

# APPENDIX A

## BORING LOGS



**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-1**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/15/2014 to 7/17/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
0.0 to 0.4								ASPHALT.	
0.4 to 1.0								BASE GRAVEL (GP); gray; 100% gravel. (FILL)	
1.0 to 5.0								SILTY SAND with GRAVEL (SM); medium brown; 20% fines; 65% sand; 15% gravel; medium dense; moist.	
5.0 to 10.0		10		GP		TC1-S1-5.0 PID = 0.0 ppm		SANDY SILT (ML); gray; 55% fines; 45% sand, fine grained; soft to medium stiff; moist to wet @ 8.5 feet.	
10.0 to 15.0		100		GP		TC1-S2-8.5 PID = 0.0 ppm		POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, well sorted, fine grained from 10.0 to 13.5 feet, medium grained from 13.5 to 15.0 feet; loose to medium dense; saturated.	
15.0						TC1-S3-15.0			

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**NOTES:** Ecology Well ID #BIP 878. Boring completed as pre-packed 2" well.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after well development.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-2**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/17/2014 to 7/17/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Sample Data		Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery			
0.0 to 0.4						ASPHALT.
0.4 to 5.0						SANDY GRAVEL (GW); tan brown; 5% fines; 35% sand, fine to coarse; 60% gravel, fine to medium, subangular; medium dense; dry. (FILL)
5.0 to 6.5		100				SILTY SAND (SM); grayish brown; 35% fines; 65% sand; medium dense; moist to wet @ 6.5 feet.
6.5 to 10.0						SILT (ML); medium to dark gray; 100% fines; soft; intermittent pockets of silty clay; saturated from 7.0 to 8.0 feet, moist to wet @ 9.0 feet.
10.0 to 14.5		100				POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, medium, well sorted; medium dense; saturated @ 11.0-14.5 feet.
14.5 to 15.0						CLAY (CL); gray; 100% fines, high plasticity; soft; local wood chips; moist to wet.

TC2-S-6.5  
PID = 2.0 ppm

TC2-S-9.0

TC2-S-12.0

TC2-S-15.0  
PID = 0.0 ppm

**NOTES:** Ecology Well ID #BIP 879. Boring completed as pre-packed 2" well.  
 PID = photoionization detector.  
 ppm = parts per million.

▼ Water level observed at time of drilling.

▼ Water level observed after well development.

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**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-3**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/17/2014 to 7/17/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
0.0 to 0.4								ASPHALT.	
0.4 to 8.5								SANDY GRAVEL (GW); tan brown; 5% fines; 35% sand, fine to coarse; 60% gravel, fine to medium, subangular; medium dense; dry. (FILL)	
8.5 to 9.0								SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; strong fuel odor; moist.	
9.0 to 14.0								POORLY GRADED SAND (SP); dark gray; 5% fines; 90% sand, medium, well sorted; 5% gravel; local fine subangular gravel; strong fuel odor; moist to wet, saturated @ 10.0 to 11.5 feet.	
14.0 to 15.0								SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; moist to wet.	

TC3-S-8.5  
PID = 712 ppm

TC3-S-9.7  
PID = 712 ppm

TC3-S-15.0  
PID = 0.3 ppm

**NOTES:** Ecology Well ID #BIP 877. Boring completed as pre-packed 2" well. Impacted from approximately 8.5 to 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

▼ Water level observed at time of drilling.

▼ Water level observed after well development.

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**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-4**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/16/2014 to 7/16/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
0.0 to 0.4								ASPHALT.	
0.4 to 5.0								BASE GRAVEL / SILTY SAND (GW); dark brown and gray; 10% fines; 30% sand; 60% gravel; medium dense to dense; dry. (FILL)	
2.5 to 7.0								SILTY SAND (SM); light to medium brown; 35% fines; 65% sand; local fine subangular gravel; local iron oxidation staining; dry.	
5.0 to 7.0		100	GP			TC4-S-5.0 PID = 0.0 ppm			
7.0 to 9.0						TC4-S-7.0 PID = 0.0 ppm		SILT (ML); gray; 100% fines; medium stiff; layered silt; moist to wet @ 7.0 feet, saturated @ 7.5 to 9.0 feet.	
9.0 to 15.0		100	GP			TC4-S-15.0 PID = 1.3 ppm		POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, well sorted, medium grained; saturated @ 9.0 to 14.0 feet, moist to wet @ 15.0 feet.	

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**NOTES:** Ecology Well ID #BIP 875. Boring completed as pre-packed 2" well.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after well development.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-5**


Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/17/2014 to 7/17/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Collection Method	Sample Data			Blows/6"	Lithologic Column	Soil Description
					Number	Name (Type)				
0.0 to 0.4										0.0 to 0.4 feet: ASPHALT.
0.4 to 4.0										0.4 to 4.0 feet: SANDY GRAVEL (GW); tan brown; 10% fines; 25% sand; 65% gravel, fine to coarse, subangular; medium dense; dry. (FILL)
4.0 to 5.0										4.0 to 5.0 feet: GRAVELLY SAND (SW); grayish brown; 15% fines; 60% sand, fine to coarse; 25% gravel; medium dense; moist.
5.0 to 6.5		20		GP						5.0 to 6.5 feet: SILTY CLAY (CL); medium brown; 100% fines, low plasticity; soft; moist.
6.5 to 13.0										6.5 to 13.0 feet: SILTY SAND (SM); grayish brown; 35% fines; 65% sand; loose; moist to saturated @ 10.0 feet.
10.0		100		GP		TC5-S-9.5 PID = 0.0 ppm				
13.0 to 14.0						TC5-S-13.0				13.0 to 14.0 feet: SANDY SILT (ML); gray; 75% fines; 25% sand; slight sheen; saturated.
14.0 to 15.0						TC5-S-15.0 PID = 1.8 ppm				14.0 to 15.0 feet: POORLY GRADED SAND (SP); dark gray; 5% fines; 95% sand, well sorted, medium; medium dense; strong diesel-like fuel odor; moist to wet.

**NOTES:** Ecology Well ID #BIP 876. Boring completed as pre-packed 2" well. Fuel impacted from approximately 10.0 to 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

 **Water level observed at time of drilling.**

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TC-6**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/17/2014 to 7/17/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **3.5-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
0.0 to 0.4								ASPHALT.	
0.4 to 3.0								SAND with GRAVEL (SW); black brown; 10% fines; 75% sand; 15% gravel; loose; moist.	
3.0 to 7.0								SILTY SANDY CLAY (CL); light brown; 75% fines, moderate plasticity; 25% sand; medium stiff; abundant iron oxidation staining; moist to wet @ 7.0 feet.	
7.0 to 9.0								SILTY CLAY (CL); gray; 100% fines, low plasticity; soft; saturated.	
9.0 to 12.5								SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; saturated.	
12.5 to 13.5								POORLY GRADED SAND (SP); 10% fines; 90% sand, well sorted, medium; medium dense; saturated.	
13.5 to 15.0								SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; moist to wet.	

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**NOTES:** Ecology Well ID #BIP 880. Boring completed as pre-packed 2" well.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after well development.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-1**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/15/2014 to 7/15/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
1				GP				0.0 to 0.4 feet: ASPHALT.	
2								0.4 to 9.5 feet: SANDY GRAVEL (GW); grayish brown; 10% fines; 35% sand, fine to coarse; 55% gravel, fine to medium, subangular; medium dense; dry from 0.4 to 8.5 feet, moist to wet @ 8.5 feet. (FILL)	
3									
4									
5		100		GP					
6								9.5 to 14.0 feet: POORLY GRADED SAND (SP); dark gray; 5% fines; 95% sand, well sorted, medium; loose to medium dense; saturated. @12.5 to 13.5 feet, coarse grained sand.	
7									
8									
9						TCBH1-S-8.5 TCBH1-W-8.5 PID = 0.0 ppm			
10		100		GP		TCBH1-S-10.0		14.0 to 15.0 feet: SANDY SILT (ML); dark gray; 35% fines, soft; 65% sand; saturated.	
11									
12									
13									
14								TCBH1-S-15.0	
15									

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**NOTES:** Temporary screen set at 5.0-15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after groundwater sampling.



**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-2**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/15/2014 to 7/15/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data				Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number			
1		10		GP			0.0 to 0.3 feet: ASPHALT.	
2							0.3 to 9.0 feet: SANDY GRAVEL (GW); grayish brown; 10% fines; 35% sand, fine to coarse; 55% gravel, fine to medium, subangular; very loose; minimal recovery; medium dense; dry. (FILL)	
3								
4								
5		10		GP				
6								
7								
8								
9							TCBH2-W-8.5 PID = 0.0 ppm	
10		100		GP			TCBH2-S-10.0 PID = 0.0 ppm	
11							9.0 to 10.0 feet: SILTY SAND (SM); medium brown; 35% fines; 65% sand; very loose; little recovery; moist to wet @ 8.5 feet.	
12							10.0 to 14.0 feet: SANDY SILT (ML); brown; 75% fines; 25% sand; medium stiff, saturated.	
13								
14								
15							TCBH2-S-14.0 TCBH2-S-15.0 PID = 0.0 ppm	
						14.0 to 15.0 feet: SAND with GRAVEL (SW); gray sand with yellowish brown gravel; 5% fines; 80% sand, fine to coarse; 15% gravel, fine; medium dense; wet.		

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**NOTES:** Temporary screen set at 5.0-15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after groundwater sampling.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-3**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/15/2014 to 7/15/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
1		100		GP				0.0 to 0.4 feet: ASPHALT.	
2								0.4 to 8.5 feet: SANDY GRAVEL (GW); grayish brown; 10% fines; 35% sand, fine to coarse; 55% gravel, fine to medium, subangular; medium dense; dry. (FILL)	
3									
4									
5			100		GP				
6									
7									
8									
9									
10			100		GP				
11									
12									
13									
14									
15									

**TCBH3-S-6.5**  
PID = 0.0 ppm

**TCBH3-S-8.5**  
**TCBH3-W-8.5**  
PID = 140.8 ppm

**TCBH3-S-14.5**  
PID = 0.0 ppm

8.5 to 14.0 feet: POORLY GRADED SAND (SP); dark gray; 5% fines; 95% sand, well sorted, medium grained; loose to medium dense; moderate to strong fuel odor; moist to saturated @ 10.0 feet.

14.0 to 15.0 feet: SANDY SILT (ML); medium gray; 75% fines; 25% sand; soft; impacted; wet.

**NOTES:** Temporary screen set at 5.0-15.0 feet. Slight sheen in groundwater.  
 PID = photoionization detector.  
 ppm = parts per million.

Water level observed at time of drilling.

Water level observed after groundwater sampling.

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TC1-TCBH4.GPJ 9/3/14

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-4**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, WA**  
 Start/End Date **7/15/2014 to 7/15/2014**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Yen-Vy Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description
				Collection Method	Number	Name (Type)			
1								0.0 to 0.4 feet: ASPHALT.	
2								0.4 to 3.0 feet: WELL GRADED GRAVEL (GW); grayish brown; 10% fines; 30% sand; 60% gravel; dry. (FILL)	
3								3.0 to 4.0 feet: SILTY CLAY (CL); dark gray; 35% fines; 65% sand; low plasticity; soft; moist.	
4								4.0 to 8.0 feet: SILTY SAND (SM); medium gray; 35% fines; 65% sand; loose; moist to wet @ 6.0 feet, saturated @ 6.5 feet.	
5		100							
6									
7									
8								8.0 to 9.0 feet: SANDY SILT (ML); medium gray; 75% fines; 25% sand; soft; wet.	
9								9.0 to 14.0 feet: POORLY GRADED SAND (SP); gray with specks of yellow; 5% fines; 95% sand, well sorted, medium; loose to medium dense; wet.	
10		100							
11									
12									
13									
14									
15								14.0 to 15.0 feet: SILTY CLAY (CH); light gray; 100% fines; high plasticity; local wood chips; medium stiff; moist to wet.	

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**NOTES:** Temporary screen set at 5.0-15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.



Water level observed at time of drilling.



Water level observed after groundwater sampling.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-5**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data					Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number	Name (Type)			
1		100	GP					0.0 to 0.4 feet: ASPHALT; black.	
2								0.4 to 2.5 feet: SANDY GRAVEL with SILT (GW-GM); gray; 10% fines; 20% sand; 70% gravel; medium dense; dry. (FILL)	
3								2.5 to 7.0 feet: SILTY SAND (SM); gray; 35% fines; 65% sand; moist to wet @ 4.5 feet, saturated @ 6.5 feet.	
4									
5			100	GP		TCBH5-S-4.5 TCBH5-W-4.5 PID = 2.2 ppm			
6									
7									
8								7.0 to 9.0 feet: SILT (ML); gray; 100% fines; wet to saturated.	
9									
10			100	GP		TCBH5-S-9.0 PID = 9.8 ppm			
11									
12									
13									
14						TCBH5-S-13.5			
15						TCBH5-S-15.0 PID = 6.6 ppm			
							9.0 to 13.2 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, well sorted, medium grained; saturated.		
							13.2 to 14.2 feet: CLAY (CL); gray; 100% fines, moderate plasticity; stiff, saturated.		
							14.2 to 15.0 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand; moist to wet.		

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet. Boring needed to recharge 3 times in order to collect groundwater.  
 PID = photoionization detector.  
 ppm = parts per million.

**Water Level observed at time of drilling.**

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-6**

Sheet  
**1 of 1**


Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/16/14 to 7/16/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**


TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data					Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number	Name (Type)		
0.0 to 0.4							0.0 to 0.4 feet: ASPHALT.	
0.4 to 2.7							0.4 to 2.7 feet: SANDY GRAVEL WITH SILT (GW-GM); gray; 10% fines; 20% sand; 70% gravel; dry.	
2.7 to 4.8							2.7 to 4.8 feet: SILTY SAND (SM); medium gray; 35% fines; 65% sand; loose to medium dense; moist.	
4.8 to 6.0		100	GP		TCBH6-S-4.8 TCBH6-W-4.8		4.8 to 6.0 feet: SILTY CLAY (CL); gray; 100% fines, medium plasticity; medium stiff; moderate iron oxidation staining; moist to wet.	
6.0 to 9.5					TCBH6-S-8.0		6.0 to 9.5 feet: SILT (ML); gray; 100% fines; wet to saturated.	
9.5 to 14.0		100	GP				9.5 to 14.0 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand; medium dense; saturated.	
14.0 to 15.0					TCBH6-S-14.0 TCBH6-S-15.0		14.0 to 15.0 feet: CLAY (CL); gray; 100% fines, medium to high plasticity; medium stiff; moist to wet.	

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.

 Water Level observed at time of drilling.

 Water level observed after groundwater sampling.

# Maul Foster & Alongi, Inc.

## Geologic Borehole Log/Well Construction

Project Number  
0714.02.02

Well Number  
TCBH-7

Sheet  
1 of 1

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/16/14 to 7/16/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data				Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number			
0.0 to 0.4							0.0 to 0.4 feet: ASPHALT; black.	
0.4 to 3.0							0.4 to 3.0 feet: SILTY SAND WITH GRAVEL (SM); light brown and gray; 25% fines; 60% sand; 15% gravel; medium dense; dry. (FILL)	
3.0 to 4.0							3.0 to 4.0 feet: GRAVEL (GP); gray brown; 20% sand; 80% gravel, fine, subrounded, uniform; dry. (FILL)	
4.0 to 5.0							4.0 to 5.0 feet: CLAY (CL); dark brown; 100% fines, high plasticity; medium stiff; moist.	
5.0 to 7.5		50		HA			5.0 to 7.5 feet: SILTY SAND (SM); brown; 35% fines; 65% sand; medium dense; wet.	
7.5 to 12.2		100		GP			7.5 to 12.2 feet: SILTY CLAY (CL-ML); brown gray; 100% fines, low plasticity; medium stiff; specks of mica; saturated.	
12.2 to 14.0		100		GP			12.2 to 14.0 feet: SILTY SAND (SM); gray; 35% fines; 65% sand; saturated.	
14.0 to 15.0							14.0 to 15.0 feet: CLAY (CL); 100% fines; medium stiff; moist to wet.	

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

▽ Water Level observed at time of drilling.

▼ Water level observed after groundwater sampling.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-8**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/16/14 to 7/16/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data				Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Name (Type)			
1		50		HA			0.0 to 0.4 feet: ASPHALT; black.	
2							0.4 to 3.0 feet: SILTY SAND WITH GRAVEL (SM); light brown, gray; 25% fines; 60% sand; 15% gravel; medium dense; dry. (FILL)	
3					TCBH8-S-3.0		3.0 to 4.5 feet: GRAVEL (GP); gray, brown; 20% sand; 80% gravel, fine, subrounded, uniform; dry. (FILL)	
4					TCBH8-S-4.0			
5		100		GP			4.5 to 10.0 feet: GRAVELLY SAND (SW); gray, brown; 10% fines; 65% sand; 25% gravel; moist to wet.	
6								
7								
8								
9								
10		100		GP	TCBH8-S-9.5 TCBH8-W-9.5 PID = 0.0 ppm		10.0 to 11.0 feet: SAND (SP); gray, white, yellow; 10% fines; 90% sand, well sorted, coarse grained, subrounded; saturated.	
11					TCBH8-S-11.0 PID = 0.0 ppm		11.0 to 15.0 feet: SAND (SP); gray; 5% fines; 95% sand, well sorted, medium; wet. @ 13.0 to 13.5 feet, 8 inch silty clay with iron oxidation staining.	
12								
13								
14								
15					TCBH8-S-15.0 PID = 0.8 ppm			

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

Water Level observed at time of drilling.

Water level observed after groundwater sampling.

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-9**


Sheet  
**1 of 1**


Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/16/14 to 7/16/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data				Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Name (Type)			
0.0 to 0.4							0.0 to 0.4 feet: ASPHALT; black.	
0.4 to 3.0							0.4 to 3.0 feet: SILTY SAND with GRAVEL (SM); light brown, gray; 25% fines; 60% sand; 15% gravel; medium dense; dry. (FILL)	
3.0 to 4.0							3.0 to 4.0 feet: GRAVEL (GP); gray, brown; 20% sand; 80% gravel; dry.	
4.0 to 5.0							4.0 to 5.0 feet: CLAY with GRAVEL (CL); dark brown; 75% fines; 10% sand; 15% gravel; moist.	
5.0 to 8.0		50		HA			5.0 to 8.0 feet: SILTY SAND (SM); brown, gray; 35% fines; 65% sand; medium dense; mica specs; wet to saturated.	
8.0 to 10.0		100		GP			8.0 to 10.0 feet: CLAY (CH); olive-brown; 100% fines, medium stiff, slight hydrocarbon odor; moist to wet.	
10.0 to 15.0		100		GP			10.0 to 15.0 feet: SILTY SAND (SM); dark gray; 35% fines; 65% sand; medium dense; intermittent clay lenses; saturated to 14.0 feet, moist-wet 14.0 to 15.0 feet.	
3.0					TCBH9-S-3.0			
4.0					TCBH9-S-4.0 PID = 0.0 ppm			
6.5					TCBH9-S-6.5 TCBH9-W-6.5			
9.5					TCBH9-S-9.5 PID = 21.3 ppm			
15.0					TCBH9-S-15.0 PID = 6.9 ppm			

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

 **Water Level observed at time of drilling.**

 **Water level observed after groundwater sampling.**



**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-10**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Sample Data			Blows/6"	Lithologic Column	Soil Description	
				Collection Method	Number	Name (Type)				
1		100		GP					0.0 to 2.5 feet: GRAVELLY SILTY SAND (SM); light brown, gray; 20% fines; 65% sand; 15% gravel; medium dense; dry. (FILL)	
2										
3										2.5 to 5.0 feet: SILTY SAND (SM); brown, gray; 35% fines; 65% sand; medium dense; moist to wet @ 3.7 feet.
4										
5			100		GP		TCBH10-S-4.0 TCBH10-W-4.0 PID = 42.0 ppm			
6										5.0 to 7.5 feet: SILTY CLAY (CL); gray; 100% fines, low plasticity; soft; wet to saturated.
7							TCBH10-S-7.5 PID = 0.1 ppm			
8										7.5 to 14.0 feet: SILTY SAND (SM); gray; 35% fines; 65% sand; medium dense; local well sorted sand and medium grained gravel; saturated.
9										
10			100		GP		TCBH10-S-10.0			
11										
12										
13										
14										
15							TCBH10-S-15.0 PID = 9.8 ppm			14.0 to 15.0 feet: SILTY CLAY (CL); gray; 100% fines, low plasticity; medium stiff; local iron oxidation staining; moist to wet.

GBLWC W:\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

**Water Level observed at time of drilling.**

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

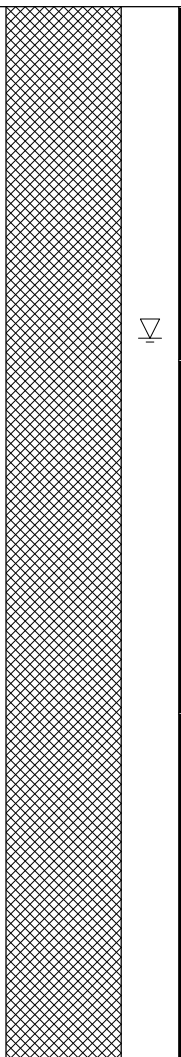
Project Number  
**0714.02.02**

Well Number  
**TCBH-11**

Sheet  
**1 of 1**


Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van/ C. Wise**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data				Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Name (Type)			
1		100	GP				0.0 to 2.5 feet: CLAYEY SILT (ML); light gray; 100% fines; dry to moist.	
2								
3							2.5 to 4.7 feet: SILTY SAND (SM); gray, brown; 30% fines; 70% sand; medium dense; moist from 2.5 to 4.7 feet, moist-wet at 4.7 feet.	
4								
5			100	GP	TCBH11-S-4.7 PID = 0.4 ppm		4.7 to 7.0 feet: SILT (ML); brown; 100% fines; medium stiff; wet to saturated.	
6								
7					TCBH11-S-7.0		7.0 to 7.8 feet: CLAY (CL); gray; 100% fines; medium stiff; saturated.	
8					TCBH11-S-7.8		7.8 to 14.7 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand; wet-saturated.	
9								
10			100	GP	PID = 0.4 ppm			
11								
12								
13								
14					TCBH11-S-14.7 PID = 0.4 ppm		@ 13.5 to 14.5 feet: coarse gravel.	
15					TCBH11-S-15.0		14.7 to 15.0 feet: CLAYEY SILT (ML); gray; 100% fines; wet.	

GBLWC W:\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

 **Water Level observed at time of drilling.**

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-12**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data					Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number	Name (Type)		
1		100	GP					0.0 to 2.5 feet: SILT (ML); light brown; 100% fines.
2								
3						TCBH12-S-2.5		2.5 to 3.5 feet: SILTY SAND (SM); light brown, gray; 35% fines; 65% sand; moist to wet @ 3.5 feet.
4						TCBH12-S-3.5 PID = 70.2 ppm		3.5 to 5.0 feet: SILTY CLAY (CL); light brown; 100% fines, low plasticity; heavy iron oxidation staining; saturated.
5			100	GP		TCBH12-S-5.0		5.0 to 13.5 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand, well sorted, medium grained; saturated.
6								
7								
8								
9						TCBH12-S-9.0 PID = 95.0 ppm		
10			100	GP				
11								
12								
13								
14						TCBH12-S-15.0 PID = 18.4 ppm		13.5 to 15.0 feet: SILTY CLAY (CL); gray; 100% fines, medium plasticity; local wood chips; moist-wet.
15								

GBLWC W:\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet.  
 PID = photoionization detector.  
 ppm = parts per million.

**Water Level observed at time of drilling.**

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-13**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Interval	Percent Recovery	Collection Method	Sample Data			Blows/6"	Lithologic Column	Soil Description
					Number	Name (Type)				
1										0.0 to 2.5 feet: SILT (ML); light brown; 100% fines; dry.
2										
3										2.5 to 6.5 feet: SILTY SAND (SM); light brown; 35% fines; 65% sand; medium dense; dry, moist to wet @ 4.5 feet.
4										
5										
6										
7										6.5 to 7.0 feet: CLAY (CL); gray; 100% fines, high plasticity; soft; wet.
8										7.0 to 13.0 feet: POORLY GRADED SAND (SP); gray; 5% fines; 95% sand; medium dense; saturated.
9										
10										
11										
12										
13										
14										
15										

**NOTES:** Temporary Screen installed between 5.0 and 15.0 feet. Impacted (?) from approximately 4.5 feet to 15.0 feet. HCID analysis.  
 PID = photoionization detector.  
 ppm = parts per million.

▽ **Water Level observed at time of drilling.**

▼ **Water level observed after groundwater sampling.**

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**Maul Foster & Alongi, Inc.**

**Geologic Borehole Log/Well Construction**

Project Number  
**0714.02.02**

Well Number  
**TCBH-14**

Sheet  
**1 of 1**

Project Name **Truck City Site**  
 Project Location **Mount Vernon, Washington**  
 Start/End Date **7/18/14 to 7/18/14**  
 Driller/Equipment **Holt Services, Inc./Geoprobe 7822DT**  
 Geologist/Engineer **Y. Van/ C. Wise**  
 Sample Method **Geoprobe**

TOC Elevation (feet)  
 Surface Elevation (feet)  
 Northing  
 Easting  
 Hole Depth **15.0-feet**  
 Outer Hole Diam **2.25-inch**

Depth (feet, BGS)	Well Details	Sample Data					Blows/6"	Lithologic Column	Soil Description
		Interval	Percent Recovery	Collection Method	Number	Name (Type)			
1		100	GP					0.0 to 7.0 feet: GRAVELLY SILTY SAND (SM); brown, gray; 20% fines; 65% sand; 15% gravel; dry. (FILL)	
2									
3								@ 2.5 to 3.0 feet: local well sorted sand with mica.	
4									
5			100	GP		PID = 1.5 ppm			
6									
7						TCBH14-S-7.0			
8								7.0 to 15.0 feet: SILTY SAND (SM); gray; 35% fines; 65% sand, medium grained; medium dense; moist to wet @ 8.5 feet.	
9						TCBH14-S-8.5 PID = 0.9 ppm			
10			100	GP					
11									
12									
13									
14									
15						PID = 1.0 ppm			

GBLWC WA\GINTGINT\PROJECTS\0714.02.02\TRUCK CITY TCBH5-TCBH14.GPJ 9/3/14

**NOTES:** PID = photoionization detector.  
 ppm = parts per million.



**Water Level observed at time of drilling.**

# APPENDIX B

## FIELD SAMPLING DATA SHEETS



# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC1		
<b>Project #</b>	0714.02.01	<b>Sampler</b>	RD		
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/17/2014		
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC1-W-10.0 and TCDUP-W-10.0		
<b>Sub Area</b>		<b>Sample Depth</b>	10		
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>		<b>Northing</b>	
		<b>TOC</b>			

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/17/2014	14:30	15		6.16		8.84	1.44

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	2:35:00 PM	0.4	0.3	6.75	18	744			
	2:38:00 PM	0.64	0.3	6.72	17.8	800			
	2:40:00 PM	0.8	0.3	6.71	17.8	806			
	2:42:00 PM	0.96	0.3	6.72	17.9	804			
	2:44:00 PM	1.12	0.3	6.71	17.8	796			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Turbid water. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	2:50:00 PM	VOA-Glass	8	No
			Amber Glass	4	Yes
			White Poly	2	No
			Yellow Poly	2	Yes
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			<b>Total Bottles</b>		<b>16</b>

### General Sampling Comments

Only 2 of the amber glass samples were filtered.  
 Began purge @ 14:30. Final DTW = 6.21' bTOC.  
 Duplicate sample collected @ 14:56.

Signature \_\_\_\_\_

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC2
<b>Project #</b>	0714.02.01	<b>Sampler</b>	CW
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/18/2014
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC2-W-10.0
<b>Sub Area</b>		<b>Sample Depth</b>	10
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>	<input type="text"/>
		<b>Northing</b>	<input type="text"/>
		<b>TOC</b>	<input type="text"/>

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/18/2014	9:04	15		6.4		8.6	1.4

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	9:17:00 AM			6.86	15.9	583			
	9:30:00 AM			6.76	15.9	549			
	9:35:00 AM			6.72	15.9	537			
	9:45:00 AM			6.71	15.9	534			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Clear. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	10:18:00 AM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly	1	Yes
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			<b>Total Bottles</b>	<b>6</b>	

### General Sampling Comments

Began purge @ 9:10.

Signature \_\_\_\_\_



# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC3		
<b>Project #</b>	0714.02.01	<b>Sampler</b>	RD		
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/17/2014		
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC3-W-10.0		
<b>Sub Area</b>		<b>Sample Depth</b>	10		
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>		<b>Northing</b>	
		<b>TOC</b>			

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/17/2014	12:17	15		5.82		9.18	1.5

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	12:22:00 PM	0.5	0.3	7.1	17.5	752			
	12:26:00 PM	0.82	0.3	7.08	17.5	752			
	12:28:00 PM	0.98	0.3	7.1	17.4	750			
	12:30:00 PM	1.14	0.3	7.11	17.4	758			
	12:31:00 PM	1.3	0.3	7.11	17.5	752			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Clearish, slight sheen. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	12:35:00 PM	VOA-Glass	4	No
			Amber Glass	1	Yes
			White Poly	1	No
			Yellow Poly	1	No
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	7	

### General Sampling Comments

Began purge @ 12:17. Final DTW = 6.11' bTOC @ 12:46.  
Note: 2.4 inches between PVC and ground surface.

Signature \_\_\_\_\_

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC4
<b>Project #</b>	0714.02.01	<b>Sampler</b>	CW
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/18/2014
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC4-W-10.0
<b>Sub Area</b>		<b>Sample Depth</b>	10
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>	<input style="width: 50px;" type="text"/>
		<b>Northing</b>	<input style="width: 50px;" type="text"/>
		<b>TOC</b>	<input style="width: 50px;" type="text"/>

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/18/2014							

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	11:12:00 AM			7.43	15.9	595			
	11:18:00 AM			7.76	15.7	596			
	11:22:00 AM			6.74	15.6	593			
	11:27:00 AM			6.68	15.5	593			
	11:32:00 AM			6.68	15.5	592			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Clear. No sheen. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	11:37:00 AM	VOA-Glass	4	
			Amber Glass	2	
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			<b>Total Bottles</b>	<b>6</b>	

### General Sampling Comments

Began purge @ 11:00.

Signature \_\_\_\_\_

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC5		
<b>Project #</b>	0714.02.01	<b>Sampler</b>	RD		
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/17/2014		
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC5-W-10.0		
<b>Sub Area</b>		<b>Sample Depth</b>	10		
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>		<b>Northing</b>	
		<b>TOC</b>			

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/17/2014	13:22	15		6.2		8.8	1.43

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	1:27:00 PM	0.4	0.3	7.03	18.2	859			
	1:30:00 PM	0.64	0.3	7.03	18	864			
	1:32:00 PM	0.8	0.3	7.04	18	868			
	1:34:00 PM	0.96	0.3	7.04	18.1	874			
	1:36:00 PM	1.12	0.3	7.04	18.1	873			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Strong petroleum hydrocarbon-like odor. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	1:38:00 PM	VOA-Glass	4	No
			Amber Glass	1	No
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			<b>Total Bottles</b>	<b>5</b>	

### General Sampling Comments

Began purge @ 13:22. Final DTW = 6.21' bTOC.  
Note: 2.5 inches between PVC and ground surface.

Signature \_\_\_\_\_

# Maul Foster & Alongi, Inc.

400 E. Mill Plain Blvd, Suite 400, Vancouver, WA 98660 (360) 694-2691 Fax. (360) 906-1958

## Water Field Sampling Data Sheet

<b>Client Name</b>	Skagit County	<b>Sample Location</b>	TC6		
<b>Project #</b>	0714.02.01	<b>Sampler</b>	CW		
<b>Project Name</b>	Truck City Environmental Services	<b>Sampling Date</b>	7/18/2014		
<b>Sampling Event</b>	July 2014	<b>Sample Name</b>	TC6-W-10.0		
<b>Sub Area</b>		<b>Sample Depth</b>	10		
<b>FSDS QA:</b>	CW 8/5/14	<b>Easting</b>		<b>Northing</b>	
		<b>TOC</b>			

### Hydrology/Level Measurements

Date	Time	DT-Bottom	DT-Product	DT-Water	(Product Thickness)	(Water Column)	(Gallons/ft x Water Column)
					DTP-DTW	DTB-DTW	Pore Volume
7/18/2014							

(0.75" = 0.023 gal/ft) (1" = 0.041 gal/ft) (1.5" = 0.092 gal/ft) (2" = 0.163 gal/ft) (3" = 0.367 gal/ft) (4" = 0.653 gal/ft) (6" = 1.469 gal/ft) (8" = 2.611 gal/ft)

### Water Quality Data

Purge Method	Time	Purge Vol (gal)	Flowrate l/min	pH	Temp (C)	E Cond (uS/cm)	DO (mg/L)	EH	Turbidity
(2) Peristaltic Pump	12:27:00 PM			6.78	17.1	550			
	12:32:00 PM			6.79	17.1	554			
	12:37:00 PM			6.83	17.1	562			
	12:42:00 PM			6.85	17.1	568			
Final Field Parameters									

Methods: (1) Submersible Pump (2) Peristaltic Pump (3) Disposable Bailer (4) Vacuum Pump (5) Dedicated Bailer (6) Inertia Pump (7) Other (specify)

### Water Quality Observations:

Clear. DO, EH, and turbidity were not measured.

### Sample Information

Sampling Method	Sample Type	Sampling Time	Container Code/Preservative	#	Filtered
(2) Peristaltic Pump	Groundwater	12:48:00 PM	VOA-Glass	4	
			Amber Glass	1	
			White Poly		
			Yellow Poly		
			Green Poly		
			Red Total Poly		
			Red Dissolved Poly		
			Total Bottles	5	

### General Sampling Comments

Began purge @ 12:15.

Signature \_\_\_\_\_

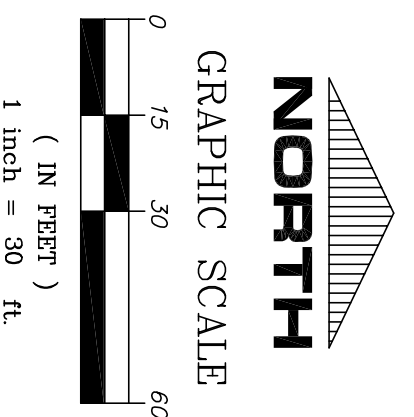
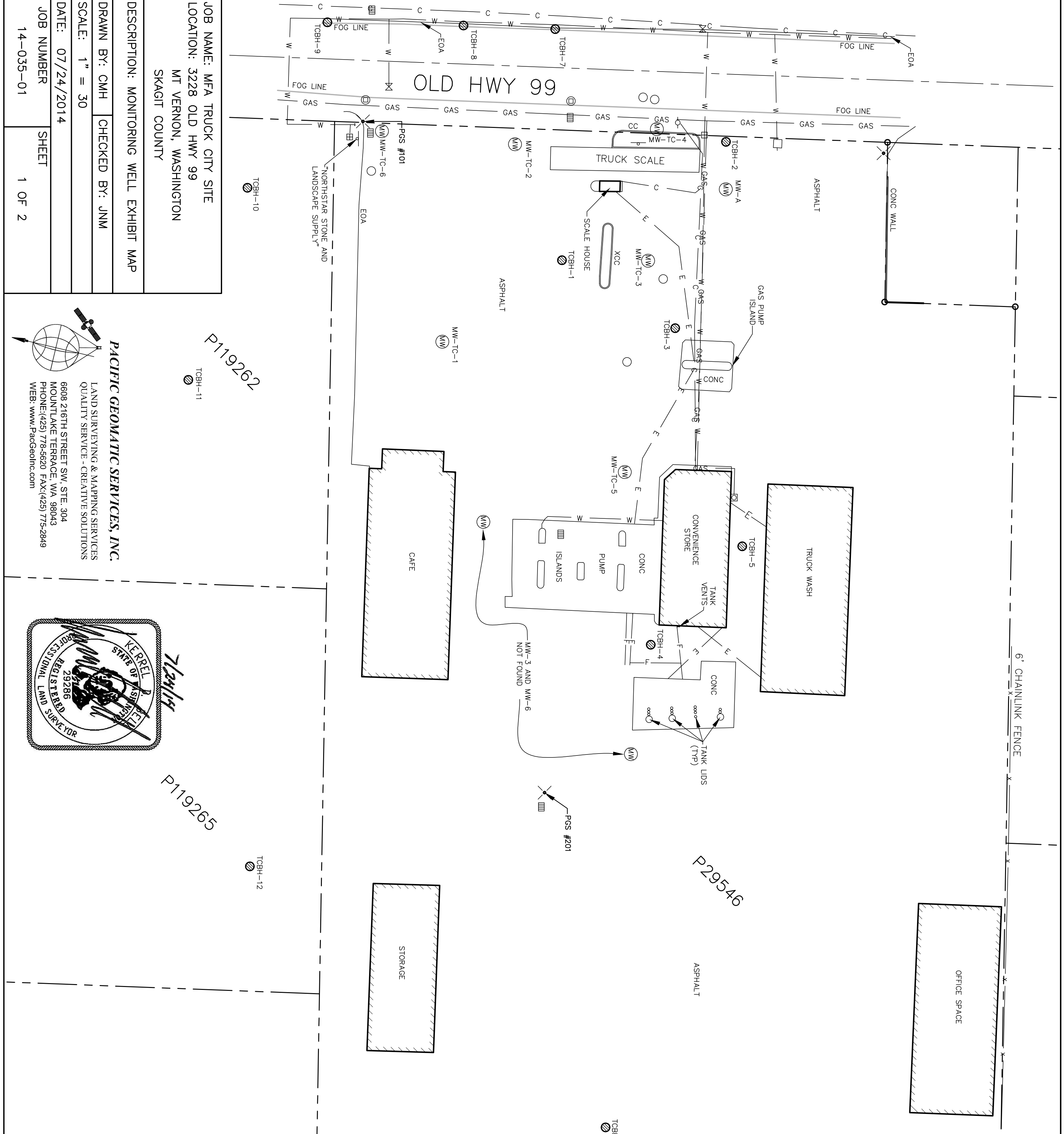
# APPENDIX C

PROFESSIONAL SURVEY EXHIBIT



**LEGEND:**

- FOUND PROPERTY CORNER
- ⊗ PGS CONTROL POINT
- ⊙ BORE HOLE
- ⊙ MONITORING WELL
- ⊙ STORM DRAIN MANHOLE
- ⊙ CB
- ⊙ SEWER MANHOLE
- UTILITY POLE
- ⊙ GAS METER
- ⊙ WATER METER
- ⊙ WATER VALVE
- SIGN POST
- UNDERGROUND FUEL PAINT MARK
- UNDERGROUND POWER PAINT MARK
- UNDERGROUND COMM. PAINT MARK
- GAS— UNDERGROUND GAS PAINT MARK
- W— UNDERGROUND WATER PAINT MARK
- CC CONCRETE CURB
- XCC EXTRUDED CONCRETE CURB
- EOA EDGE OF ASPHALT



**JOB NAME:** MFA TRUCK CITY SITE  
**LOCATION:** 3228 OLD HWY 99  
 MT VERNON, WASHINGTON  
 SKAGIT COUNTY

**DESCRIPTION:** MONITORING WELL EXHIBIT MAP

**DRAWN BY:** CMH  
**CHECKED BY:** JNM

**SCALE:** 1" = 30'

**DATE:** 07/24/2014

**JOB NUMBER:** 14-035-01  
**SHEET:** 1 OF 2

**PACIFIC GEOMATIC SERVICES, INC.**  
 LAND SURVEYING & MAPPING SERVICES  
 QUALITY SERVICE - CREATIVE SOLUTIONS

6808 216TH STREET SW, STE. 304  
 MOUNTLAKE TERRACE, WA 98043  
 PHONE:(425) 778-5620 FAX:(425) 775-2849  
 WEB: www.PacGeomatic.com



P119262  
 P119265  
 P119267

PGS CONTROL COORDINATE TABLE:

CONTROL POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
PGS# 101	512211.11	1275481.54	16.77	PK NAIL W/ WASHER
PGS# 102	512462.35	1275496.89	17.73	PK NAIL W/ WASHER
PGS# 201	512298.77	1275805.43	15.14	PK NAIL

BORE HOLE COORDINATE TABLE:

BORE HOLE	NORTHING	EASTING	GROUND ELEVATION
TCBH-1	512307.1	1275548.5	17.2
TCBH-2	512386.3	1275491.4	17.5
TCBH-3	512361.8	1275581.3	16.8
TCBH-4	512350.0	1275734.0	16.9
TCBH-5	512394.1	1275686.6	16.8
TCBH-6	512328.2	1275966.9	16.1
TCBH-7	512303.9	1275437.0	17.7
TCBH-8	512259.6	1275435.3	17.6
TCBH-9	512194.0	1275433.7	17.6
TCBH-10	512155.4	1275513.6	15.7
TCBH-11	512126.9	1275606.2	15.0
TCBH-12	512156.6	1275841.0	14.6
TCBH-13	512151.0	1276038.4	14.9
TCBH-14	511983.8	1275567.6	18.1

SURVEYOR'S NOTE:

THE PURPOSE OF THIS SURVEY IS TO SHOW THE HORIZONTAL LOCATION AND ELEVATION OF 6 MONITORING WELLS AND 14 BORE HOLES ON THE SUBJECT PROPERTIES ALONG WITH GENERAL EXISTING IMPROVEMENTS.

PROPERTY LINES SHOWN ON SHEET 1 OF 2 OF THIS SURVEY ARE APPROXIMATE. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY RETRACEMENT BY PGS, INC. AND THE PROPERTY LINES HERON ARE SHOWN FOR GRAPHICAL REFERENCE ONLY.

VERTICAL DATUM:

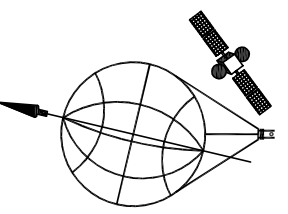
THE VERTICAL DATUM FOR THIS SURVEY IS NAVD 88, BASED ON PUBLISHED ELEVATIONS FOR WSDOT MONUMENT 2927 (DESIGNATION GP29005-88)

MONUMENT 2927

ELEVATION: 45.522 FEET

HORIZONTAL DATUM:

THE HORIZONTAL DATUM FOR THIS SURVEY IS NAD 83/11, WASHINGTON STATE PLANE, NORTH ZONE, BASED ON PUBLISHED COORDINATES FOR WSDOT MONUMENT 2927 (DESIGNATION GP29005-88)



**PACIFIC GEOMATIC SERVICES, INC.**

LAND SURVEYING & MAPPING SERVICES  
QUALITY SERVICE - CREATIVE SOLUTIONS

6608 216TH STREET SW, STE. 304  
MOUNTLAKE TERRACE, WA 98043  
PHONE:(425) 778-5620 FAX:(425) 775-2849  
WEB: www.PacGeoInc.com

JOB NAME: MFA TRUCK CITY SITE  
LOCATION: 3228 OLD HWY 99  
MT VERNON, WASHINGTON  
SKAGIT COUNTY

DESCRIPTION: MONITORING WELL EXHIBIT MAP

DRAWN BY: CMH CHECKED BY: JNM

SCALE: 1" = 30'

DATE: 07/24/2014

JOB NUMBER 14-035-01 SHEET 2 OF 2



MONITOR WELL COORDINATE TABLE:

MONITORING WELL	NORTHING	EASTING	NORTH RIM PVC ELEVATION	NORTH RIM CASING ELEVATION
MW-TC-1	512249.4	1275587.8	16.69	16.96
MW-TC-2	512284.5	1275492.5	17.13	17.39
MW-TC-3	512348.7	1275548.7	16.58	16.84
MW-TC-4	512352.9	1275485.3	17.15	17.56
MW-TC-5	512337.5	1275650.7	16.79	17.13
MW-TC-6	512220.3	1275486.2	16.53	16.83
MW-A	512386.2	1275514.3	16.86	17.28

# APPENDIX D

## LABORATORY ANALYTICAL REPORTS





FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Bradley T. Benson, B.S.  
Kurt Johnson, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
TEL: (206) 285-8282  
e-mail: fbi@isomedia.com

August 1, 2014

Yen-Vy Van, Project Manager  
Maul Foster & Alongi, Inc.  
411 1st Ave South, Suite 601  
Seattle, WA 98104

Dear Ms. Van:

Included are the results from the testing of material submitted on July 18, 2014 from the Truck City, PO 0714.02.02 Task 1, F&BI 407312 project. There are 23 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Mary Benzinger, Brian Fauth  
NAA0801R.DOC

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 18, 2014 by Friedman & Bruya, Inc. from the Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster &amp; Alongi</u>
407312 -01	TCDUP-S
407312 -02	TC6-S-7.0
407312 -03	TC6-S-15.0
407312 -04	TCBH5-S-4.5
407312 -05	TCBH5-S-15.0
407312 -06	TC2-W-10.0
407312 -07	TCBH5-W-4.5
407312 -08	TCBH13-S-4.5
407312 -09	TCBH12-S-3.5
407312 -10	TC4-W-10.0
407312 -11	TCBH14-S-8.5
407312 -12	TCBH10-S-4.0
407312 -13	TCBH13-W-4.5
407312 -14	TCBH11-S-4.7
407312 -15	TCBH10-W-4.0
407312 -16	TC6-W-10.0
407312 -17	TCBH5-W-4.5

All quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/24/14

Date Analyzed: 07/24/14 and 07/25/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID  
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE  
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION  
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
TCBH13-S-4.5 407312-08	ND	ND	ND	110
TCBH12-S-3.5 407312-09	ND	ND	ND	102
TCBH14-S-8.5 407312-11	ND	ND	ND	107
TCBH10-S-4.0 407312-12	ND	ND	ND	110
TCBH11-S-4.7 407312-14	ND	ND	ND	110
Method Blank 04-1504 MB	ND	ND	ND	108

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/23/14

Date Analyzed: 07/23/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID  
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE  
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION  
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TCBH13-W-4.5 407312-13	ND	ND	ND	95
TCBH10-W-4.0 407312-15	ND	ND	ND	85
Method Blank 04-1522 MB	ND	ND	ND	93

ND - Material not detected at or above 0.2 mg/L gas, 0.5 mg/L diesel and 0.5 mg/L heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/23/14

Date Analyzed: 07/24/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES  
USING METHOD 8021B**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TCBH13-S-4.5 407312-08	<0.02	<0.02	<0.02	<0.06	80
TCBH12-S-3.5 407312-09	<0.02	<0.02	<0.02	<0.06	80
TCBH14-S-8.5 407312-11	<0.02	<0.02	<0.02	<0.06	80
TCBH10-S-4.0 407312-12	<0.02	<0.02	<0.02	<0.06	79
TCBH11-S-4.7 407312-14	<0.02	<0.02	<0.02	<0.06	79
Method Blank 04-1467 MB	<0.02	<0.02	<0.02	<0.06	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/23/14

Date Analyzed: 07/24/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TCDUP-S 407312-01	<0.02	<0.02	<0.02	<0.06	<2	79
TC6-S-7.0 407312-02	<0.02	<0.02	<0.02	<0.06	<2	79
TC6-S-15.0 407312-03	<0.02	<0.02	<0.02	<0.06	<2	80
TCBH5-S-4.5 407312-04	<0.02	<0.02	<0.02	<0.06	<2	80
TCBH5-S-15.0 407312-05	<0.02	<0.02	<0.02	<0.06	<2	80
Method Blank 04-1467 MB	<0.02	<0.02	<0.02	<0.06	<2	82

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/22/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES  
USING METHOD 8021B**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> Limit (52-124)
TCBH13-W-4.5 407312-13	<1	<1	<1	<3	91
TCBH10-W-4.0 407312-15	<1	<1	<1	<3	91
Method Blank 04-1466 MB	<1	<1	<1	<3	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/22/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
TC2-W-10.0 407312-06	<1	<1	<1	<3	<100	93
TCBH5-W-4.5 407312-07	<1	<1	<1	<3	<100	90
TC4-W-10.0 407312-10	<1	<1	<1	<3	<100	91
TC6-W-10.0 407312-16	<1	<1	<1	<3	<100	94
TCBH5-W-4.5 407312-17	<1	<1	<1	<3	<100	94
Method Blank 04-1466 MB	<1	<1	<1	<3	<100	88



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/23/14

Date Analyzed: 07/23/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TC2-W-10.0 407312-06	<50	<250	98
TCBH5-W-4.5 407312-07	210 x	<250	103
TC4-W-10.0 407312-10	<50	<250	93
TC6-W-10.0 407312-16	89 x	<250	94
TCBH5-W-4.5 407312-17	210 x	<250	108
Method Blank 04-1522 MB	<50	<250	93

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/21/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 53-144)
TCDUP-S 407312-01	<50	<250	99
TC6-S-7.0 407312-02	<50	<250	99
TC6-S-15.0 407312-03	<50	<250	92
TCBH5-S-4.5 407312-04	<50	<250	102
TCBH5-S-15.0 407312-05	<50	<250	100
Method Blank 04-1502 MB	<50	<250	103

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	TC2-W-10.0	Client:	Maul Foster & Alongi
Date Received:	07/18/14	Project:	Truck City, PO 0714.02.02 Task 1
Date Extracted:	07/22/14	Lab ID:	407312-06
Date Analyzed:	07/23/14	Data File:	407312-06.047
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	90	60	125
Indium	84	60	125
Holmium	90	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	<1
Arsenic	1.37
Selenium	<1
Silver	<1
Cadmium	<1
Barium	79.8
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster & Alongi
Date Received:	NA	Project:	Truck City, PO 0714.02.02 Task 1
Date Extracted:	07/22/14	Lab ID:	I4-459 mb2
Date Analyzed:	07/23/14	Data File:	I4-459 mb2.046
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	76	60	125
Indium	79	60	125
Holmium	84	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 07/21/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Dissolved Mercury</u>
TC2-W-10.0 407312-06	<0.1
Method Blank	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TCBH5-W-4.5	Client:	Maul Foster & Alongi
Date Received:	07/18/14	Project:	Truck City, PO 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407312-07 1/2
Date Analyzed:	07/22/14	Data File:	072217.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	110	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC4-W-10.0	Client:	Maul Foster & Alongi
Date Received:	07/18/14	Project:	Truck City, PO 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407312-10 1/2
Date Analyzed:	07/22/14	Data File:	072218A.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	50	150
Benzo(a)anthracene-d12	115	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Maul Foster & Alongi
Date Received:	Not Applicable	Project:	Truck City, PO 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1498 mb 1/2
Date Analyzed:	07/22/14	Data File:	072205.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	50	150
Benzo(a)anthracene-d12	108	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 407297-03 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	85	69-120
Toluene	mg/kg (ppm)	0.5	84	70-117
Ethylbenzene	mg/kg (ppm)	0.5	87	65-123
Xylenes	mg/kg (ppm)	1.5	86	66-120
Gasoline	mg/kg (ppm)	20	100	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 407312-06 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	92	65-118
Toluene	ug/L (ppb)	50	88	72-122
Ethylbenzene	ug/L (ppb)	50	87	73-126
Xylenes	ug/L (ppb)	150	87	74-118
Gasoline	ug/L (ppb)	1,000	115	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	112	109	58-134	3

