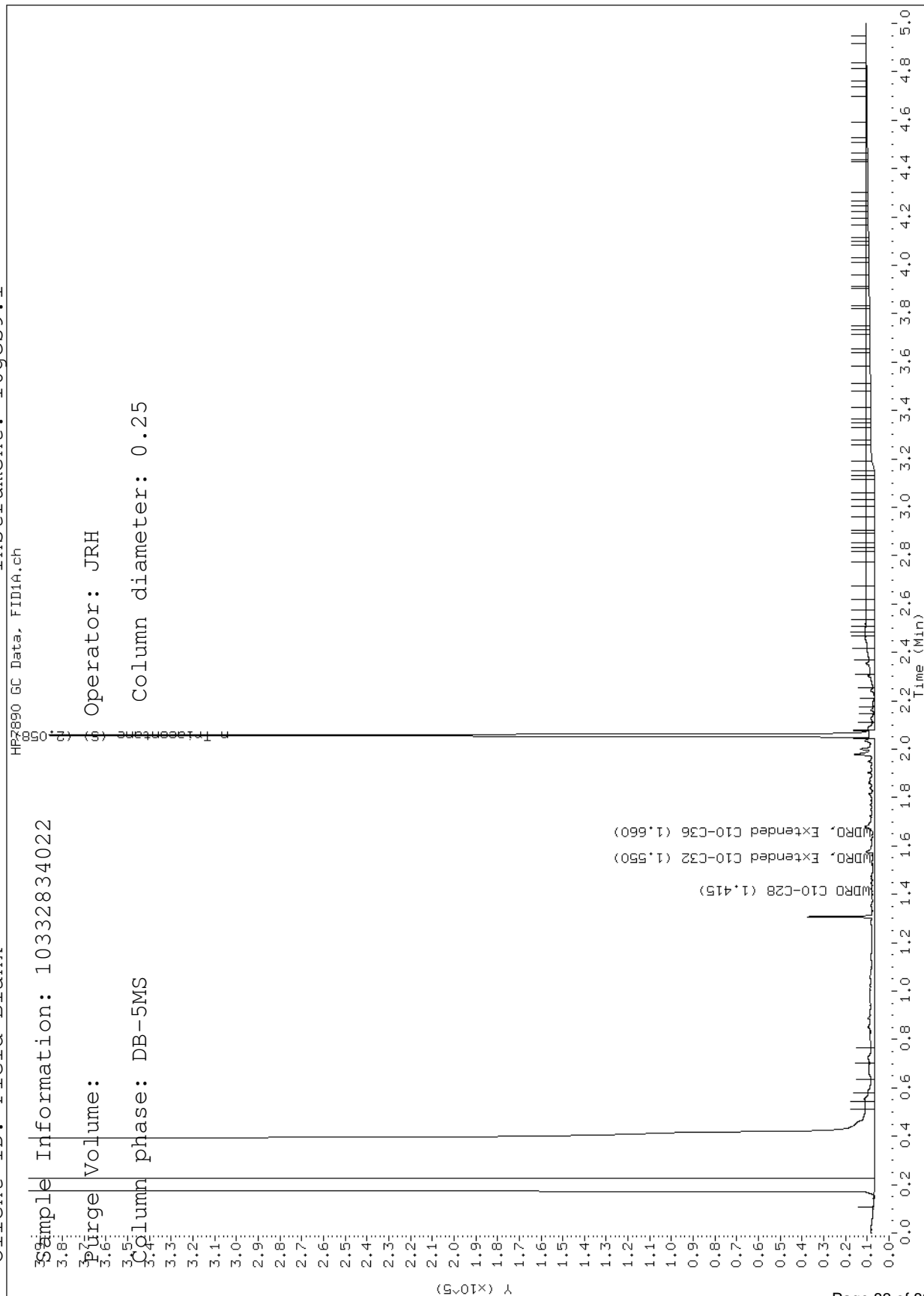
Sample Information: 10332834022

Purge Volume:

Operator: JRH

Column phase: DB-5MS

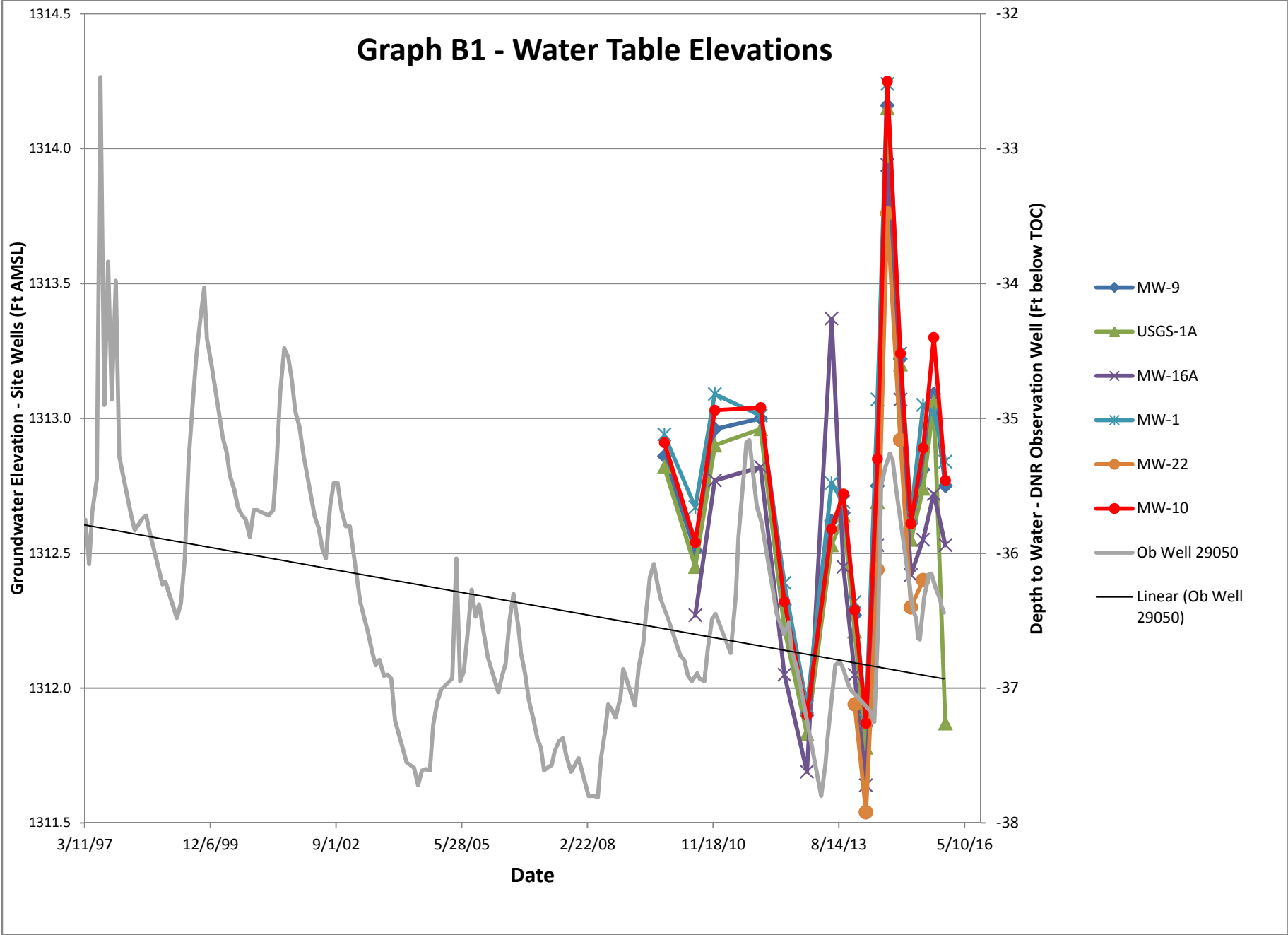
Column diameter: 0.25



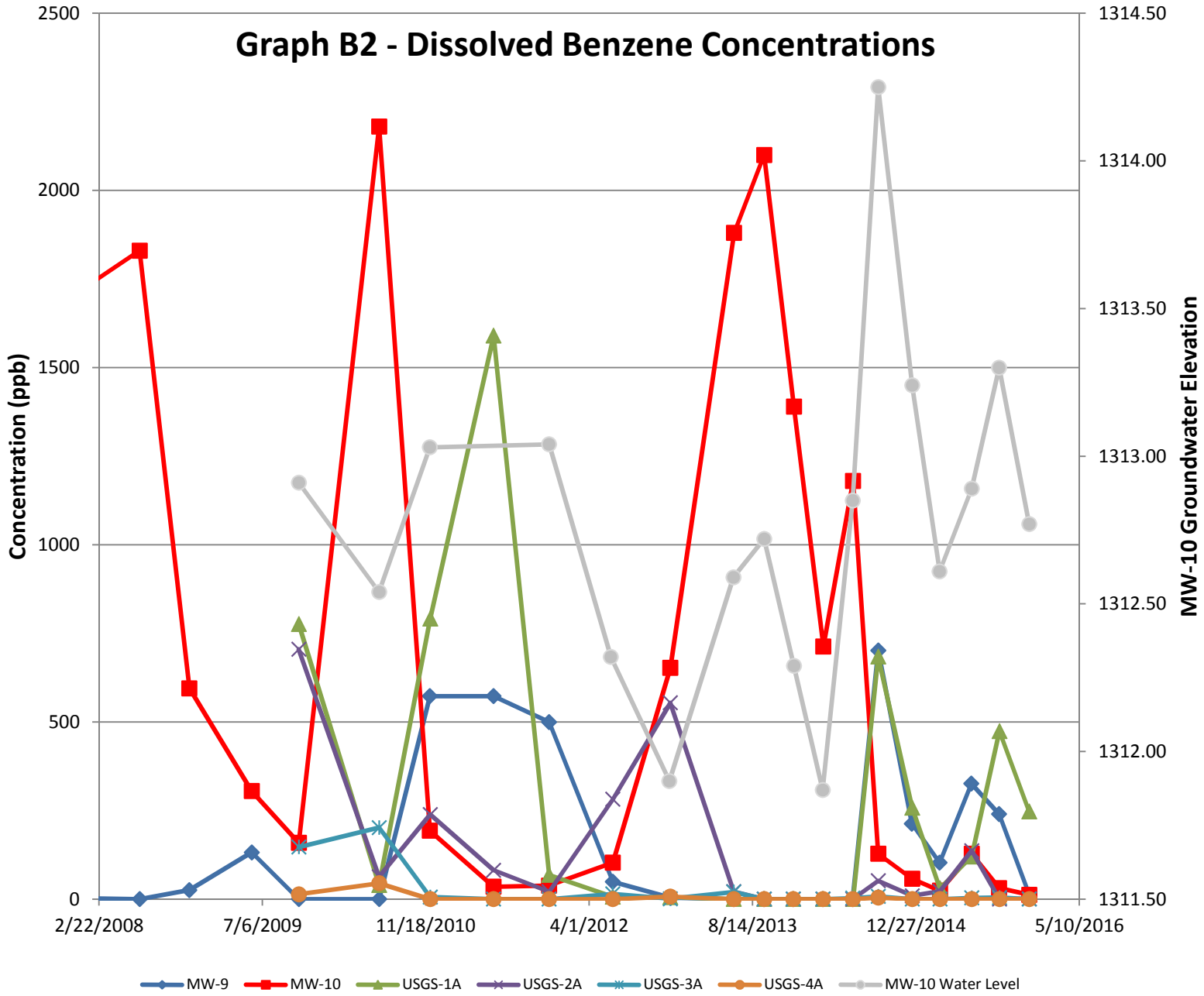
Appendix B Groundwater Trend Graphs

- Graph B1 - Water Table Elevations**
- Graph B2 - Dissolved Benzene Concentrations**
- Graph B3 - ERDRO Concentrations**
- Graph B4 - Methane Concentrations**