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 407318-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	122	120	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	117	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 200.8**

Laboratory Code: 407256-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	ug/L (ppb)	20	<1	107	91	64-132	16
Arsenic	ug/L (ppb)	10	<1	111	93	60-150	18
Selenium	ug/L (ppb)	5	<1	109	91	43-178	18
Silver	ug/L (ppb)	5	<1	104	89	71-115	16
Cadmium	ug/L (ppb)	5	<1	108	93	83-116	15
Barium	ug/L (ppb)	50	8.06	110	93	79-126	17
Lead	ug/L (ppb)	10	<1	113	96	79-121	16

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	ug/L (ppb)	20	107	80-119
Arsenic	ug/L (ppb)	10	97	80-111
Selenium	ug/L (ppb)	5	104	81-119
Silver	ug/L (ppb)	5	104	80-116
Cadmium	ug/L (ppb)	5	107	83-113
Barium	ug/L (ppb)	50	104	83-117
Lead	ug/L (ppb)	10	107	83-115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
DISSOLVED MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 407312-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.5	<0.1	100	96	71-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.5	98	88-113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/01/14

Date Received: 07/18/14

Project: Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	91	99	67-116	8
Acenaphthylene	ug/L (ppb)	1	91	102	65-119	11
Acenaphthene	ug/L (ppb)	1	92	103	66-118	11
Fluorene	ug/L (ppb)	1	96	106	64-125	10
Phenanthrene	ug/L (ppb)	1	90	98	67-120	9
Anthracene	ug/L (ppb)	1	92	101	65-122	9
Fluoranthene	ug/L (ppb)	1	100	111	65-127	10
Pyrene	ug/L (ppb)	1	91	100	62-130	9
Benz(a)anthracene	ug/L (ppb)	1	91	100	60-118	9
Chrysene	ug/L (ppb)	1	92	101	66-125	9
Benzo(b)fluoranthene	ug/L (ppb)	1	82	88	55-135	7
Benzo(k)fluoranthene	ug/L (ppb)	1	79	90	62-125	13
Benzo(a)pyrene	ug/L (ppb)	1	78	87	58-127	11
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	81	88	36-142	8
Dibenz(a,h)anthracene	ug/L (ppb)	1	72	86	37-133	18
Benzo(g,h,i)perylene	ug/L (ppb)	1	73	84	34-135	14

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

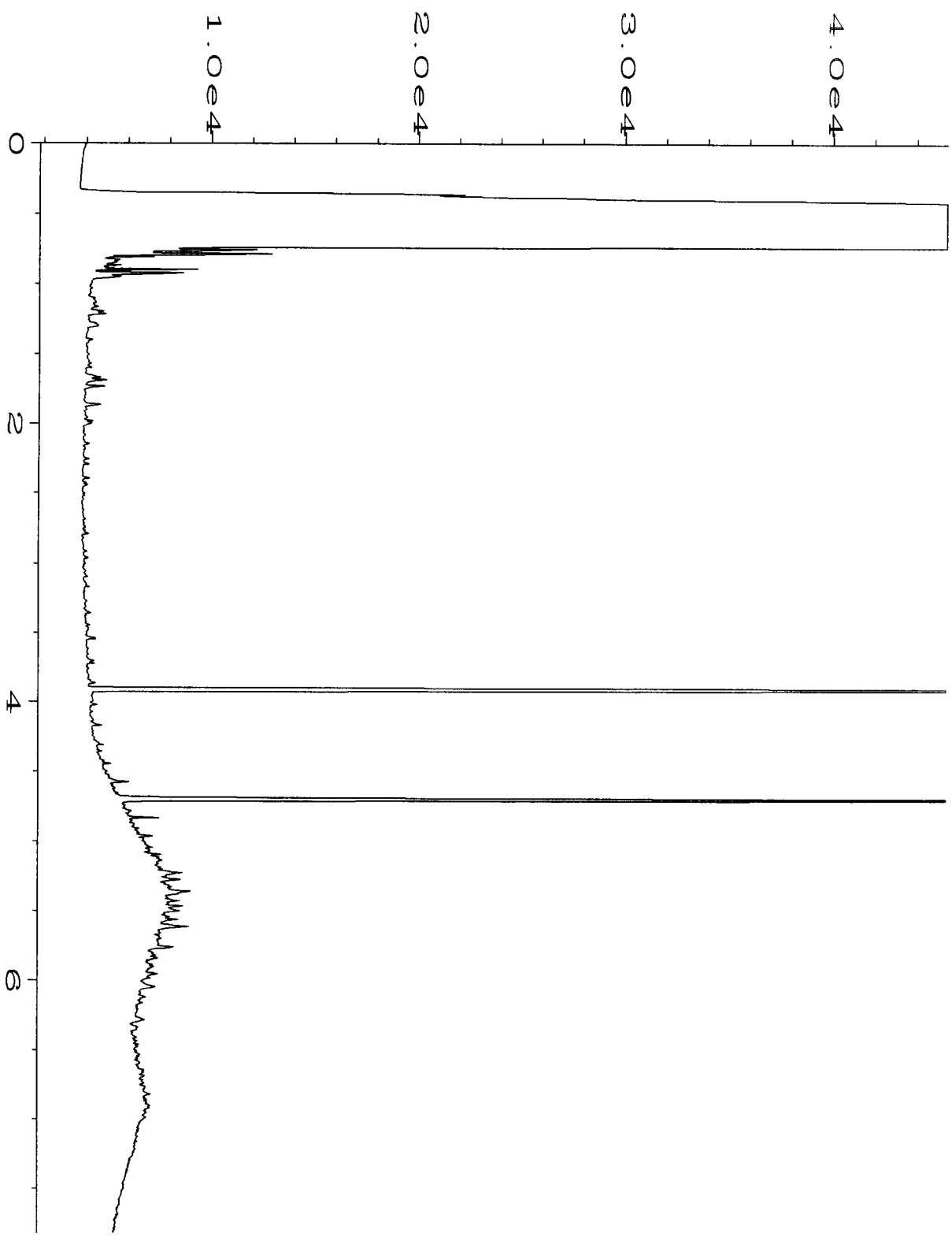
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

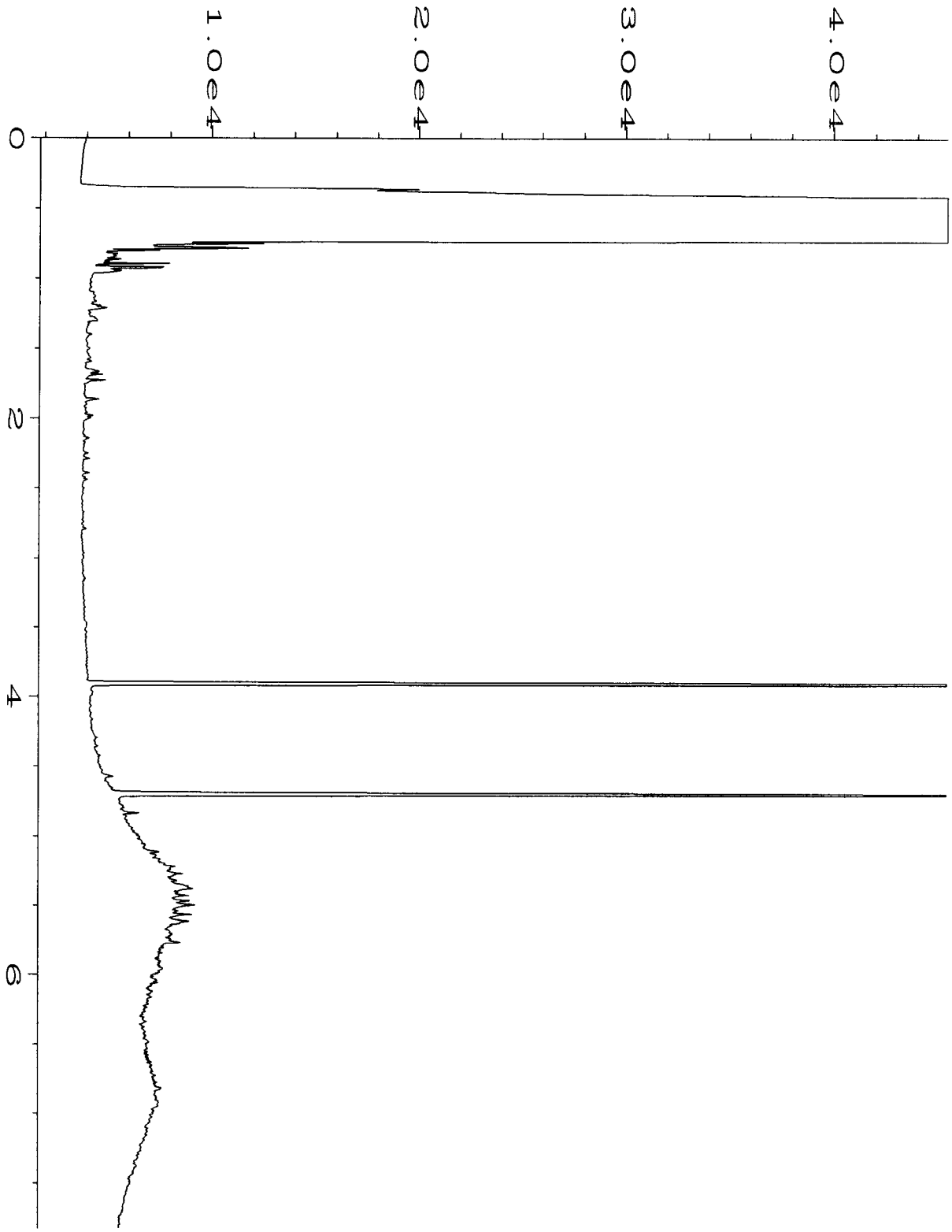
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

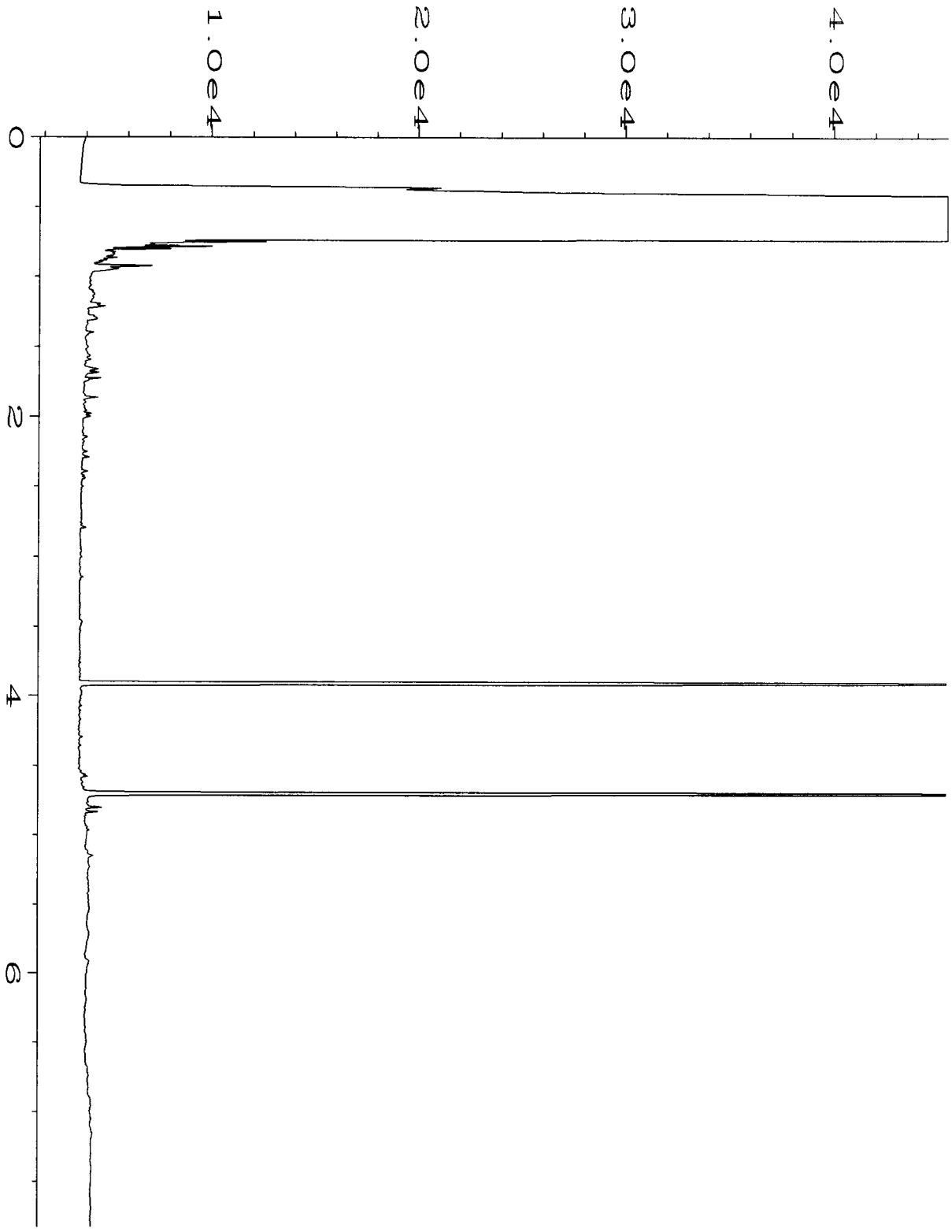




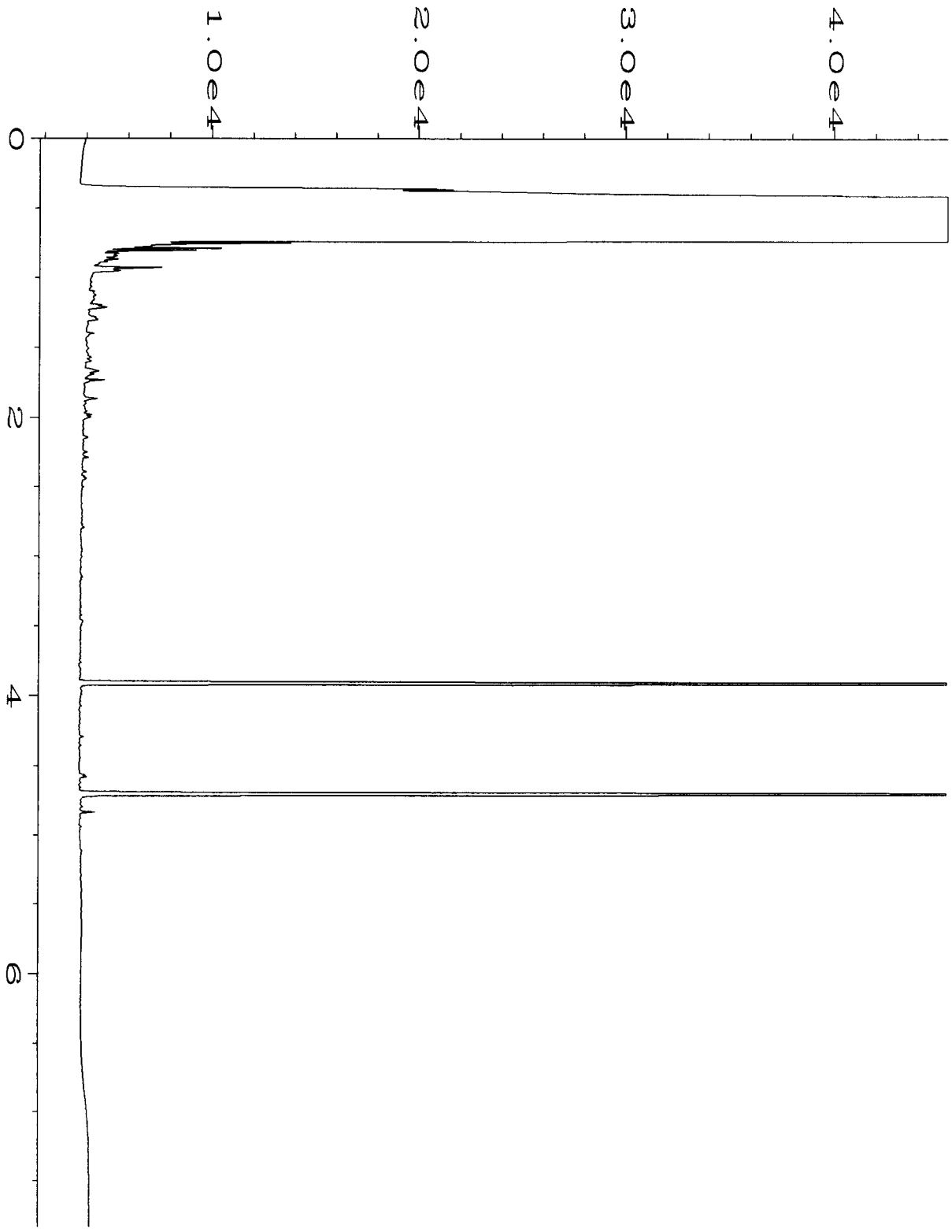
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-01	Sequence Line	: 9
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Acquired on	: 22 Jul 14 01:18 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



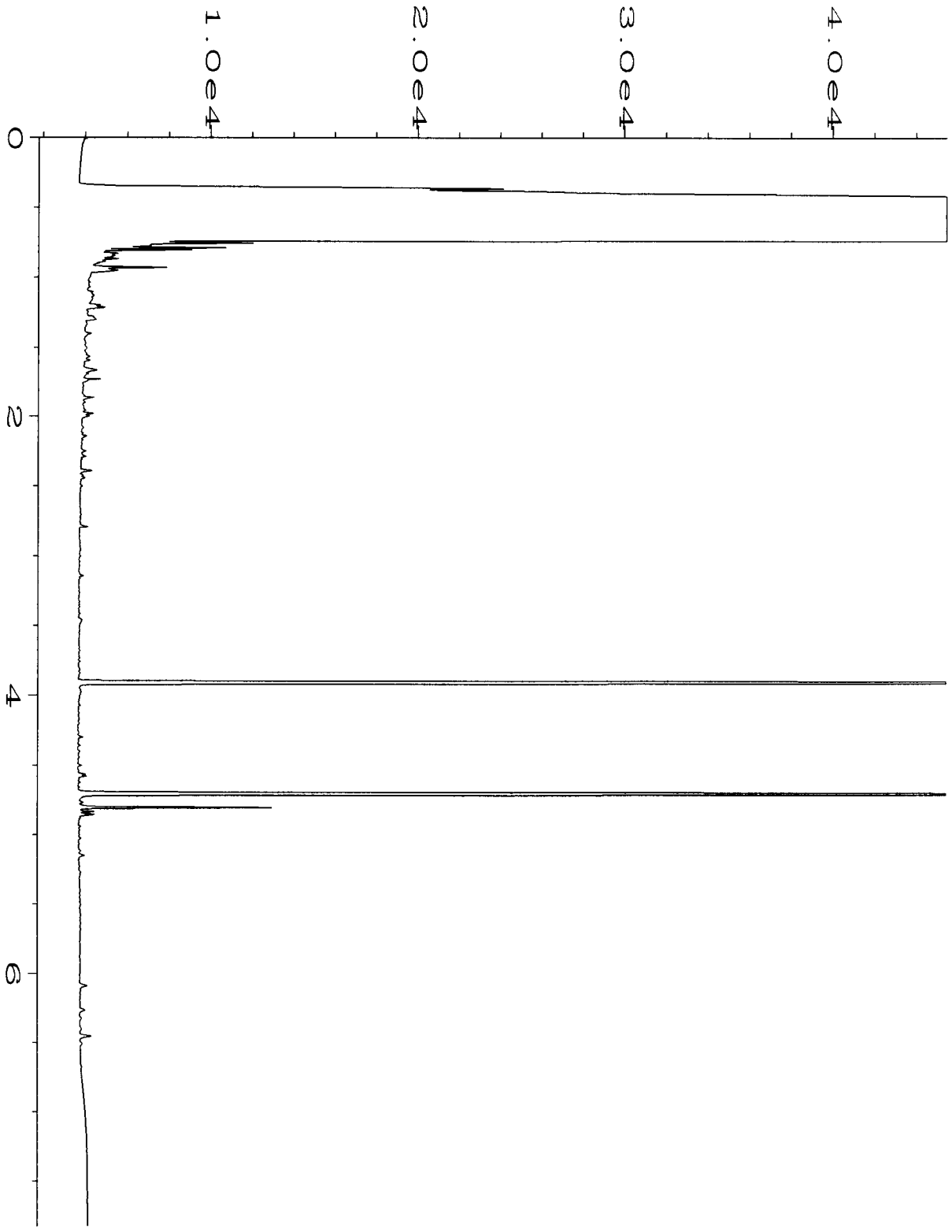
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Sample Name	: 407312-02	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:31 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



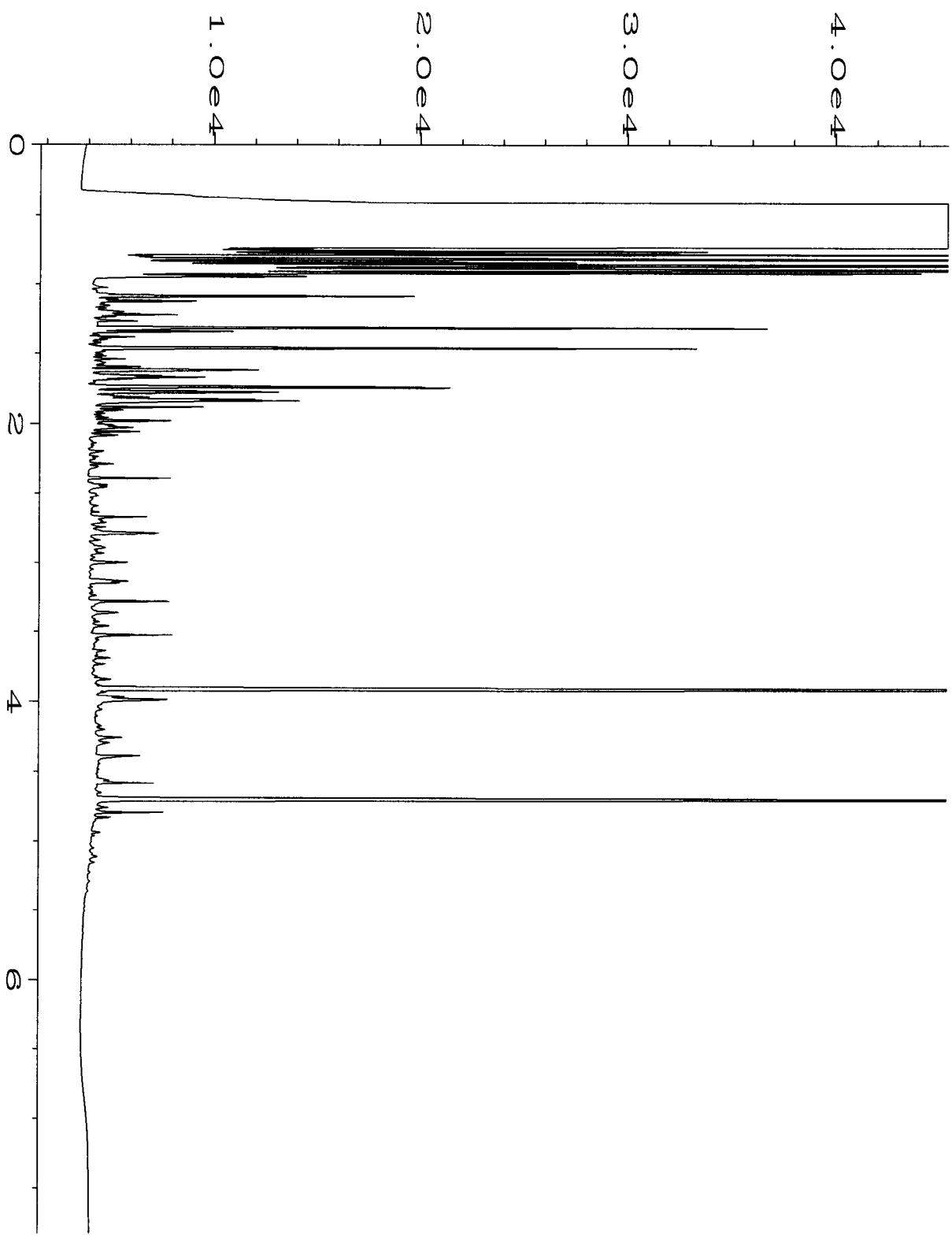
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-03	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:45 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



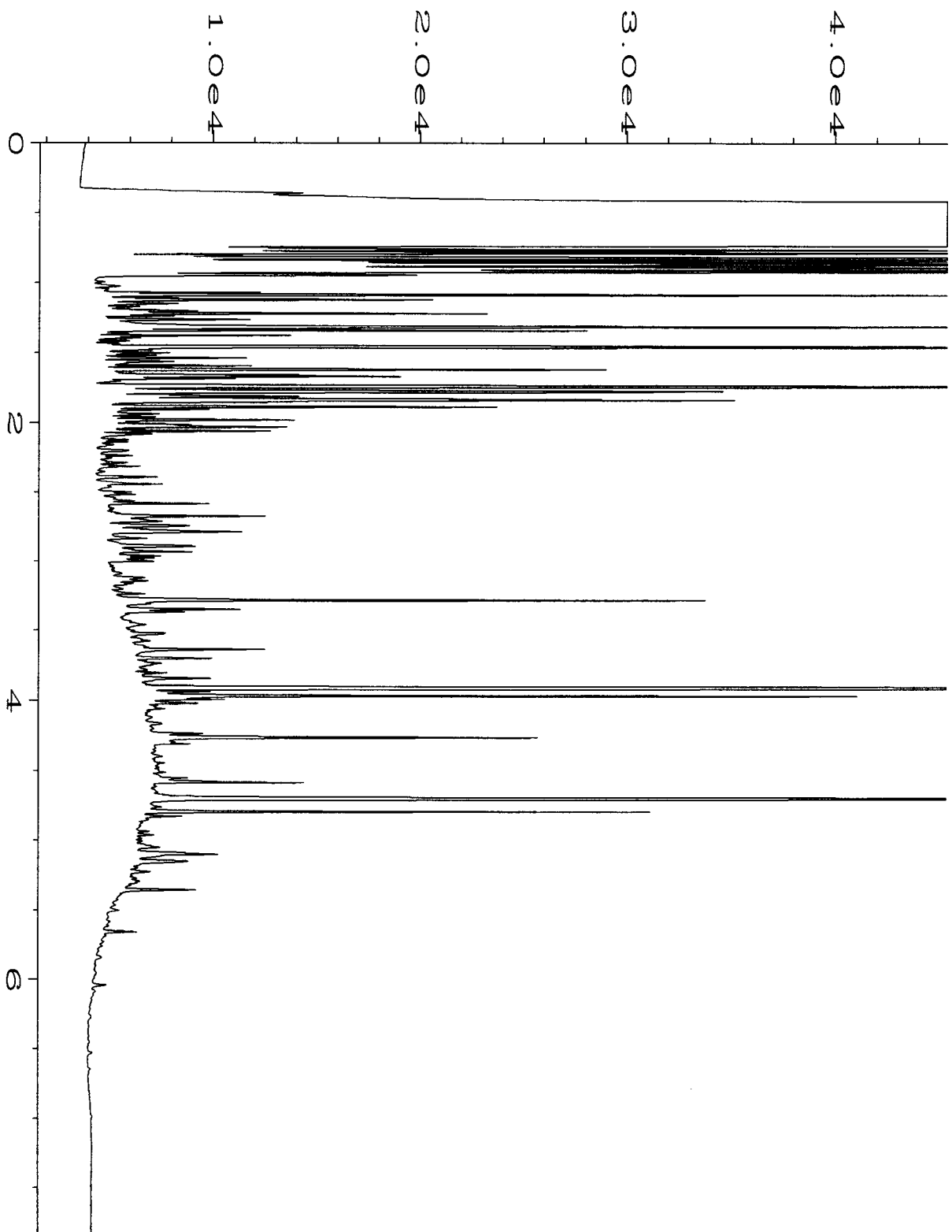
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-04	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:58 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



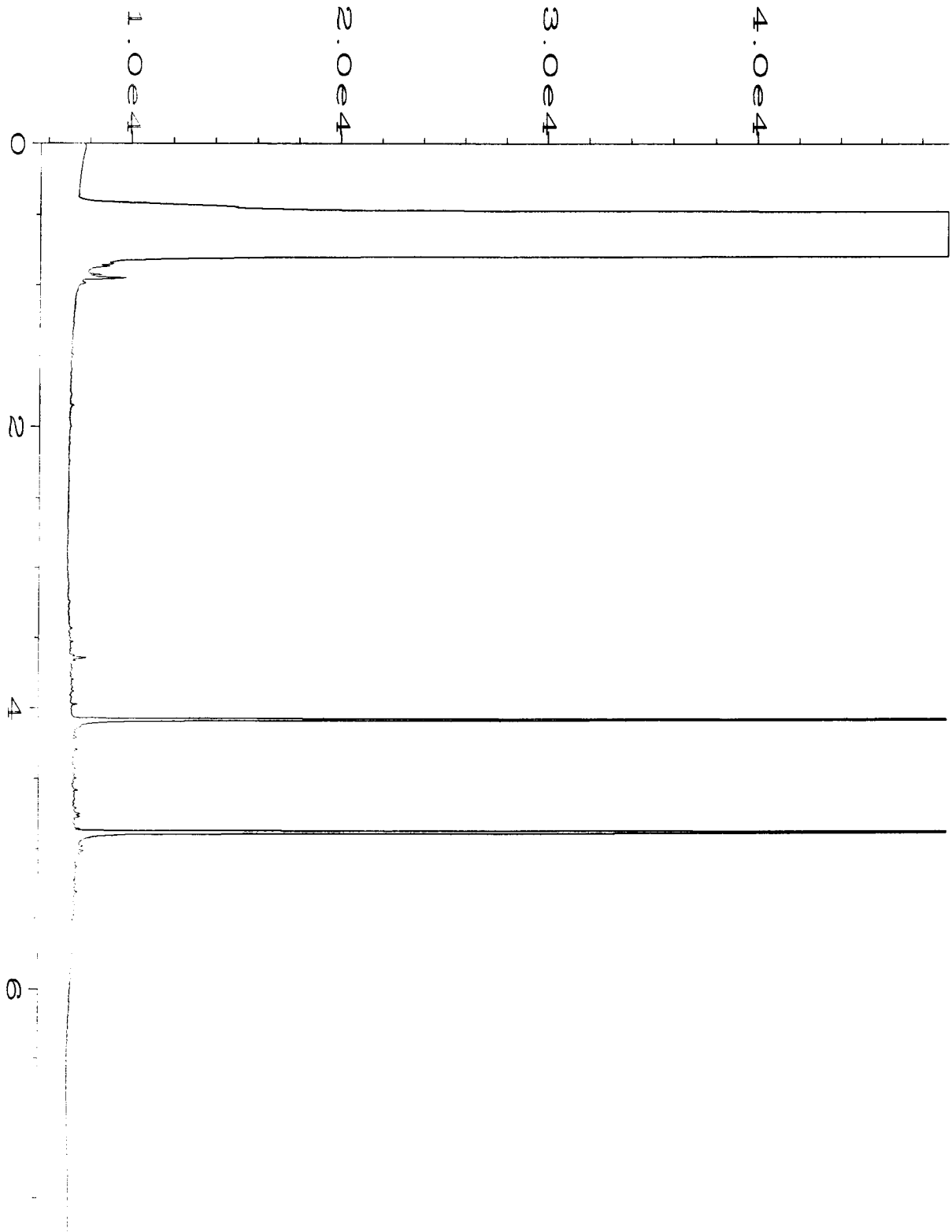
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-05	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 02:11 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\044F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 44
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-06	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 06:31 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

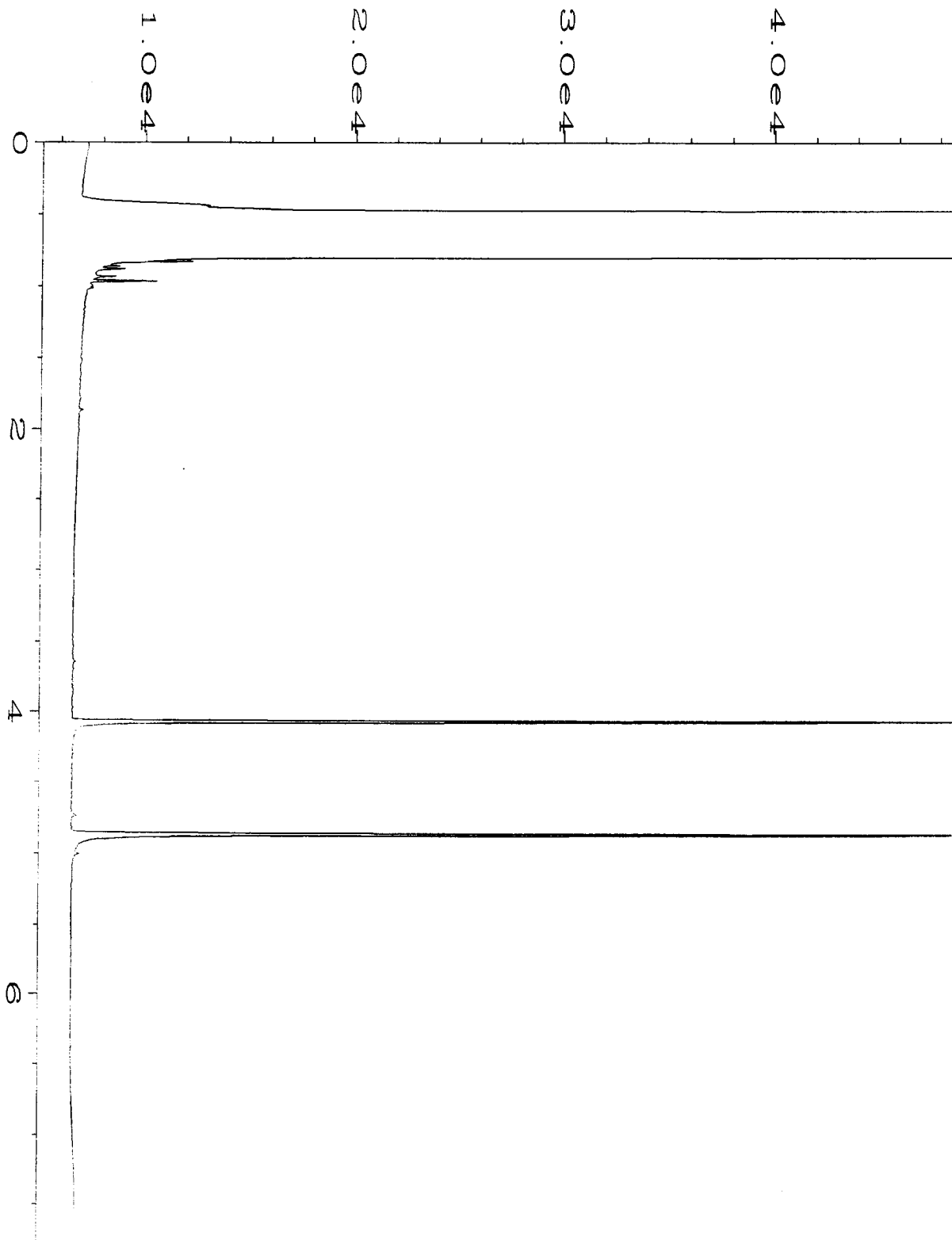


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Operator	: mwdl	Vial Number	: 45
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-07	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 06:45 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

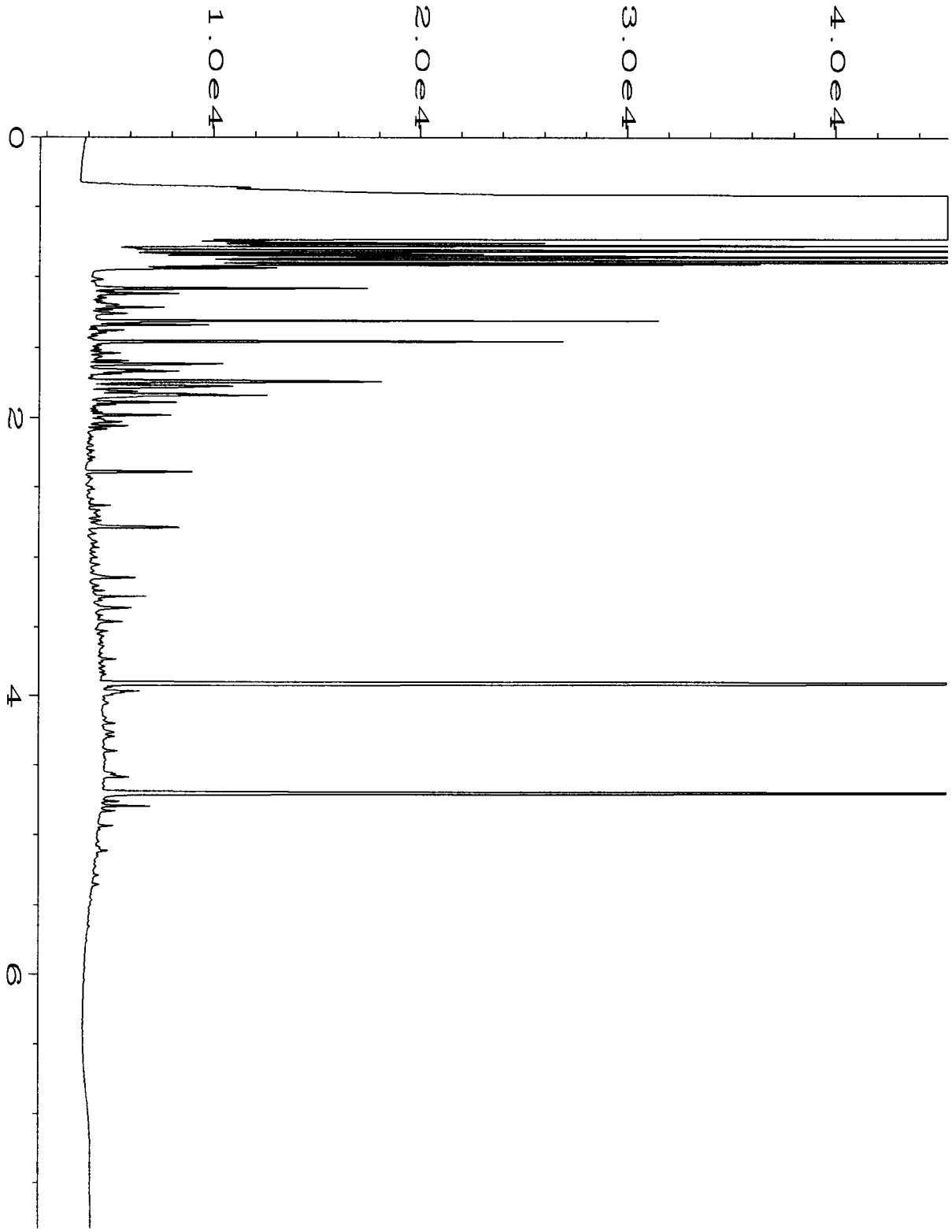


Data File Name	: C:\HPCHEM\1\DATA\07-25-14\006F0301.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 6
Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-08 rr	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 25 Jul 14 09:47 AM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 12:12 PM		

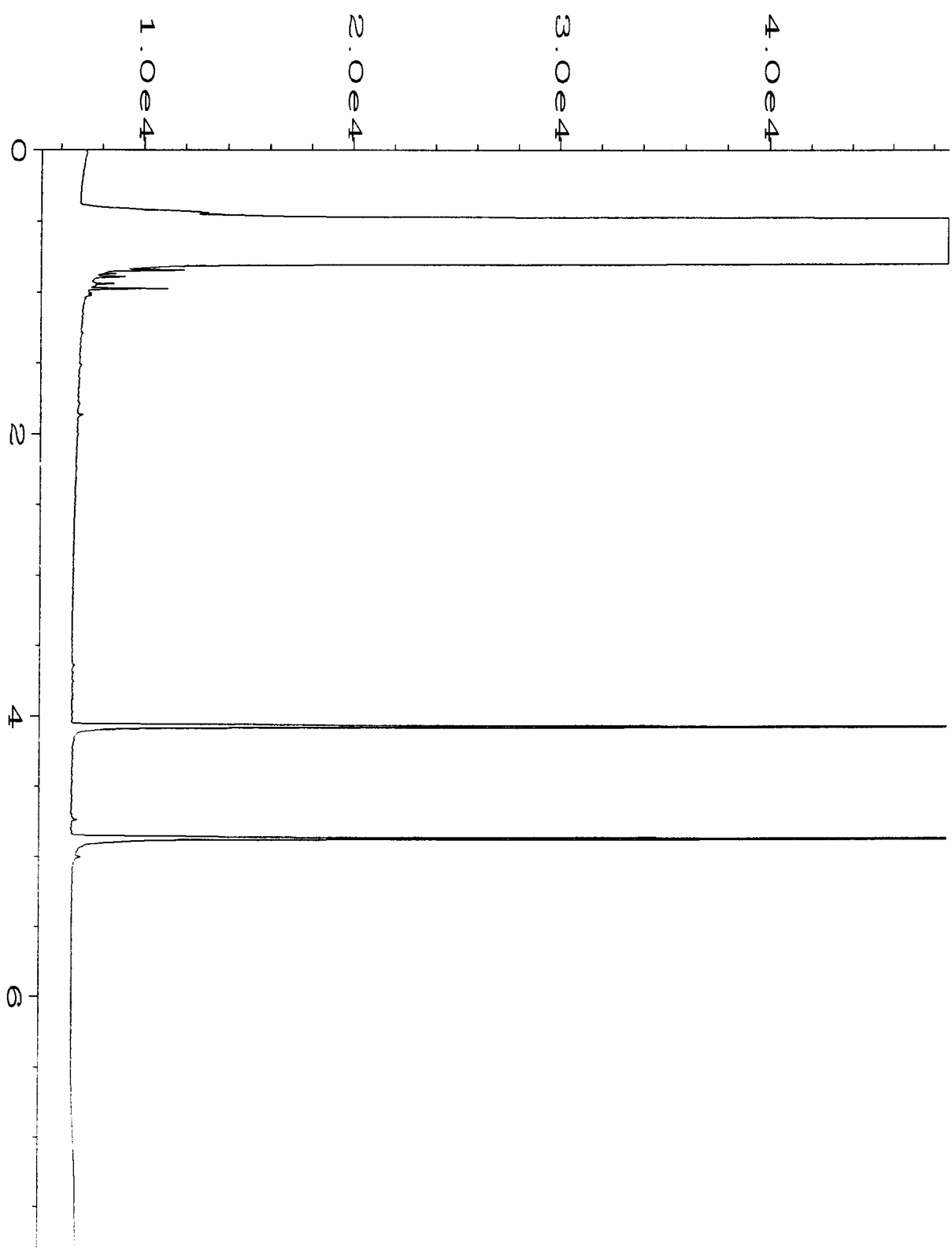




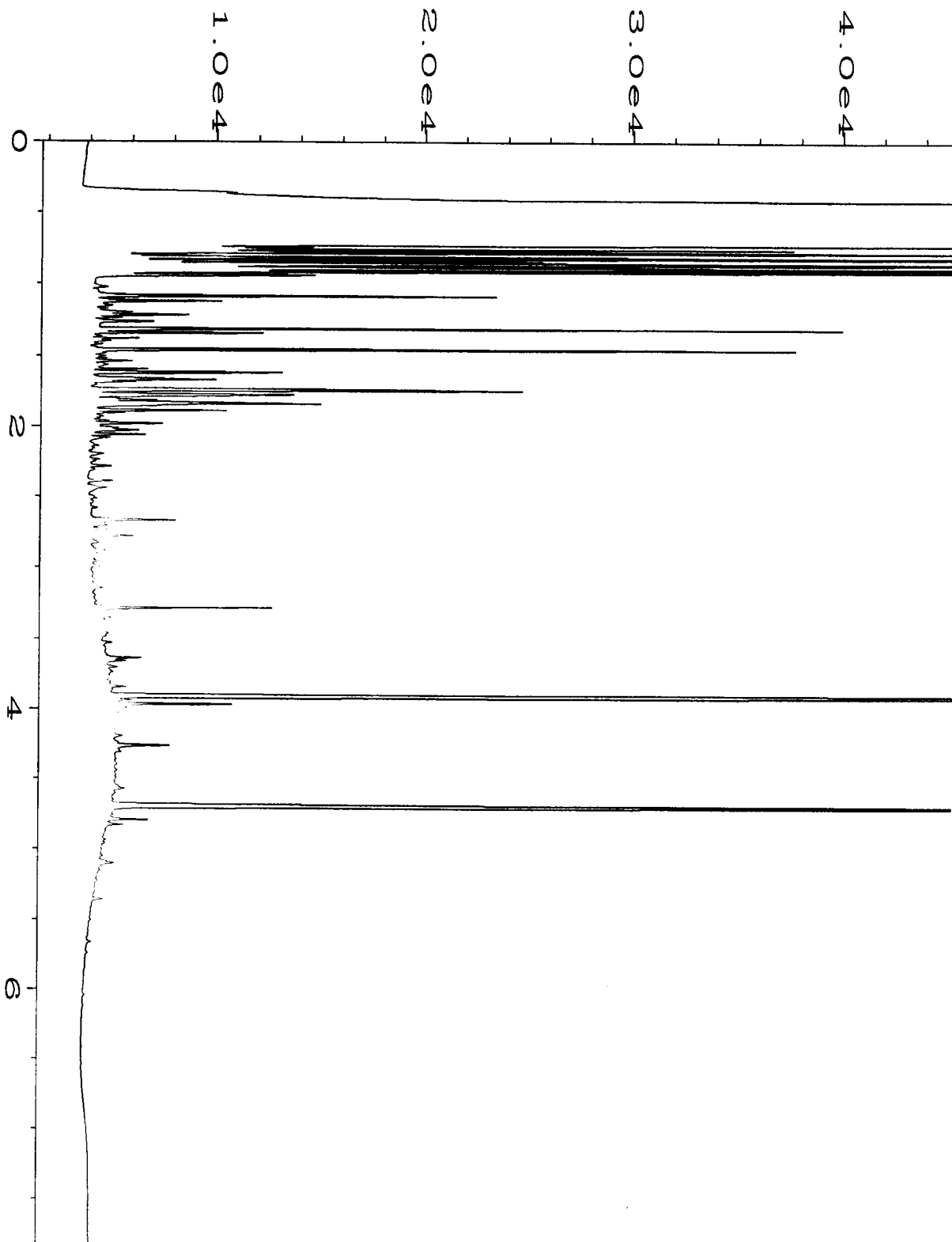
Data File Name	: C:\HPCHEM\1\DATA\07-24-14\023F0801.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 23
Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-09	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 24 Jul 14 04:58 PM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 08:38 AM		



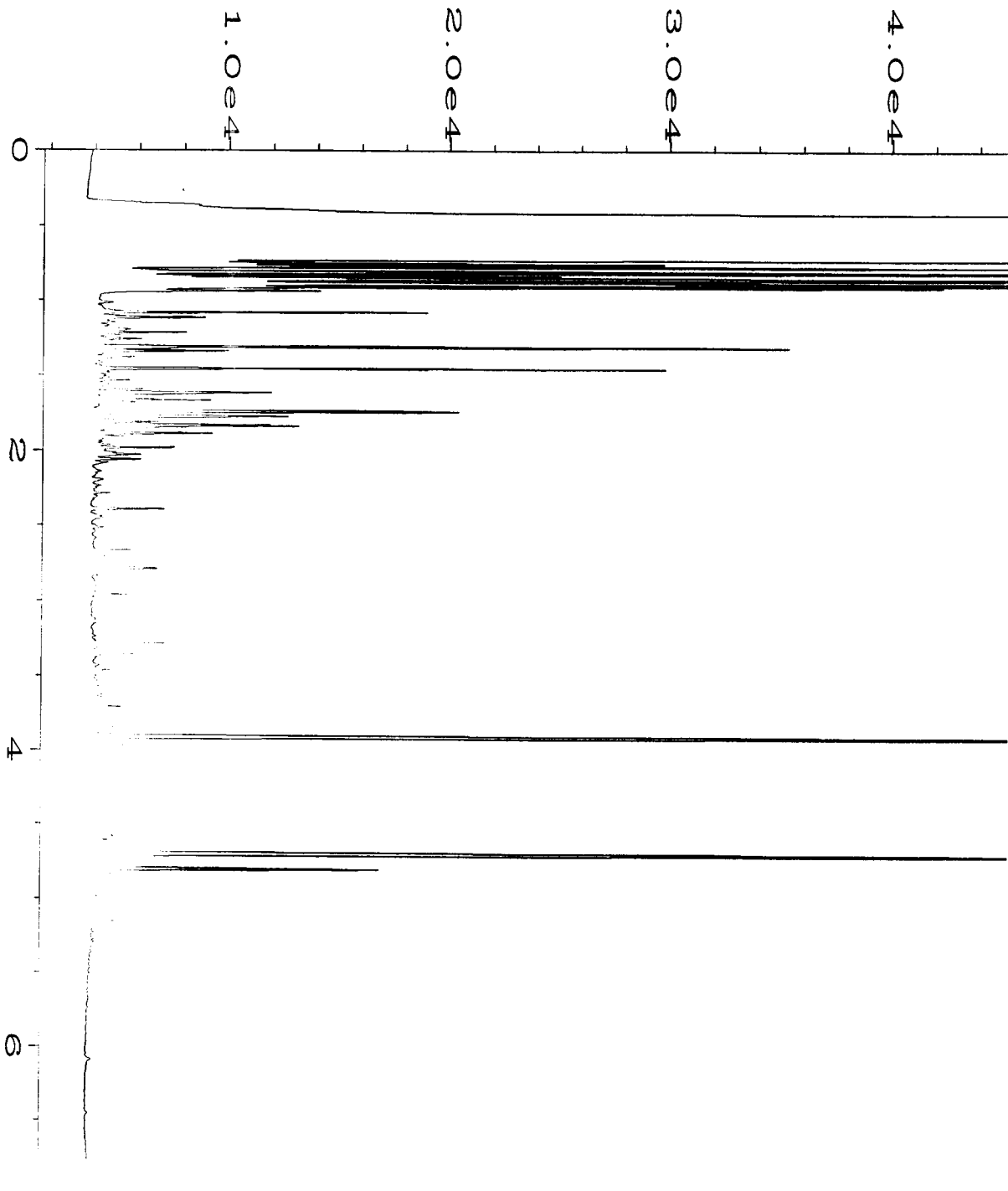
Data File Name	: C:\HPCHEM\6\DATA\07-23-14\046F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 46
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-10	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 06:58 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



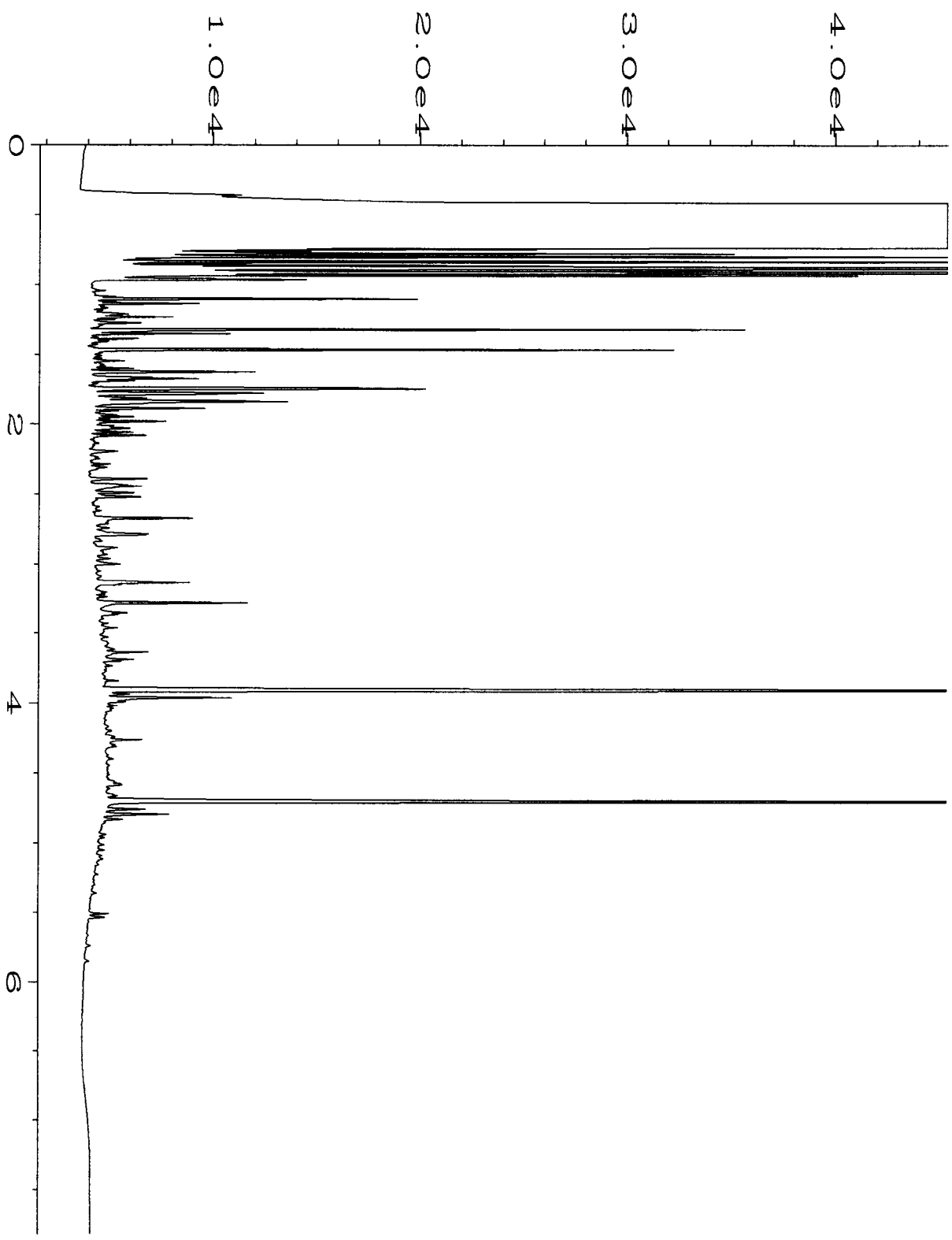
Data File Name	: C:\HPCHEM\1\DATA\07-24-14\025F0801.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 25
Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-12	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 24 Jul 14 05:23 PM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 08:38 AM		



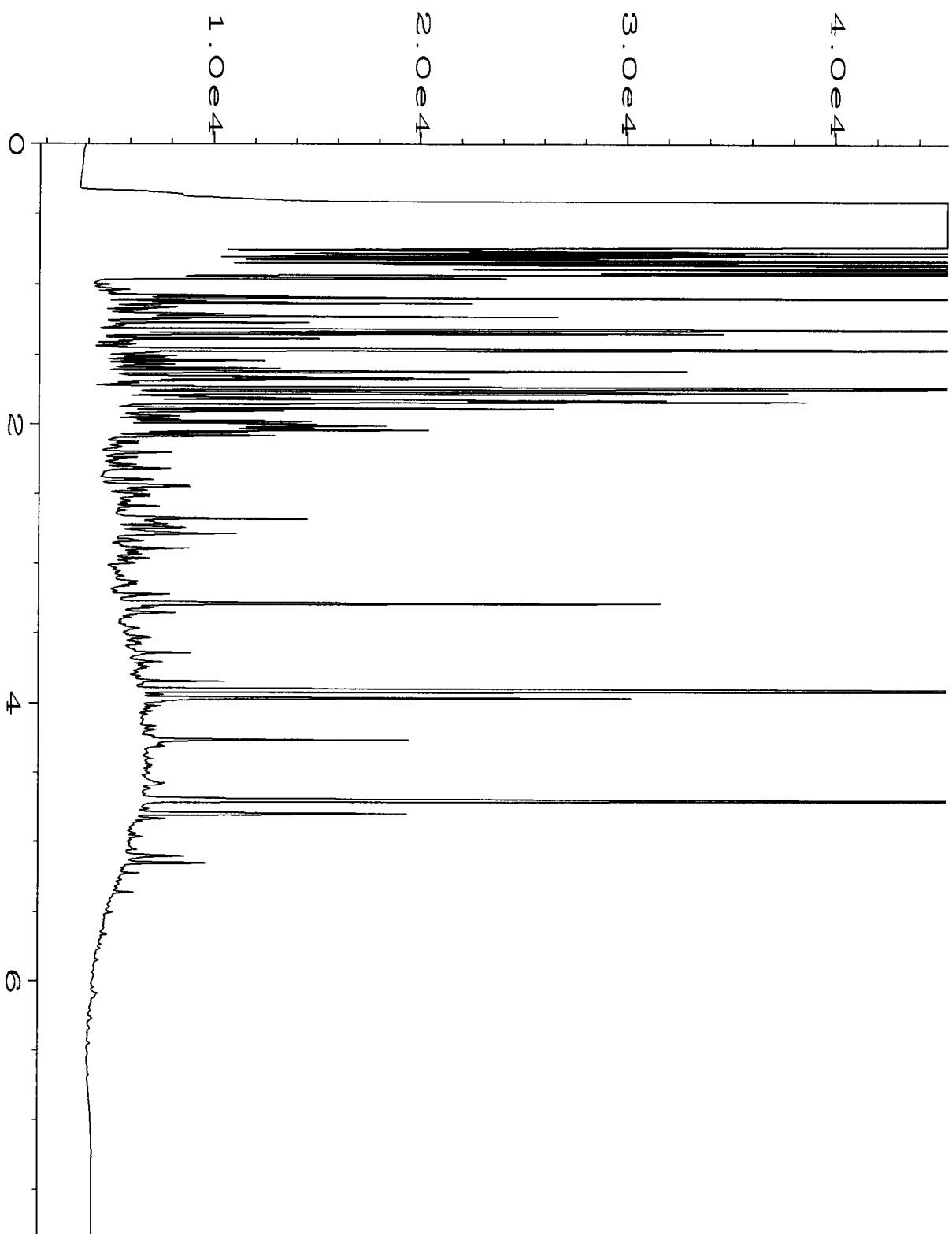
Data File Name	: C:\HPCHEM\6\DATA\07-23-14\047F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 47
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-13	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 07:11 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



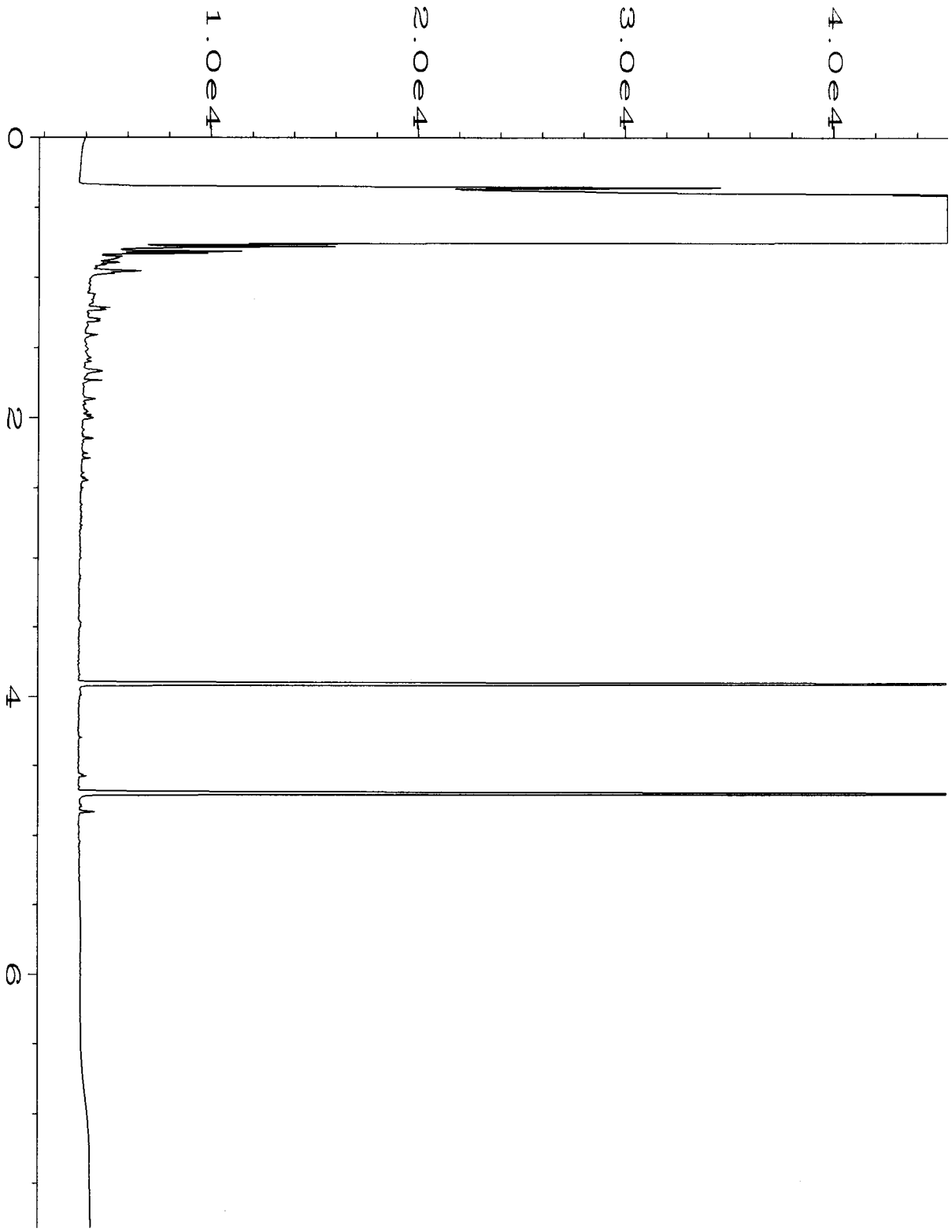
Data File Name	: C:\HPCHEM\6\DATA\07-23-14\048F0701.D	Page Number	: 1
Operator	: rwdl	Vial Number	: 48
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 107312-15	Sequence Line	: 7
Run Time Bar Code		Instrument Method	: DX.MTH
Acquired on	: 23 Jul 14 07:25 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\049F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 49
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-16	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 07:38 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

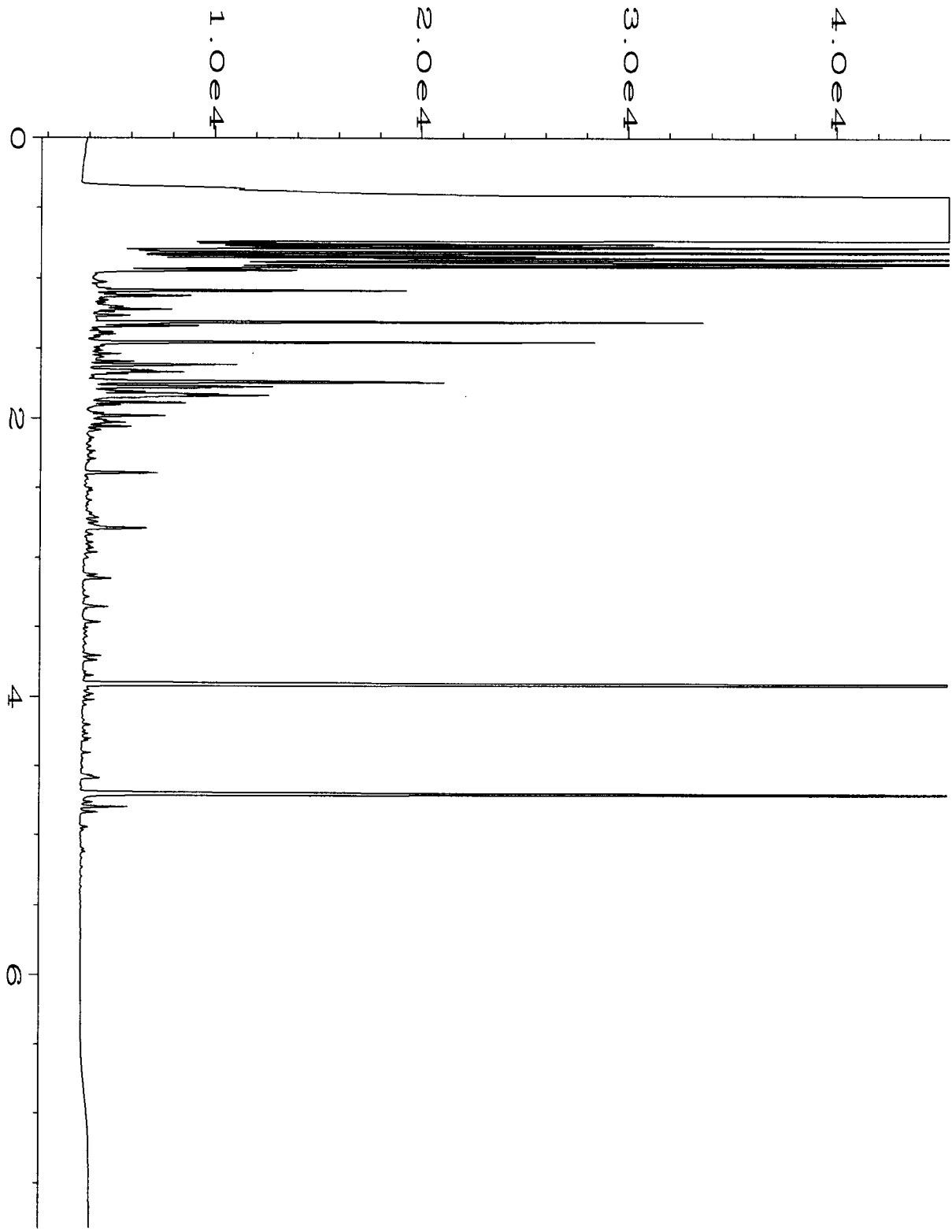


Data File Name	: C:\HPCHEM\6\DATA\07-23-14\050F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 50
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-17	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 07:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

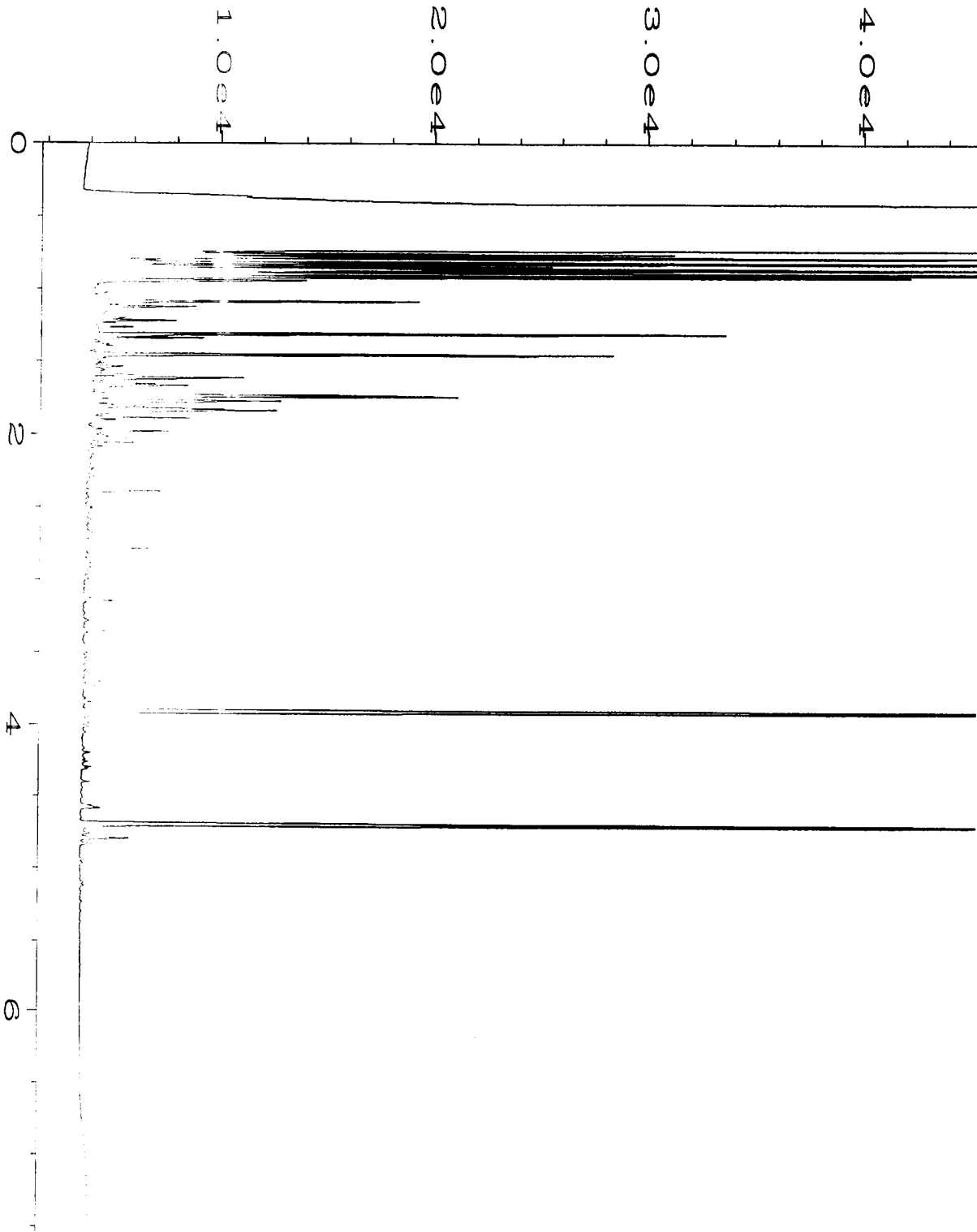


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\069F0901.D	Page Number	: 1
Operator	: sp	Vial Number	: 69
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1502 mb	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 11:46 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		

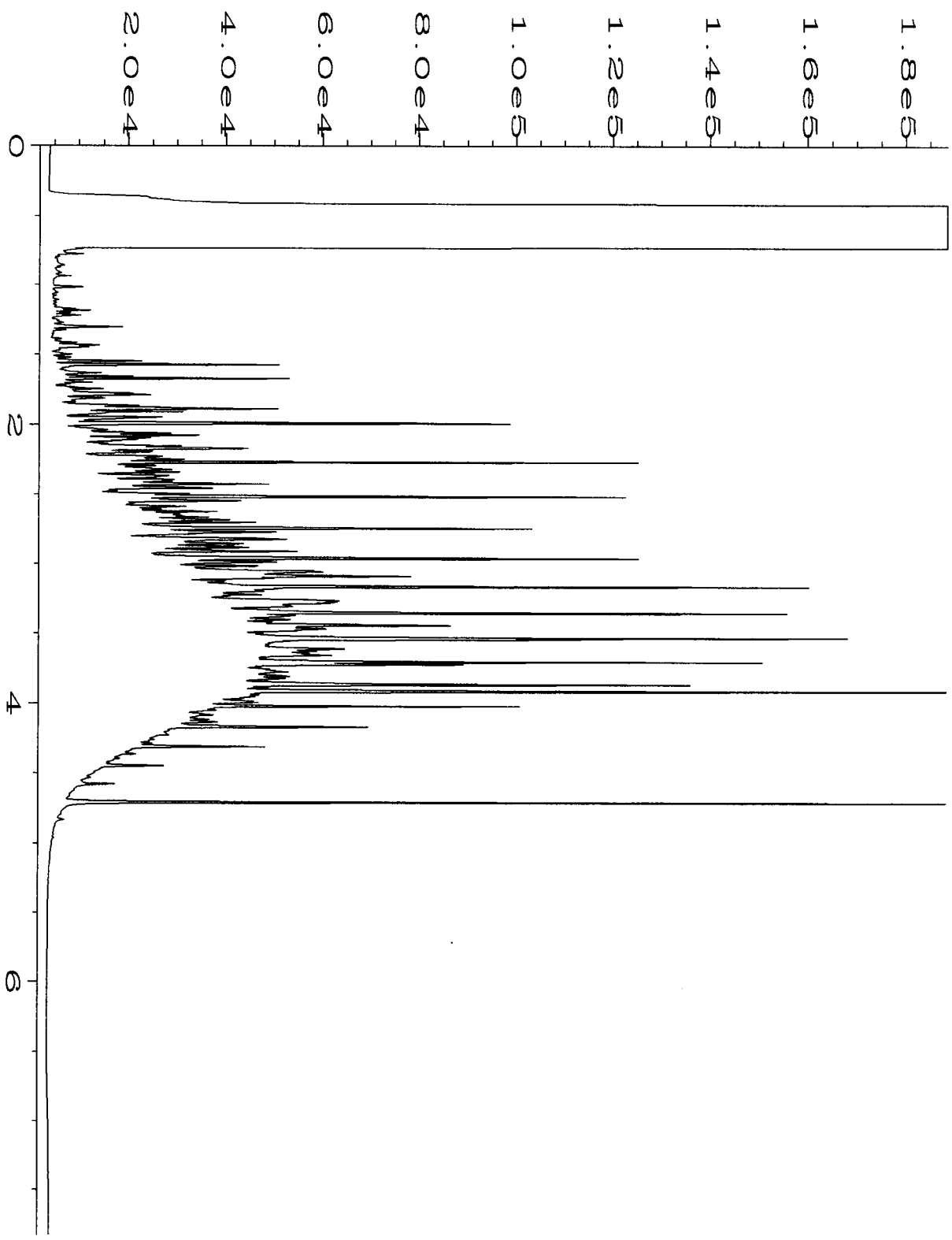




Data File Name	: C:\HPCHEM\6\DATA\07-23-14\041F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1522 mb	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 05:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\041F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1522 mb	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 05:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\003F0201.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 3
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 500 Dx 42-27B	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 09:15 AM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:27 AM		

407312

SAMPLE CHAIN OF CUSTODY

ME 07-18-14

412/EO3/US2

Send Report To YENVY VAN

Company HEA

Address 411 1st Ave S, # 601

City, State, ZIP SEATTLE, WA 98104

Phone # 253-320-5378 Fax #

Page # 1 of 2

TURNAROUND TIME  
Standard (2 Weeks)

RUSH  
Rush charges authorized by

SAMPLE DISPOSAL

Dispose after 30 days  
 Return samples  
 Will call with instructions

SAMPLERS (signature)		PO# <u>0714, 02, 02</u> <u>TASK 1</u>
PROJECT NAME/NO. <u>TRUCK CITY</u>		
REMARKS		

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH		PCRB	HC
TC DOP-5	01A	7/18/14	0937	soil	5	X	X	X							
TC 6-5-7.0	02	"	1506	soil	6	X	X	X							
TC 6-5-15.0	03	"	1640	soil	5	X	X	X							
TC BWS-5-4.5	04	7/18/14	0930	soil	5	X	X	X							
TC BWS-5-15.2	05	"	0952	soil	5	X	X	X							
TC 2-5-10.0	06	"	1018	soil	6	X	X	X			X				
TC BWS-5-4.5	07	"	1603	soil	6	X	X	X			X				
TC BWS-5-4.5	08	"	1128	soil	5	X	X	X			X				
TC BWS-5-3.5	09	"	1220	soil	5	X	X	X			X				
TC A-5-10.0	10	"	1137	soil	5	X	X	X			X				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>YENVY VAN</u>	<u>HEA</u>	<u>7/18/14</u>	<u>6:50</u>
Relinquished by:				
Received by:	<u>Kurt Johnson</u>	<u>FEB</u>	<u>7/18/14</u>	<u>6:50</u>
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044

107312

SAMPLE CHAIN OF CUSTODY

ME 07-18-14

A12/E03/US2/13  
2 of 27/13

Send Report To Yen Van-Vy

Company Maul Foster Energy

Address 411 1st Ave South Suite 601

City, State, ZIP Seattle, WA 98104

Phone # 253-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)

PROJECT NAME/NO.

Truck City / 0741.02.02

PO#

REMARKS

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TPH-HCD		PAHs	
TCBH14-5-8.5	11E	7/18/14	1302	soil	5			X				X			(B)-per YVW 7/24/14 ms
TCBH10-5-4.0	12	"	1406	soil	5			X				X			<del>(B)</del> -PAHs cancelled
TCBH13-11-4.5	13	"	1433	soil	5			X				X			per YVW 7/27/14 ME insufficient volume
TCBH11-5-4.7	14	"	1500	soil	5			X				X			
TCBH10-11-4.0	15	"	1535	soil	5			X				X			ADD 7-14-14 Added at lab
TC6.10-10.0	16	"	1248	GW	5			X				X			
TCBH5-11-4.5	17	7/18/14	11:00	GW	3	X	X	X				X			V

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE

PRINT NAME

COMPANY

DATE

TIME

Relinquished by: \_\_\_\_\_

Yen-Vy Van

MSA

7/18/14

6:50

Received by: \_\_\_\_\_

Kurt Johnson

F&B

7/18/14

6:50

Relinquished by: \_\_\_\_\_

Kurt Johnson

F&B

7/18/14

6:50

Received by: \_\_\_\_\_

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Kurt Johnson, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 5, 2014

Yen-Vy Van, Project Manager  
Maul Foster Alongi  
411 1<sup>st</sup> Ave S, Suite 610  
Seattle, WA 98104

Dear Ms. Van:

Included are the results from the testing of material submitted on July 17, 2014 from the Truck City Site 0714.02.02 Task 1, F&BI 407277 project. There are 74 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Mary Benzinger, Brian Fauth  
MFA0805R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 17, 2014 by Friedman & Bruya, Inc. from the Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
407277 -01	TC1-S2-8.5
407277 -02	TCBH1-S-8.5
407277 -03	TCBH1-W-8.5
407277 -04	TCBH3-S-8.5
407277 -05	TCBH3-W-8.5
407277 -06	TCBH3-S-14.5
407277 -07	TCBH2-S-15.0
407277 -08	TCBH2-W-8.5
407277 -09	TCBH4-S-6.0
407277 -10	TCBH4-S-15.0
407277 -11	TCBH4-W-6.0
407277 -12	TCBH6-S-4.8
407277 -13	TCBH6-W-4.8
407277 -14	TCBH8-S-9.5
407277 -15	TCBH8-S-15.0
407277 -16	TCBH8-W-9.5
407277 -17	TCBH7-S-15.0
407277 -18	TCBH7-W-6.5
407277 -19	TCBH9-S-9.5
407277 -20	TCBH9-S-15.0
407277 -21	TCBH9-W-6.5
407277 -22	TC4-S-7.0
407277 -23	TC4-S-15.0
407277 -24	TC5-S-9.5
407277 -25	TC5-S-15.0
407277 -26	TC3-S-9.7
407277 -27	TC3-S-15.0
407277 -28	TC2-S-6.5
407277 -29	TC2-S-15.0
407277 -30	TC1-W-10.0
407277 -31	TC5-W-10.0
407277 -32	TCDup-W-10.0
407277 -33	TC3-W-10.0

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

CASE NARRATIVE (continued)

Samples TC5-5-15.0 and TC5-W-10.0 were sent to Fremont for EPH analysis. Sample TC1-W-10.0 was sent to Fremont for EPH, VPH, nitrate, sulfate, and ferrous iron analyses. Sample TC3-W-10.0 was sent to Fremont for VPH, nitrate, sulfate, and ferrous iron analyses. The report will be forwarded to your office upon receipt.

An 8260C direct sparge internal standard failed the acceptance criteria for the EDB analysis of sample TCBH3-S-8.5 and TC3-S-9.7 due to matrix interferences. The data were flagged accordingly.

An 8270D SIM internal standard failed the acceptance criteria for sample TC1-S2-8.5 due to matrix interferences. The data were flagged accordingly. The sample was diluted and reanalyzed.

Several compounds in the 8260C matrix spike, laboratory control sample and laboratory control sample duplicate exceeded the acceptance criteria. The affected analytes were not detected in the samples, therefore the data were acceptable.

All other quality control requirements were acceptable.



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/24/14

Date Analyzed: 07/24/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID  
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE  
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION  
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 56-165)
TCBH6-S-4.8 407277-12	ND	ND	ND	109
Method Blank 04-1504 MB	ND	ND	ND	108

ND - Material not detected at or above 20 mg/kg gas, 50 mg/kg diesel and 250 mg/kg heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR GASOLINE, DIESEL AND HEAVY OIL BY NWTPH-HCID  
Results Reported as Not Detected (ND) or Detected (D)**

**THE DATA PROVIDED BELOW WAS PERFORMED PER THE GUIDELINES ESTABLISHED BY THE  
WASHINGTON DEPARTMENT OF ECOLOGY AND WERE NOT DESIGNED TO PROVIDE INFORMATION  
WITH REGARDS TO THE ACTUAL IDENTIFICATION OF ANY MATERIAL PRESENT**

<u>Sample ID</u> Laboratory ID	<u>Gasoline</u>	<u>Diesel</u>	<u>Heavy Oil</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TCBH6-W-4.8 407277-13	ND	ND	ND	97
Method Blank 04-1497 MB	ND	ND	ND	88

ND - Material not detected at or above 0.2 mg/L gas, 0.5 mg/L diesel and 0.5 mg/L heavy oil.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14 and 07/23/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 50-150)
TC1-S2-8.5 407277-01	<2	100
TCBH3-S-8.5 407277-04 1/20	2,800	122
TC3-S-9.7 407277-26	<2	96
TC3-S-15.0 407277-27	<2	96
Method Blank 04-1463 MB	<2	93
Method Blank 04-1465 MB	<2	95

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14 and 07/23/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TCBH1-S-8.5 407277-02	<0.02	<0.02	<0.02	<0.06	<2	86
TCBH3-S-14.5 407277-06	<0.02	<0.02	<0.02	<0.06	<2	85
TCBH2-S-15.0 407277-07	<0.02	<0.02	<0.02	<0.06	<2	84
TCBH4-S-6.0 407277-09	<0.02	<0.02	<0.02	<0.06	<2	83
TCBH4-S-15.0 407277-10	<0.02	<0.02	<0.02	<0.06	<2	84
TCBH8-S-9.5 407277-14	<0.02	<0.02	<0.02	<0.06	<2	82
TCBH8-S-15.0 407277-15	<0.02	<0.02	<0.02	<0.06	<2	82
TCBH7-S-15.0 407277-17	<0.02	<0.02	<0.02	<0.06	<2	80
TCBH9-S-9.5 407277-19	<0.02	<0.02	<0.02	<0.06	<2	80
TCBH9-S-15.0 407277-20	<0.02	<0.02	<0.02	<0.06	<2	79

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14 and 07/23/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TC4-S-7.0 407277-22	<0.02	<0.02	<0.02	<0.06	<2	80
TC4-S-15.0 407277-23	<0.02	<0.02	<0.02	<0.06	<2	80
TC2-S-6.5 407277-28	<0.02	<0.02	<0.02	<0.06	<2	79
TC2-S-15.0 407277-29	<0.02	<0.02	<0.02	<0.06	<2	80
Method Blank 04-1463 MB	<0.02	<0.02	<0.02	<0.06	<2	82
Method Blank 04-1465 MB	<0.02	<0.02	<0.02	<0.06	<2	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14 and 07/23/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES  
USING METHOD 8021B**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> (Limit 50-150)
TCBH6-S-4.8 407277-12	<0.02	<0.02	<0.02	<0.06	85
TC5-S-9.5 407277-24	<0.02	<0.02	<0.02	<0.06	81
TC5-S-15.0 407277-25	<0.02	<0.02	0.040	0.19	79
Method Blank 04-1463 MB	<0.02	<0.02	<0.02	<0.06	82
Method Blank 04-1465 MB	<0.02	<0.02	<0.02	<0.06	83

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 51-134)
TCBH3-W-8.5 407277-05	1,900	103
TC1-W-10.0 407277-30	<100	97
TC3-W-10.0 407277-33	380	105
Method Blank 04-1464 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES AND TPH AS GASOLINE  
USING METHODS 8021B AND NWTPH-Gx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Gasoline Range</u>	<u>Surrogate (% Recovery)</u> (Limit 52-124)
TCBH1-W-8.5 407277-03	<1	<1	<1	<3	<100	95
TCBH2-W-8.5 407277-08	<1	<1	<1	<3	<100	95
TCBH4-W-6.0 407277-11	<1	<1	<1	<3	<100	93
TCBH8-W-9.5 407277-16	<1	<1	<1	<3	<100	95
TCBH7-W-6.5 407277-18	<1	<1	<1	<3	<100	94
TCBH9-W-6.5 407277-21	<1	<1	<1	<3	<100	95
TCDup-W-10.0 407277-32	<1	<1	<1	<3	<100	93
Method Blank 04-1464 MB	<1	<1	<1	<3	<100	94



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES  
USING METHOD 8021B**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Benzene</u>	<u>Toluene</u>	<u>Ethyl Benzene</u>	<u>Total Xylenes</u>	<u>Surrogate (% Recovery)</u> Limit (52-124)
TCBH6-W-4.8 407277-13	<1	<1	<1	<3	95
TC5-W-10.0 407277-31	22	1.7	25	130	100
Method Blank 04-1464 MB	<1	<1	<1	<3	94

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/22/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 51-134)
TCBH1-W-8.5 407277-03	790 x	<250	105
TCBH3-W-8.5 407277-05	1,100 x	<250	95
TCBH2-W-8.5 407277-08	<50	<250	87
TCBH4-W-6.0 407277-11	120 x	<250	87
TCBH8-W-9.5 407277-16	<50	<250	89
TCBH7-W-6.5 407277-18	56 x	<250	96
TCBH9-W-6.5 407277-21	<50	<250	91
TC1-W-10.0 407277-30	120 x	<250	81
TC5-W-10.0 407277-31	360 x	<250	99
Method Blank 04-1497 MB	<50	<250	88

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> <u>(% Recovery)</u> (Limit 53-144)
TC1-S2-8.5 407277-01	<50	<250	89
TCBH1-S-8.5 407277-02	<50	<250	91
TCBH3-S-8.5 407277-04	950	<250	91
TCBH3-S-14.5 407277-06	<50	<250	88
TCBH2-S-15.0 407277-07	<50	<250	91
TCBH4-S-6.0 407277-09	<50	<250	97
TCBH4-S-15.0 407277-10	<50	<250	94
TCBH8-S-9.5 407277-14	<50	<250	89
TCBH8-S-15.0 407277-15	<50	<250	92
TCBH7-S-15.0 407277-17	<50	<250	86

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL AND MOTOR OIL  
USING METHOD NWTPH-Dx**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Diesel Range</u> (C <sub>10</sub> -C <sub>25</sub> )	<u>Motor Oil Range</u> (C <sub>25</sub> -C <sub>36</sub> )	<u>Surrogate</u> (% Recovery) (Limit 53-144)
TCBH9-S-9.5 407277-19	<50	<250	87
TCBH9-S-15.0 407277-20	<50	<250	95
TC4-S-7.0 407277-22	<50	<250	97
TC4-S-15.0 407277-23	<50	<250	101
TC5-S-9.5 407277-24	<50	350	101
TC5-S-15.0 407277-25	<50	<250	105
TC3-S-9.7 407277-26	<50	<250	91
TC3-S-15.0 407277-27	<50	<250	88
TC2-S-6.5 407277-28	<50	<250	102
TC2-S-15.0 407277-29	<50	<250	101
Method Blank 04-1495 MB	<50	<250	100

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	TC1-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-30
Date Analyzed:	07/23/14	Data File:	407277-30.039
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	92	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Manganese	1,200

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	I4-459 mb
Date Analyzed:	07/23/14	Data File:	I4-459 mb.028
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	83	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Manganese	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC3-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-33
Date Analyzed:	07/23/14	Data File:	407277-33.018
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	89	60	125
Indium	77	60	125
Holmium	84	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	2.29
Arsenic	1.29
Selenium	<1
Silver	<1
Cadmium	<1
Barium	85.3
Lead	<1
Manganese	708

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	I4-458 mb
Date Analyzed:	07/23/14	Data File:	I4-458 mb.013
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	95	60	125
Indium	96	60	125
Holmium	99	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1
Manganese	<1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC3-S-9.7	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-26
Date Analyzed:	07/22/14	Data File:	407277-26.044
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	86	60	125
Indium	77	60	125
Holmium	80	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	8.03
Arsenic	2.90
Selenium	<1
Silver	<1
Cadmium	<1
Barium	30.4
Lead	2.49

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC3-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-27
Date Analyzed:	07/22/14	Data File:	407277-27.040
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	88	60	125
Indium	81	60	125
Holmium	85	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	3.35
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	6.69
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC2-S-6.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-28
Date Analyzed:	07/22/14	Data File:	407277-28.045
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	94	60	125
Indium	83	60	125
Holmium	88	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	8.87
Arsenic	6.34
Selenium	<1
Silver	<1
Cadmium	<1
Barium	26.1
Lead	3.12

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC2-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-29
Date Analyzed:	07/22/14	Data File:	407277-29.046
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	100	60	125
Indium	89	60	125
Holmium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	15.4
Arsenic	6.94
Selenium	<1
Silver	<1
Cadmium	<1
Barium	51.5
Lead	4.85

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	I4-462 mb
Date Analyzed:	07/22/14	Data File:	I4-462 mb.037
Matrix:	Soil	Instrument:	ICPMS1
Units:	mg/kg (ppm) Dry Weight	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	92	60	125
Indium	89	60	125
Holmium	92	60	125

Analyte:	Concentration mg/kg (ppm)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TC3-W-10.0 407277-33	<0.1
Method Blank	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/22/14

**RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**

Results Reported on a Dry Weight Basis

Results Reported as mg/kg (ppm)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TC3-S-9.7 407277-26	<0.1
TC3-S-15.0 407277-27	<0.1
TC2-S-6.5 407277-28	<0.1
TC2-S-15.0 407277-29	<0.1
Method Blank	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/23/14

Date Analyzed: 07/23/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR 1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED**

Results Reported as  $\mu\text{g/L}$  (ppb)

<u>Sample ID</u>	<u>EDB</u>
Laboratory ID	
TCBH3-W-8.5 407277-05	<0.01
TC1-W-10.0 407277-30	<0.01
TC3-W-10.0 407277-33	<0.01
Method Blank	<0.01

EDB                      1,2-Dibromoethane



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	TC1-S2-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-01
Date Analyzed:	07/21/14	Data File:	072131.D
Matrix:	Soil	Instrument:	GCMS7
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	105	50	150
Toluene-d8	99	50	150
4-Bromofluorobenzene	101	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	TCBH3-S-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-04
Date Analyzed:	07/21/14	Data File:	072127.D
Matrix:	Soil	Instrument:	GCMS7
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	7 vo J	50	150
Toluene-d8	72 J	50	150
4-Bromofluorobenzene	378 vo J	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	TC3-S-9.7	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-26
Date Analyzed:	07/21/14	Data File:	072128.D
Matrix:	Soil	Instrument:	GCMS7
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102 J	50	150
Toluene-d8	99 J	50	150
4-Bromofluorobenzene	101 J	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005 J

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	TC3-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-27
Date Analyzed:	07/21/14	Data File:	072129.D
Matrix:	Soil	Instrument:	GCMS7
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	50	150
Toluene-d8	97	50	150
4-Bromofluorobenzene	102	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

# FRIEDMAN & BRUYA, INC.

## ENVIRONMENTAL CHEMISTS

### Analysis For Volatile Compounds By EPA Method 8260C Direct Sparge

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1480 mb
Date Analyzed:	07/21/14	Data File:	072126.D
Matrix:	Soil	Instrument:	GCMS7
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	50	150
Toluene-d8	100	50	150
4-Bromofluorobenzene	100	50	150

Compounds:	Concentration mg/kg (ppm)
1,2-Dibromoethane (EDB)	<0.005

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TCBH3-W-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-05
Date Analyzed:	07/21/14	Data File:	072116.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	98	94	108
Toluene-d8	103	91	107
4-Bromofluorobenzene	100	91	110

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	190 ve
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	50
Hexane	41	o-Xylene	3.8
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	21
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	70
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	54
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	190 ve
Benzene	4.2	sec-Butylbenzene	4.4
Trichloroethene	<1	p-Isopropyltoluene	2.1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	95
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TCBH3-W-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-05 1/10
Date Analyzed:	07/21/14	Data File:	072133.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	94	108
Toluene-d8	99	91	107
4-Bromofluorobenzene	97	91	110

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<10	1,3-Dichloropropane	<10
Chloromethane	<100	Tetrachloroethene	<10
Vinyl chloride	<2	Dibromochloromethane	<10
Bromomethane	<10	1,2-Dibromoethane (EDB)	<10
Chloroethane	<10	Chlorobenzene	<10
Trichlorofluoromethane	<10	Ethylbenzene	160
Acetone	<100	1,1,1,2-Tetrachloroethane	<10
1,1-Dichloroethene	<10	m,p-Xylene	42
Hexane	26	o-Xylene	<10
Methylene chloride	<50	Styrene	<10
Methyl t-butyl ether (MTBE)	<10	Isopropylbenzene	17
trans-1,2-Dichloroethene	<10	Bromoform	<10
1,1-Dichloroethane	<10	n-Propylbenzene	59
2,2-Dichloropropane	<10	Bromobenzene	<10
cis-1,2-Dichloroethene	<10	1,3,5-Trimethylbenzene	45
Chloroform	<10	1,1,2,2-Tetrachloroethane	<10
2-Butanone (MEK)	<100	1,2,3-Trichloropropane	<10
1,2-Dichloroethane (EDC)	<10	2-Chlorotoluene	<10
1,1,1-Trichloroethane	<10	4-Chlorotoluene	<10
1,1-Dichloropropene	<10	tert-Butylbenzene	<10
Carbon tetrachloride	<10	1,2,4-Trimethylbenzene	160
Benzene	4.3	sec-Butylbenzene	<10
Trichloroethene	<10	p-Isopropyltoluene	<10
1,2-Dichloropropane	<10	1,3-Dichlorobenzene	<10
Bromodichloromethane	<10	1,4-Dichlorobenzene	<10
Dibromomethane	<10	1,2-Dichlorobenzene	<10
4-Methyl-2-pentanone	<100	1,2-Dibromo-3-chloropropane	<100
cis-1,3-Dichloropropene	<10	1,2,4-Trichlorobenzene	<10
Toluene	<10	Hexachlorobutadiene	<10
trans-1,3-Dichloropropene	<10	Naphthalene	110
1,1,2-Trichloroethane	<10	1,2,3-Trichlorobenzene	<10
2-Hexanone	<100		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TC1-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-30
Date Analyzed:	07/21/14	Data File:	072117.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	94	108
Toluene-d8	98	91	107
4-Bromofluorobenzene	100	91	110

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TC3-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-33
Date Analyzed:	07/21/14	Data File:	072118.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	101	94	108
Toluene-d8	100	91	107
4-Bromofluorobenzene	98	91	110

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	8.1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	27
Hexane	12	o-Xylene	5.6
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	2.8
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	6.2
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	23
Benzene	1.2	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	5.2
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1481 mb
Date Analyzed:	07/21/14	Data File:	072107.D
Matrix:	Water	Instrument:	GCMS7
Units:	ug/L (ppb)	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	94	108
Toluene-d8	98	91	107
4-Bromofluorobenzene	98	91	110

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<1
Vinyl chloride	<0.2	Dibromochloromethane	<1
Bromomethane	<1	1,2-Dibromoethane (EDB)	<1
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<10	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<1	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<1
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<1
2-Butanone (MEK)	<10	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<1	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<1	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<1	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<1	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<1	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<1
trans-1,3-Dichloropropene	<1	Naphthalene	<1
1,1,2-Trichloroethane	<1	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TC1-S2-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-01
Date Analyzed:	07/21/14	Data File:	072108.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	99	51	121
4-Bromofluorobenzene	98	32	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TCBH3-S-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-04
Date Analyzed:	07/21/14	Data File:	072109.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	104	62	142
Toluene-d8	98	51	121
4-Bromofluorobenzene	98	32	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	7.8
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	0.31
Hexane	4.9	o-Xylene	0.23
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	1.7
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	7.4
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	0.77
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	0.34
Benzene	<0.03	sec-Butylbenzene	1.0
Trichloroethene	<0.02	p-Isopropyltoluene	0.47
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	3.1
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TC3-S-9.7	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-26
Date Analyzed:	07/21/14	Data File:	072110.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	102	62	142
Toluene-d8	100	51	121
4-Bromofluorobenzene	99	32	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	TC3-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-27
Date Analyzed:	07/21/14	Data File:	072111.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	100	62	142
Toluene-d8	100	51	121
4-Bromofluorobenzene	98	32	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260C

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1479 mb
Date Analyzed:	07/21/14	Data File:	072105.D
Matrix:	Soil	Instrument:	GCMS4
Units:	mg/kg (ppm) Dry Weight	Operator:	JS

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	62	142
Toluene-d8	97	51	121
4-Bromofluorobenzene	97	32	146

Compounds:	Concentration mg/kg (ppm)	Compounds:	Concentration mg/kg (ppm)
Dichlorodifluoromethane	<0.5	1,3-Dichloropropane	<0.05
Chloromethane	<0.5	Tetrachloroethene	<0.025
Vinyl chloride	<0.05	Dibromochloromethane	<0.05
Bromomethane	<0.5	1,2-Dibromoethane (EDB)	<0.05
Chloroethane	<0.5	Chlorobenzene	<0.05
Trichlorofluoromethane	<0.5	Ethylbenzene	<0.05
Acetone	<0.5	1,1,1,2-Tetrachloroethane	<0.05
1,1-Dichloroethene	<0.05	m,p-Xylene	<0.1
Hexane	<0.25	o-Xylene	<0.05
Methylene chloride	<0.5	Styrene	<0.05
Methyl t-butyl ether (MTBE)	<0.05	Isopropylbenzene	<0.05
trans-1,2-Dichloroethene	<0.05	Bromoform	<0.05
1,1-Dichloroethane	<0.05	n-Propylbenzene	<0.05
2,2-Dichloropropane	<0.05	Bromobenzene	<0.05
cis-1,2-Dichloroethene	<0.05	1,3,5-Trimethylbenzene	<0.05
Chloroform	<0.05	1,1,2,2-Tetrachloroethane	<0.05
2-Butanone (MEK)	<0.5	1,2,3-Trichloropropane	<0.05
1,2-Dichloroethane (EDC)	<0.05	2-Chlorotoluene	<0.05
1,1,1-Trichloroethane	<0.05	4-Chlorotoluene	<0.05
1,1-Dichloropropene	<0.05	tert-Butylbenzene	<0.05
Carbon tetrachloride	<0.05	1,2,4-Trimethylbenzene	<0.05
Benzene	<0.03	sec-Butylbenzene	<0.05
Trichloroethene	<0.02	p-Isopropyltoluene	<0.05
1,2-Dichloropropane	<0.05	1,3-Dichlorobenzene	<0.05
Bromodichloromethane	<0.05	1,4-Dichlorobenzene	<0.05
Dibromomethane	<0.05	1,2-Dichlorobenzene	<0.05
4-Methyl-2-pentanone	<0.5	1,2-Dibromo-3-chloropropane	<0.5
cis-1,3-Dichloropropene	<0.05	1,2,4-Trichlorobenzene	<0.25
Toluene	<0.05	Hexachlorobutadiene	<0.25
trans-1,3-Dichloropropene	<0.05	Naphthalene	<0.05
1,1,2-Trichloroethane	<0.05	1,2,3-Trichlorobenzene	<0.25
2-Hexanone	<0.5		

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC1-S2-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-01 1/5
Date Analyzed:	07/21/14	Data File:	072114.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	99	50	150
Benzo(a)anthracene-d12	142	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.013
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	0.026
Benzo(a)pyrene	<0.01 J
Benzo(b)fluoranthene	<0.01 J
Benzo(k)fluoranthene	<0.01 J
Indeno(1,2,3-cd)pyrene	<0.01 J
Dibenz(a,h)anthracene	<0.01 J
Benzo(g,h,i)perylene	<0.01 J
1-Methylnaphthalene	<0.01
2-Methylnaphthalene	0.011