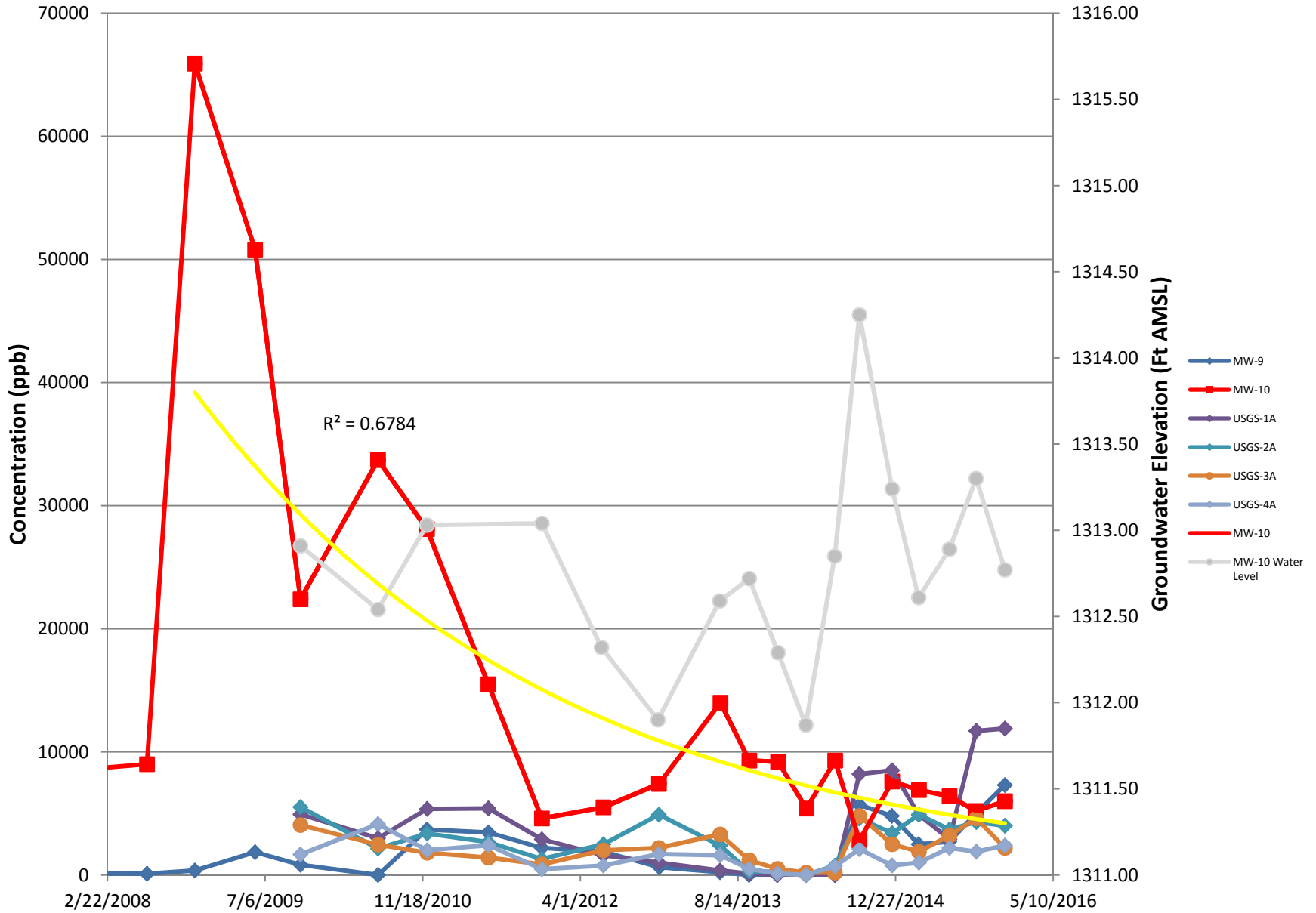
Graph B1 - Water Table Elevations



Graph B2 - Dissolved Benzene Concentrations



Graph B3 - ERDRO Concentrations



Graph B4 - Methane Concentrations