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC1-S2-8.5	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-01 1/50
Date Analyzed:	07/22/14	Data File:	072221.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	150 ds	50	150
Benzo(a)anthracene-d12	133 ds	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1
1-Methylnaphthalene	<0.1
2-Methylnaphthalene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC4-S-7.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-22 1/5
Date Analyzed:	07/21/14	Data File:	072106.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	98	50	150
Benzo(a)anthracene-d12	118	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
1-Methylnaphthalene	<0.01
2-Methylnaphthalene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC4-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-23 1/5
Date Analyzed:	07/21/14	Data File:	072109.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	50	150
Benzo(a)anthracene-d12	117	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
1-Methylnaphthalene	<0.01
2-Methylnaphthalene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC5-S-15.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-25 1/5
Date Analyzed:	07/21/14	Data File:	072110.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	101	50	150
Benzo(a)anthracene-d12	119	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
1-Methylnaphthalene	<0.01
2-Methylnaphthalene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1500 mb 1/5
Date Analyzed:	07/21/14	Data File:	072105.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	ya

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	105	50	150
Benzo(a)anthracene-d12	124	35	159

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.01
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	<0.01
Anthracene	<0.01
Fluoranthene	<0.01
Pyrene	<0.01
Benz(a)anthracene	<0.01
Chrysene	<0.01
Benzo(a)pyrene	<0.01
Benzo(b)fluoranthene	<0.01
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	<0.01
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	<0.01
1-Methylnaphthalene	<0.01
2-Methylnaphthalene	<0.01

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC1-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-30 1/2
Date Analyzed:	07/22/14	Data File:	072206.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	100	50	150
Benzo(a)anthracene-d12	111	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1
1-Methylnaphthalene	<0.1
2-Methylnaphthalene	<0.1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC5-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-31 1/2
Date Analyzed:	07/22/14	Data File:	072207.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	61	50	150
Benzo(a)anthracene-d12	69	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	8.6
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1
1-Methylnaphthalene	0.77
2-Methylnaphthalene	0.48

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	TC3-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	407277-33 1/2
Date Analyzed:	07/22/14	Data File:	072208.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	103	50	150
Benzo(a)anthracene-d12	115	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	0.83
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1
1-Methylnaphthalene	0.28
2-Methylnaphthalene	0.34



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Semivolatile Compounds By EPA Method 8270D SIM

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/21/14	Lab ID:	04-1498 mb 1/2
Date Analyzed:	07/22/14	Data File:	072205.D
Matrix:	Water	Instrument:	GCMS6
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	102	50	150
Benzo(a)anthracene-d12	108	50	129

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.1
Acenaphthylene	<0.1
Acenaphthene	<0.1
Fluorene	<0.1
Phenanthrene	<0.1
Anthracene	<0.1
Fluoranthene	<0.1
Pyrene	<0.1
Benz(a)anthracene	<0.1
Chrysene	<0.1
Benzo(a)pyrene	<0.1
Benzo(b)fluoranthene	<0.1
Benzo(k)fluoranthene	<0.1
Indeno(1,2,3-cd)pyrene	<0.1
Dibenz(a,h)anthracene	<0.1
Benzo(g,h,i)perylene	<0.1
1-Methylnaphthalene	<0.1
2-Methylnaphthalene	<0.1

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	TC1-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/24/14	Lab ID:	407277-30
Date Analyzed:	07/24/14	Data File:	009F0901.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	7.1

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	TC3-W-10.0	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/24/14	Lab ID:	407277-33
Date Analyzed:	07/24/14	Data File:	010F1001.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	48

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Analysis For Dissolved Gasses By RSK 175

Client Sample ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Truck City Site 0714.02.02 Task 1
Date Extracted:	07/24/14	Lab ID:	04-1482 mb
Date Analyzed:	07/24/14	Data File:	008F0801.D
Matrix:	Water	Instrument:	GC8
Units:	ug/L (ppb)	Operator:	JS

Compounds:	Concentration ug/L (ppb)
Methane	<5

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 407273-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	94	69-120
Toluene	mg/kg (ppm)	0.5	94	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	93	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 407277-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Toluene	mg/kg (ppm)	<0.02	<0.02	nm
Ethylbenzene	mg/kg (ppm)	<0.02	<0.02	nm
Xylenes	mg/kg (ppm)	<0.06	<0.06	nm
Gasoline	mg/kg (ppm)	<2	<2	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	85	69-120
Toluene	mg/kg (ppm)	0.5	84	70-117
Ethylbenzene	mg/kg (ppm)	0.5	86	65-123
Xylenes	mg/kg (ppm)	1.5	85	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE,  
XYLENES, AND TPH AS GASOLINE  
USING EPA METHOD 8021B AND NWTPH-Gx**

Laboratory Code: 407277-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Benzene	ug/L (ppb)	<1	<1	nm
Toluene	ug/L (ppb)	<1	<1	nm
Ethylbenzene	ug/L (ppb)	<1	<1	nm
Xylenes	ug/L (ppb)	<3	<3	nm
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent	
			Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	95	65-118
Toluene	ug/L (ppb)	50	92	72-122
Ethylbenzene	ug/L (ppb)	50	94	73-126
Xylenes	ug/L (ppb)	150	94	74-118
Gasoline	ug/L (ppb)	1,000	107	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	115	114	58-134	1



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS  
DIESEL EXTENDED USING METHOD NWTPH-Dx**

Laboratory Code: 407277-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	105	110	64-133	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	112	58-147

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR DISSOLVED METALS USING EPA METHOD 200.8**

Laboratory Code: 407256-05 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	10.9	120 b	90 b	47-155	29 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	113	76-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 407304-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	ug/L (ppb)	20	2.10	92	99	64-132	7
Arsenic	ug/L (ppb)	10	1.07	94	100	60-150	6
Selenium	ug/L (ppb)	5	<1	97	103	43-178	6
Silver	ug/L (ppb)	5	<1	89	96	71-115	8
Cadmium	ug/L (ppb)	5	<1	95	101	83-116	6
Barium	ug/L (ppb)	50	26.0	91 b	101 b	79-126	10 b
Lead	ug/L (ppb)	10	<1	98	105	79-121	7
Manganese	ug/L (ppb)	20	48.9	66 b	85 b	47-155	25 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	ug/L (ppb)	20	108	80-119
Arsenic	ug/L (ppb)	10	103	80-111
Selenium	ug/L (ppb)	5	111	81-119
Silver	ug/L (ppb)	5	109	80-116
Cadmium	ug/L (ppb)	5	110	83-113
Barium	ug/L (ppb)	50	107	83-117
Lead	ug/L (ppb)	10	111	83-115
Manganese	ug/L (ppb)	20	112	76-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES  
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 407277-27 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	mg/kg (ppm)	50	2.71	90	90	57-128	0
Arsenic	mg/kg (ppm)	10	<1	104	101	70-118	3
Selenium	mg/kg (ppm)	5	<1	104	101	64-117	3
Silver	mg/kg (ppm)	10	<1	98	98	73-122	0
Cadmium	mg/kg (ppm)	10	<1	108	107	83-116	1
Barium	mg/kg (ppm)	50	5.42	105	101	60-141	4
Lead	mg/kg (ppm)	50	<1	105	105	59-148	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	mg/kg (ppm)	50	97	78-121
Arsenic	mg/kg (ppm)	10	107	83-113
Selenium	mg/kg (ppm)	5	100	84-115
Silver	mg/kg (ppm)	10	100	81-116
Cadmium	mg/kg (ppm)	10	109	54-114
Barium	mg/kg (ppm)	50	103	85-116
Lead	mg/kg (ppm)	50	109	80-120

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 407277-33 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.5	<0.1	101	105	71-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.5	101	88-113

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF SOIL SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 407277-27 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	mg/kg (ppm)	0.125	<0.1	105	106	71-125	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	mg/kg (ppm)	0.125	88	75-117

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FROM THE ANALYSIS OF WATER SAMPLES FOR  
1,2-DIBROMOETHANE BY EPA METHOD 8011 MODIFIED**

Laboratory Code: 407304-02 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 10)
1,2-Dibromoethane	ug/L (ppb)	<0.01	<0.01	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
1,2-Dibromoethane	ug/L (ppb)	0.10	103	70-130

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C DIRECT SPARGE**

Laboratory Code: 407277-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet wt)	Duplicate Result (Wet wt)	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	<0.005	<0.005	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
1,2-Dibromoethane (EDB)	mg/kg (ppm)	0.05	99	99	70-130	0



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 407256-03 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent	Acceptance Criteria
				Recovery MS	
Dichlorodifluoromethane	ug/L (ppb)	50	<1	108	51-147
Chloromethane	ug/L (ppb)	50	<10	103	56-133
Vinyl chloride	ug/L (ppb)	50	<0.2	104	58-136
Bromomethane	ug/L (ppb)	50	<1	144	32-180
Chloroethane	ug/L (ppb)	50	<1	120	61-138
Trichlorofluoromethane	ug/L (ppb)	50	<1	111	64-135
Acetone	ug/L (ppb)	250	<10	94	58-120
1,1-Dichloroethene	ug/L (ppb)	50	<1	103	75-118
Hexane	ug/L (ppb)	50	<1	93	66-119
Methylene chloride	ug/L (ppb)	50	<5	106	73-118
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	<1	108	80-114
trans-1,2-Dichloroethene	ug/L (ppb)	50	<1	110	82-111
1,1-Dichloroethane	ug/L (ppb)	50	<1	105	85-110
2,2-Dichloropropane	ug/L (ppb)	50	<1	107	59-134
cis-1,2-Dichloroethene	ug/L (ppb)	50	<1	111	84-112
Chloroform	ug/L (ppb)	50	<1	104	84-111
2-Butanone (MEK)	ug/L (ppb)	250	<10	110	74-122
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	<1	96	81-114
1,1,1-Trichloroethane	ug/L (ppb)	50	<1	107	83-115
1,1-Dichloropropene	ug/L (ppb)	50	<1	98	84-112
Carbon tetrachloride	ug/L (ppb)	50	<1	103	82-118
Benzene	ug/L (ppb)	50	<0.35	101	85-109
Trichloroethene	ug/L (ppb)	50	<1	107 vo	84-105
1,2-Dichloropropane	ug/L (ppb)	50	<1	101	85-111
Bromodichloromethane	ug/L (ppb)	50	<1	103	80-118
Dibromomethane	ug/L (ppb)	50	<1	102	84-114
4-Methyl-2-pentanone	ug/L (ppb)	250	<10	115	90-126
cis-1,3-Dichloropropene	ug/L (ppb)	50	<1	101	80-122
Toluene	ug/L (ppb)	50	<1	106	86-111
trans-1,3-Dichloropropene	ug/L (ppb)	50	<1	93	79-126
1,1,2-Trichloroethane	ug/L (ppb)	50	<1	103	73-129
2-Hexanone	ug/L (ppb)	250	<10	95	73-136
1,3-Dichloropropane	ug/L (ppb)	50	<1	101	85-113
Tetrachloroethene	ug/L (ppb)	50	<1	104	72-121
Dibromochloromethane	ug/L (ppb)	50	<1	109	77-131
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	<1	101	81-120
Chlorobenzene	ug/L (ppb)	50	<1	103	84-110
Ethylbenzene	ug/L (ppb)	50	<1	108	86-115
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	<1	106	83-118
m,p-Xylene	ug/L (ppb)	100	<2	115	78-125
o-Xylene	ug/L (ppb)	50	<1	111	84-119
Styrene	ug/L (ppb)	50	<1	111	86-121
Isopropylbenzene	ug/L (ppb)	50	<1	112	86-120
Bromoform	ug/L (ppb)	50	<1	111	75-129
n-Propylbenzene	ug/L (ppb)	50	<1	106	83-119
Bromobenzene	ug/L (ppb)	50	<1	102	80-115
1,3,5-Trimethylbenzene	ug/L (ppb)	50	<1	111	82-124
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	<1	107	78-120
1,2,3-Trichloropropane	ug/L (ppb)	50	<1	98	81-114
2-Chlorotoluene	ug/L (ppb)	50	<1	101	10-250
4-Chlorotoluene	ug/L (ppb)	50	<1	102	46-160
tert-Butylbenzene	ug/L (ppb)	50	<1	112	83-122
1,2,4-Trimethylbenzene	ug/L (ppb)	50	<1	109	83-122
sec-Butylbenzene	ug/L (ppb)	50	<1	109	82-121
p-Isopropyltoluene	ug/L (ppb)	50	<1	109	81-122
1,3-Dichlorobenzene	ug/L (ppb)	50	<1	105	82-113
1,4-Dichlorobenzene	ug/L (ppb)	50	<1	103	79-111
1,2-Dichlorobenzene	ug/L (ppb)	50	<1	106	81-113
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	<10	97	71-126
1,2,4-Trichlorobenzene	ug/L (ppb)	50	<1	106	74-120
Hexachlorobutadiene	ug/L (ppb)	50	<1	99	63-120
Naphthalene	ug/L (ppb)	50	<1	117	79-132
1,2,3-Trichlorobenzene	ug/L (ppb)	50	<1	111	75-121

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	50	129	124	69-134	4
Chloromethane	ug/L (ppb)	50	115	113	68-126	2
Vinyl chloride	ug/L (ppb)	50	110	107	72-124	3
Bromomethane	ug/L (ppb)	50	146	141	48-175	3
Chloroethane	ug/L (ppb)	50	119	117	69-133	2
Trichlorofluoromethane	ug/L (ppb)	50	132 vo	128 vo	77-127	3
Acetone	ug/L (ppb)	250	106	105	52-138	1
1,1-Dichloroethene	ug/L (ppb)	50	101	102	78-119	1
Hexane	ug/L (ppb)	50	108	108	69-127	0
Methylene chloride	ug/L (ppb)	50	106	105	71-119	1
Methyl t-butyl ether (MTBE)	ug/L (ppb)	50	113	113	81-118	0
trans-1,2-Dichloroethene	ug/L (ppb)	50	110	110	82-116	0
1,1-Dichloroethane	ug/L (ppb)	50	112	112	81-116	0
2,2-Dichloropropane	ug/L (ppb)	50	167 vo	154 vo	74-138	8
cis-1,2-Dichloroethene	ug/L (ppb)	50	111	111	82-116	0
Chloroform	ug/L (ppb)	50	113	112	75-121	1
2-Butanone (MEK)	ug/L (ppb)	250	110	113	64-136	3
1,2-Dichloroethane (EDC)	ug/L (ppb)	50	112	112	81-113	0
1,1,1-Trichloroethane	ug/L (ppb)	50	123 vo	118 vo	84-117	4
1,1-Dichloropropene	ug/L (ppb)	50	104	103	82-117	1
Carbon tetrachloride	ug/L (ppb)	50	118	118	85-119	0
Benzene	ug/L (ppb)	50	100	100	81-113	0
Trichloroethene	ug/L (ppb)	50	109	110	82-110	1
1,2-Dichloropropane	ug/L (ppb)	50	104	104	85-114	0
Bromodichloromethane	ug/L (ppb)	50	110	112	81-118	2
Dibromomethane	ug/L (ppb)	50	106	109	84-115	3
4-Methyl-2-pentanone	ug/L (ppb)	250	110	114	39-185	4
cis-1,3-Dichloropropene	ug/L (ppb)	50	105	104	85-127	1
Toluene	ug/L (ppb)	50	104	105	85-112	1
trans-1,3-Dichloropropene	ug/L (ppb)	50	99	100	87-123	1
1,1,2-Trichloroethane	ug/L (ppb)	50	100	102	84-114	2
2-Hexanone	ug/L (ppb)	250	105	109	77-127	4
1,3-Dichloropropane	ug/L (ppb)	50	99	101	84-114	2
Tetrachloroethene	ug/L (ppb)	50	100	101	78-117	1
Dibromochloromethane	ug/L (ppb)	50	111	113	88-121	2
1,2-Dibromoethane (EDB)	ug/L (ppb)	50	100	104	85-115	4
Chlorobenzene	ug/L (ppb)	50	100	102	83-112	2
Ethylbenzene	ug/L (ppb)	50	108	109	85-116	1
1,1,1,2-Tetrachloroethane	ug/L (ppb)	50	109	110	86-116	1
m,p-Xylene	ug/L (ppb)	100	113	115	84-119	2
o-Xylene	ug/L (ppb)	50	112	112	85-118	0
Styrene	ug/L (ppb)	50	110	112	85-120	2
Isopropylbenzene	ug/L (ppb)	50	113	113	86-120	0
Bromoform	ug/L (ppb)	50	111	115	83-128	4
n-Propylbenzene	ug/L (ppb)	50	105	108	82-120	3
Bromobenzene	ug/L (ppb)	50	98	100	79-116	2
1,3,5-Trimethylbenzene	ug/L (ppb)	50	111	114	83-122	3
1,1,2,2-Tetrachloroethane	ug/L (ppb)	50	102	107	79-120	5
1,2,3-Trichloropropane	ug/L (ppb)	50	97	99	69-124	2
2-Chlorotoluene	ug/L (ppb)	50	103	104	82-115	1
4-Chlorotoluene	ug/L (ppb)	50	103	106	83-117	3
tert-Butylbenzene	ug/L (ppb)	50	111	114	82-123	3
1,2,4-Trimethylbenzene	ug/L (ppb)	50	108	110	82-122	2
sec-Butylbenzene	ug/L (ppb)	50	108	109	81-122	1
p-Isopropyltoluene	ug/L (ppb)	50	110	111	81-123	1
1,3-Dichlorobenzene	ug/L (ppb)	50	104	106	82-114	2
1,4-Dichlorobenzene	ug/L (ppb)	50	101	103	80-111	2
1,2-Dichlorobenzene	ug/L (ppb)	50	104	107	81-112	3
1,2-Dibromo-3-chloropropane	ug/L (ppb)	50	103	107	78-120	4
1,2,4-Trichlorobenzene	ug/L (ppb)	50	103	105	74-120	2
Hexachlorobutadiene	ug/L (ppb)	50	103	104	71-118	1
Naphthalene	ug/L (ppb)	50	114	116	74-132	2
1,2,3-Trichlorobenzene	ug/L (ppb)	50	109	110	70-124	1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: 407277-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	mg/kg (ppm)	2.5	<0.5	13	10	10-142	26 vo
Chloromethane	mg/kg (ppm)	2.5	<0.5	44	38	10-126	15
Vinyl chloride	mg/kg (ppm)	2.5	<0.05	48	42	10-138	13
Bromomethane	mg/kg (ppm)	2.5	<0.5	62	58	10-163	7
Chloroethane	mg/kg (ppm)	2.5	<0.5	67	64	10-176	5
Trichlorofluoromethane	mg/kg (ppm)	2.5	<0.5	56	50	10-176	11
Acetone	mg/kg (ppm)	12.5	<0.5	82	76	10-163	8
1,1-Dichloroethene	mg/kg (ppm)	2.5	<0.05	69	64	10-160	8
Hexane	mg/kg (ppm)	2.5	<0.25	51	42	10-137	19
Methylene chloride	mg/kg (ppm)	2.5	<0.5	78	73	10-156	7
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	<0.05	81	77	21-145	5
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	79	75	14-137	5
1,1-Dichloroethane	mg/kg (ppm)	2.5	<0.05	81	78	19-140	4
2,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	77	72	10-158	7
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	<0.05	84	80	25-135	5
Chloroform	mg/kg (ppm)	2.5	<0.05	84	80	21-145	5
2-Butanone (MEK)	mg/kg (ppm)	12.5	<0.5	86	83	19-147	4
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	<0.05	82	79	12-160	4
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	<0.05	81	79	10-156	2
1,1-Dichloropropene	mg/kg (ppm)	2.5	<0.05	79	73	17-140	8
Carbon tetrachloride	mg/kg (ppm)	2.5	<0.05	88	85	9-164	3
Benzene	mg/kg (ppm)	2.5	<0.03	79	75	29-129	5
Trichloroethene	mg/kg (ppm)	2.5	<0.02	77	74	21-139	4
1,2-Dichloropropane	mg/kg (ppm)	2.5	<0.05	88	84	30-135	5
Bromodichloromethane	mg/kg (ppm)	2.5	<0.05	92	90	23-155	2
Dibromomethane	mg/kg (ppm)	2.5	<0.05	91	88	23-145	3
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	<0.5	94	90	24-155	4
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	91	88	28-144	3
Toluene	mg/kg (ppm)	2.5	<0.05	81	77	35-130	5
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	<0.05	87	84	26-149	4
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	<0.05	96	91	10-205	5
2-Hexanone	mg/kg (ppm)	12.5	<0.5	89	87	15-166	2
1,3-Dichloropropane	mg/kg (ppm)	2.5	<0.05	87	84	31-137	4
Tetrachloroethene	mg/kg (ppm)	2.5	<0.025	87	83	20-133	5
Dibromochloromethane	mg/kg (ppm)	2.5	<0.05	90	88	28-150	2
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	<0.05	95	93	28-142	2
Chlorobenzene	mg/kg (ppm)	2.5	<0.05	84	82	32-129	2
Ethylbenzene	mg/kg (ppm)	2.5	<0.05	85	82	32-137	4
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	92	90	31-143	2
m,p-Xylene	mg/kg (ppm)	5	<0.1	86	81	34-136	6
o-Xylene	mg/kg (ppm)	2.5	<0.05	88	84	33-134	5
Styrene	mg/kg (ppm)	2.5	<0.05	90	87	35-137	3
Isopropylbenzene	mg/kg (ppm)	2.5	<0.05	87	84	31-142	4
Bromoform	mg/kg (ppm)	2.5	<0.05	91	89	21-156	2
n-Propylbenzene	mg/kg (ppm)	2.5	<0.05	87	84	23-146	4
Bromobenzene	mg/kg (ppm)	2.5	<0.05	90	89	34-130	1
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	88	85	18-149	3
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	<0.05	99	95	28-140	4
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	<0.05	87	84	25-144	4
2-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	84	81	31-134	4
4-Chlorotoluene	mg/kg (ppm)	2.5	<0.05	85	80	31-136	6
tert-Butylbenzene	mg/kg (ppm)	2.5	<0.05	92	89	30-137	3
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	<0.05	85	83	10-182	2
sec-Butylbenzene	mg/kg (ppm)	2.5	<0.05	89	87	23-145	2
p-Isopropyltoluene	mg/kg (ppm)	2.5	<0.05	88	84	21-149	5
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	85	83	30-131	2
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	86	83	29-129	4
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	<0.05	85	83	31-132	2
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	<0.5	85	84	11-161	1
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	84	83	22-142	1
Hexachlorobutadiene	mg/kg (ppm)	2.5	<0.25	85	84	10-142	1
Naphthalene	mg/kg (ppm)	2.5	<0.05	90	87	14-157	3
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	<0.25	86	84	20-144	2

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES  
FOR VOLATILES BY EPA METHOD 8260C**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Dichlorodifluoromethane	mg/kg (ppm)	2.5	33	10-146
Chloromethane	mg/kg (ppm)	2.5	59	27-133
Vinyl chloride	mg/kg (ppm)	2.5	72	22-139
Bromomethane	mg/kg (ppm)	2.5	69	38-114
Chloroethane	mg/kg (ppm)	2.5	79	10-163
Trichlorofluoromethane	mg/kg (ppm)	2.5	81	10-196
Acetone	mg/kg (ppm)	12.5	88	52-141
1,1-Dichloroethene	mg/kg (ppm)	2.5	89	47-128
Hexane	mg/kg (ppm)	2.5	84	43-142
Methylene chloride	mg/kg (ppm)	2.5	92	42-132
Methyl t-butyl ether (MTBE)	mg/kg (ppm)	2.5	94	60-123
trans-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	67-127
1,1-Dichloroethane	mg/kg (ppm)	2.5	97	68-115
2,2-Dichloropropane	mg/kg (ppm)	2.5	92	52-170
cis-1,2-Dichloroethene	mg/kg (ppm)	2.5	100	72-113
Chloroform	mg/kg (ppm)	2.5	98	66-120
2-Butanone (MEK)	mg/kg (ppm)	12.5	93	57-123
1,2-Dichloroethane (EDC)	mg/kg (ppm)	2.5	95	56-135
1,1,1-Trichloroethane	mg/kg (ppm)	2.5	98	62-131
1,1-Dichloropropene	mg/kg (ppm)	2.5	95	69-128
Carbon tetrachloride	mg/kg (ppm)	2.5	111	60-139
Benzene	mg/kg (ppm)	2.5	92	68-114
Trichloroethene	mg/kg (ppm)	2.5	92	64-117
1,2-Dichloropropane	mg/kg (ppm)	2.5	103	72-127
Bromodichloromethane	mg/kg (ppm)	2.5	109	72-130
Dibromomethane	mg/kg (ppm)	2.5	104	70-120
4-Methyl-2-pentanone	mg/kg (ppm)	12.5	106	45-145
cis-1,3-Dichloropropene	mg/kg (ppm)	2.5	106	75-136
Toluene	mg/kg (ppm)	2.5	96	66-126
trans-1,3-Dichloropropene	mg/kg (ppm)	2.5	103	72-132
1,1,2-Trichloroethane	mg/kg (ppm)	2.5	109	75-113
2-Hexanone	mg/kg (ppm)	12.5	103	33-152
1,3-Dichloropropane	mg/kg (ppm)	2.5	100	72-130
Tetrachloroethene	mg/kg (ppm)	2.5	103	72-114
Dibromochloromethane	mg/kg (ppm)	2.5	105	74-125
1,2-Dibromoethane (EDB)	mg/kg (ppm)	2.5	111	74-132
Chlorobenzene	mg/kg (ppm)	2.5	98	76-111
Ethylbenzene	mg/kg (ppm)	2.5	99	64-123
1,1,1,2-Tetrachloroethane	mg/kg (ppm)	2.5	107	69-135
m,p-Xylene	mg/kg (ppm)	5	99	78-122
o-Xylene	mg/kg (ppm)	2.5	101	77-124
Styrene	mg/kg (ppm)	2.5	104	74-126
Isopropylbenzene	mg/kg (ppm)	2.5	101	76-127
Bromoform	mg/kg (ppm)	2.5	105	56-132
n-Propylbenzene	mg/kg (ppm)	2.5	102	74-124
Bromobenzene	mg/kg (ppm)	2.5	106	72-122
1,3,5-Trimethylbenzene	mg/kg (ppm)	2.5	104	76-126
1,1,2,2-Tetrachloroethane	mg/kg (ppm)	2.5	111	56-143
1,2,3-Trichloropropane	mg/kg (ppm)	2.5	100	61-137
2-Chlorotoluene	mg/kg (ppm)	2.5	97	74-121
4-Chlorotoluene	mg/kg (ppm)	2.5	98	75-122
tert-Butylbenzene	mg/kg (ppm)	2.5	108	73-130
1,2,4-Trimethylbenzene	mg/kg (ppm)	2.5	101	76-125
sec-Butylbenzene	mg/kg (ppm)	2.5	104	71-130
p-Isopropyltoluene	mg/kg (ppm)	2.5	102	70-132
1,3-Dichlorobenzene	mg/kg (ppm)	2.5	99	75-121
1,4-Dichlorobenzene	mg/kg (ppm)	2.5	98	74-117
1,2-Dichlorobenzene	mg/kg (ppm)	2.5	100	76-121
1,2-Dibromo-3-chloropropane	mg/kg (ppm)	2.5	102	58-138
1,2,4-Trichlorobenzene	mg/kg (ppm)	2.5	100	64-135
Hexachlorobutadiene	mg/kg (ppm)	2.5	100	50-153
Naphthalene	mg/kg (ppm)	2.5	105	63-140
1,2,3-Trichlorobenzene	mg/kg (ppm)	2.5	100	63-138

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL  
SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM**

Laboratory Code: 407277-22 1/5 (Matrix Spike) 1/5

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	<0.01	87	88	44-129	1
2-Methylnaphthalene	mg/kg (ppm)	0.17	<0.01	94	90	45-135	4
1-Methylnaphthalene	mg/kg (ppm)	0.17	<0.01	94	90	64-115	4
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	90	91	52-121	1
Acenaphthene	mg/kg (ppm)	0.17	<0.01	91	90	51-123	1
Fluorene	mg/kg (ppm)	0.17	<0.01	93	94	37-137	1
Phenanthrene	mg/kg (ppm)	0.17	<0.01	90	92	45-124	2
Anthracene	mg/kg (ppm)	0.17	<0.01	91	93	32-124	2
Fluoranthene	mg/kg (ppm)	0.17	<0.01	94	96	50-125	2
Pyrene	mg/kg (ppm)	0.17	<0.01	111	108	41-135	3
Benz(a)anthracene	mg/kg (ppm)	0.17	<0.01	96	98	23-144	2
Chrysene	mg/kg (ppm)	0.17	<0.01	95	96	45-122	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	<0.01	83	81	31-144	2
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	<0.01	83	86	45-130	4
Benzo(a)pyrene	mg/kg (ppm)	0.17	<0.01	81	81	39-128	0
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	<0.01	78	78	28-146	0
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	77	76	46-129	1
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	<0.01	80	81	37-133	1

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	94	58-121
2-Methylnaphthalene	mg/kg (ppm)	0.17	101	58-123
1-Methylnaphthalene	mg/kg (ppm)	0.17	100	60-124
Acenaphthylene	mg/kg (ppm)	0.17	97	54-121
Acenaphthene	mg/kg (ppm)	0.17	98	54-123
Fluorene	mg/kg (ppm)	0.17	100	56-127
Phenanthrene	mg/kg (ppm)	0.17	97	55-122
Anthracene	mg/kg (ppm)	0.17	99	50-120
Fluoranthene	mg/kg (ppm)	0.17	103	54-129
Pyrene	mg/kg (ppm)	0.17	107	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	98	51-115
Chrysene	mg/kg (ppm)	0.17	100	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	87	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	88	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	84	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	81	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	83	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	79	52-131

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR PNA'S BY EPA METHOD 8270D SIM**

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	1	91	99	67-116	8
2-Methylnaphthalene	ug/L (ppb)	1	93	102	63-122	9
1-Methylnaphthalene	ug/L (ppb)	1	93	102	65-122	9
Acenaphthylene	ug/L (ppb)	1	91	102	65-119	11
Acenaphthene	ug/L (ppb)	1	92	103	66-118	11
Fluorene	ug/L (ppb)	1	96	106	64-125	10
Phenanthrene	ug/L (ppb)	1	90	98	67-120	9
Anthracene	ug/L (ppb)	1	92	101	65-122	9
Fluoranthene	ug/L (ppb)	1	100	111	65-127	10
Pyrene	ug/L (ppb)	1	91	100	62-130	9
Benz(a)anthracene	ug/L (ppb)	1	91	100	60-118	9
Chrysene	ug/L (ppb)	1	92	101	66-125	9
Benzo(b)fluoranthene	ug/L (ppb)	1	82	88	55-135	7
Benzo(k)fluoranthene	ug/L (ppb)	1	79	90	62-125	13
Benzo(a)pyrene	ug/L (ppb)	1	78	87	58-127	11
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	1	81	88	36-142	8
Dibenz(a,h)anthracene	ug/L (ppb)	1	72	86	37-133	18
Benzo(g,h,i)perylene	ug/L (ppb)	1	73	84	34-135	14

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/05/14

Date Received: 07/17/14

Project: Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF  
WATER SAMPLES FOR DISSOLVED GASSES  
USING METHOD RSK 175**

Laboratory Code: 407277-33 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference (Limit 20)
Methane	ug/L (ppb)	48	52	8

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Methane	ug/L (ppb)	500	76	72	70-130	5

**Data Qualifiers & Definitions**

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The compound is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht - The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

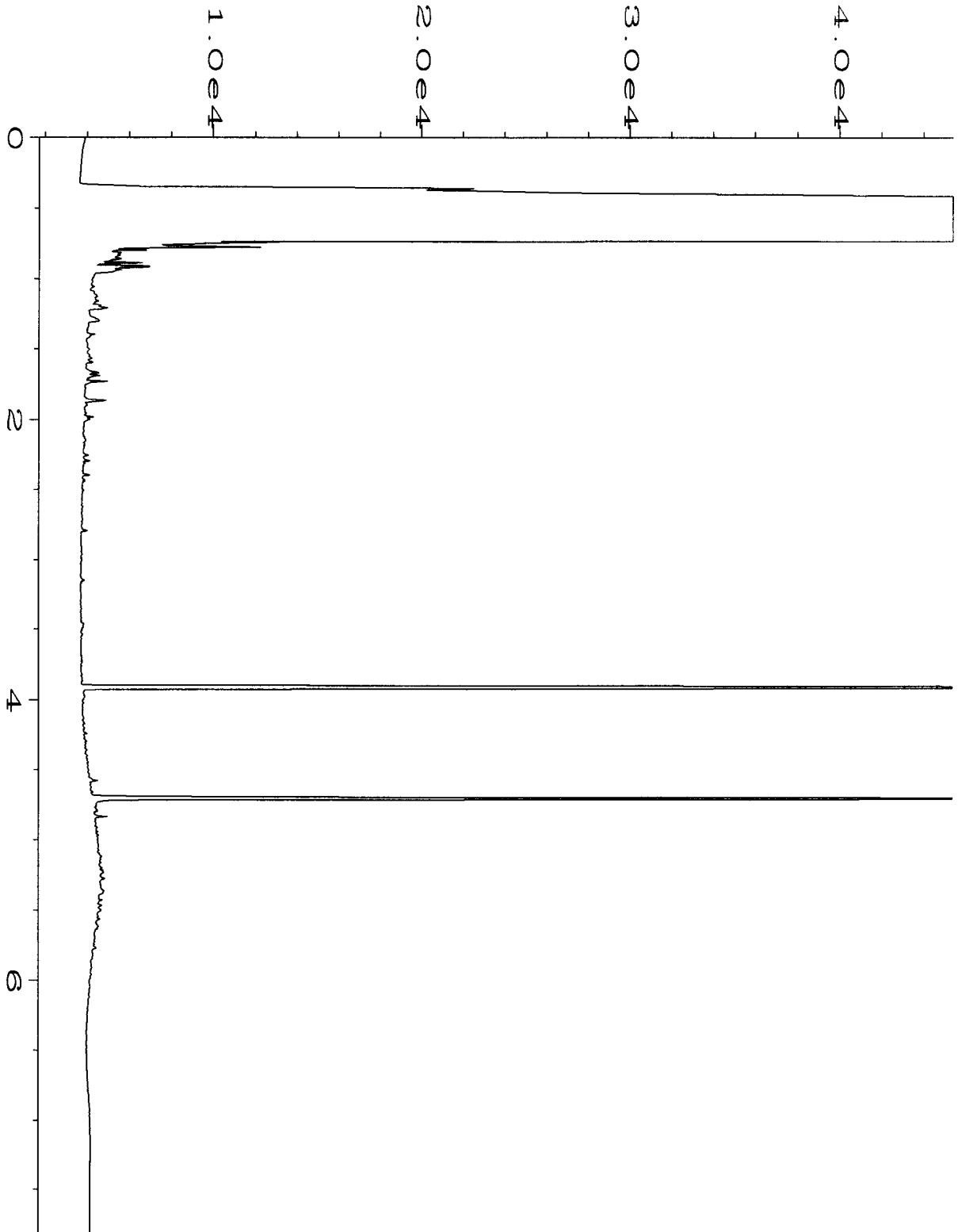
pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

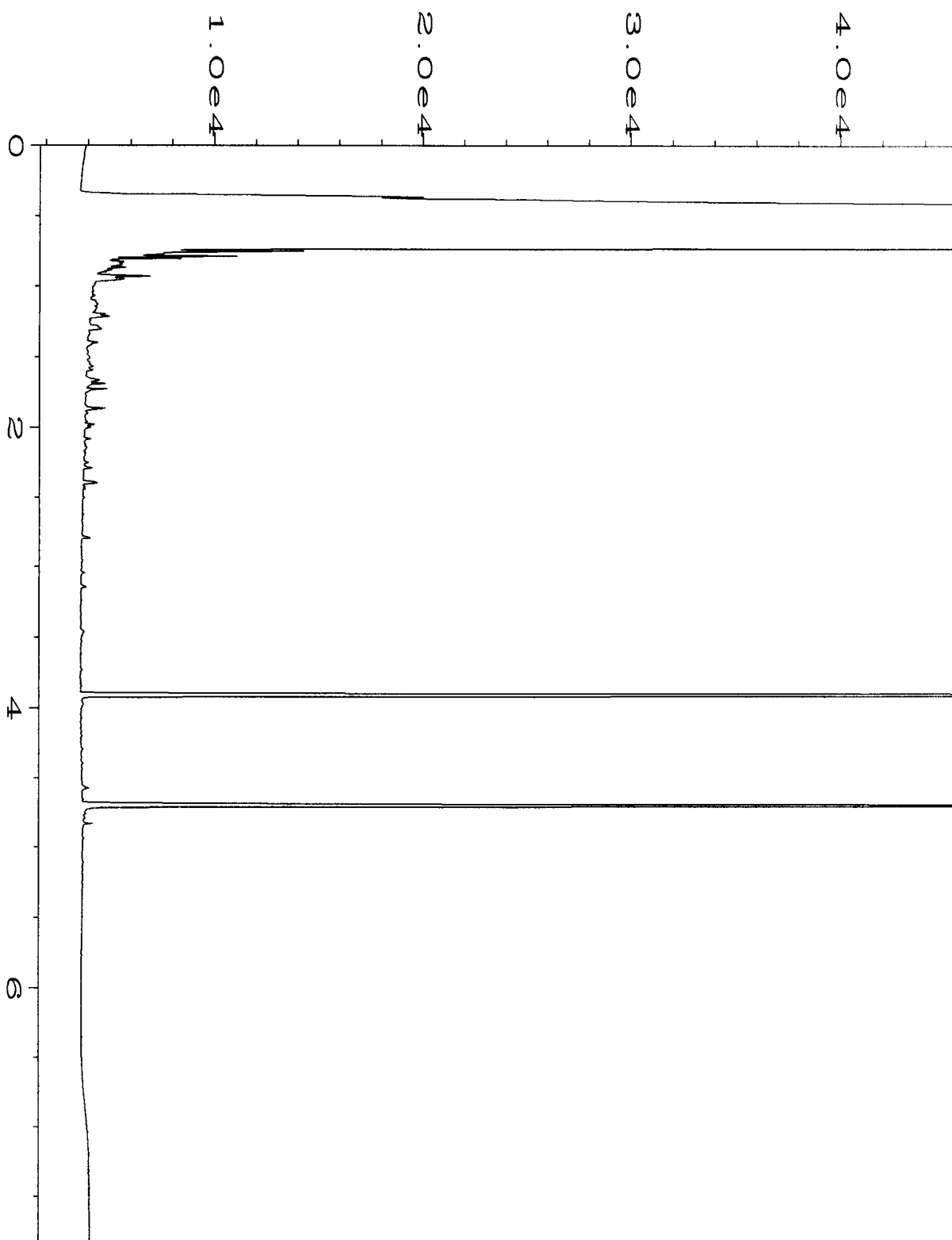
vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

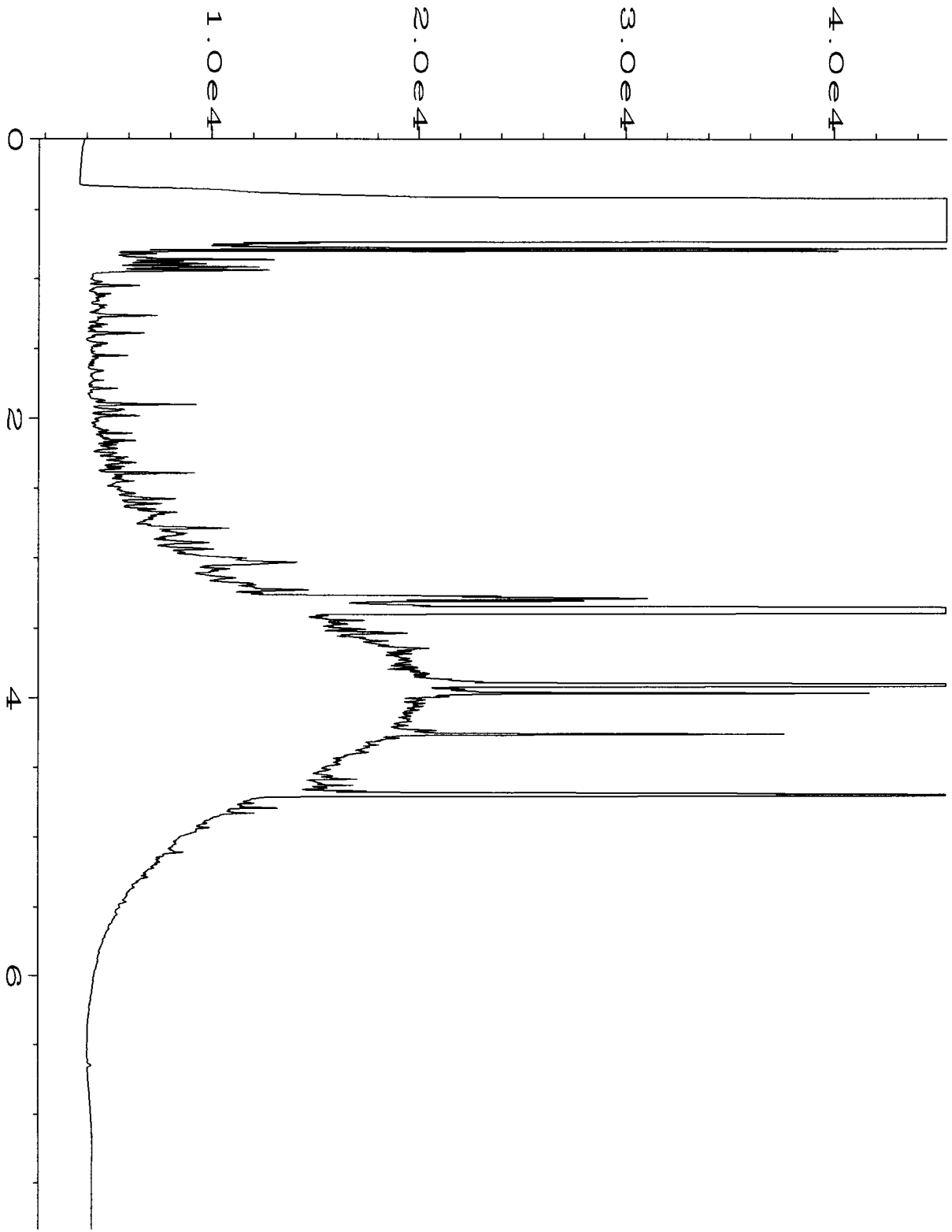




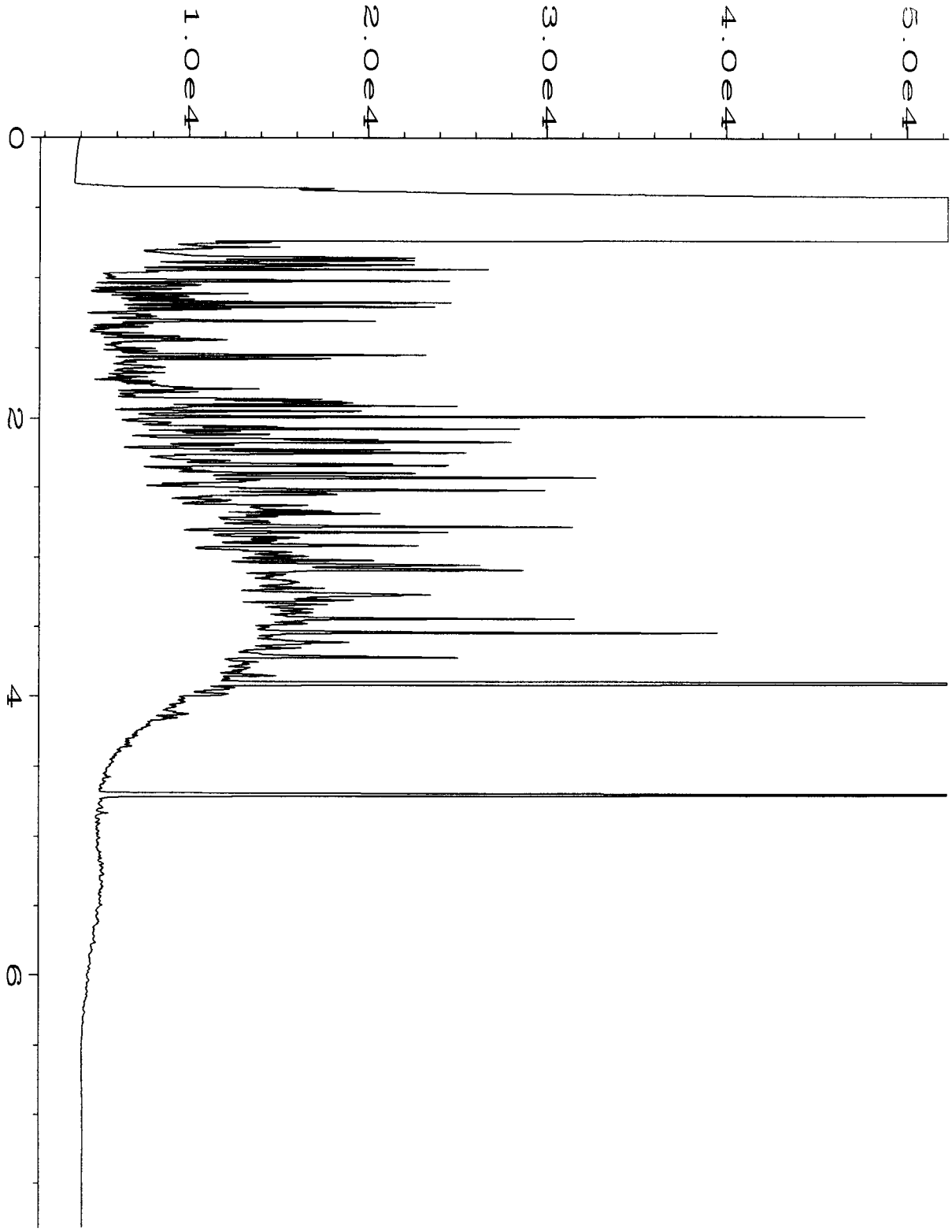
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Report Created on:	22 Jul 14 01:31 PM		



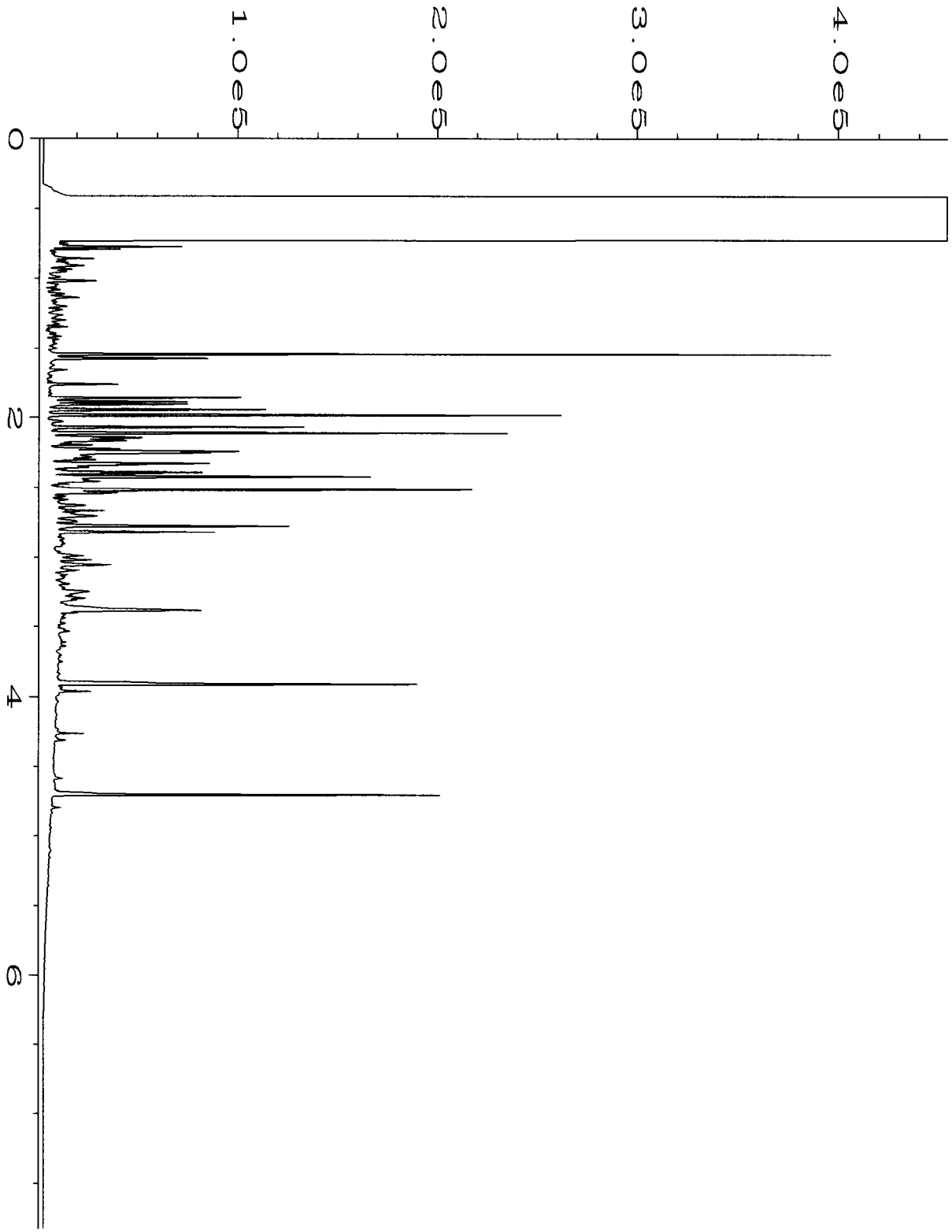
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Report Created on:	22 Jul 14 01:31 PM		



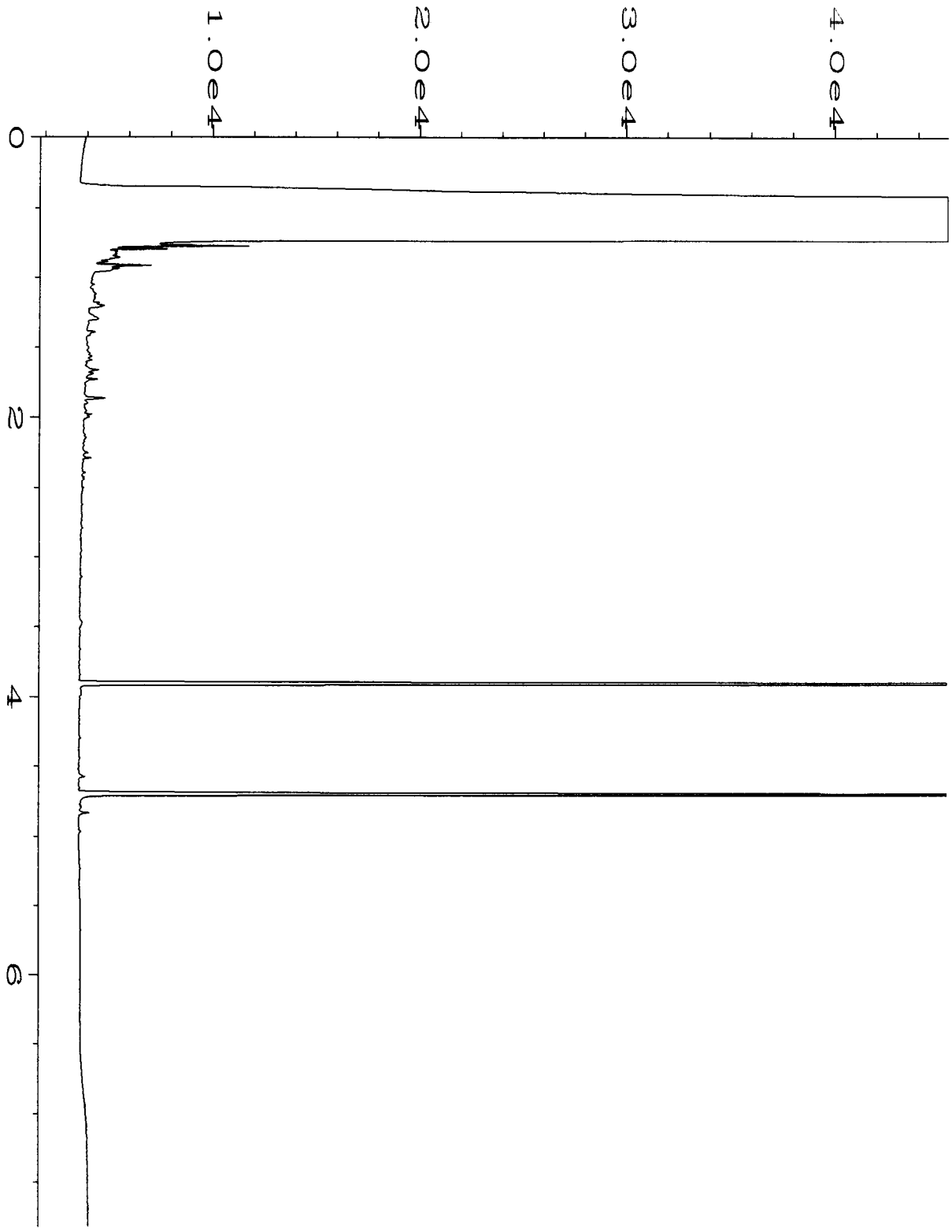
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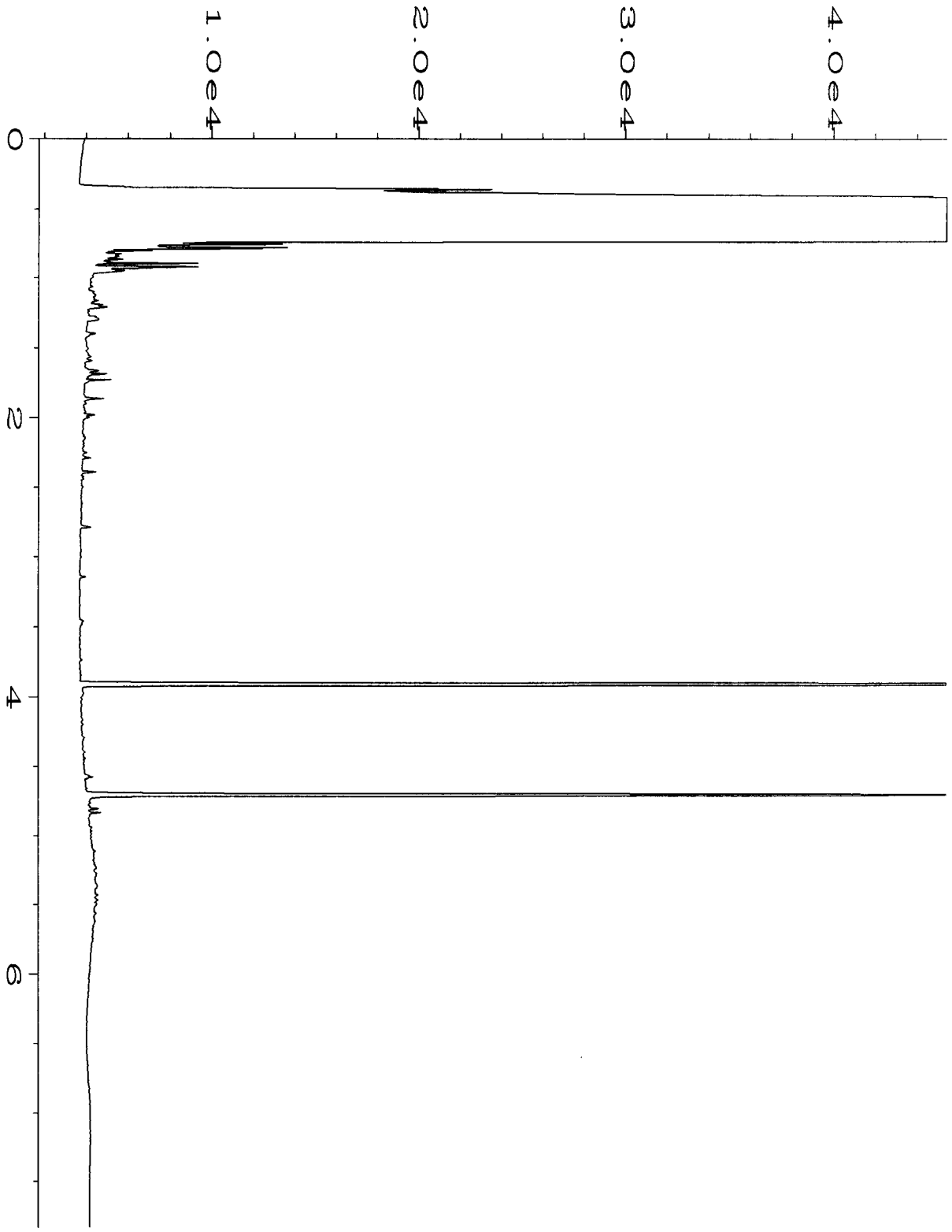
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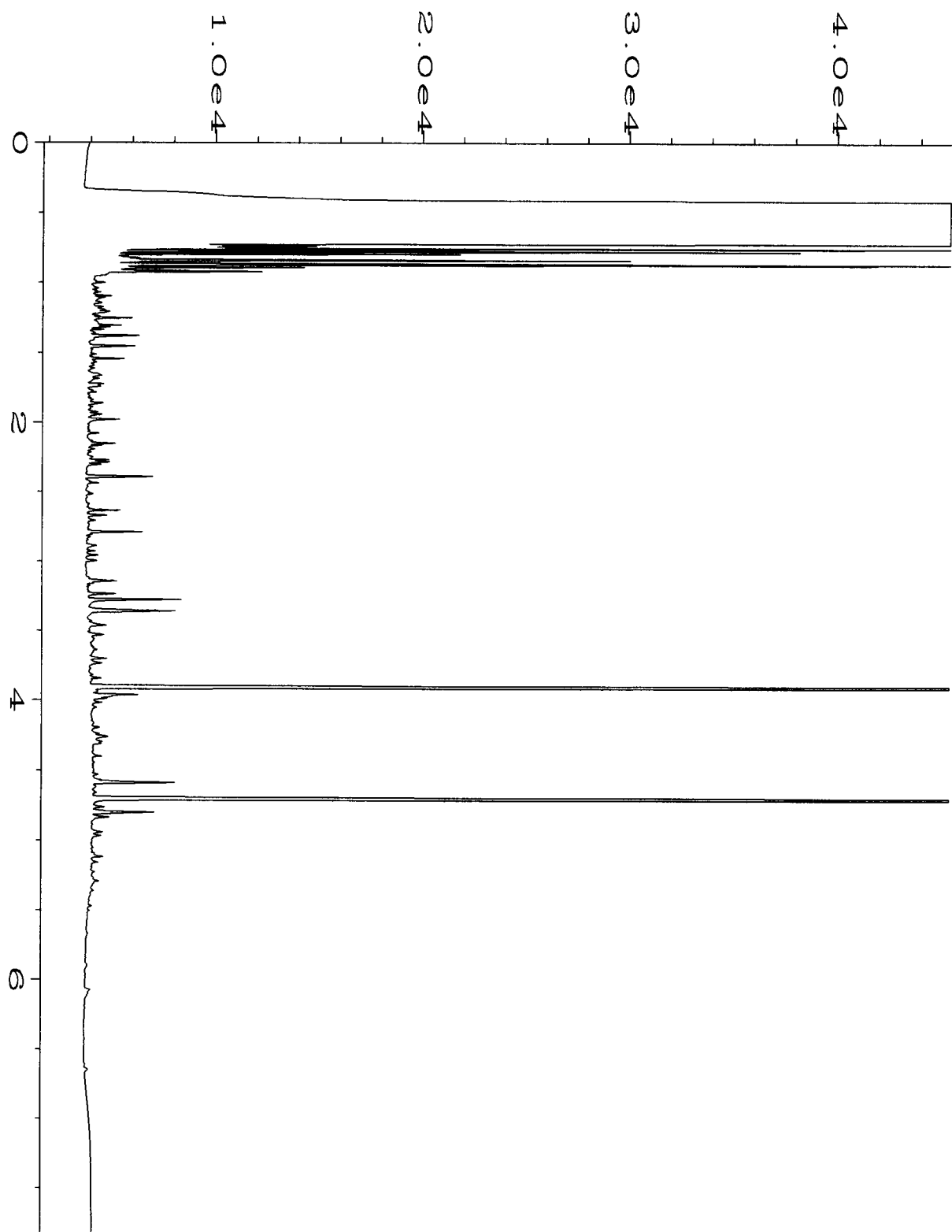
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Report Created on:	23 Jul 14 09:30 AM		



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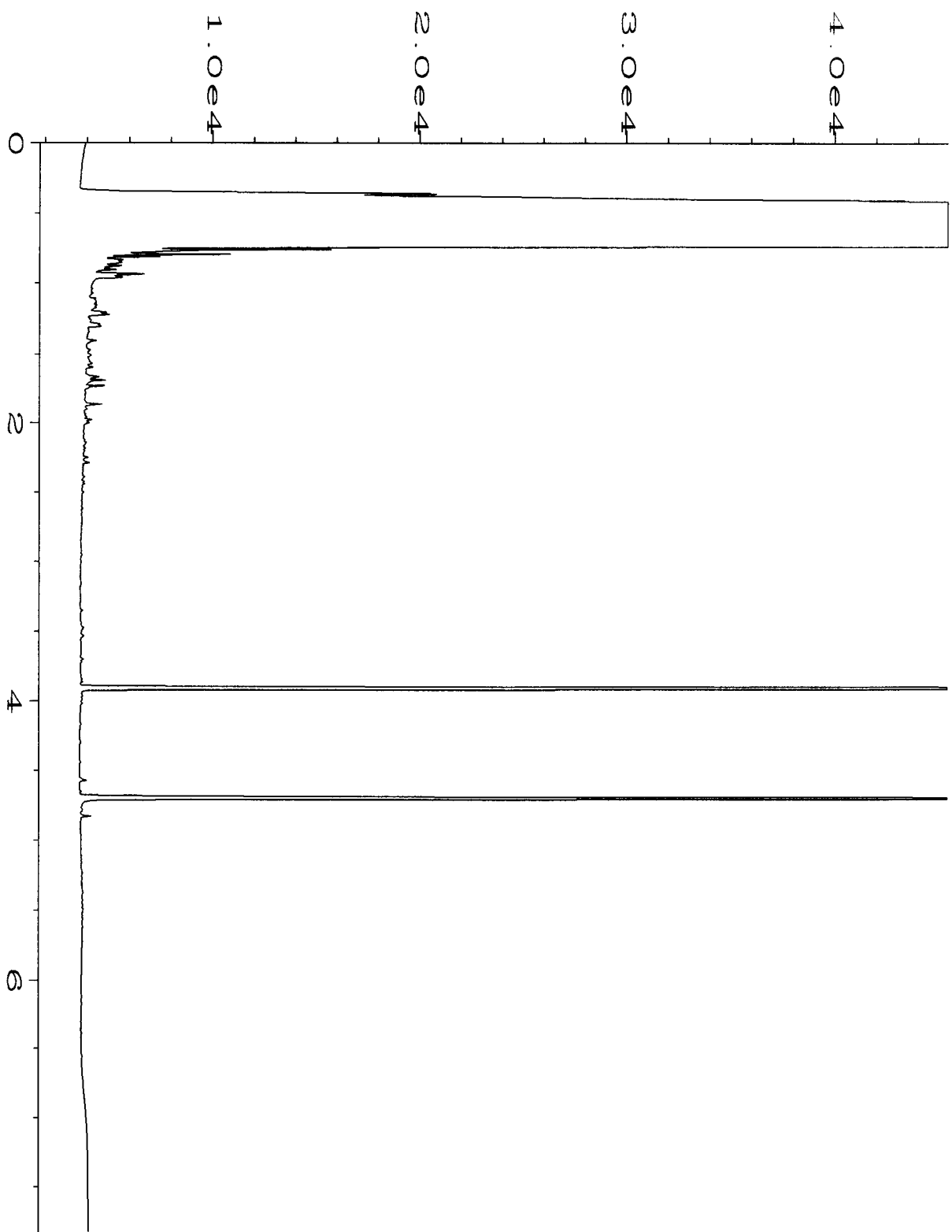


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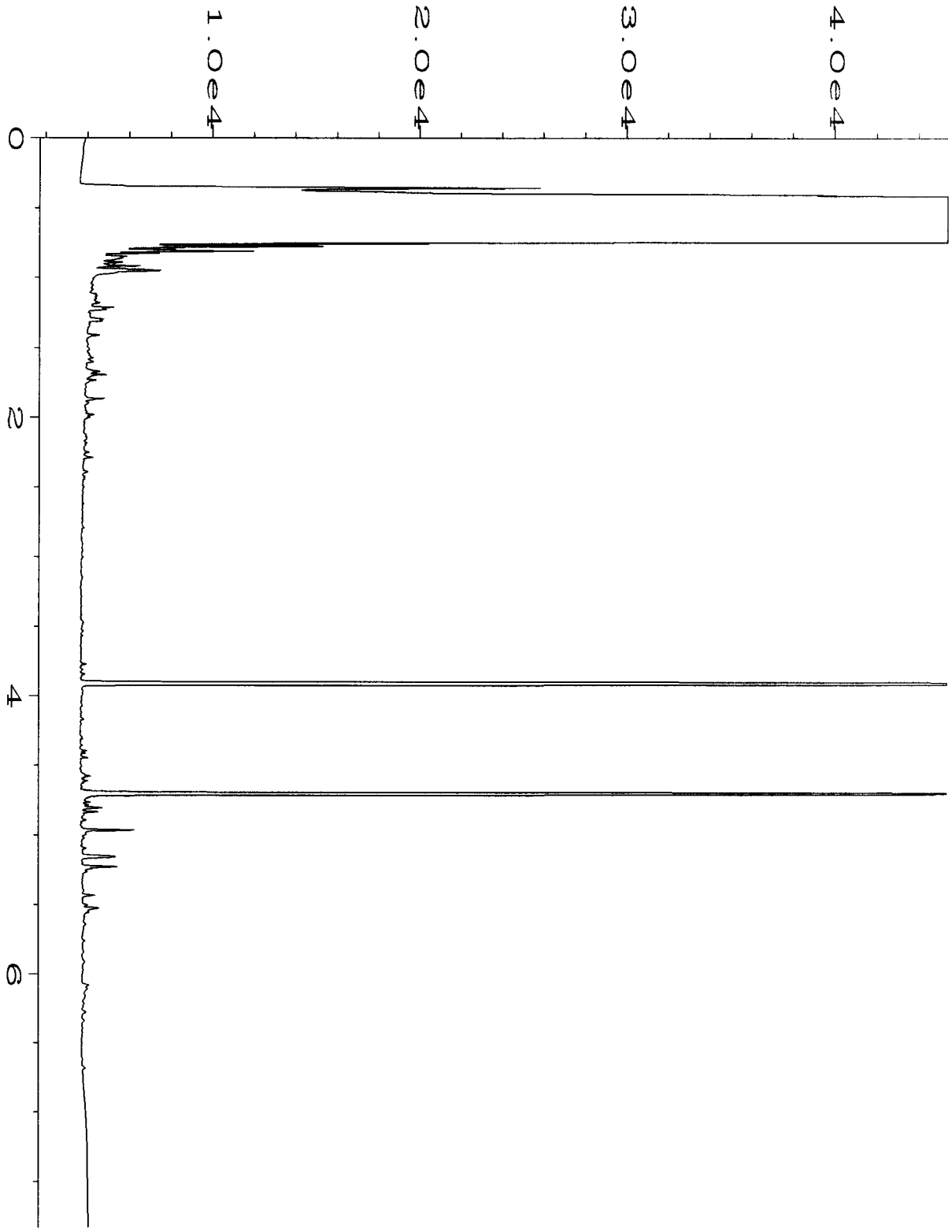


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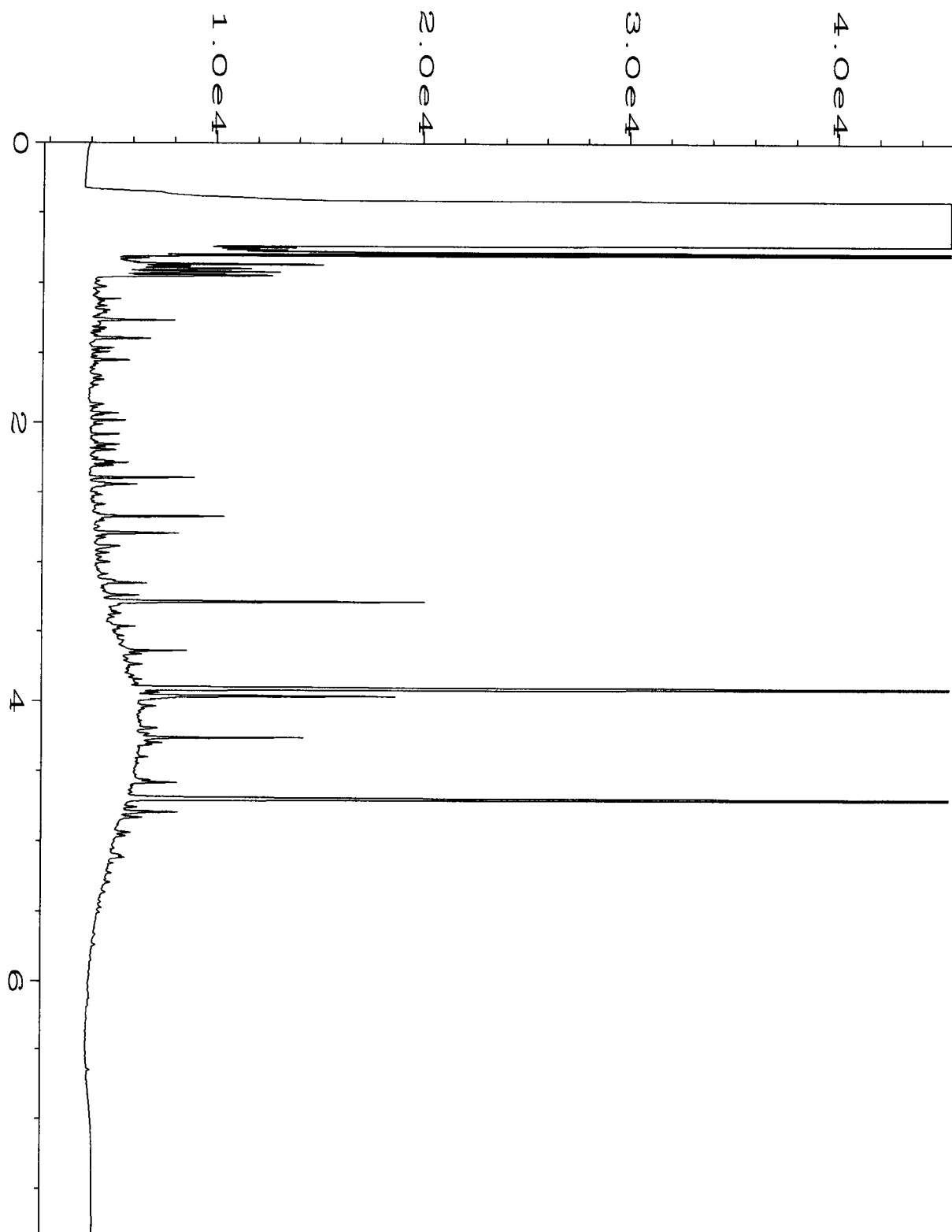




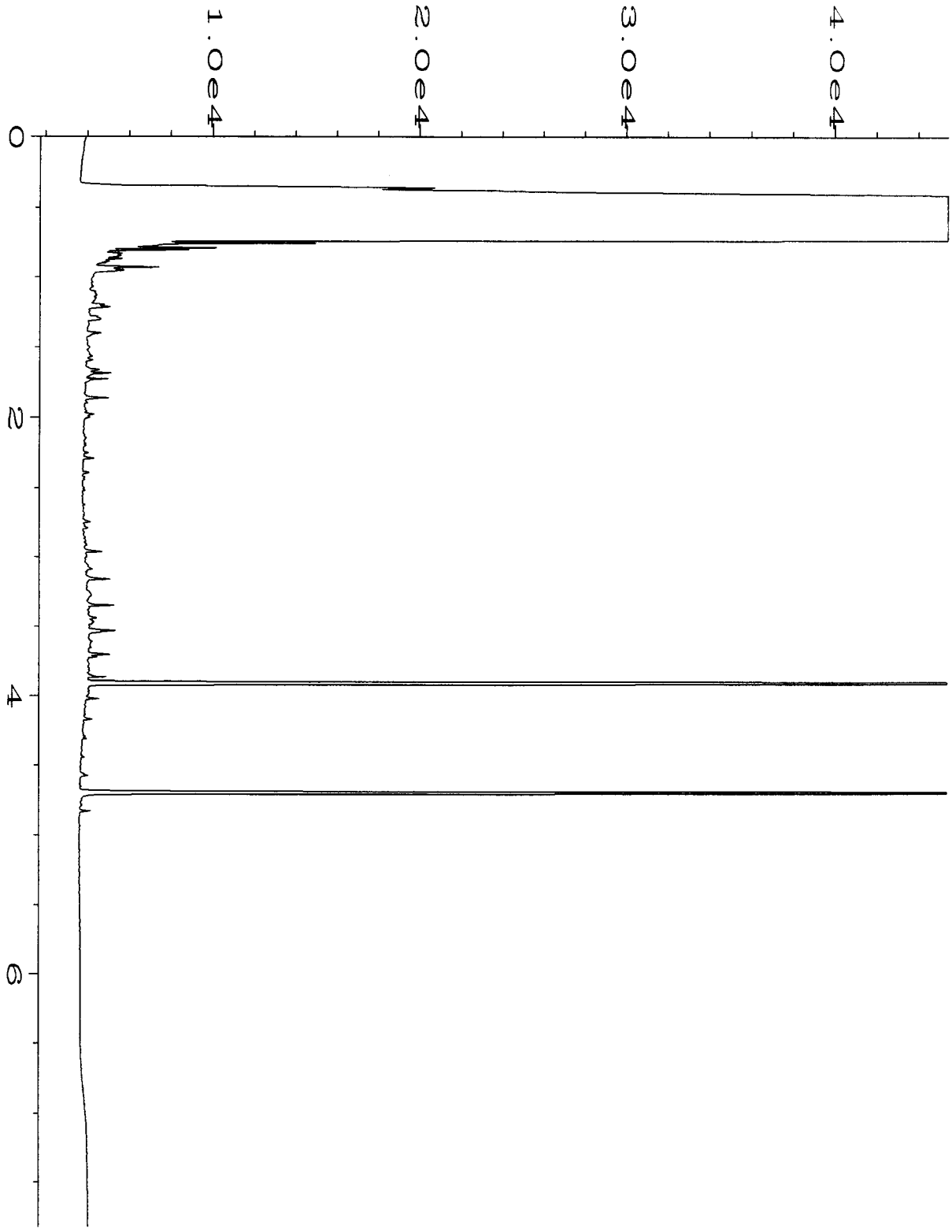
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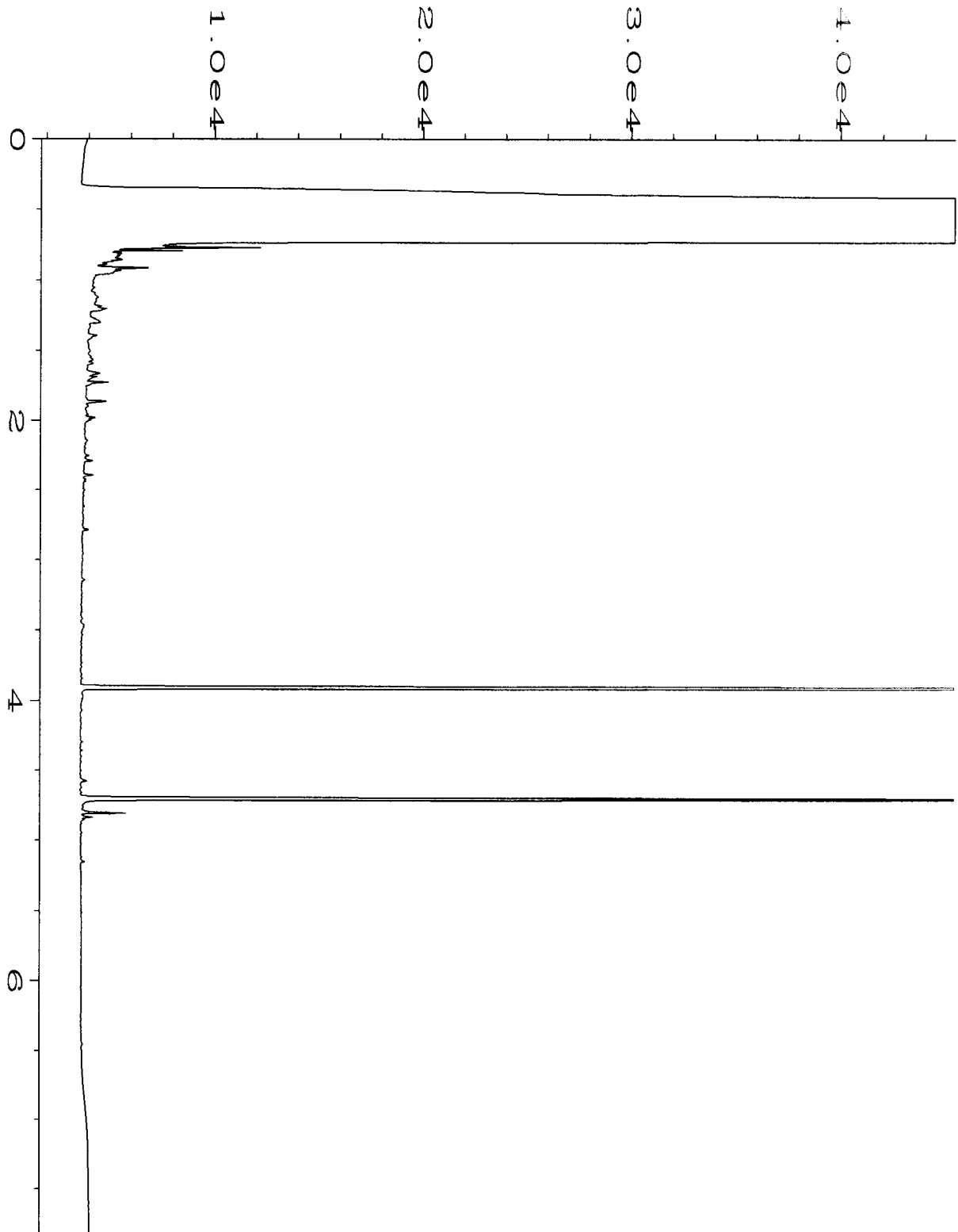
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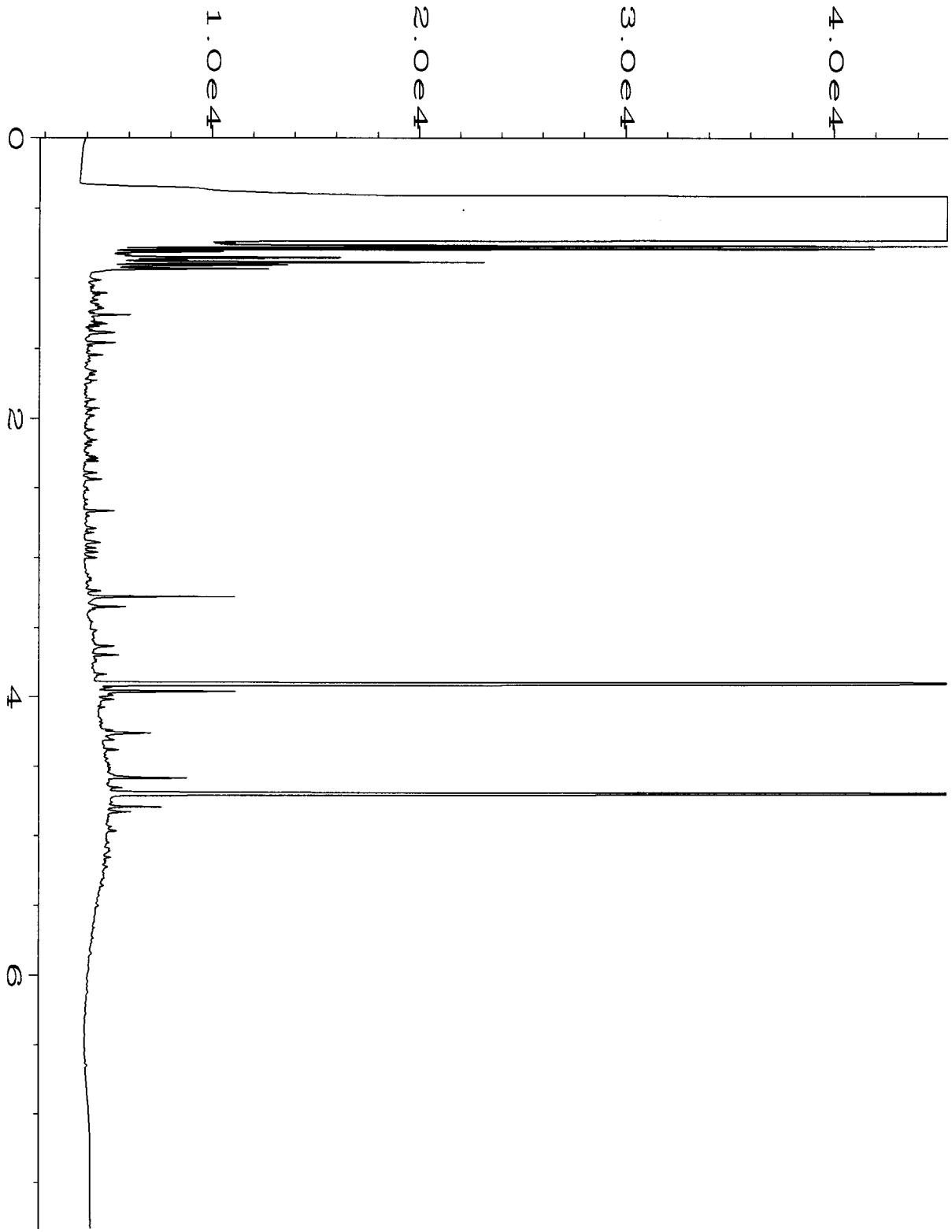
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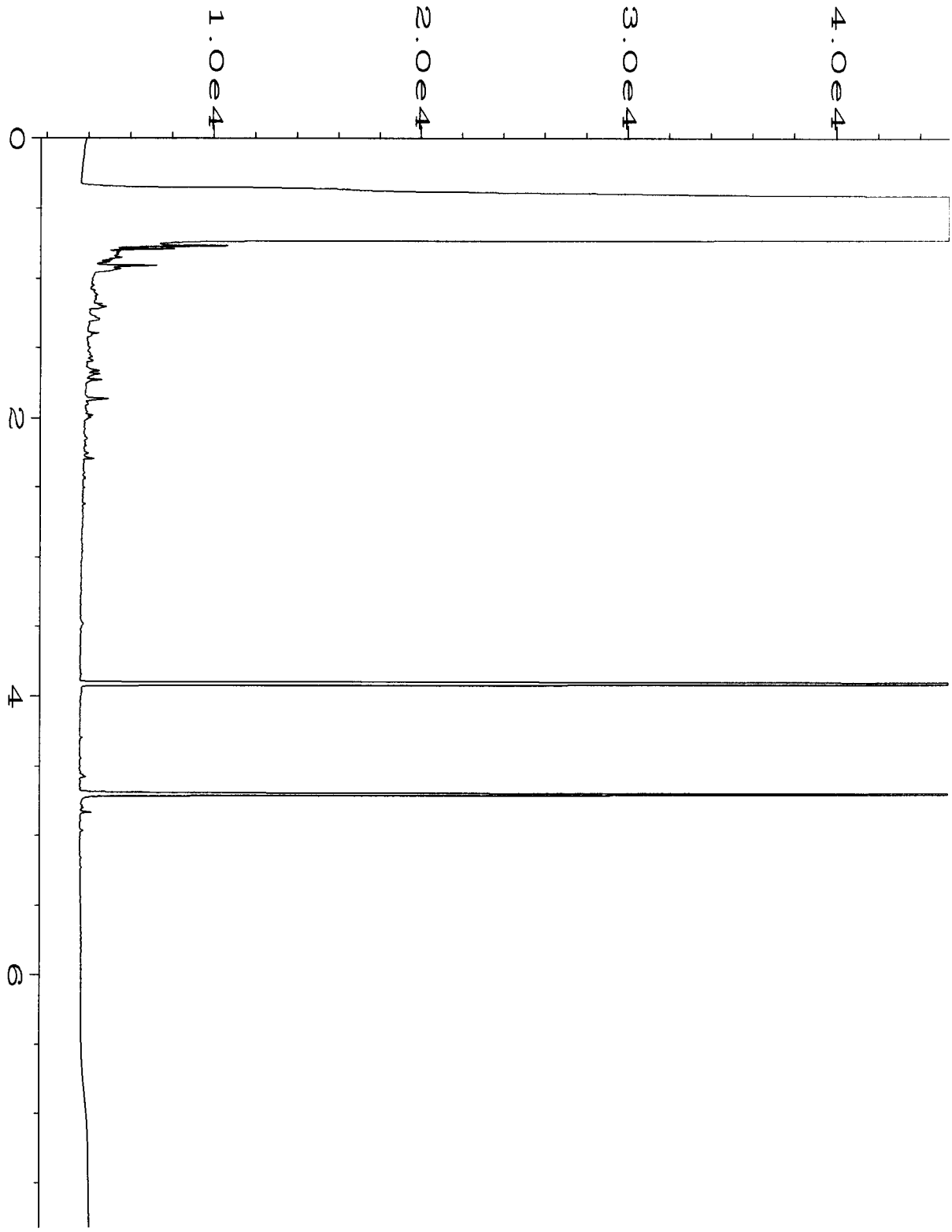
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Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 06:56 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



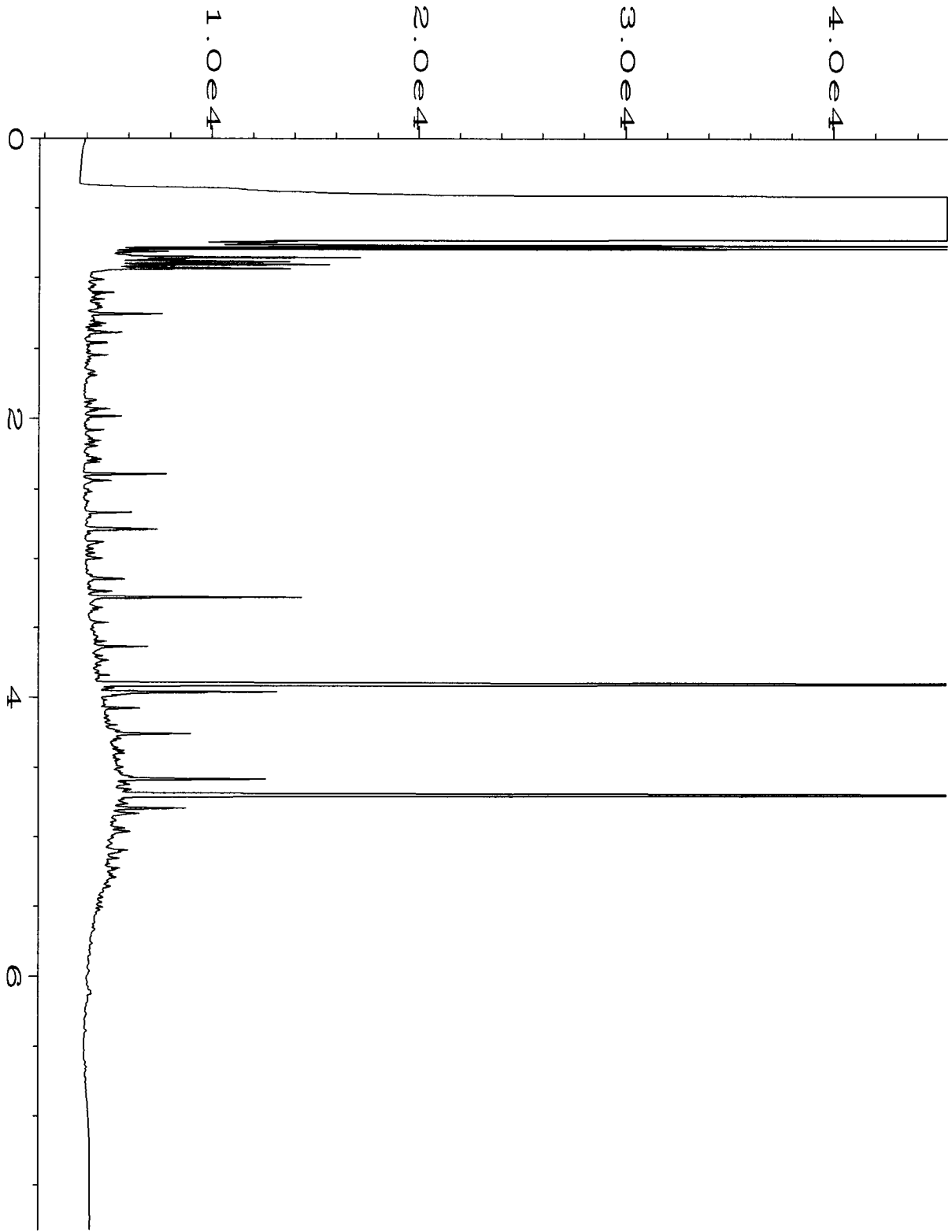
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\050F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 50
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-15	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:10 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-22-14\041F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-16	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 05:59 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		

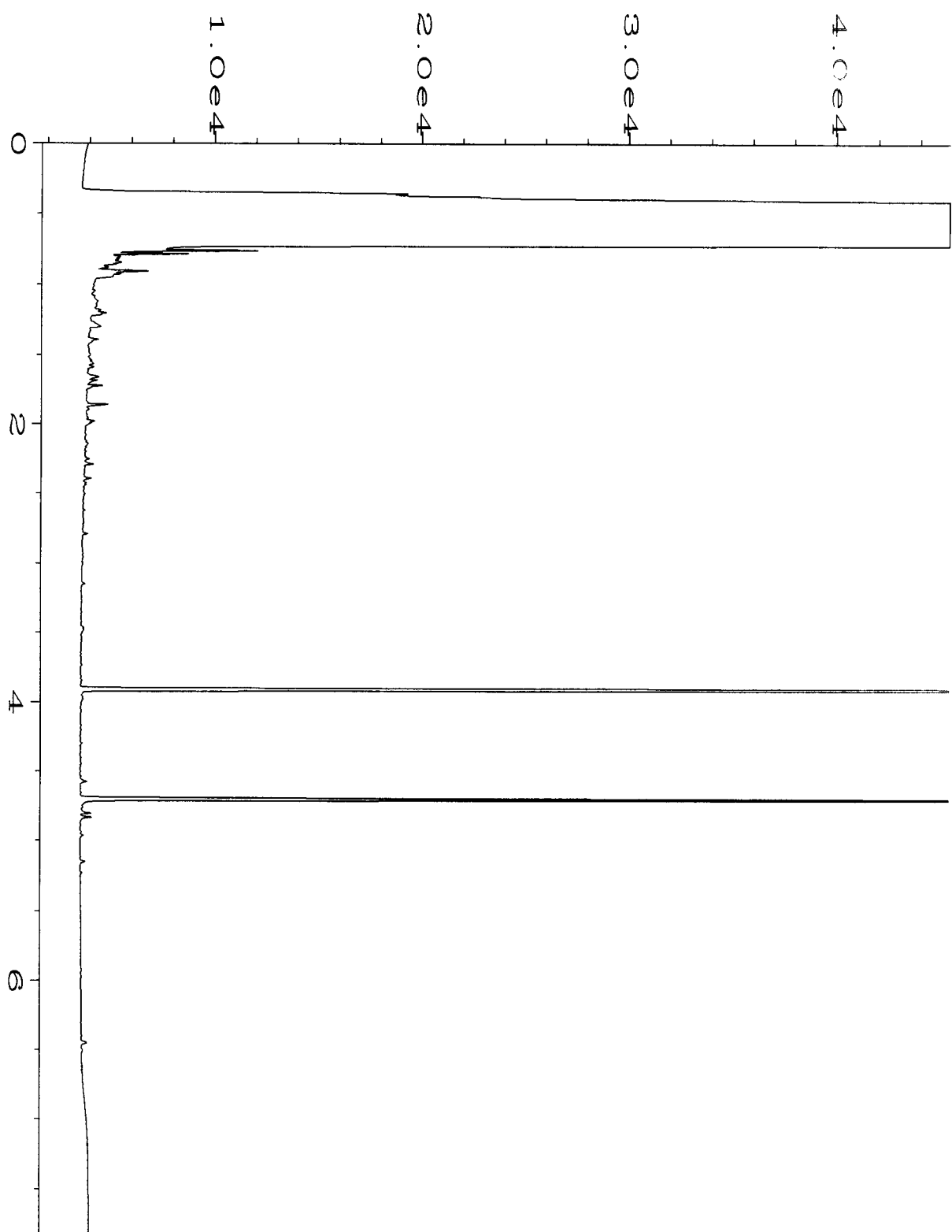


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\051F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 51
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-17	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:23 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		

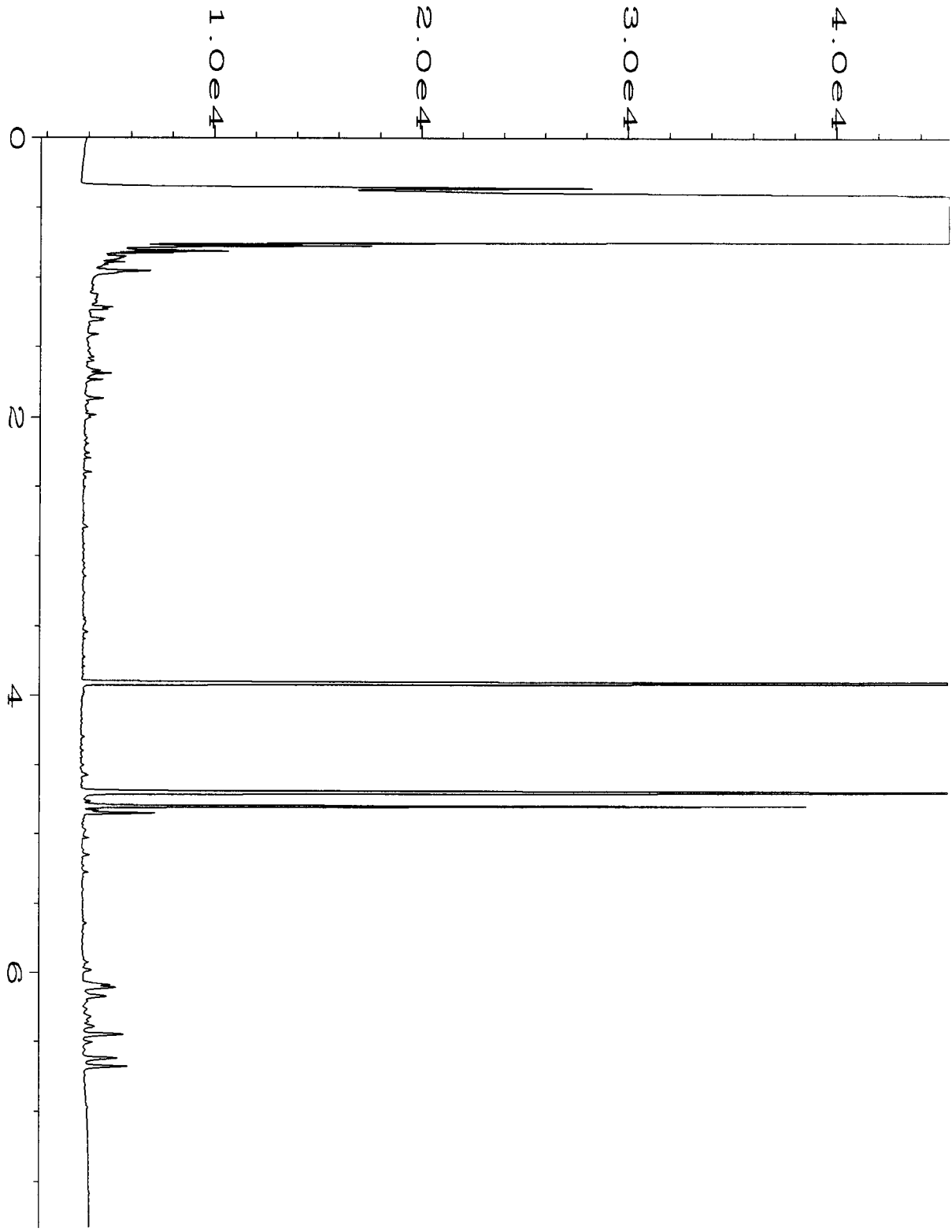


Data File Name	: C:\HPCHEM\6\DATA\07-22-14\042F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 42
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-18	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:12 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		

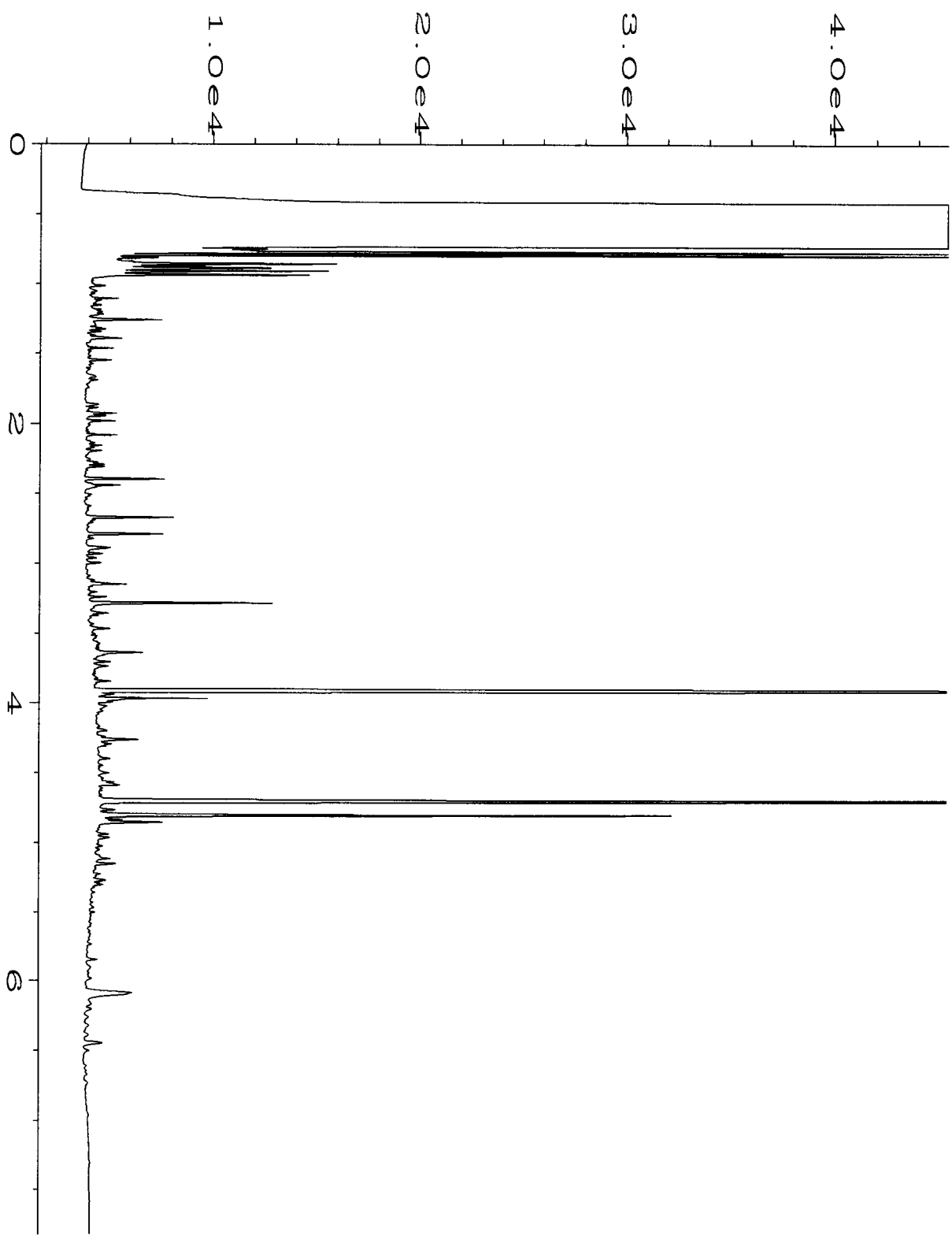




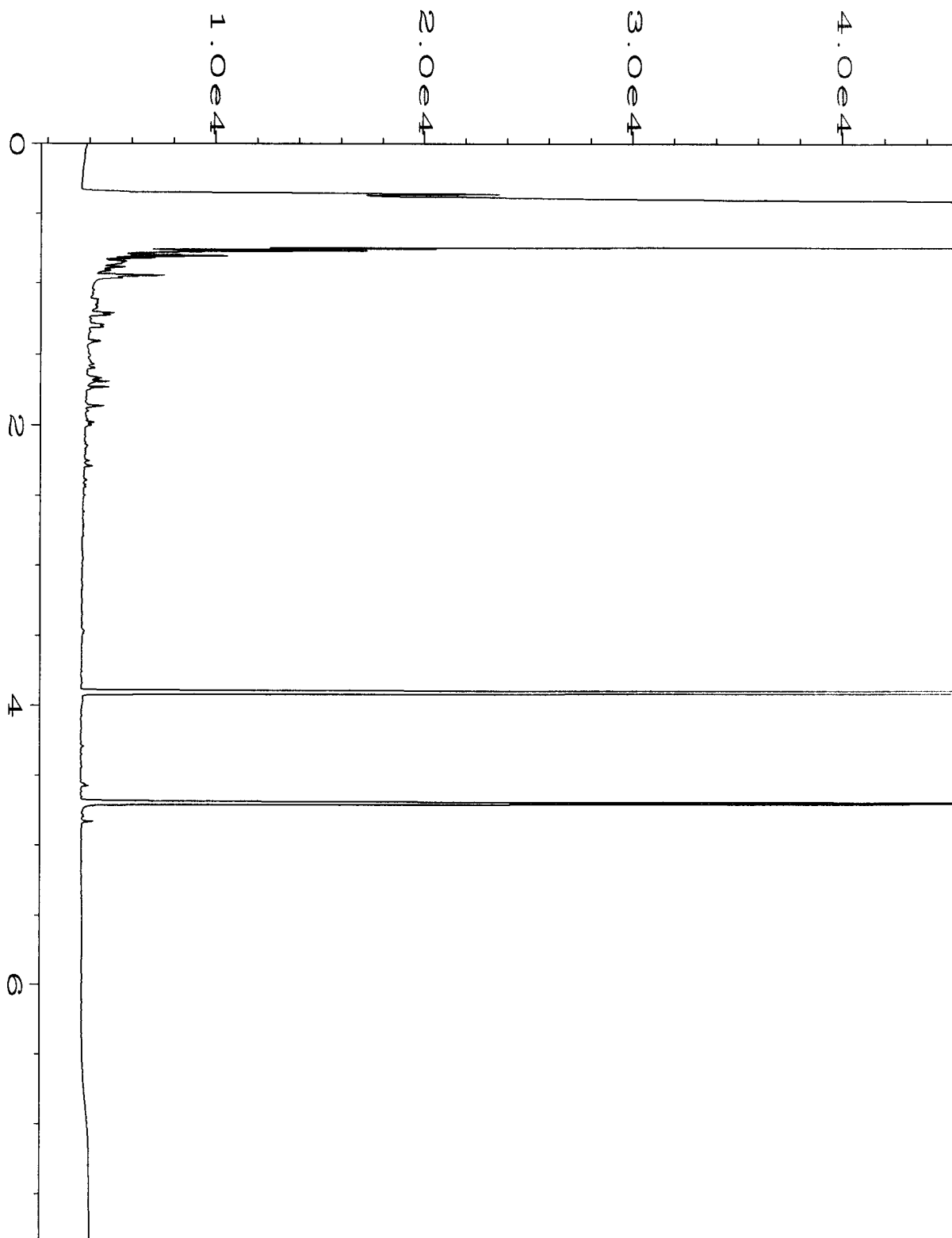
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\052F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 52
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-19	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:36 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



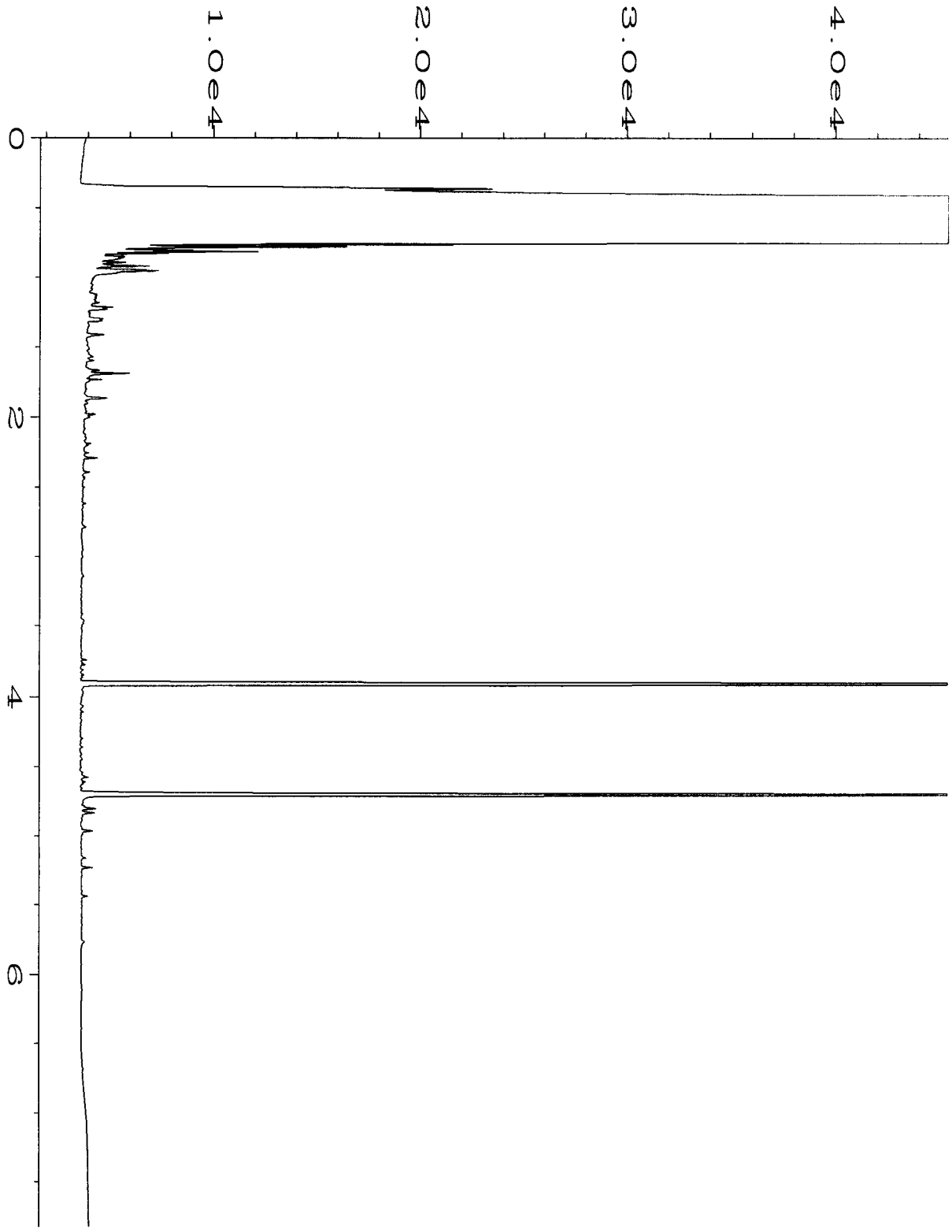
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\053F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 53
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-20	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:49 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



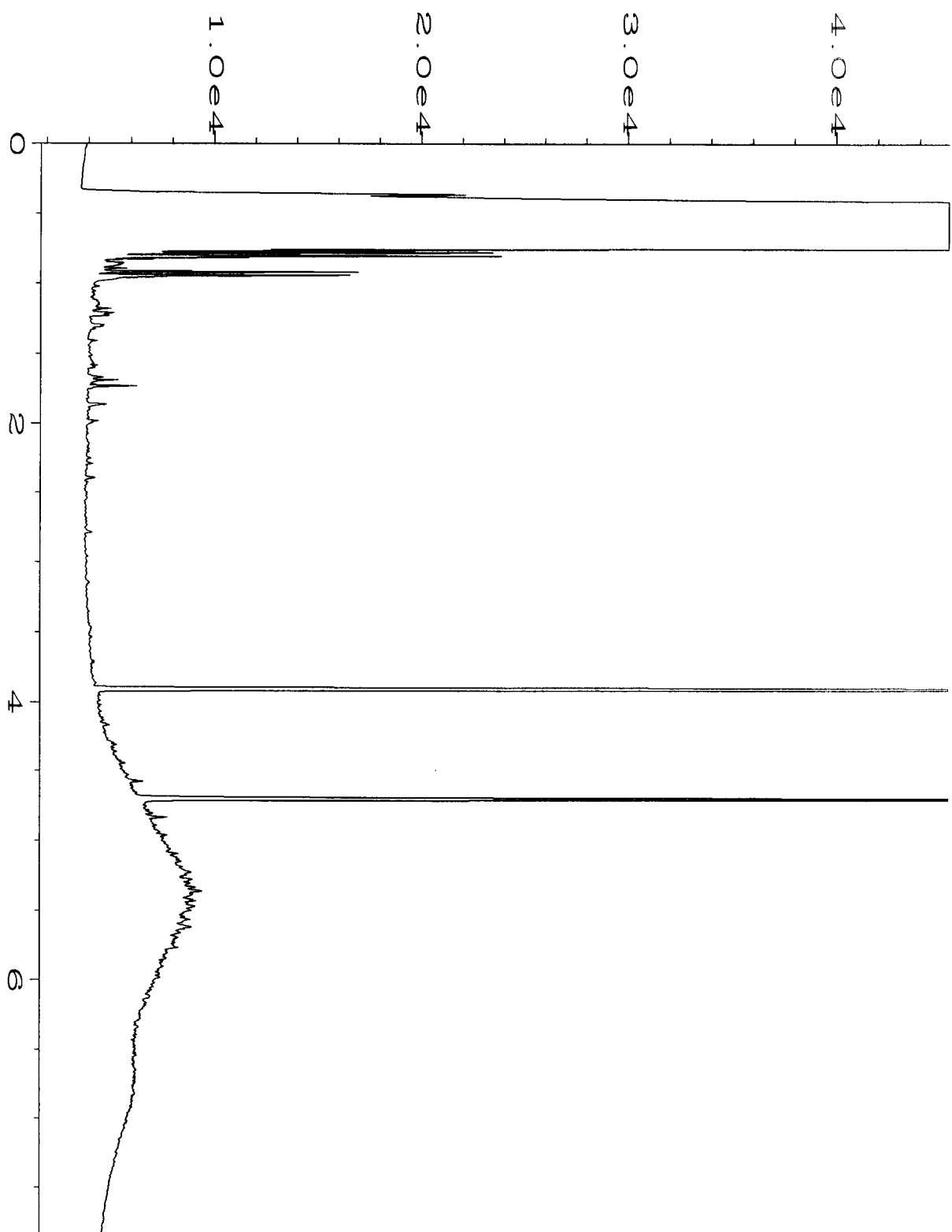
Data File Name	: C:\HPCHEM\6\DATA\07-22-14\043F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 43
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-21	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:25 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



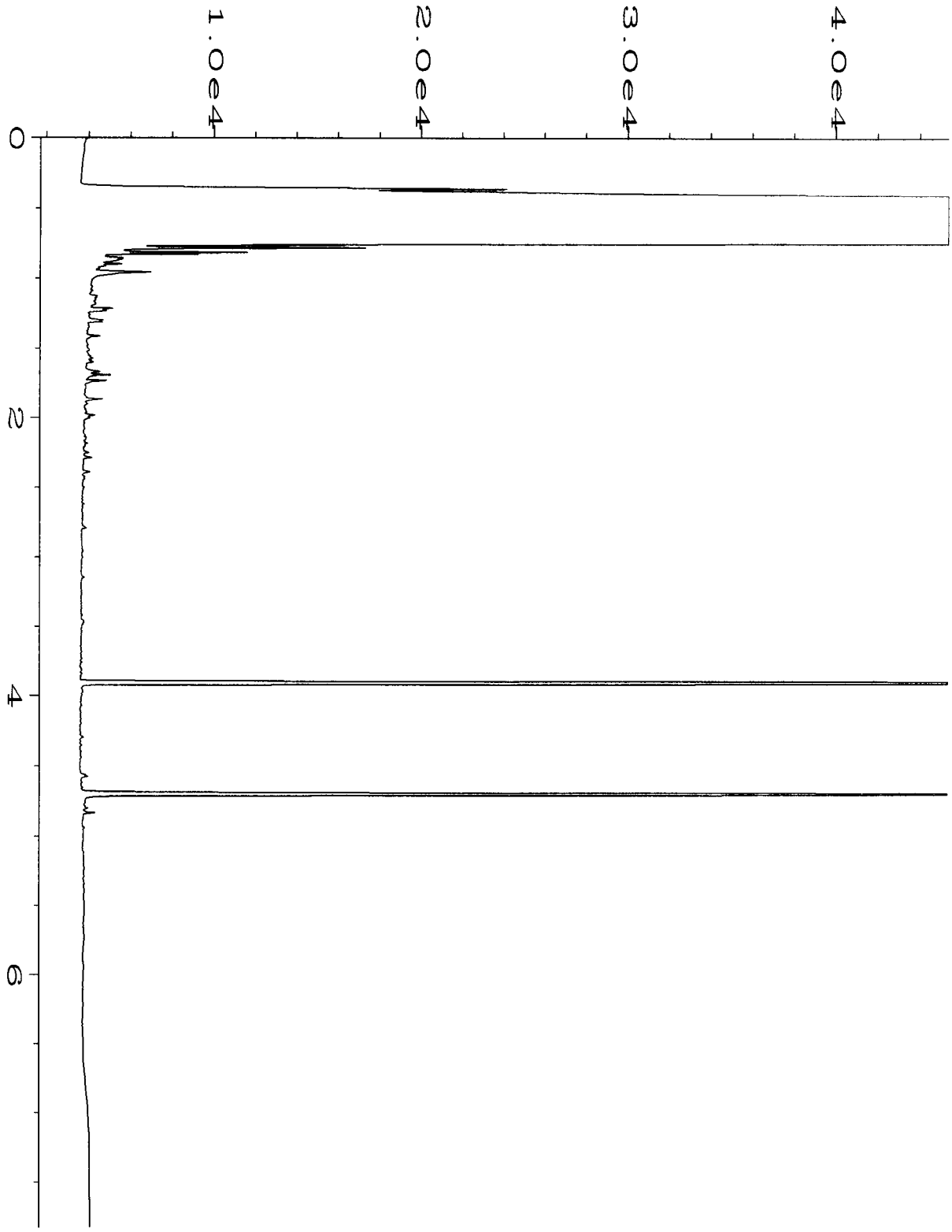
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\054F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 54
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-22	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:03 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



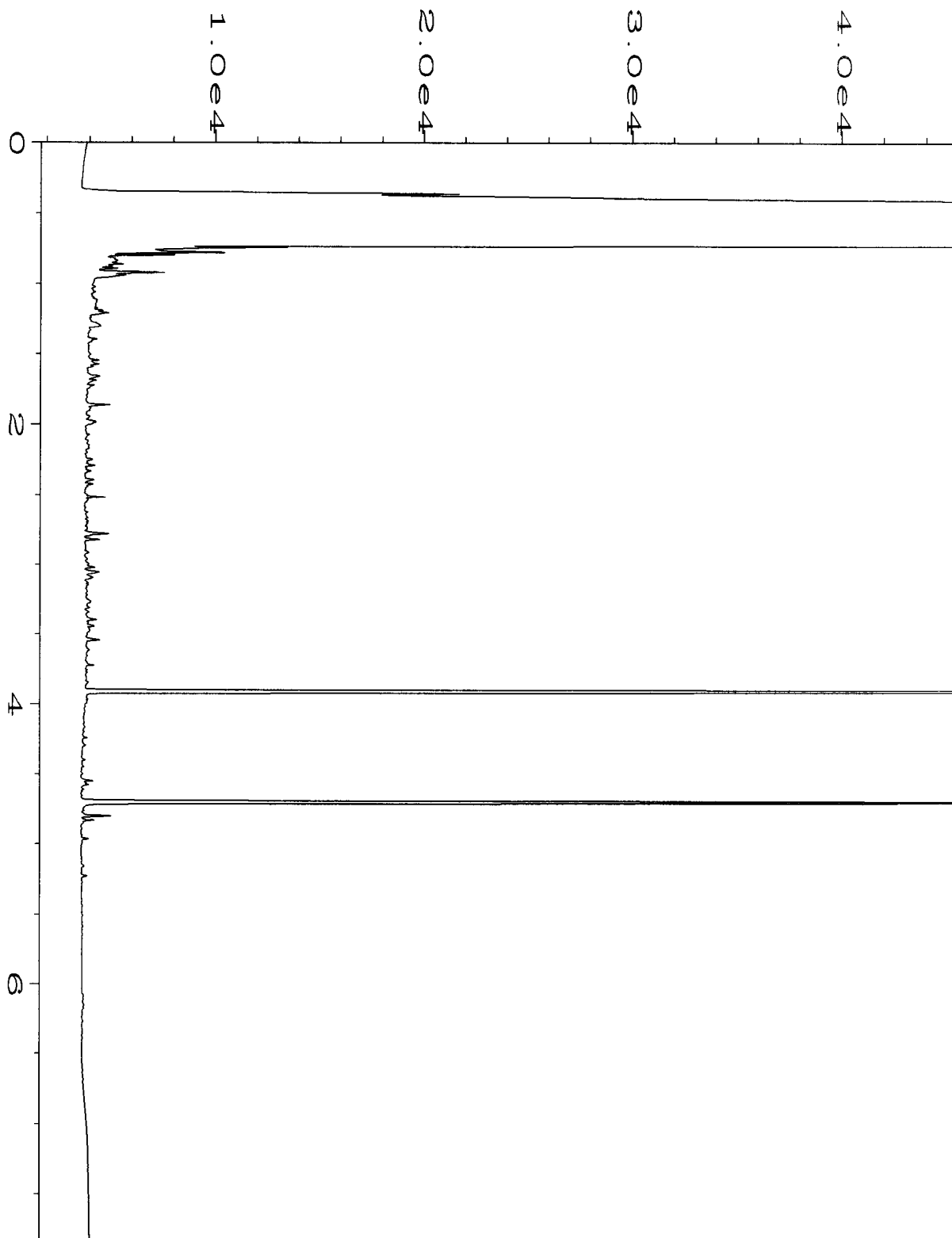
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\055F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 55
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-23	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:16 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-21-14\056F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 56
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-24	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:30 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		

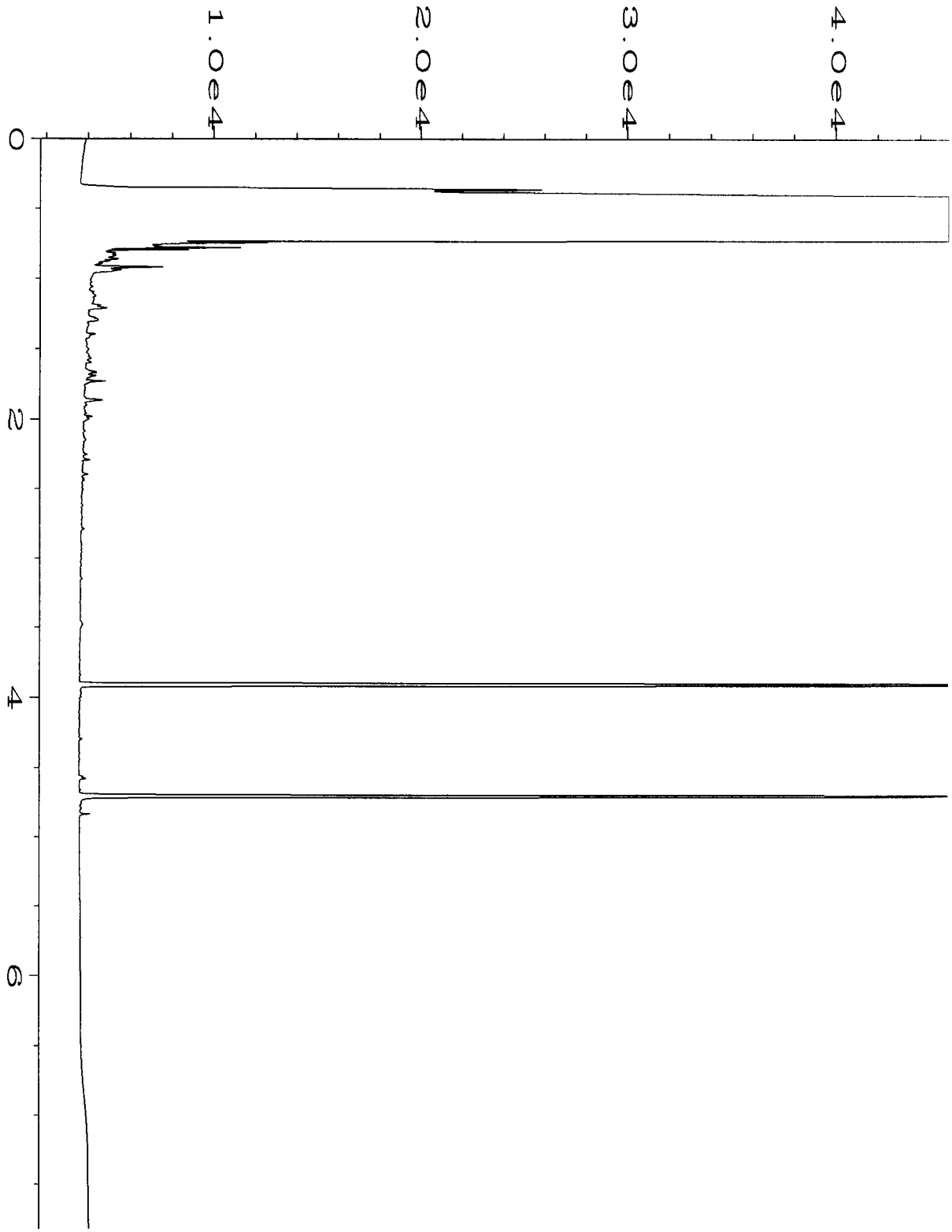


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\057F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 57
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-25	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:43 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		

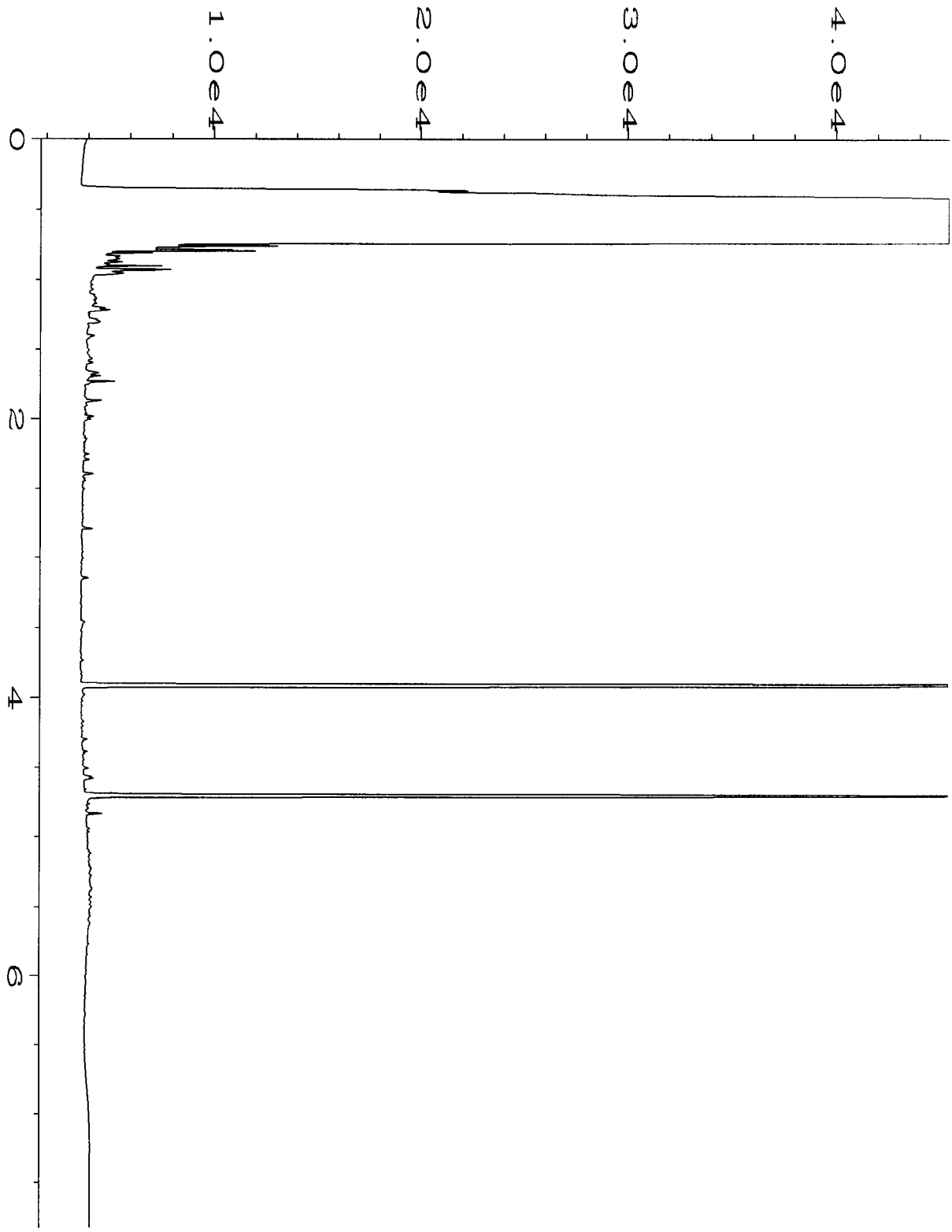


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\058F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 58
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-26	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:56 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		

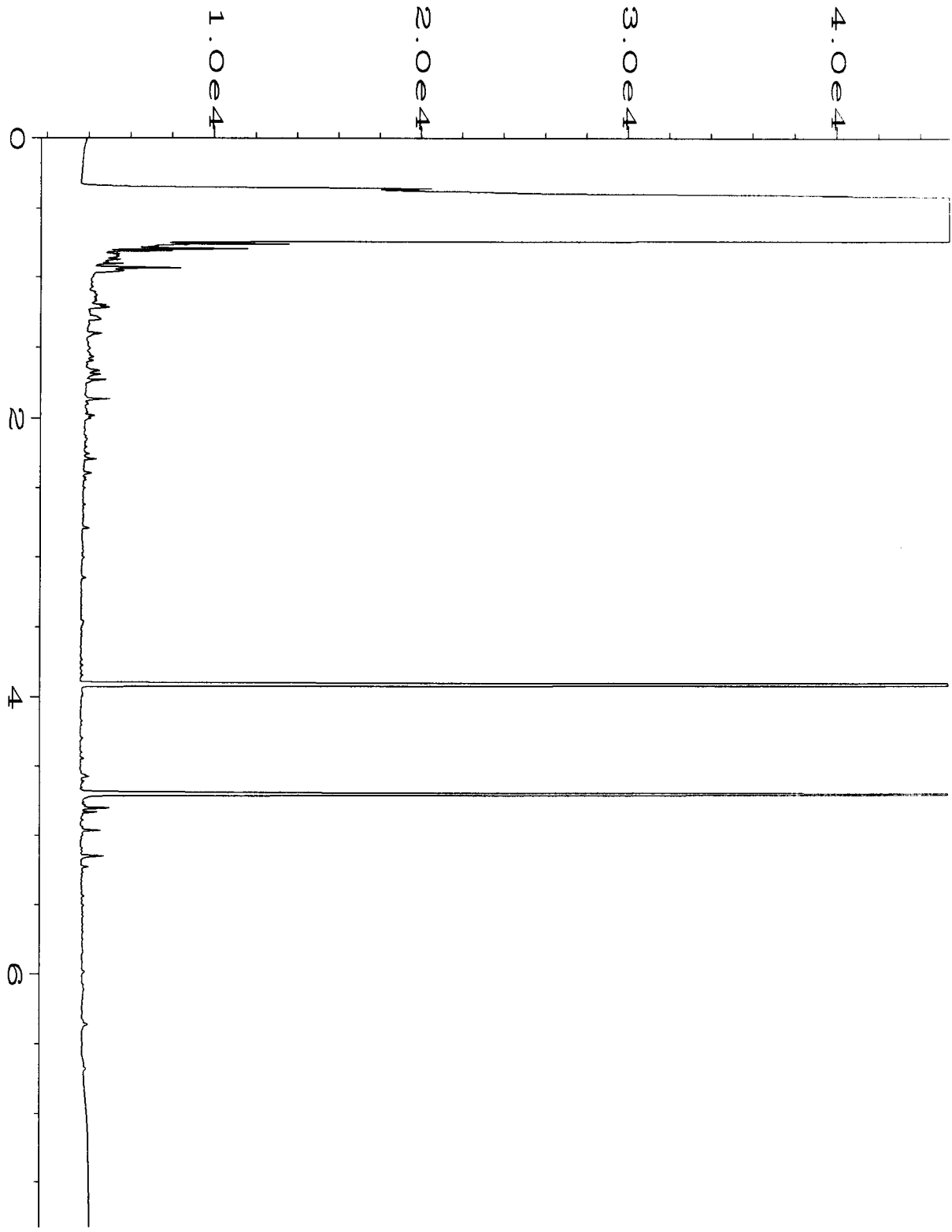




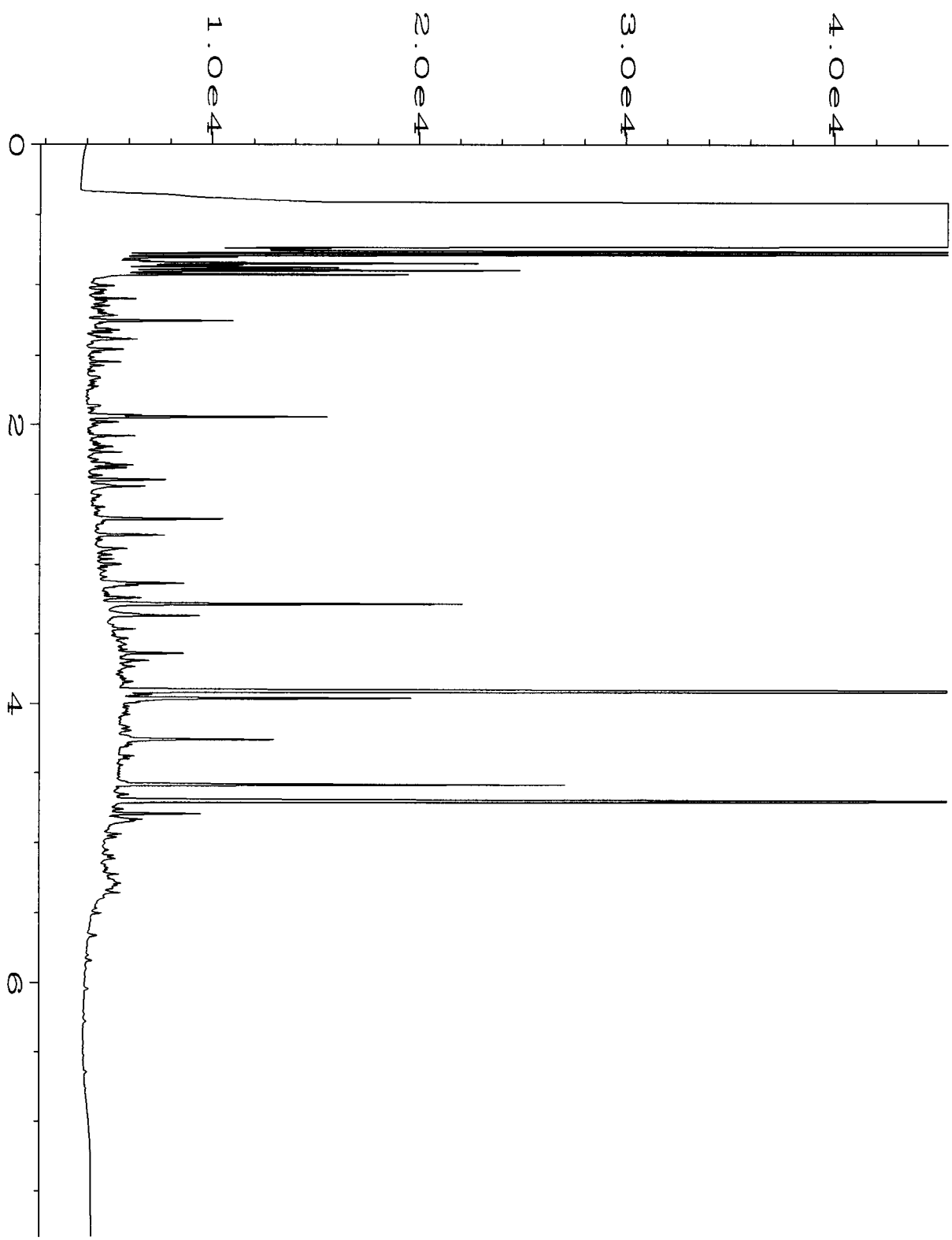
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\059F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 59
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-27	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 09:10 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



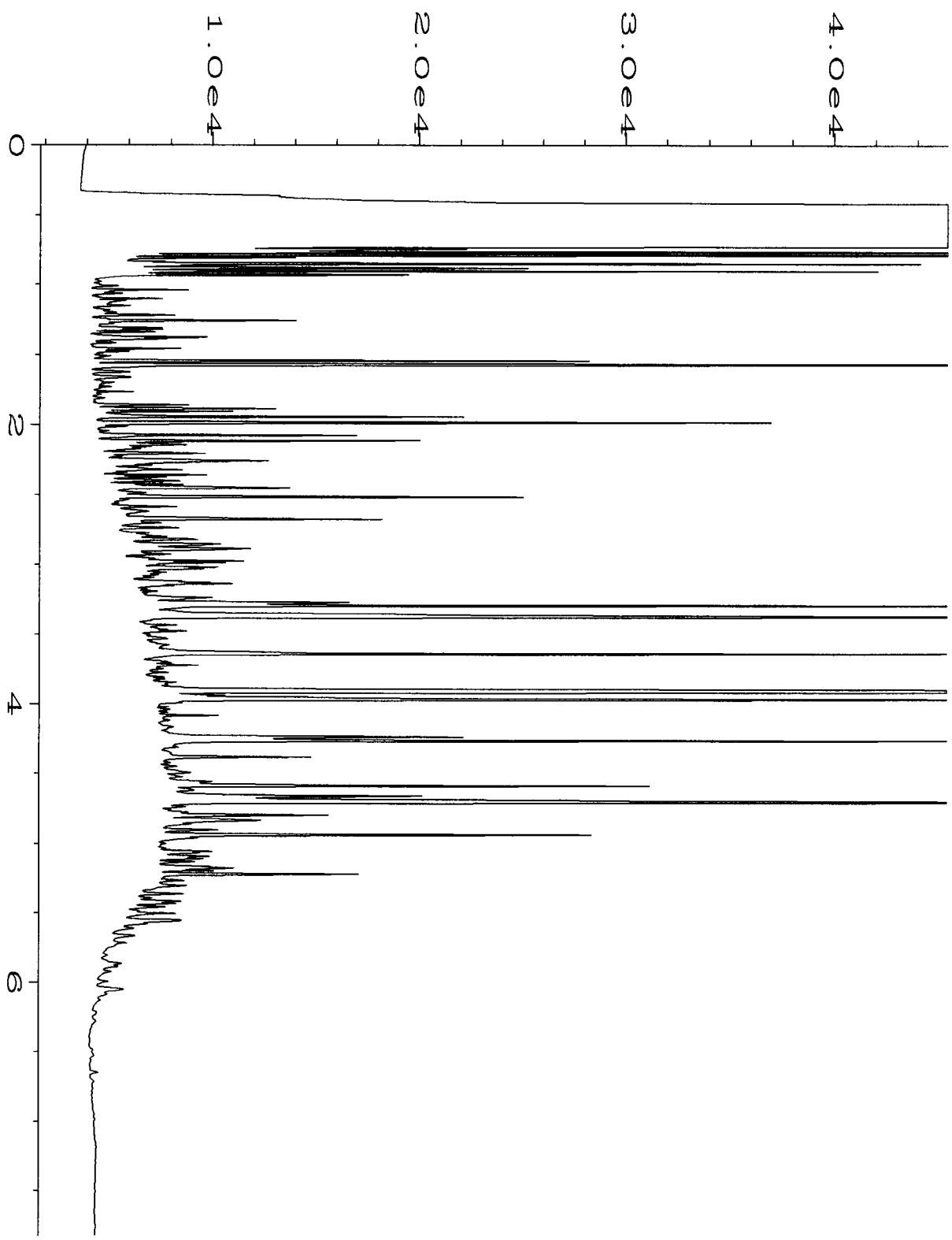
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\060F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 60
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-28	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 09:23 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



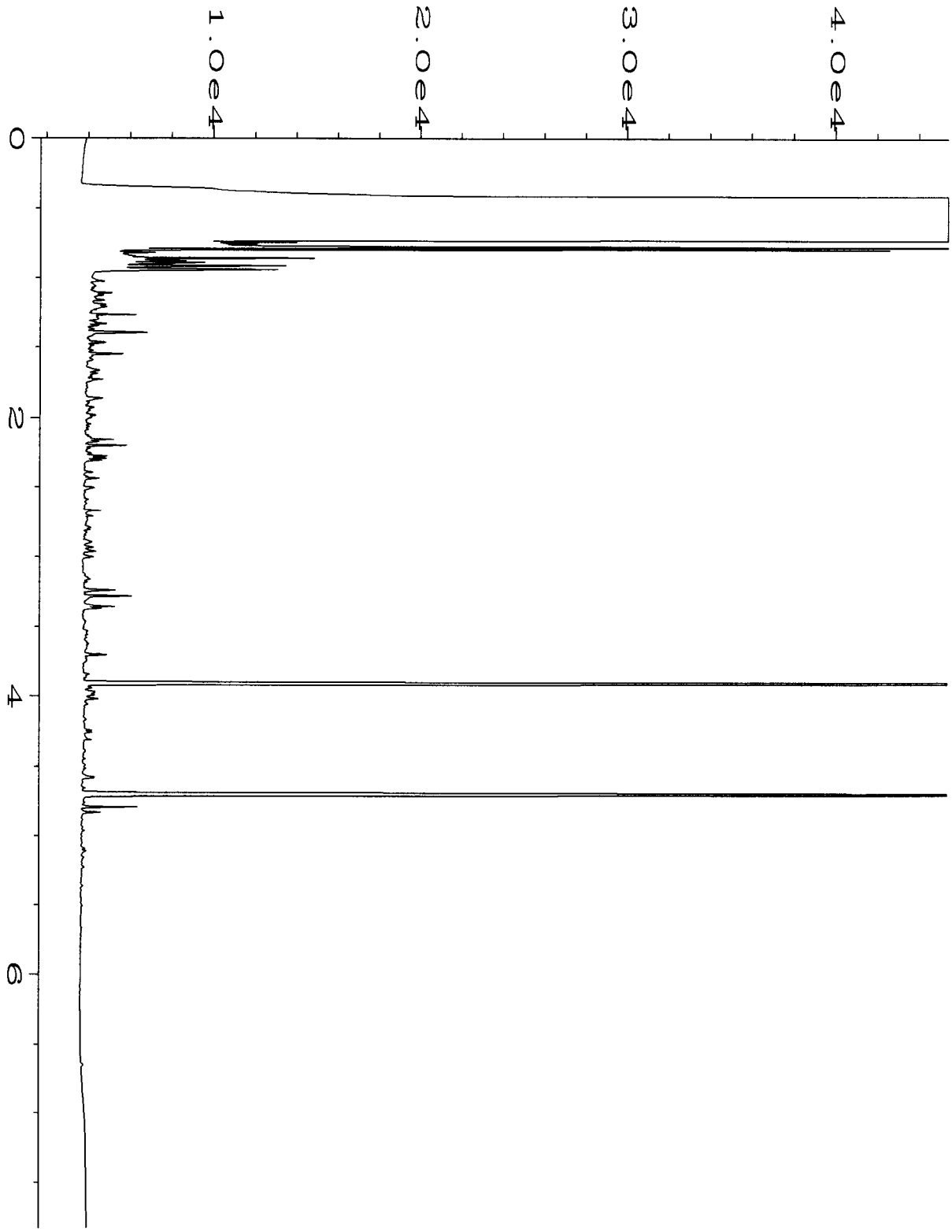
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\061F0901.D	Page Number	: 1
Operator	: sp	Vial Number	: 61
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-29	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 10:02 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



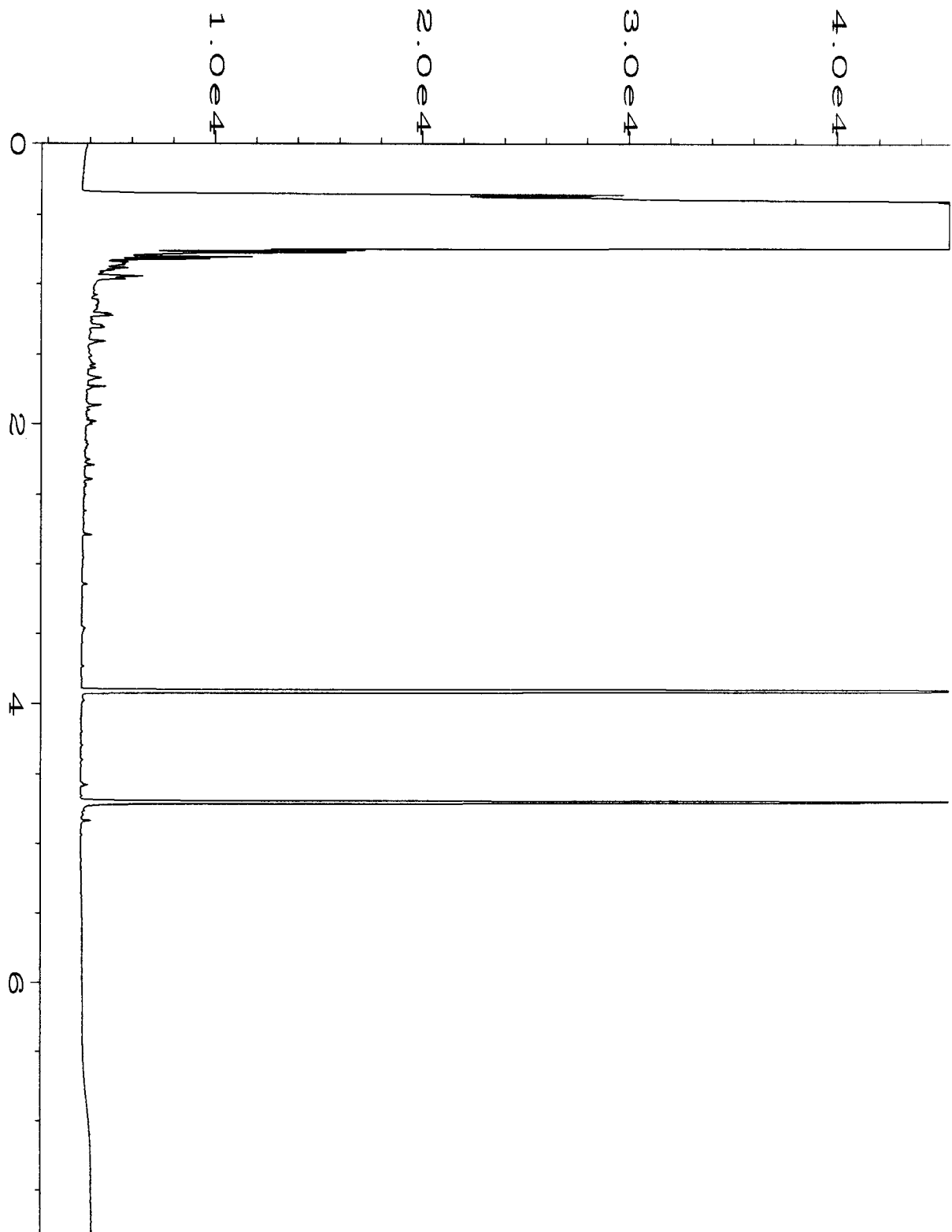
Data File Name	: C:\HPCHEM\6\DATA\07-22-14\044F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 44
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-30	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:38 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



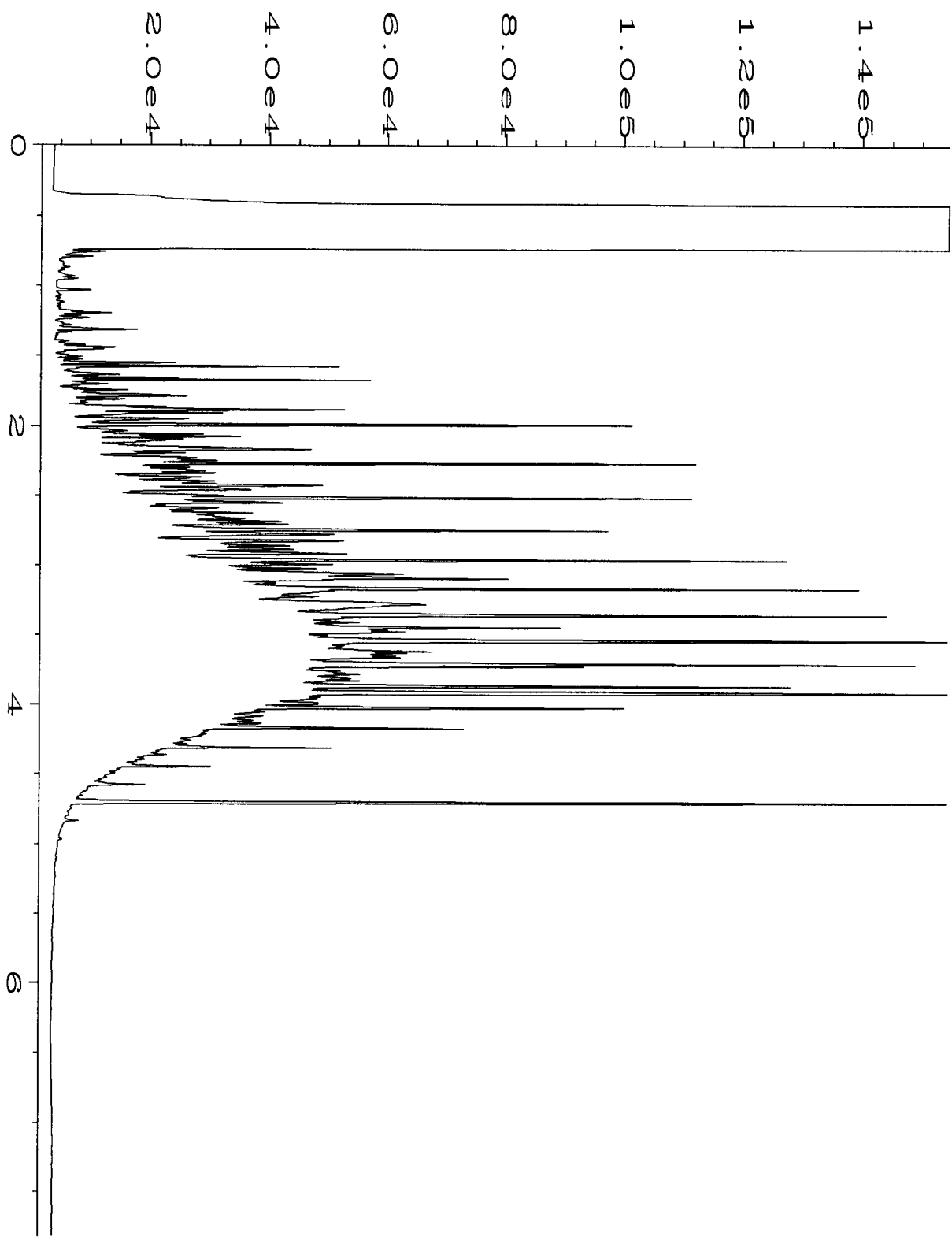
Data File Name	: C:\HPCHEM\6\DATA\07-22-14\045F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 45
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-31	Sequence Line	: 6
Run Time Bar Code:		Instrument Method	: DX.MTH
Acquired on	: 22 Jul 14 06:51 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-22-14\033F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 33
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1497 mb	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 04:16 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:32 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-21-14\038F0501.D	Page Number	: 1
Operator	: sp	Vial Number	: 38
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1495 mb	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 04:04 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:31 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-22-14\003F0201.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 3
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 500 Dx 42-27B	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 08:53 AM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:32 AM		



PCNA Metals, AS, Se Ba, Cd, Cu, AS, Pb, P, V  
 407877  
 Send Report To Yenni Van

**SAMPLE CHAIN OF CUSTODY**

ME 07-12-14

US3/US/EO4  
 Page # 1 of 4

Company HFA  
 Address 411 1st Ave S, #610  
 City, State, ZIP Seattle, WA 98104  
 Phone # 206-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)	PROJECT NAME/NO. <u>TRUCK CITY AT&amp;E</u>	PO# <u>0714.02.02</u>
	<u>HOUST WERANDY WA</u>	<u>Table 1</u>
REMARKS		

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH		
TC1-S2-8.5	01E	7/15/14	1020	SOIL	5	X	X	X	X			X		
TCBH1-5-8.5	02	"	1152	SOIL	5	X	X	X						
TCBL-5-8.5	03	"	1230	SOIL	5	X	X	X						
TCBH3-5-8.5	04	"	1312	SOIL	5	X	X	X						IMPACTED
TCBH3-5-8.5	05	"	1400	SOIL	5	X	X	X						SUBMIT SHEETS
TCBH3-5-14.5	06	"	1322	SOIL	5	X	X	X						
TCBH2-5-15.0	07	"	1432	SOIL	5	X	X	X						
TCBH2-5-8.5	08	"	1500	SOIL	5	X	X	X						
TCBH4-5-6.0	09	"	1534	SOIL	5	X	X	X						
TCBH4-5-15.0	10	"	1552	SOIL	5	X	X	X						

Friedman & Bryna, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS\COC\COC.DOC

SIGNATURE		PRINT NAME		COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	<u>[Signature]</u>	Yenni Van	Kurt Johnson	HFA	7/17/14	7:26
Received by: <u>[Signature]</u>	<u>[Signature]</u>			F&B		
Relinquished by:						
Received by:						
				Samples received at	3	00

407277

SAMPLE CHAIN OF CUSTODY

NE 07-17-14

USP/US/EDU/NE

Send Report To Menu-V1 Van

Company MFA

Address 411 1st Ave S, #610

City, State, ZIP SEA TNE, WA 98104

Phone # 253-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)

PROJECT NAME/NO.  
TRUCK CITY SITE

HOUST VERNON, WA

PO#  
0714,02,02

Tail 1

REMARKS

Page # 2 of 4

TURNAROUND TIME

Standard (2 Weeks)

RUSH

Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TPH-HCD			
TCBH4-W-6.0	11/E	7/15/14	1638	GLW	5	X	X	X							
TCB46-S-4.8	12	7/16/14	0747	SOIL	5			X							
TCB46-W-4.8	13	"	0820	GLW	5			X				X			
TCBH8-S-9.5	14	"	1017	SOIL	5	X	X	X							
TCBH8-S-15.0	15	"	1034	SOIL	5	X	X	X							
TCBH8-W-9.5	16	"	1100	GLW	5	X	X	X							
TCBH7-S-15.0	17	"	1205	SOIL	5	X	X	X							
TCBH7-W-6.5	18	"	1225	GLW	5	X	X	X							
TCBH9-S-9.5	19	"	1301	SOIL	5	X	X	X							
TCBH9-S-15.0	20	"	1310	SOIL	5	X	X	X							

Friedman & Bryna, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by:	<u>Royanne Degens</u>	Royanne Degens	MFA	3/17/14	7:10		
Received by:							
Relinquished by:							
Received by:							

Samples received at 3:40

PCRA Metals: As, Se, Ba, Cd, Cr, Ag, Hg, Pb

SAMPLE CHAIN OF CUSTODY

\* = DR0  
ME 07-17-14

Page # 3 of 4

US3/05/02/04/12

Send Report To Year-VI Van

Company HEA

Address 411 1st Ave S. #601

City, State, ZIP SEATTLE WA 98104

Phone # 253-320-5379 Fax # \_\_\_\_\_

SAMPLERS (signature)	PROJECT NAME/NO.	PO#
	TRUCK CITY	07/14, 02, 02
	MOULT WERNON	TASK 1
REMARKS		

TURNAROUND TIME	SAMPLE DISPOSAL
<input checked="" type="checkbox"/> Standard (2 Weeks)	<input checked="" type="checkbox"/> Dispose after 30 days
<input type="checkbox"/> RUSH	<input type="checkbox"/> Return samples
Rush charges authorized by _____	<input type="checkbox"/> Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes		
						* TPH-Diesel	TPH-Gasoline	* BTEX by 8021B	VOCs by 8260	SVOCs by 8270	* PAH	* Naphthalenes	* PHH	PCRA & Metals	Ferric Iron		Methane	
TCB49-W-6.5	21E	7/16/14	1342	GRU	5	X	X	X			X							(2) analyses added to 83060
TC4-S-7.0	22	"	1528	SOIL	5	X	X	X			X							List mt.
TC4-S-15.0	23	"	1534	SOIL	5	X	X	X			X							
TC5-S-9.5	24	7/17/14	0807	SOIL	5	X	X	X										
TC5-S-15.0	25	7/17/14	0820	SOIL	5	X	X	X			X	X						Table 830-1 DR0
TC3-S-9.7	26	7/17/14	1010	SOIL	5	X	X	X			X							inputted
TC3-S-15.0	27	7/17/14	1018	SOIL	5	X	X	X			X							inputted
TC2-S-6.5	28	7/17/14	1432	SOIL	5	X	X	X			X							
TC2-S-15.0	29	7/17/14	1450	SOIL	5	X	X	X			X							
TC1-W-10.0	30	7/17/14	1450	GW	8	X	X	X			X	X						Table 830-1 DR0

Phedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044  
FORMS\COC\COC.DOC

Relinquished by: <u>[Signature]</u>	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: <u>[Signature]</u>	Rayanne DeGens	MFA	7/17/14	7:20
Received by: <u>[Signature]</u>	PRINT NAME	COMPANY	DATE	TIME
Received by: <u>[Signature]</u>	Kurt Johnson	F&B	7/17/14	7:26
Relinquished by:				
Received by:				

Samples received at 3 C

407277

SAMPLE CHAIN OF CUSTODY

HE 07-17-14

US3/US/EGY/AR

Send Report To Yen-Hy Van

Company MEBA

Address 441 1st Ave S, #601

City, State, ZIP SEATTLE, WA 98104

Phone # 253-320-5378 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.

TRUCK CITY  
MOIST VERMONT WA

PO#

0714, 02, 02  
TABLE 1

TURNAROUND TIME

Standard (2 Weeks)

RUSH

Rush charges authorized by

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

REMARKS

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED											Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	NPHs by 8270	Sulfate	Nitrate	Manganese	Methane	Formaldehyde		VPH
TC DUP-W-10.0	32 A-H	3/17/14	<del>1015</del>	GW	8 (and 3)		X	X	X	X	X	X	X	X	X	X	X	830-16P0
TC 3-W-10.0	33 A-G	3/17/14	1235	GW	7	X	X	X	X	X	X	X	X	X	X	X	X	830-16P0
<del>TC 5-W-10.0</del>	<del>34</del>	<del>3/17/14</del>	<del>1330</del>	<del>GW</del>	<del>5</del>													
TC 1-W-10.0	35 A-I	3/17/14	1450	GW	8	X	X	X	X	X	X	X	X	X	X	X	X	830-16P0

Friedman & Bryna, Inc.  
3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COCC\COCC.DOC

SIGNATURE

PRINT NAME

COMPANY

DATE TIME

Relinquished by:

Kurt Johnson

FRB

7/17 5:25

Received by:

[Signature]

Relinquished by:

Received by:

Samples received at

3:00



3600 Fremont Ave. N.  
Seattle, WA 98103  
T: (206) 352-3790  
F: (206) 352-7178  
info@fremontanalytical.com

**Friedman & Bruya**  
Michael Erdahl  
3012 16th Ave. W.  
Seattle, WA 98119

**RE: 407277**  
**Lab ID: 1407180**

August 13, 2014

**Attention Michael Erdahl:**

Fremont Analytical, Inc. received 5 sample(s) on 7/18/2014 for the analyses presented in the following report.

***Extractable Petroleum Hydrocarbons by NWEPH***  
***Ferrous Iron by SM3500-Fe B***  
***Ion Chromatography by EPA Method 300.0***  
***Sample Moisture (Percent Moisture)***  
***Volatile Petroleum Hydrocarbons by NWVPH***

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee  
Sr. Chemist / Principal



Date: 08/14/2014

---

**CLIENT:** Friedman & Bruya  
**Project:** 407277  
**Lab Order:** 1407180

## Work Order Sample Summary

---

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1407180-001	TC5-S-15.0	07/17/2014 8:20 AM	07/18/2014 9:43 AM
1407180-002	TC1-W-10.0	07/17/2014 2:50 PM	07/18/2014 9:43 AM
1407180-003	TC5-W-10.0	07/17/2014 1:38 PM	07/18/2014 9:43 AM
1407180-004	TC3-W-10.0	07/17/2014 2:50 PM	07/18/2014 9:43 AM
1407180-005	TCDUP-W-10.0	07/17/2014 2:56 PM	07/18/2014 9:43 AM

---

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

**CLIENT:** Friedman & Bruya

**Project:** 407277

---

**I. SAMPLE RECEIPT:**

Samples receipt information is recorded on the attached Sample Receipt Checklist.

**II. GENERAL REPORTING COMMENTS:**

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

**III. ANALYSES AND EXCEPTIONS:**

Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.



**Client:** Friedman & Bruya

**Collection Date:** 7/17/2014 8:20:00 AM

**Project:** 407277

**Lab ID:** 1407180-001

**Matrix:** Soil

**Client Sample ID:** TC5-S-15.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Extractable Petroleum Hydrocarbons by NWEPH**

Batch ID: 8313

Analyst: EC

Aliphatic Hydrocarbon (C8-C10)	ND	5.74		mg/Kg-dry	1	8/12/2014 11:58:00 PM
Aliphatic Hydrocarbon (C10-C12)	ND	5.74		mg/Kg-dry	1	8/12/2014 11:58:00 PM
Aliphatic Hydrocarbon (C12-C16)	ND	5.74		mg/Kg-dry	1	8/12/2014 11:58:00 PM
Aliphatic Hydrocarbon (C16-C21)	ND	5.74		mg/Kg-dry	1	8/12/2014 11:58:00 PM
Aliphatic Hydrocarbon (C21-C34)	408	5.74		mg/Kg-dry	1	8/12/2014 11:58:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	5.74		mg/Kg-dry	1	8/13/2014 1:09:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	5.74		mg/Kg-dry	1	8/13/2014 1:09:00 AM
Aromatic Hydrocarbon (C12-C16)	ND	5.74		mg/Kg-dry	1	8/13/2014 1:09:00 AM
Aromatic Hydrocarbon (C16-C21)	ND	5.74		mg/Kg-dry	1	8/13/2014 1:09:00 AM
Aromatic Hydrocarbon (C21-C34)	510	5.74		mg/Kg-dry	1	8/13/2014 1:09:00 AM
Surr: 1-Chlorooctadecane	83.0	65-140		%REC	1	8/12/2014 11:58:00 PM
Surr: o-Terphenyl	92.7	65-140		%REC	1	8/13/2014 1:09:00 AM

**Sample Moisture (Percent Moisture)**

Batch ID: R15707

Analyst: KZ

Percent Moisture	17.3			wt%	1	7/22/2014 9:01:57 AM
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**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

D Dilution was required  
 H Holding times for preparation or analysis exceeded  
 ND Not detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits





# Analytical Report

WO#: 1407180

Date Reported: 8/13/2014

**Client:** Friedman & Bruya

**Collection Date:** 7/17/2014 2:50:00 PM

**Project:** 407277

**Lab ID:** 1407180-002

**Matrix:** Water

**Client Sample ID:** TC1-W-10.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Extractable Petroleum Hydrocarbons by NWEPH**

Batch ID: 8192

Analyst: EC

Aliphatic Hydrocarbon (C10-C12)	ND	80.0		µg/L	1	7/24/2014 6:19:00 AM
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		µg/L	1	7/24/2014 6:19:00 AM
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		µg/L	1	7/24/2014 6:19:00 AM
Aliphatic Hydrocarbon (C21-C34)	162	80.0		µg/L	1	7/24/2014 6:19:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		µg/L	1	7/24/2014 6:19:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	80.0	*	µg/L	1	7/24/2014 11:22:00 AM
Aromatic Hydrocarbon (C12-C16)	ND	80.0		µg/L	1	7/24/2014 11:22:00 AM
Aromatic Hydrocarbon (C16-C21)	86.0	80.0		µg/L	1	7/24/2014 11:22:00 AM
Aromatic Hydrocarbon (C21-C34)	14,500	80.0		µg/L	1	7/24/2014 11:22:00 AM
Aromatic Hydrocarbon (C8-C10)	89.9	80.0	*	µg/L	1	7/24/2014 11:22:00 AM
Surr: 1-Chlorooctadecane	113	65-140		%REC	1	7/24/2014 6:19:00 AM
Surr: o-Terphenyl	80.6	65-140		%REC	1	7/24/2014 11:22:00 AM

**NOTES:**

\* - Flagged value is not within established control limits.

**Volatile Petroleum Hydrocarbons by NWVPH**

Batch ID: R15782

Analyst: GH

Aliphatic Hydrocarbon (C5-C6)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aliphatic Hydrocarbon (C6-C8)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aliphatic Hydrocarbon (C8-C10)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aliphatic Hydrocarbon (C10-C12)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aromatic Hydrocarbon (C10-C12)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Aromatic Hydrocarbon (C12-C13)	ND	10.0		µg/L	1	7/23/2014 8:55:00 PM
Benzene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
Toluene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
Ethylbenzene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
m,p-Xylene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
o-Xylene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
Naphthalene	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.00		µg/L	1	7/23/2014 8:55:00 PM
Surr: 1,4-Difluorobenzene	109	65-140		%REC	1	7/23/2014 8:55:00 PM
Surr: Bromofluorobenzene	97.0	65-140		%REC	1	7/23/2014 8:55:00 PM

**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

D Dilution was required  
 H Holding times for preparation or analysis exceeded  
 ND Not detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits



**Client:** Friedman & Bruya

**Collection Date:** 7/17/2014 2:50:00 PM

**Project:** 407277

**Lab ID:** 1407180-002

**Matrix:** Water

**Client Sample ID:** TC1-W-10.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Ion Chromatography by EPA Method 300.0**

Batch ID: R15690 Analyst: KT

Nitrate	0.329	0.100		mg/L	1	7/18/2014 5:10:00 PM
Sulfate	198	6.00	D	mg/L	20	7/21/2014 2:49:00 PM

**Ferrous Iron by SM3500-Fe B**

Batch ID: R15698 Analyst: KT

Ferrous Iron	16.4	0.300	D	mg/L	10	7/18/2014 3:00:00 PM
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**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

D Dilution was required  
 H Holding times for preparation or analysis exceeded  
 ND Not detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits



**Client:** Friedman & Bruya

**Collection Date:** 7/17/2014 1:38:00 PM

**Project:** 407277

**Lab ID:** 1407180-003

**Matrix:** Water

**Client Sample ID:** TC5-W-10.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Extractable Petroleum Hydrocarbons by NWEPH**

Batch ID: 8192

Analyst: EC

Aliphatic Hydrocarbon (C10-C12)	ND	213		µg/L	1	7/24/2014 7:02:00 AM
Aliphatic Hydrocarbon (C12-C16)	ND	213		µg/L	1	7/24/2014 7:02:00 AM
Aliphatic Hydrocarbon (C16-C21)	ND	213		µg/L	1	7/24/2014 7:02:00 AM
Aliphatic Hydrocarbon (C21-C34)	271	213		µg/L	1	7/24/2014 7:02:00 AM
Aliphatic Hydrocarbon (C8-C10)	ND	213		µg/L	1	7/24/2014 7:02:00 AM
Aromatic Hydrocarbon (C10-C12)	ND	213	*	µg/L	1	7/24/2014 12:05:00 PM
Aromatic Hydrocarbon (C12-C16)	ND	213		µg/L	1	7/24/2014 12:05:00 PM
Aromatic Hydrocarbon (C16-C21)	676	213		µg/L	1	7/24/2014 12:05:00 PM
Aromatic Hydrocarbon (C21-C34)	49,000	213		µg/L	1	7/24/2014 12:05:00 PM
Aromatic Hydrocarbon (C8-C10)	ND	213	*	µg/L	1	7/24/2014 12:05:00 PM
Surr: 1-Chlorooctadecane	136	65-140		%REC	1	7/24/2014 7:02:00 AM
Surr: o-Terphenyl	102	65-140		%REC	1	7/24/2014 12:05:00 PM

**NOTES:**

\* - Flagged value is not within established control limits.

**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit

D Dilution was required  
 H Holding times for preparation or analysis exceeded  
 ND Not detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits



# Analytical Report

WO#: 1407180

Date Reported: 8/13/2014

**Client:** Friedman & Bruya

**Collection Date:** 7/17/2014 2:50:00 PM

**Project:** 407277

**Lab ID:** 1407180-004

**Matrix:** Water

**Client Sample ID:** TC3-W-10.0

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
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**Volatile Petroleum Hydrocarbons by NWVPH**

Batch ID: R15782 Analyst: GH

Aliphatic Hydrocarbon (C5-C6)	214	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aliphatic Hydrocarbon (C6-C8)	80.7	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aliphatic Hydrocarbon (C8-C10)	44.3	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aliphatic Hydrocarbon (C10-C12)	99.2	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aromatic Hydrocarbon (C8-C10)	82.6	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aromatic Hydrocarbon (C10-C12)	117	10.0		µg/L	1	7/23/2014 10:02:00 PM
Aromatic Hydrocarbon (C12-C13)	ND	10.0		µg/L	1	7/23/2014 10:02:00 PM
Benzene	ND	5.00		µg/L	1	7/23/2014 10:02:00 PM
Toluene	ND	5.00		µg/L	1	7/23/2014 10:02:00 PM
Ethylbenzene	6.93	5.00		µg/L	1	7/23/2014 10:02:00 PM
m,p-Xylene	22.9	5.00		µg/L	1	7/23/2014 10:02:00 PM
o-Xylene	ND	5.00		µg/L	1	7/23/2014 10:02:00 PM
Naphthalene	ND	5.00		µg/L	1	7/23/2014 10:02:00 PM
Methyl tert-butyl ether (MTBE)	ND	5.00		µg/L	1	7/23/2014 10:02:00 PM
Surr: 1,4-Difluorobenzene	120	65-140		%REC	1	7/23/2014 10:02:00 PM
Surr: Bromofluorobenzene	95.5	65-140		%REC	1	7/23/2014 10:02:00 PM

**Ion Chromatography by EPA Method 300.0**

Batch ID: R15690 Analyst: KT

Nitrate	1.47	0.100		mg/L	1	7/18/2014 5:21:00 PM
Sulfate	126	3.00	D	mg/L	10	7/21/2014 3:33:00 PM

**Ferrous Iron by SM3500-Fe B**

Batch ID: R15698 Analyst: KT

Ferrous Iron	5.40	0.300	D	mg/L	10	7/18/2014 3:00:00 PM
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**Qualifiers:** B Analyte detected in the associated Method Blank  
 E Value above quantitation range  
 J Analyte detected below quantitation limits  
 RL Reporting Limit  
 D Dilution was required  
 H Holding times for preparation or analysis exceeded  
 ND Not detected at the Reporting Limit  
 S Spike recovery outside accepted recovery limits



**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Ferrous Iron by SM3500-Fe B**

Sample ID: <b>MB-R15698</b>	SampType: <b>MBLK</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15698</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R15698</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317710</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ferrous Iron ND 0.0300

Sample ID: <b>LCS-R15698</b>	SampType: <b>LCS</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15698</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R15698</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317711</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ferrous Iron 1.02 0.0300 1.000 0 102 90 110

Sample ID: <b>1407180-004ADUP</b>	SampType: <b>DUP</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15698</b>							
Client ID: <b>TC3-W-10.0</b>	Batch ID: <b>R15698</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317715</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ferrous Iron 5.60 0.300 5.400 3.64 20 D

Sample ID: <b>1407180-004BMS</b>	SampType: <b>MS</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15698</b>							
Client ID: <b>TC3-W-10.0</b>	Batch ID: <b>R15698</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317716</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ferrous Iron 24.1 0.300 20.00 5.400 93.5 85 115 D

Sample ID: <b>1407180-004BMSD</b>	SampType: <b>MSD</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15698</b>							
Client ID: <b>TC3-W-10.0</b>	Batch ID: <b>R15698</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317717</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Ferrous Iron 23.3 0.300 20.00 5.400 89.5 85 115 24.10 3.38 20 D

**Qualifiers:** B Analyte detected in the associated Method Blank  
H Holding times for preparation or analysis exceeded  
R RPD outside accepted recovery limits  
D Dilution was required  
J Analyte detected below quantitation limits  
RL Reporting Limit  
E Value above quantitation range  
ND Not detected at the Reporting Limit  
S Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Ion Chromatography by EPA Method 300.0**

Sample ID: <b>MB-R15690</b>	SampType: <b>MBLK</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R15690</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317522</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate	ND	0.100									
Sulfate	ND	0.300									

Sample ID: <b>LCS-R15690</b>	SampType: <b>LCS</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R15690</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317523</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate	2.98	0.100	3.000	0	99.5	90	110				
Sulfate	14.9	0.300	15.00	0	99.5	90	110				

Sample ID: <b>1407180-002BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317527</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate	0.316	0.100						0.3292	4.00	20	
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Sample ID: <b>1407180-002BMS</b>	SampType: <b>MS</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317528</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate	2.36	0.100	3.000	0.3292	67.6	80	120				S
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Sample ID: <b>1407180-002BMSD</b>	SampType: <b>MSD</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>		Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317529</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Nitrate	2.17	0.100	3.000	0.3292	61.3	80	120	2.357	8.43	20	S
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**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1407180  
 CLIENT: Friedman & Bruya  
 Project: 407277

**QC SUMMARY REPORT**  
**Ion Chromatography by EPA Method 300.0**

Sample ID: <b>1407180-002BMSD</b>	SampType: <b>MSD</b>	Units: <b>mg/L</b>	Prep Date: <b>7/18/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>	Analysis Date: <b>7/18/2014</b>	SeqNo: <b>317529</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: <b>1407180-002BDUP</b>	SampType: <b>DUP</b>	Units: <b>mg/L</b>	Prep Date: <b>7/21/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>	Analysis Date: <b>7/21/2014</b>	SeqNo: <b>317606</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	190	6.00						198.2	4.30	20	D

Sample ID: <b>1407180-002BMS</b>	SampType: <b>MS</b>	Units: <b>mg/L</b>	Prep Date: <b>7/21/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>	Analysis Date: <b>7/21/2014</b>	SeqNo: <b>317607</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	511	6.00	300.0	198.2	104	80	120				D

Sample ID: <b>1407180-002BMSD</b>	SampType: <b>MSD</b>	Units: <b>mg/L</b>	Prep Date: <b>7/21/2014</b>	RunNo: <b>15690</b>							
Client ID: <b>TC1-W-10.0</b>	Batch ID: <b>R15690</b>	Analysis Date: <b>7/21/2014</b>	SeqNo: <b>317608</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sulfate	503	6.00	300.0	198.2	101	80	120	510.7	1.61	20	D

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>1407173-001ADUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324970</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	ND	6.38						0		30	
Aliphatic Hydrocarbon (C10-C12)	ND	6.38						0		30	
Aliphatic Hydrocarbon (C12-C16)	13.8	6.38						14.32	3.44	30	
Aliphatic Hydrocarbon (C16-C21)	26.3	6.38						28.20	6.93	30	
Aliphatic Hydrocarbon (C21-C34)	19.5	6.38						20.15	3.07	30	
Surr: 1-Chlorooctadecane	1.83		5.107		35.9	65	140		0		S

**NOTES:**

S - Outlying surrogate recovery observed. The parent sample was within range.

Sample ID: <b>LCS-8313</b>	SampType: <b>LCS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324980</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C8-C10)	4.16	5.00	4.000	0	104	70	130				
Aliphatic Hydrocarbon (C10-C12)	4.22	5.00	4.000	0	105	70	130				
Aliphatic Hydrocarbon (C12-C16)	4.35	5.00	4.000	0	109	70	130				
Aliphatic Hydrocarbon (C16-C21)	4.45	5.00	4.000	0	111	70	130				
Aliphatic Hydrocarbon (C21-C34)	3.31	5.00	4.000	0	82.9	70	130				
Surr: 1-Chlorooctadecane	3.16		4.000		78.9	65	140				

Sample ID: <b>1407173-001ADUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324984</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aromatic Hydrocarbon (C8-C10)	ND	6.38						0		30	
Aromatic Hydrocarbon (C10-C12)	ND	6.38						0		30	
Aromatic Hydrocarbon (C12-C16)	6.92	6.38						0	200	30	
Aromatic Hydrocarbon (C16-C21)	15.7	6.38						0	200	30	

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>1407173-001ADUP</b>	SampType: <b>DUP</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324984</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C21-C34)	585	6.38						0	200	30	
Surr: o-Terphenyl	3.05		5.107		59.7	65	140		0		S

**NOTES:**  
S - Outlying surrogate recovery observed. The parent sample was within range.

Sample ID: <b>LCS-8313</b>	SampType: <b>LCS</b>	Units: <b>mg/Kg</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>LCSS</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324992</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C8-C10)	3.57	5.00	4.000	0	89.2	70	130				
Aromatic Hydrocarbon (C10-C12)	2.81	5.00	4.000	0	70.4	70	130				
Aromatic Hydrocarbon (C12-C16)	3.07	5.00	4.000	0	76.8	70	130				
Aromatic Hydrocarbon (C16-C21)	4.50	5.00	4.000	0	113	70	130				
Aromatic Hydrocarbon (C21-C34)	4.83	5.00	4.000	0	121	70	130				
Surr: o-Terphenyl	3.98		4.000		99.4	65	140				

Sample ID: <b>MB-8313</b>	SampType: <b>MBLK</b>	Units: <b>mg/Kg</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324993</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C8-C10)	ND	5.00									
Aromatic Hydrocarbon (C10-C12)	ND	5.00									
Aromatic Hydrocarbon (C12-C16)	ND	5.00									
Aromatic Hydrocarbon (C16-C21)	ND	5.00									
Aromatic Hydrocarbon (C21-C34)	ND	5.00									
Surr: o-Terphenyl	4.04		4.000		101	65	140				

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>MB-8313</b>	SampType: <b>MBLK</b>	Units: <b>mg/Kg</b>	Prep Date: <b>7/28/2014</b>	RunNo: <b>16114</b>							
Client ID: <b>MBLKS</b>	Batch ID: <b>8313</b>		Analysis Date: <b>8/12/2014</b>	SeqNo: <b>324995</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C8-C10)	ND	5.00									
Aliphatic Hydrocarbon (C10-C12)	ND	5.00									
Aliphatic Hydrocarbon (C12-C16)	ND	5.00									
Aliphatic Hydrocarbon (C16-C21)	ND	5.00									
Aliphatic Hydrocarbon (C21-C34)	ND	5.00									
Surr: 1-Chlorooctadecane	3.11		4.000		77.8	65	140				

<b>Qualifiers:</b> B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	D Dilution was required J Analyte detected below quantitation limits RL Reporting Limit	E Value above quantitation range ND Not detected at the Reporting Limit S Spike recovery outside accepted recovery limits
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**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>1407019-019BDUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>				Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>				
Client ID: <b>BATCH</b>	Batch ID: <b>8192</b>					Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318875</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	163	80.0		0	0			91.86	56.1	30	
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0			0		30	
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0			0		30	
Aliphatic Hydrocarbon (C21-C34)	88.7	80.0		0	0			104.2	16.0	30	
Aliphatic Hydrocarbon (C8-C10)	88.1	80.0		0	0			47.64	59.6	30	
Surr: 1-Chlorooctadecane	33.7		50.00		67.4	65	140		0		

**NOTES:**

S - Outlying surrogate or spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a matrix effect.

Sample ID: <b>LCS-8192</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>				Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>				
Client ID: <b>LCSW</b>	Batch ID: <b>8192</b>					Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318878</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	196	80.0	200.0	0	98.2	70	130				
Aliphatic Hydrocarbon (C12-C16)	165	80.0	200.0	0	82.4	70	130				
Aliphatic Hydrocarbon (C16-C21)	208	80.0	200.0	0	104	70	130				
Aliphatic Hydrocarbon (C21-C34)	139	80.0	200.0	0	69.7	70	130				S
Aliphatic Hydrocarbon (C8-C10)	168	80.0	200.0	0	83.9	70	130				
Surr: 1-Chlorooctadecane	53.4		50.00		107	65	140				

**NOTES:**

S - Outlying spike recovery observed for Aliphatic Hydrocarbon (C21-C34). A duplicate analysis was performed and was within range. Please refer to VPH for carbon ranges C8-C-12

Sample ID: <b>LCSW02</b>	SampType: <b>LCSW</b>	Units: <b>µg/L</b>				Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>				
Client ID: <b>LCSW02</b>	Batch ID: <b>8192</b>					Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318879</b>				
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aliphatic Hydrocarbon (C10-C12)	173	80.0	200.0	0	86.5	70	130	196.4	12.6	20	
Aliphatic Hydrocarbon (C12-C16)	154	80.0	200.0	0	76.9	70	130	164.8	6.87	20	
Aliphatic Hydrocarbon (C16-C21)	206	80.0	200.0	0	103	70	130	208.0	0.742	20	

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>LCS D-8192</b>	SampType: <b>LCS D</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>LCS W02</b>	Batch ID: <b>8192</b>		Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318879</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C21-C34)	153	80.0	200.0	0	76.4	70	130	139.4	9.19	20	
Aliphatic Hydrocarbon (C8-C10)	190	80.0	200.0	0	94.8	70	130	167.9	12.1	20	
Surr: 1-Chlorooctadecane	61.0		50.00		122	65	140		0		

**NOTES:**  
Please refer to VPH for carbon ranges C8-C-12

Sample ID: <b>MB-8192</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>MBLK W</b>	Batch ID: <b>8192</b>		Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318880</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C10-C12)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C12-C16)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C16-C21)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C21-C34)	ND	80.0		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	80.0		0	0						
Surr: 1-Chlorooctadecane	53.0		50.00		106	65	140				

Sample ID: <b>1407019-019BDUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>8192</b>		Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318924</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0			0		30	*
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0			0		30	
Aromatic Hydrocarbon (C16-C21)	290	80.0		0	0			159.3	58.2	30	R
Aromatic Hydrocarbon (C21-C34)	14,900	80.0		0	0			23,820	46.3	30	R
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0			0		30	*
Surr: o-Terphenyl	42.9		50.00		85.9	65	140		0		

**Qualifiers:** B Analyte detected in the associated Method Blank  
D Dilution was required  
E Value above quantitation range  
H Holding times for preparation or analysis exceeded  
J Analyte detected below quantitation limits  
ND Not detected at the Reporting Limit  
R RPD outside accepted recovery limits  
RL Reporting Limit  
S Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>1407019-019BDUP</b>	SampType: <b>DUP</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>BATCH</b>	Batch ID: <b>8192</b>	Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318924</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

**NOTES:**  
 \* - Flagged value is not within established control limits.

Sample ID: <b>LCS-8192</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>8192</b>	Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318927</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	105	80.0	200.0	0	52.5	70	130				S
Aromatic Hydrocarbon (C12-C16)	125	80.0	200.0	0	62.3	70	130				S
Aromatic Hydrocarbon (C16-C21)	263	80.0	200.0	0	132	70	130				S
Aromatic Hydrocarbon (C21-C34)	159	80.0	200.0	0	79.5	70	130				
Aromatic Hydrocarbon (C8-C10)	104	80.0	200.0	0	51.9	70	130				S
Surr: o-Terphenyl	42.1		50.00		84.1	65	140				

**NOTES:**  
 S - Outlying spike recovery(ies). A duplicate analysis was performed with similar results for Aromatic Hydrocarbon (C8-C10) and Aromatic Hydrocarbon (C10-C12). Samples are qualified with an \*. Please refer to VPH results for Carbon Ranges C8-C12.

Sample ID: <b>LCSW-8192</b>	SampType: <b>LCSW</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>LCSW02</b>	Batch ID: <b>8192</b>	Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318928</b>								
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	85.9	80.0	200.0	0	42.9	70	130	105.0	20.0	20	S
Aromatic Hydrocarbon (C12-C16)	142	80.0	200.0	0	70.9	70	130	124.7	12.9	20	
Aromatic Hydrocarbon (C16-C21)	248	80.0	200.0	0	124	70	130	263.3	5.79	20	
Aromatic Hydrocarbon (C21-C34)	189	80.0	200.0	0	94.7	70	130	158.9	17.5	20	
Aromatic Hydrocarbon (C8-C10)	117	80.0	200.0	0	58.4	70	130	103.9	11.6	20	S
Surr: o-Terphenyl	49.4		50.00		98.7	65	140		0		

**NOTES:**  
 S - Outlying spike recovery(ies). A duplicate analysis was performed with similar results for Aromatic Hydrocarbon (C8-C10) and Aromatic Hydrocarbon (C10-C12). Samples are qualified with an \*. Please refer to VPH results for Carbon Ranges C8-C12.

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
	R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Extractable Petroleum Hydrocarbons by NWEPH**

Sample ID: <b>MB-8192</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>7/22/2014</b>	RunNo: <b>15755</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>8192</b>		Analysis Date: <b>7/24/2014</b>	SeqNo: <b>318929</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aromatic Hydrocarbon (C10-C12)	ND	80.0		0	0						*
Aromatic Hydrocarbon (C12-C16)	ND	80.0		0	0						
Aromatic Hydrocarbon (C16-C21)	ND	80.0		0	0						
Aromatic Hydrocarbon (C21-C34)	ND	80.0		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	80.0		0	0						*
Surr: o-Terphenyl	40.7		50.00		81.4	65	140				

**NOTES:**

\* - Flagged value is not within established control limits.

<b>Qualifiers:</b> B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	D Dilution was required J Analyte detected below quantitation limits RL Reporting Limit	E Value above quantitation range ND Not detected at the Reporting Limit S Spike recovery outside accepted recovery limits
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Work Order: 1407180  
 CLIENT: Friedman & Bruya  
 Project: 407277

**QC SUMMARY REPORT**  
**Volatile Petroleum Hydrocarbons by NWVPH**

Sample ID: <b>LCS-R15782</b>	SampType: <b>LCS</b>	Units: <b>µg/L</b>	Prep Date: <b>7/23/2014</b>	RunNo: <b>15782</b>							
Client ID: <b>LCSW</b>	Batch ID: <b>R15782</b>		Analysis Date: <b>7/23/2014</b>	SeqNo: <b>319271</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C5-C6)	661	10.0	600.0	0	110	70	130				
Aliphatic Hydrocarbon (C6-C8)	239	10.0	200.0	0	120	70	130				
Aliphatic Hydrocarbon (C8-C10)	198	10.0	200.0	0	99.0	70	130				
Aliphatic Hydrocarbon (C10-C12)	200	10.0	200.0	0	100	70	130				
Aromatic Hydrocarbon (C8-C10)	694	10.0	800.0	0	86.7	70	130				
Aromatic Hydrocarbon (C10-C12)	171	10.0	200.0	0	85.5	70	130				
Aromatic Hydrocarbon (C12-C13)	196	10.0	200.0	0	97.9	70	130				
Benzene	191	5.00	200.0	0	95.3	70	130				
Toluene	196	5.00	200.0	0	97.8	70	130				
Ethylbenzene	198	5.00	200.0	0	99.1	70	130				
m,p-Xylene	400	5.00	400.0	0	100	70	130				
o-Xylene	196	5.00	200.0	0	98.0	70	130				
Naphthalene	184	5.00	200.0	0	92.0	70	130				
Methyl tert-butyl ether (MTBE)	220	5.00	200.0	0	110	70	130				
Surr: 1,4-Difluorobenzene	54.1		50.00		108	65	140				
Surr: Bromofluorobenzene	50.4		50.00		101	65	140				

Sample ID: <b>LCS-D-R15782</b>	SampType: <b>LCS-D</b>	Units: <b>µg/L</b>	Prep Date: <b>7/23/2014</b>	RunNo: <b>15782</b>							
Client ID: <b>LCSW02</b>	Batch ID: <b>R15782</b>		Analysis Date: <b>7/23/2014</b>	SeqNo: <b>319272</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C5-C6)	687	10.0	600.0	0	115	70	130	661.3	3.88	20	
Aliphatic Hydrocarbon (C6-C8)	214	10.0	200.0	0	107	70	130	239.3	11.1	20	
Aliphatic Hydrocarbon (C8-C10)	225	10.0	200.0	0	113	70	130	198.0	12.9	20	
Aliphatic Hydrocarbon (C10-C12)	192	10.0	200.0	0	96.0	70	130	200.3	4.19	20	
Aromatic Hydrocarbon (C8-C10)	750	10.0	800.0	0	93.7	70	130	693.9	7.75	20	
Aromatic Hydrocarbon (C10-C12)	180	10.0	200.0	0	90.1	70	130	170.9	5.23	20	
Aromatic Hydrocarbon (C12-C13)	195	10.0	200.0	0	97.7	70	130	195.8	0.195	20	

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1407180  
 CLIENT: Friedman & Bruya  
 Project: 407277

**QC SUMMARY REPORT**  
**Volatile Petroleum Hydrocarbons by NWVPH**

Sample ID: <b>LCSD-R15782</b>	SampType: <b>LCSD</b>	Units: <b>µg/L</b>	Prep Date: <b>7/23/2014</b>	RunNo: <b>15782</b>							
Client ID: <b>LCSW02</b>	Batch ID: <b>R15782</b>		Analysis Date: <b>7/23/2014</b>	SeqNo: <b>319272</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	205	5.00	200.0	0	102	70	130	190.7	7.03	20	
Toluene	207	5.00	200.0	0	104	70	130	195.5	5.79	20	
Ethylbenzene	209	5.00	200.0	0	104	70	130	198.1	5.20	20	
m,p-Xylene	416	5.00	400.0	0	104	70	130	400.2	3.91	20	
o-Xylene	206	5.00	200.0	0	103	70	130	196.1	5.14	20	
Naphthalene	166	5.00	200.0	0	83.0	70	130	183.9	10.2	20	
Methyl tert-butyl ether (MTBE)	226	5.00	200.0	0	113	70	130	220.2	2.61	20	
Surr: 1,4-Difluorobenzene	53.5		50.00		107	65	140		0		
Surr: Bromofluorobenzene	50.9		50.00		102	65	140		0		

Sample ID: <b>MB-R15782</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>7/23/2014</b>	RunNo: <b>15782</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R15782</b>		Analysis Date: <b>7/23/2014</b>	SeqNo: <b>319273</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Aliphatic Hydrocarbon (C5-C6)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C6-C8)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aliphatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C8-C10)	ND	10.0		0	0						
Aromatic Hydrocarbon (C10-C12)	ND	10.0		0	0						
Aromatic Hydrocarbon (C12-C13)	ND	10.0		0	0						
Benzene	ND	5.00		0	0						
Toluene	ND	5.00		0	0						
Ethylbenzene	ND	5.00		0	0						
m,p-Xylene	ND	5.00		0	0						
o-Xylene	ND	5.00		0	0						
Naphthalene	ND	5.00		0	0						
Methyl tert-butyl ether (MTBE)	ND	5.00		0	0						

**Qualifiers:**

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits



**Work Order:** 1407180  
**CLIENT:** Friedman & Bruya  
**Project:** 407277

**QC SUMMARY REPORT**  
**Volatile Petroleum Hydrocarbons by NWVPH**

Sample ID: <b>MB-R15782</b>	SampType: <b>MBLK</b>	Units: <b>µg/L</b>	Prep Date: <b>7/23/2014</b>	RunNo: <b>15782</b>							
Client ID: <b>MBLKW</b>	Batch ID: <b>R15782</b>		Analysis Date: <b>7/23/2014</b>	SeqNo: <b>319273</b>							
Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Surr: 1,4-Difluorobenzene	74.1		50.00		148	65	140				S
Surr: Bromofluorobenzene	68.6		50.00		137	65	140				

**NOTES:**

S - Outlying surrogate recovery observed. Adequate surrogate recoveries demonstrated by LCS, LCSD, CCVs, and all samples.

<b>Qualifiers:</b> B Analyte detected in the associated Method Blank H Holding times for preparation or analysis exceeded R RPD outside accepted recovery limits	D Dilution was required J Analyte detected below quantitation limits RL Reporting Limit	E Value above quantitation range ND Not detected at the Reporting Limit S Spike recovery outside accepted recovery limits
---	---	---

Client Name: **FB**  
 Logged by: **Erica Silva**

Work Order Number: **1407180**  
 Date Received: **7/18/2014 9:43:00 AM**

### Chain of Custody

1. Is Chain of Custody complete? Yes  No  Not Present   
 2. How was the sample delivered? Courier

### Log In

3. Coolers are present? Yes  No  NA

**Samples received at appropriate temperature.**

4. Shipping container/cooler in good condition? Yes  No   
 5. Custody seals intact on shipping container/cooler? Yes  No  Not Required   
 6. Was an attempt made to cool the samples? Yes  No  NA   
 7. Were all coolers received at a temperature of >0°C to 10.0°C? Yes  No  NA   
 8. Sample(s) in proper container(s)? Yes  No   
 9. Sufficient sample volume for indicated test(s)? Yes  No   
 10. Are samples properly preserved? Yes  No   
 11. Was preservative added to bottles? Yes  No  NA   
 12. Is the headspace in the VOA vials? Yes  No  NA   
 13. Did all samples containers arrive in good condition(unbroken)? Yes  No   
 14. Does paperwork match bottle labels? Yes  No   
 15. Are matrices correctly identified on Chain of Custody? Yes  No   
 16. Is it clear what analyses were requested? Yes  No   
 17. Were all holding times able to be met? Yes  No

### Special Handling (if applicable)

18. Was client notified of all discrepancies with this order? Yes  No  NA

Person Notified:	<input type="text"/>	Date:	<input type="text"/>
By Whom:	<input type="text"/>	Via:	<input type="checkbox"/> eMail <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> In Person
Regarding:	<input type="text"/>		
Client Instructions:	<input type="text"/>		

19. Additional remarks:

### Item Information

Item #	Temp °C	Condition
Sample	3.4	Good



**SUBCONTRACT SAMPLE CHAIN OF CUSTODY**

1407180

Send Report To Michael Erdahl

Company Friedman and Bruya, Inc.

Address 3012 16th Ave W

City, State, ZIP Seattle, WA 98119

Phone # (206) 285-8282 Fax # (206) 283-5044

SUBCONTRACTOR Fremont Analytical

PROJECT NAME/NO. 407277

PO # D-121

REMARKS Please Email Results

Page # 1 of 1

TURNAROUND TIME

Standard (2 Weeks)

RUSH  
Rush charges authorized by: \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days

Return samples

Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Matrix	# of jars	Dioxins and Furans by 8290	EPH	VPH	Nitrate	Sulfate	Alkalinity	Ferric Iron	Notes
TC5-5-15.0		7/17/14	0820	Soil	1		X						
TC1-W-10.0		7/17/14	1450	water	3		X	X	X	X		X	
TC3-W-10.0		7/17/14	1330	water	3		X						
TC3-W-10.0		7/17/14	1450	water	3		X	X	X	X		X	
TC-DUP-W-10.0		7/17/14	1456	water	3		X	X	X	X		X	

\* on hold per Michael Erdahl 7/18/14 JS


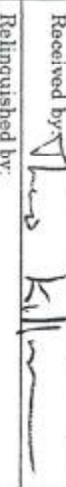
Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
	Michael Erdahl	Friedman & Bruya	7/19/14	0834
	Thomas Killian	FAI	7-18-14	09:43
Received by:				

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 14, 2014

Yen-Vy Van, Project Manager  
Maul Foster Alongi  
411 1<sup>st</sup> Ave S, Suite 610  
Seattle, WA 98104

Dear Ms. Van:

Included are the additional results from the testing of material submitted on July 17, 2014 from Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277 project. There are 7 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Mary Benzinger, Brian Fauth  
MFA0814R.DOC

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 17, 2014 by Friedman & Bruya, Inc. from the Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster Alongi</u>
407277 -01	TC1-S2-8.5
407277 -02	TCBH1-S-8.5
407277 -03	TCBH1-W-8.5
407277 -04	TCBH3-S-8.5
407277 -05	TCBH3-W-8.5
407277 -06	TCBH3-S-14.5
407277 -07	TCBH2-S-15.0
407277 -08	TCBH2-W-8.5
407277 -09	TCBH4-S-6.0
407277 -10	TCBH4-S-15.0
407277 -11	TCBH4-W-6.0
407277 -12	TCBH6-S-4.8
407277 -13	TCBH6-W-4.8
407277 -14	TCBH8-S-9.5
407277 -15	TCBH8-S-15.0
407277 -16	TCBH8-W-9.5
407277 -17	TCBH7-S-15.0
407277 -18	TCBH7-W-6.5
407277 -19	TCBH9-S-9.5
407277 -20	TCBH9-S-15.0
407277 -21	TCBH9-W-6.5
407277 -22	TC4-S-7.0
407277 -23	TC4-S-15.0
407277 -24	TC5-S-9.5
407277 -25	TC5-S-15.0
407277 -26	TC3-S-9.7
407277 -27	TC3-S-15.0
407277 -28	TC2-S-6.5
407277 -29	TC2-S-15.0
407277 -30	TC1-W-10.0
407277 -31	TC5-W-10.0
407277 -32	TCDup-W-10.0
407277 -33	TC3-W-10.0

The 200.8 total manganese analysis for sample TCDup-W-10.0 were analyzed from a 500 ml amber without preservative. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

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ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/17/14

Project: Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277

Date Extracted: 07/21/14

Date Analyzed: 07/21/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE  
USING METHOD NWTPH-Gx**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Gasoline Range</u>	Surrogate <u>(% Recovery)</u> (Limit 51-134)
TC5-W-10.0 407277-31	800	106
Method Blank 04-1464 MB	<100	98

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TCDup-W-10.0 pc	Client:	Maul Foster Alongi
Date Received:	07/17/14	Project:	Maul Foster Alongi Truck City Site
Date Extracted:	08/13/14	Lab ID:	407277-32 x10
Date Analyzed:	08/13/14	Data File:	407277-32 x10.022
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	96	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Manganese	1,300



FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	NA	Project:	Maul Foster Alongi Truck City Site
Date Extracted:	08/13/14	Lab ID:	I4-507 mb
Date Analyzed:	08/13/14	Data File:	I4-507 mb.017
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower	Upper
Germanium	95	Limit:	Limit:
		60	125

Analyte:	Concentration
	ug/L (ppb)
Manganese	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/17/14

Project: Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER  
SAMPLES FOR TPH AS GASOLINE  
USING METHOD NWTPH-Gx**

Laboratory Code: 407277-03 (Duplicate)

Analyte	Reporting Units	Sample Result	Duplicate Result	RPD (Limit 20)
Gasoline	ug/L (ppb)	<100	<100	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	ug/L (ppb)	1,000	107	69-134

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/17/14

Project: Maul Foster Alongi Truck City Site 0714.02.02 Task 1, F&BI 407277

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 408128-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Manganese	ug/L (ppb)	20	513	214 b	141 b	47-155	41 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Manganese	ug/L (ppb)	20	95	76-120

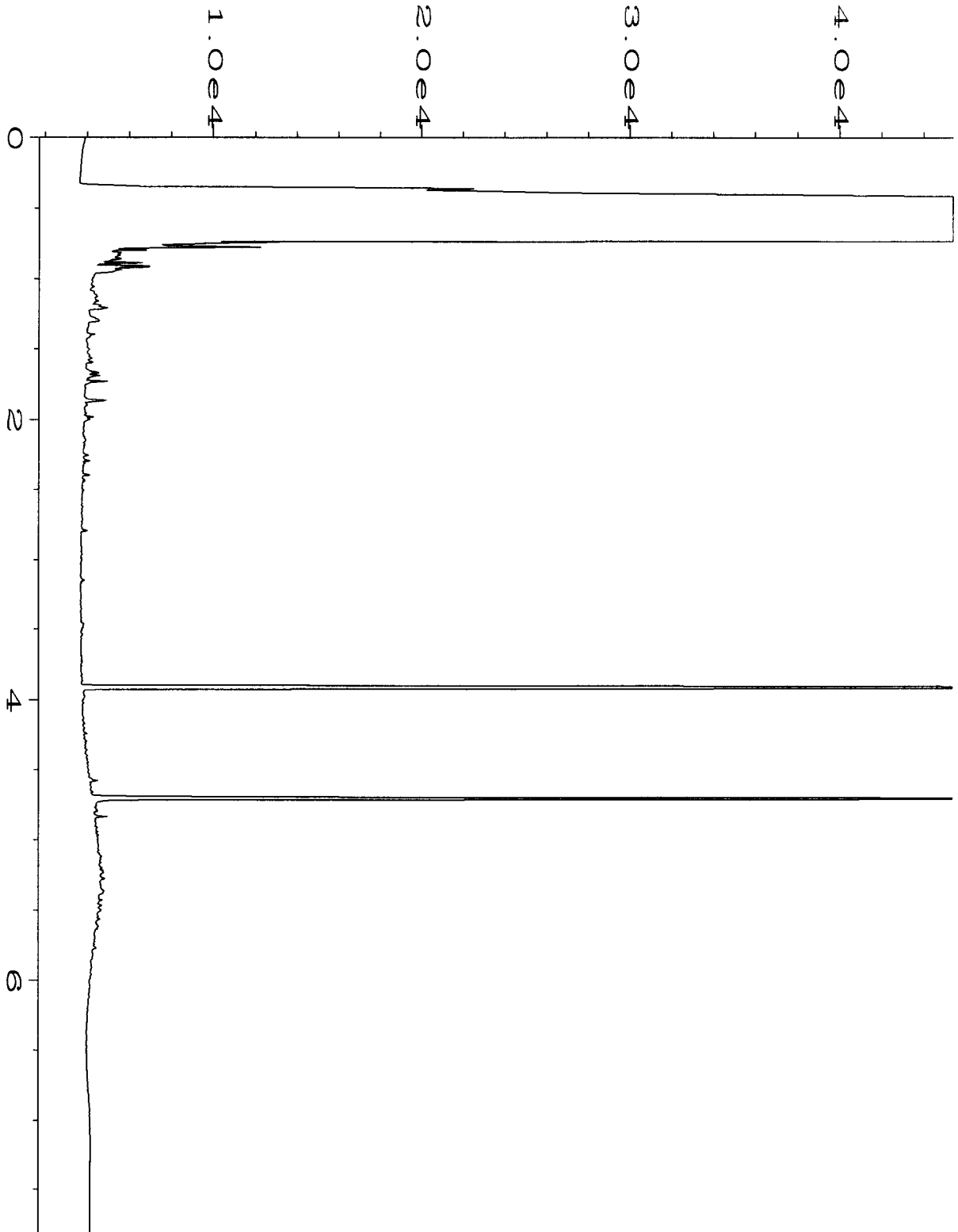
# FRIEDMAN & BRUYA, INC.

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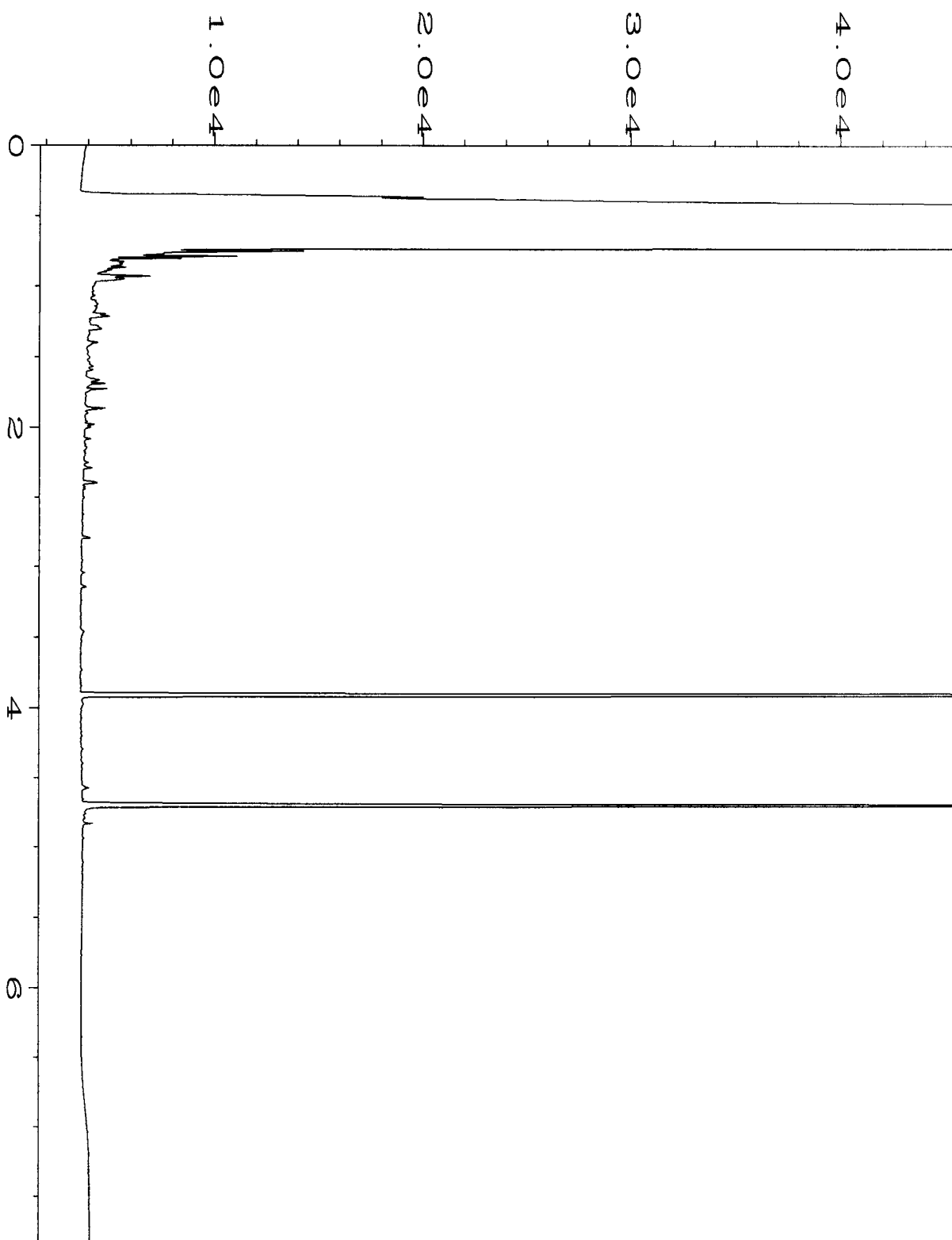
## ENVIRONMENTAL CHEMISTS

### **Data Qualifiers & Definitions**

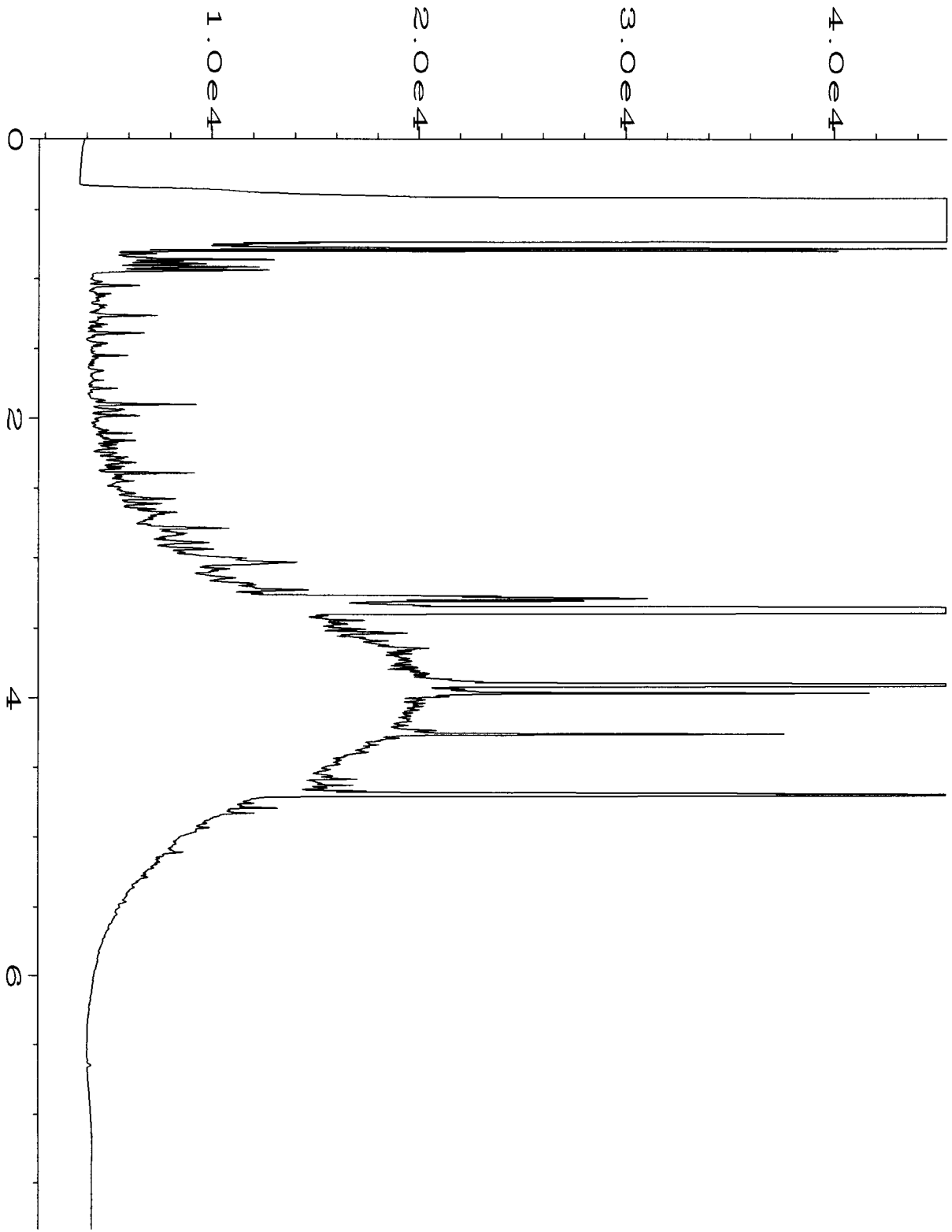
- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



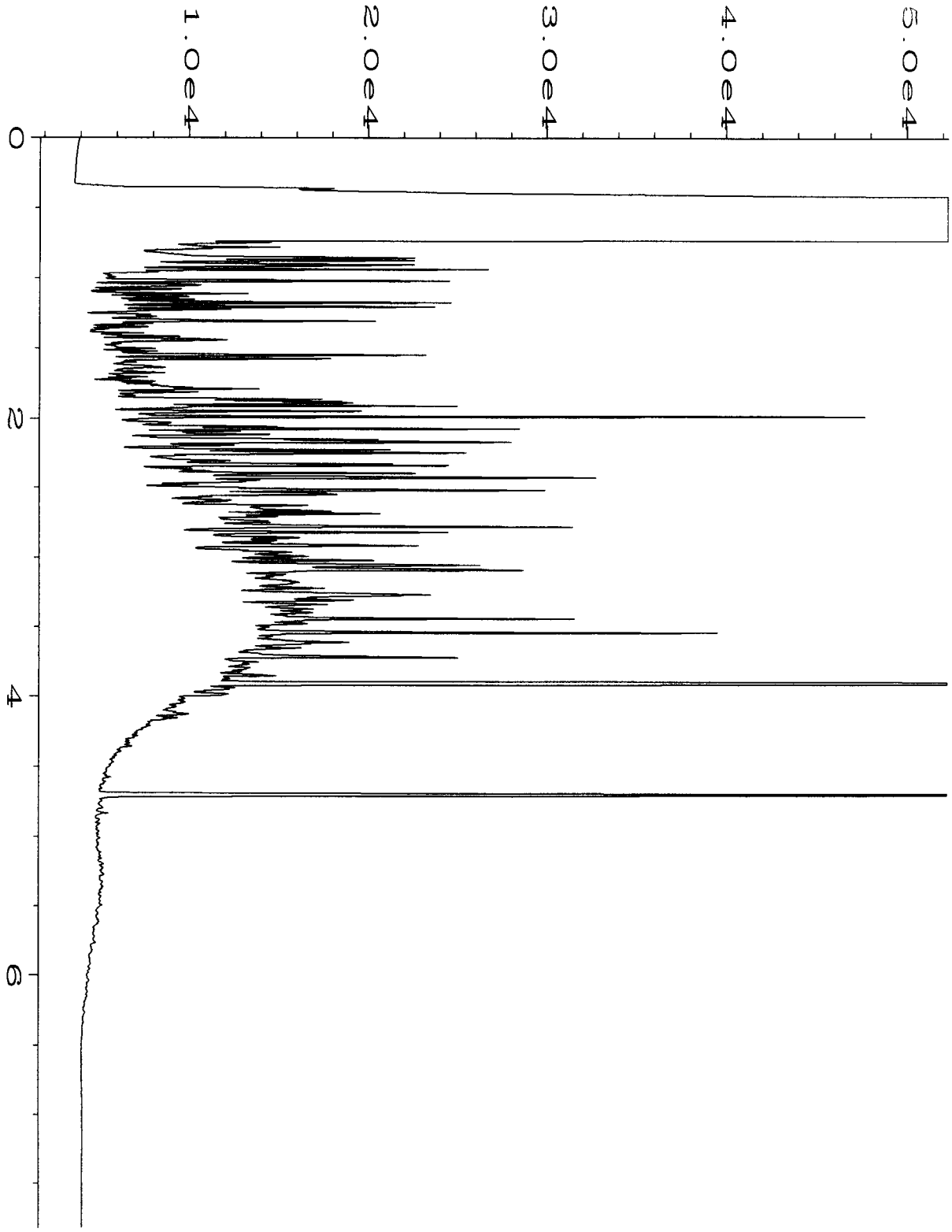
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Report Created on:	22 Jul 14 01:31 PM		



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Report Created on:	22 Jul 14 01:31 PM		

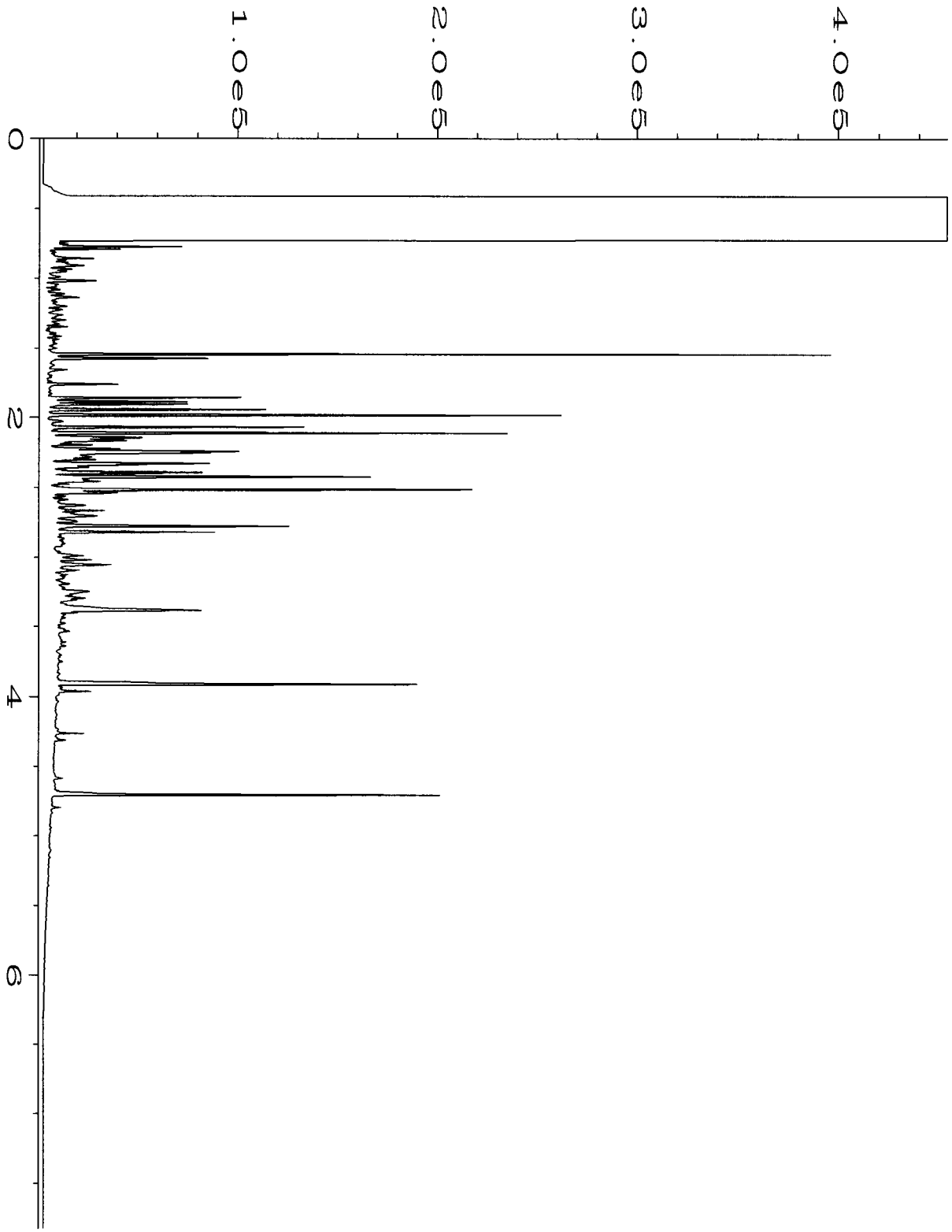


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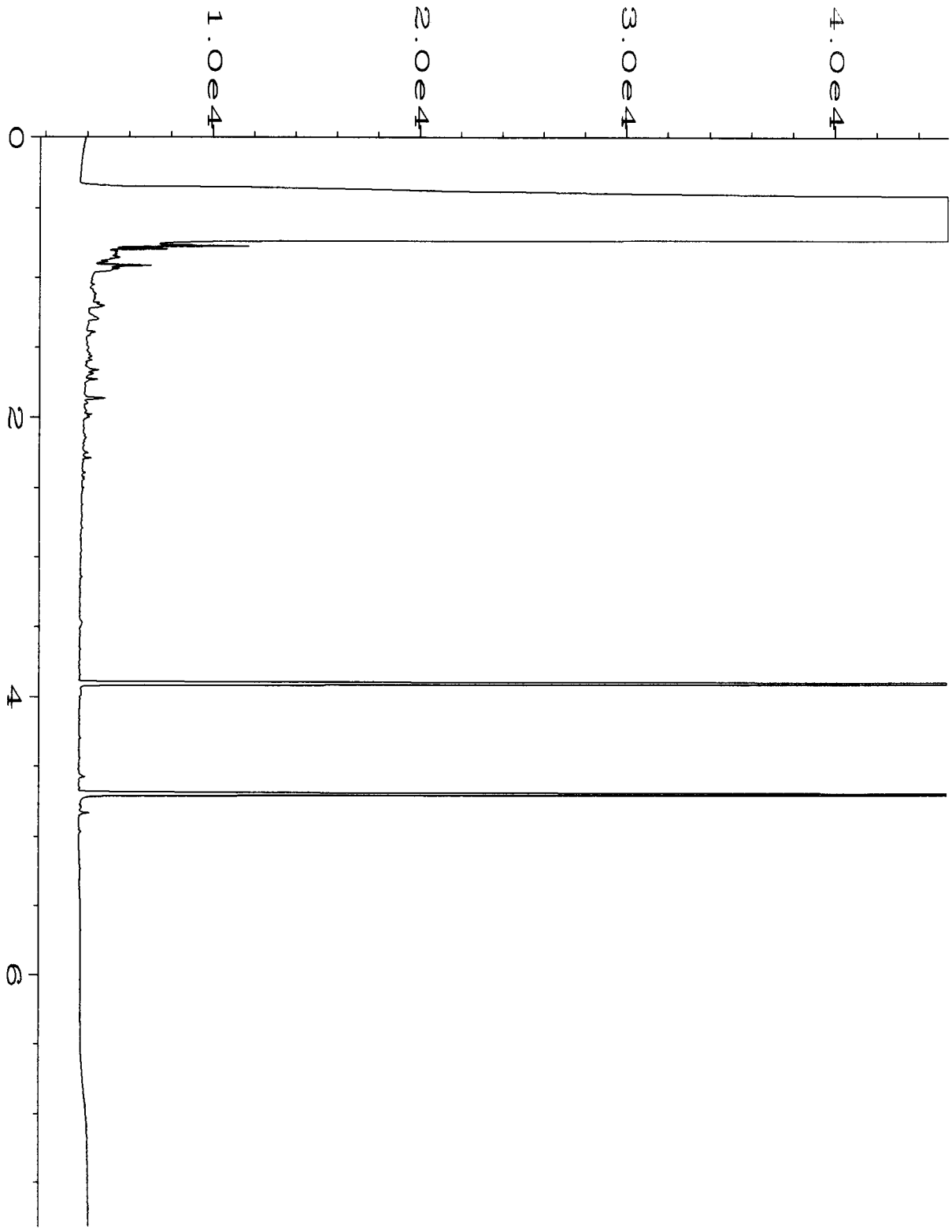


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Sample Name	: 407277-04	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 05:23 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:31 PM		

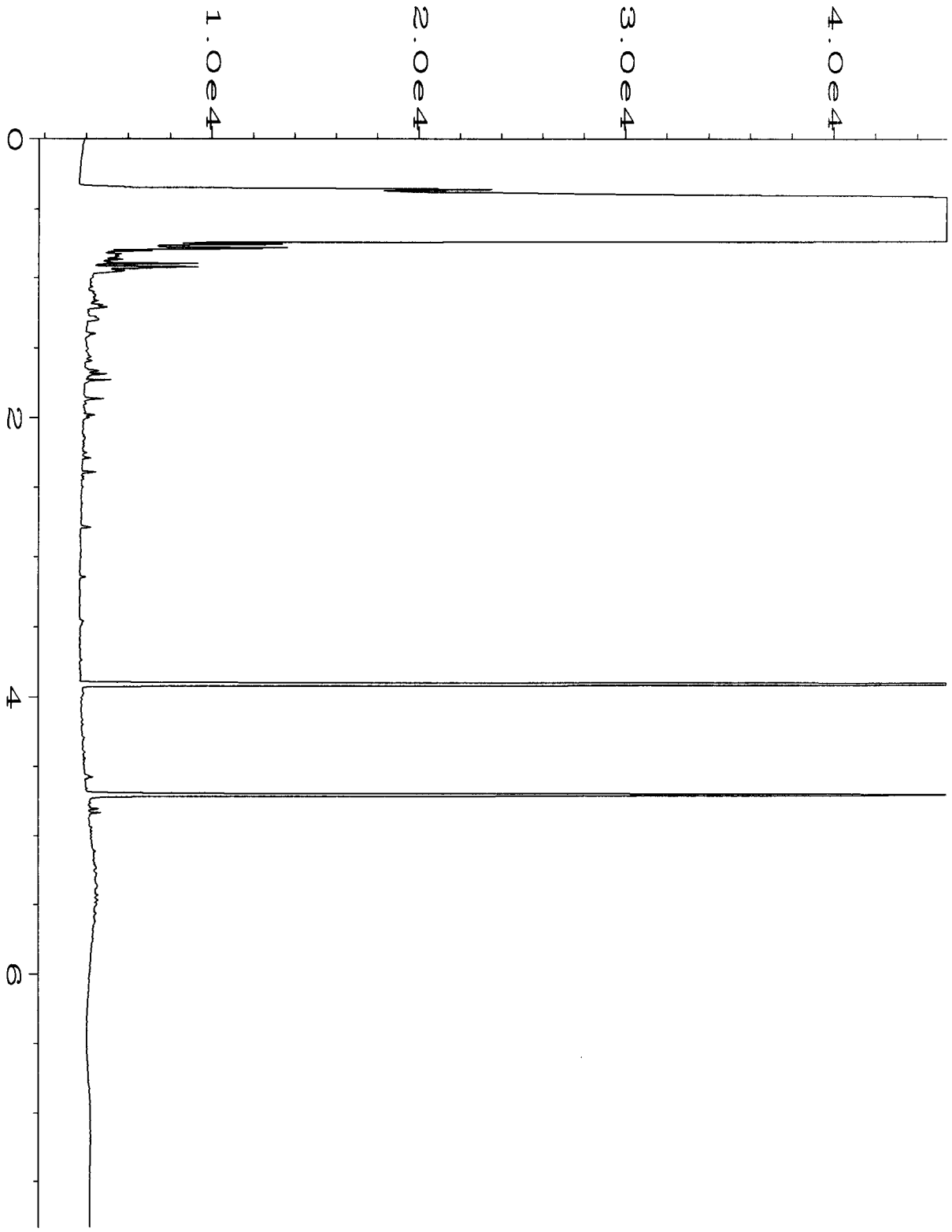




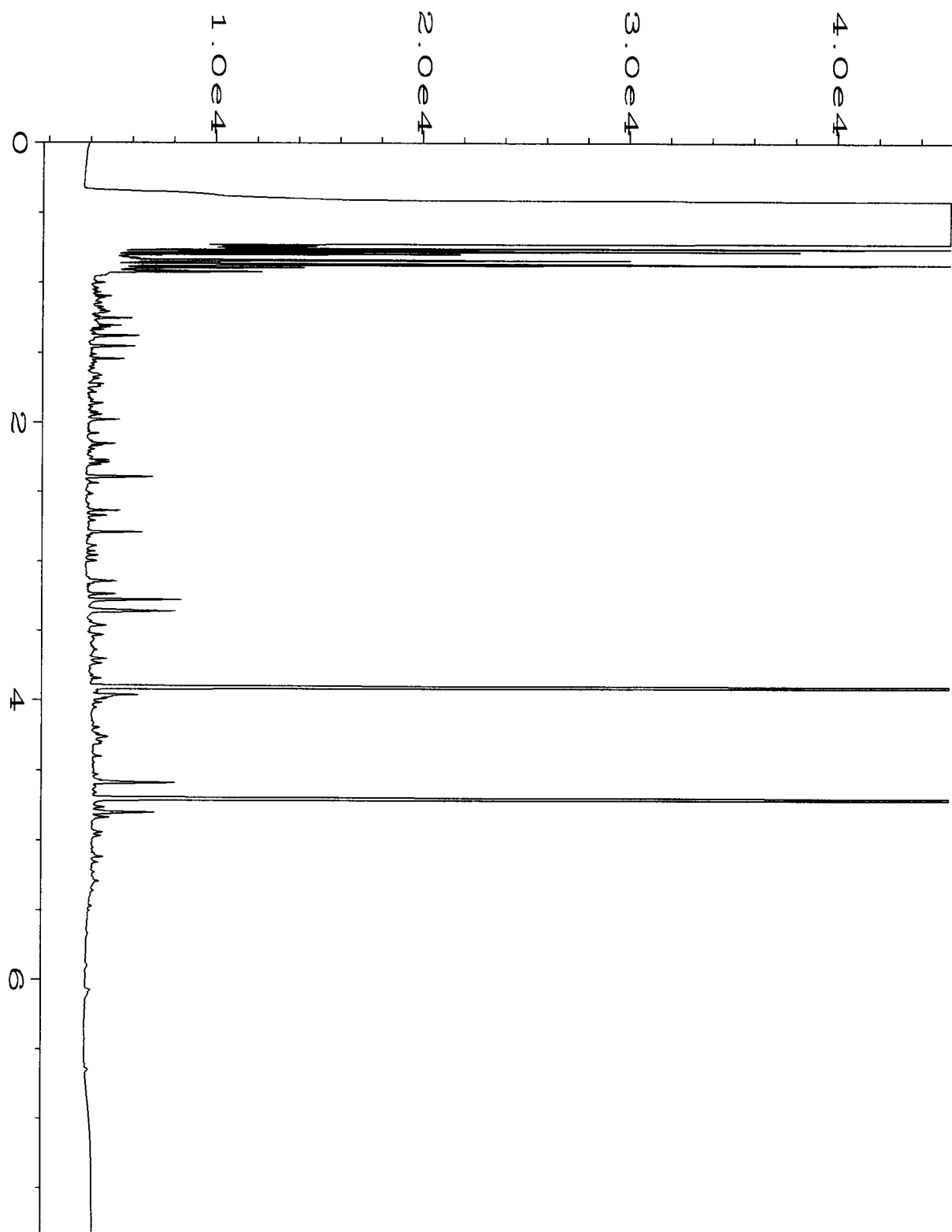
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Report Created on:	23 Jul 14 09:30 AM		



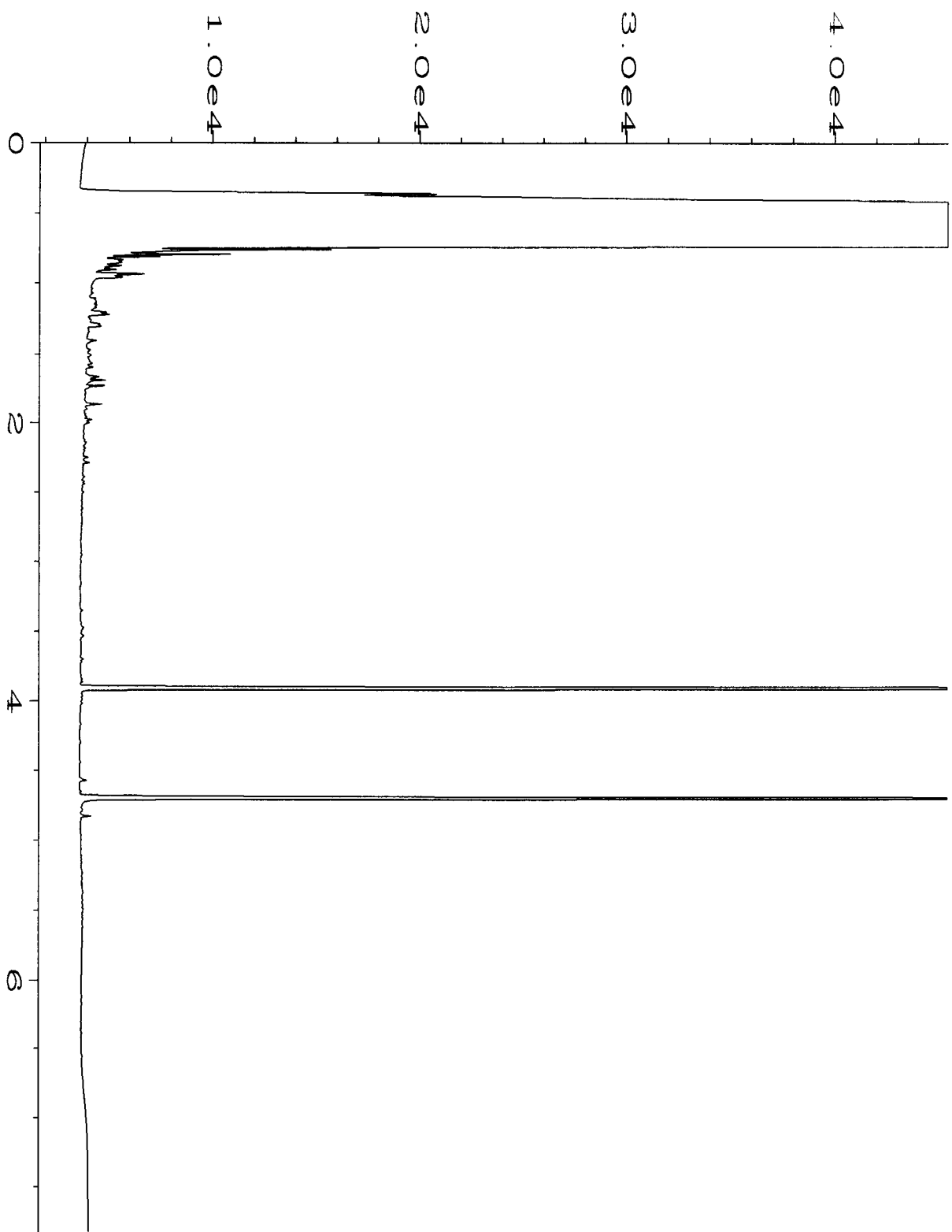
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Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 06:03 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



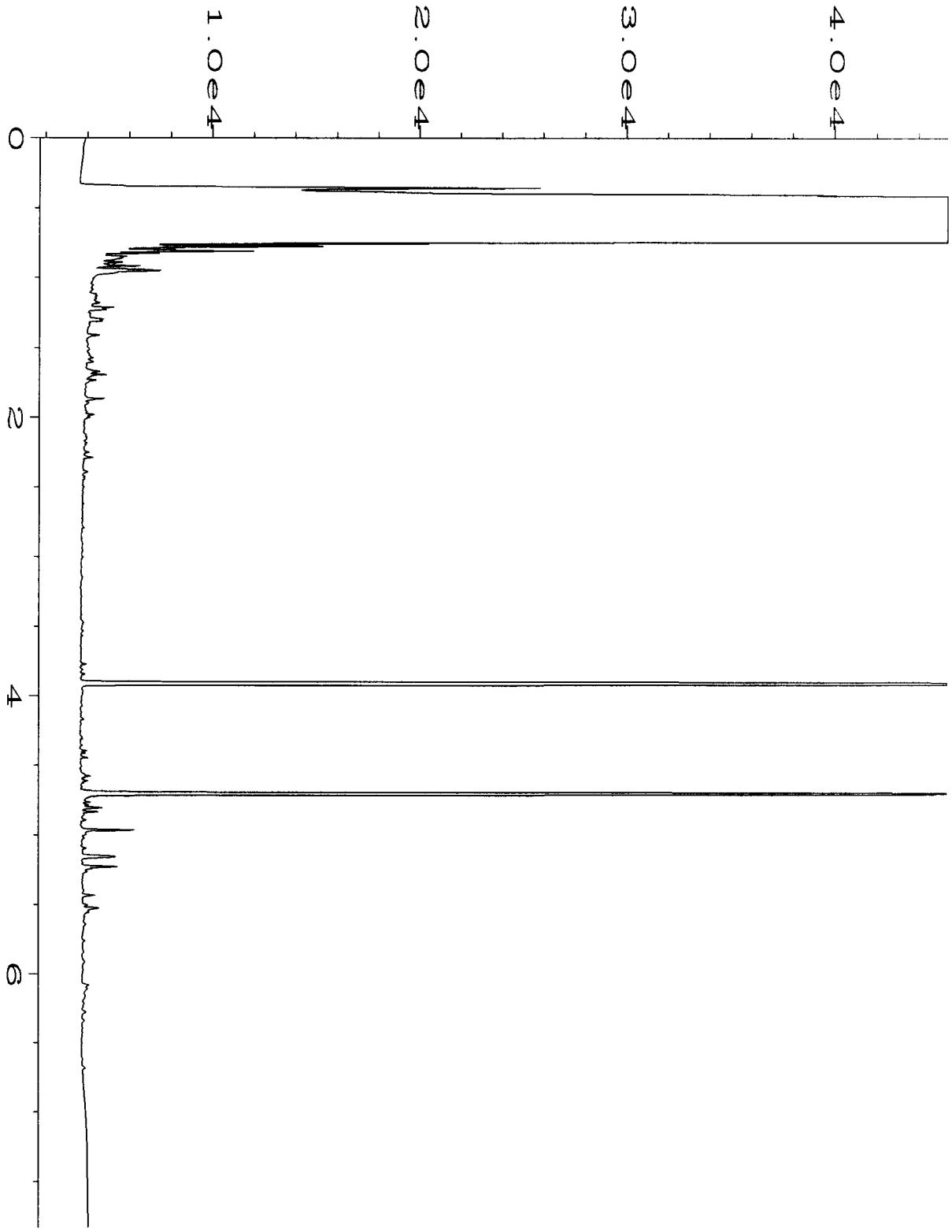
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Report Created on:	22 Jul 14 01:32 PM		



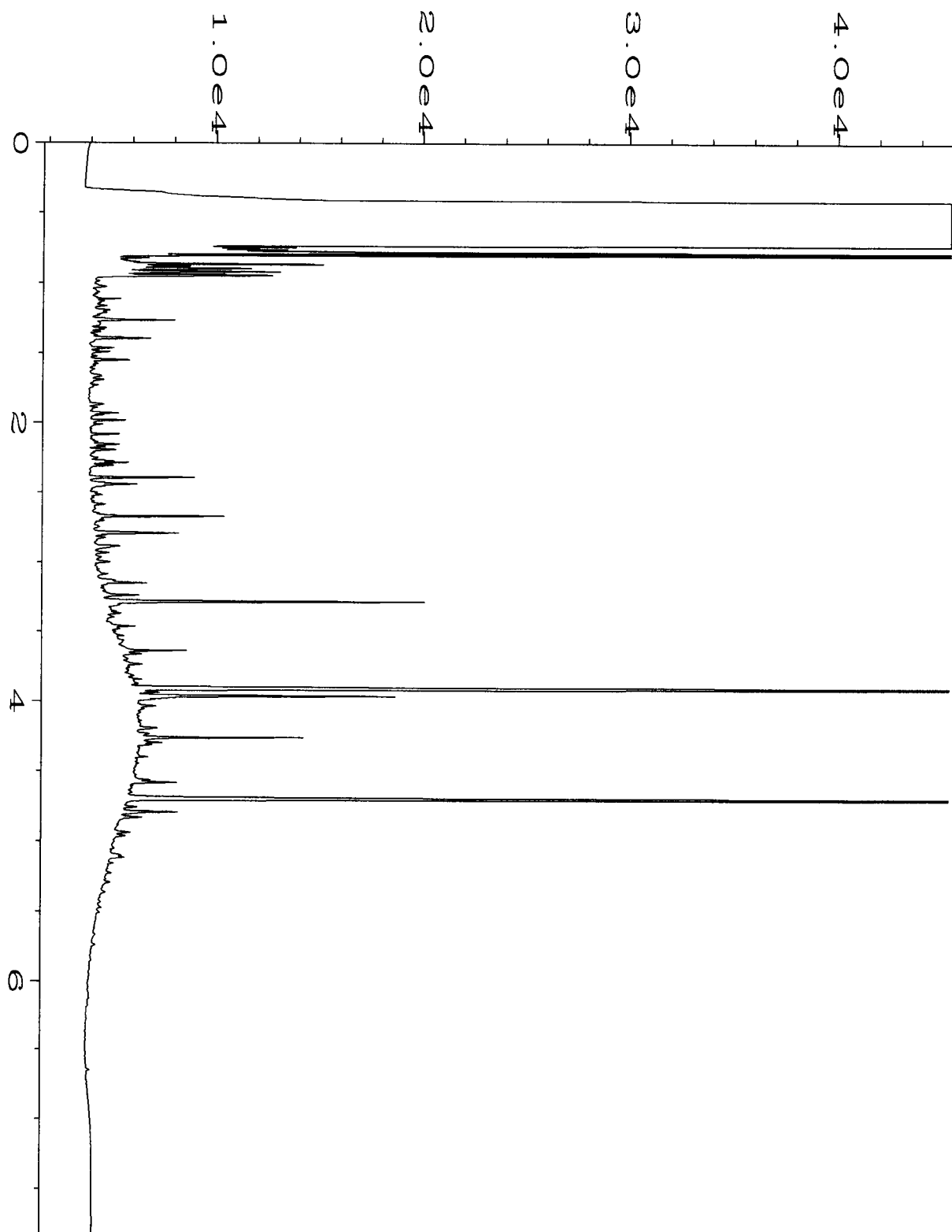
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Sample Name	: 407277-08	Sequence Line	: 6
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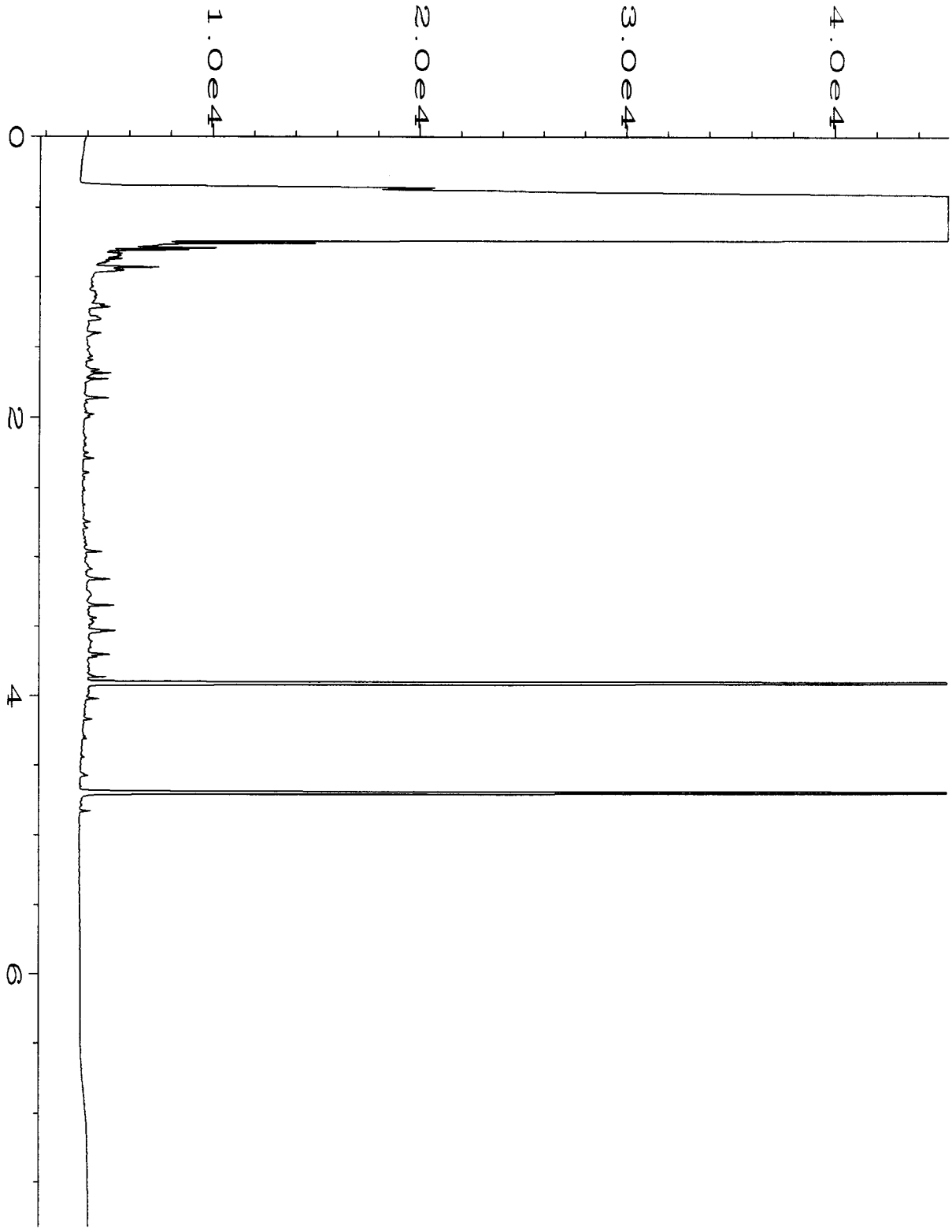
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Run Time Bar Code:		Instrument Method:	DX.MTH
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Report Created on:	22 Jul 14 01:32 PM		



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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-10	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 06:43 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		

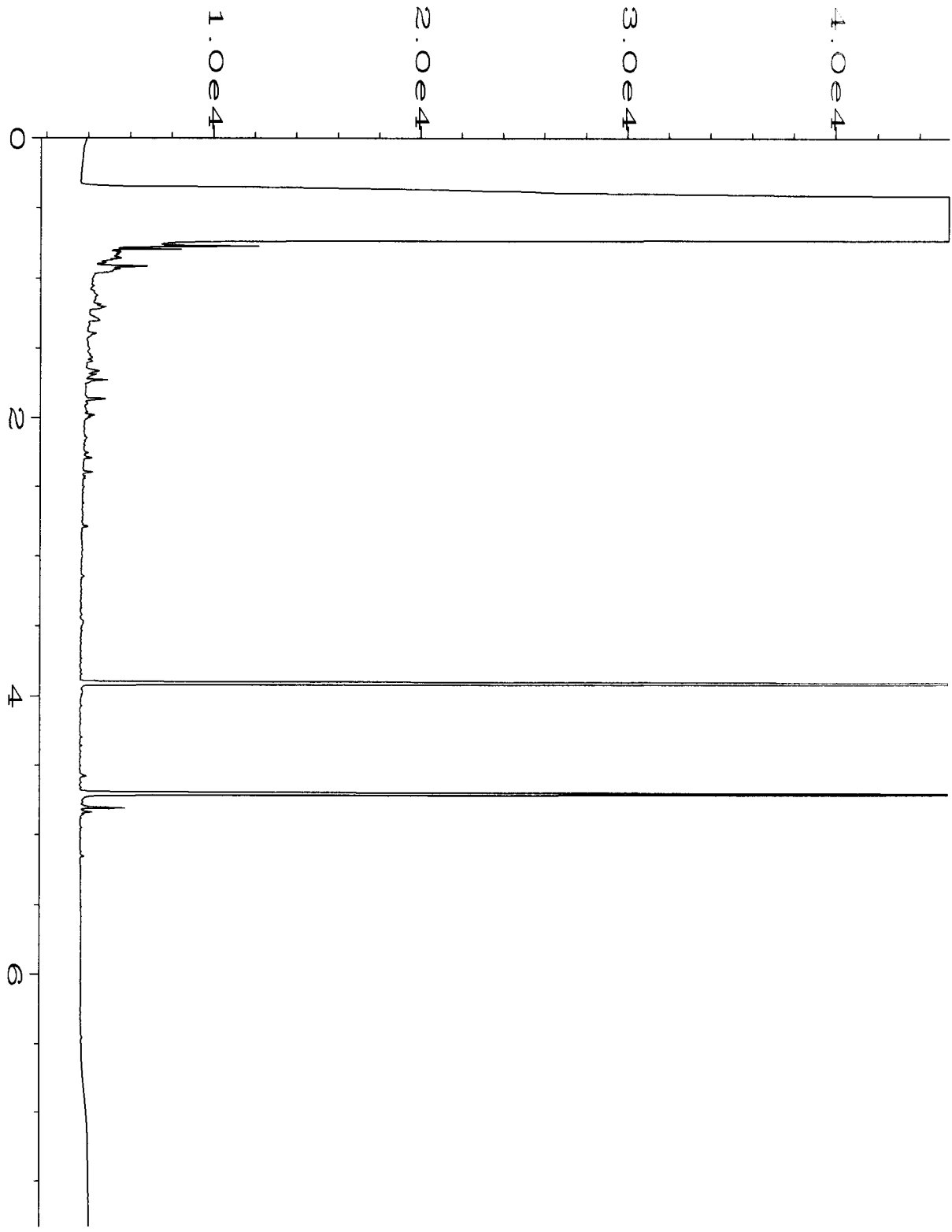


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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-11	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 05:33 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		

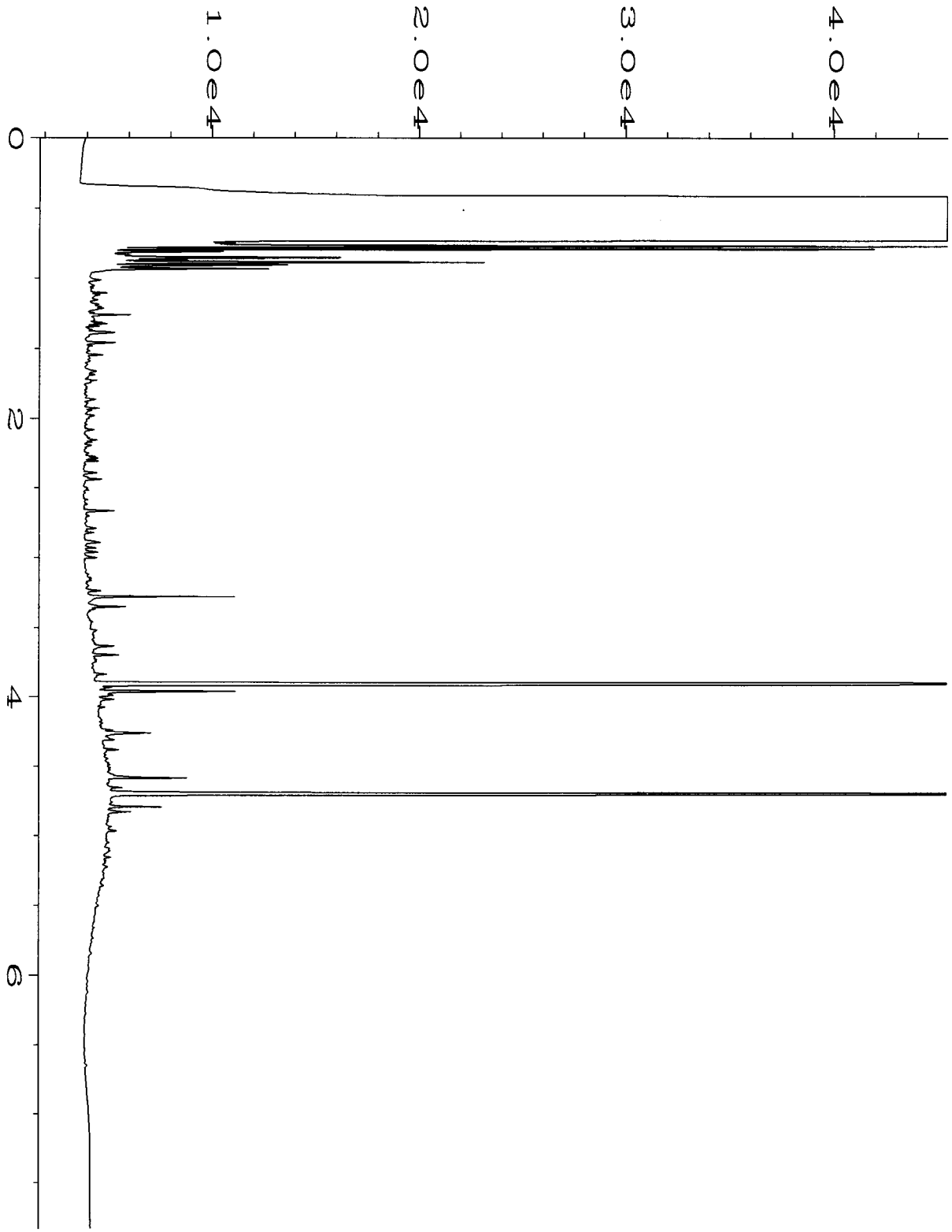


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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-14	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
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Report Created on:	22 Jul 14 01:32 PM		

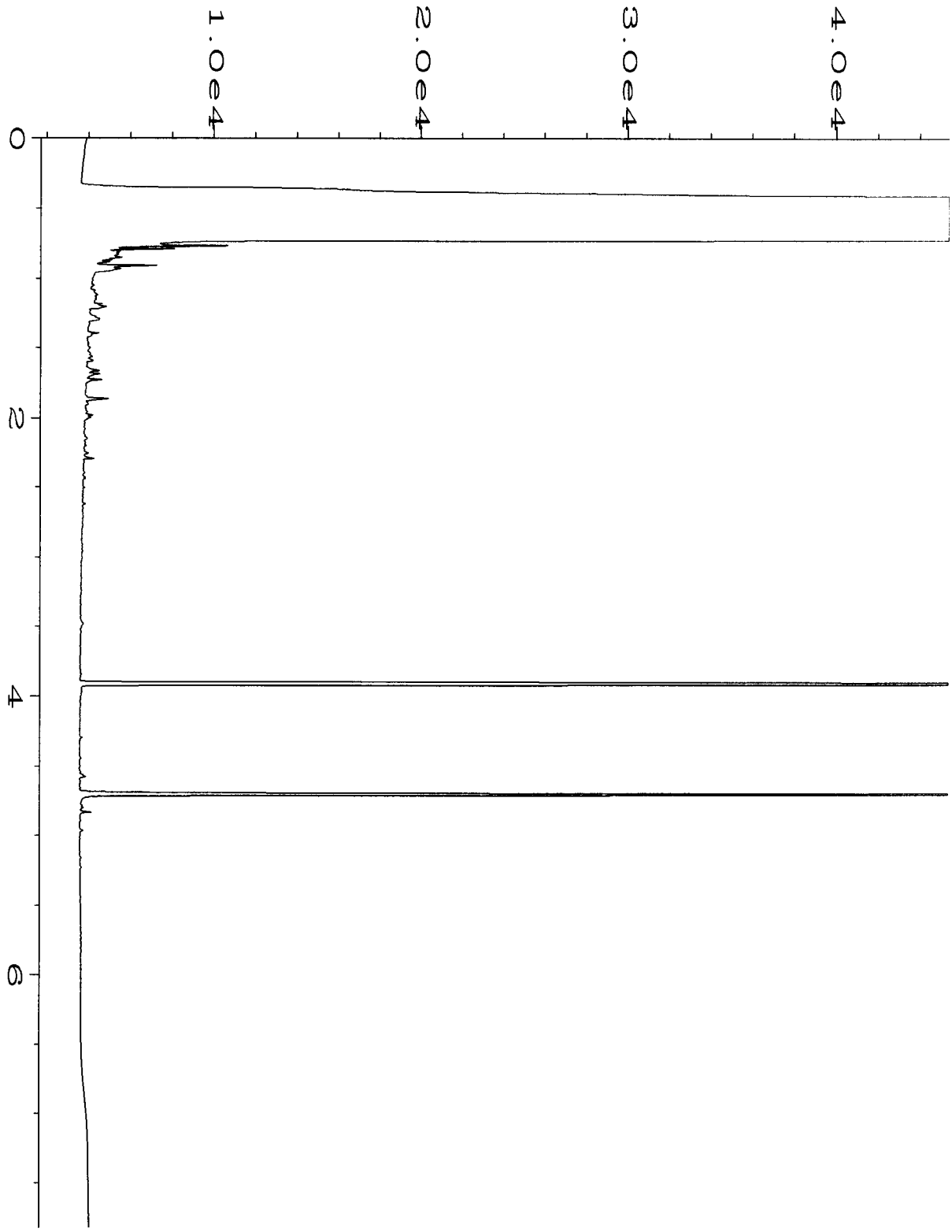




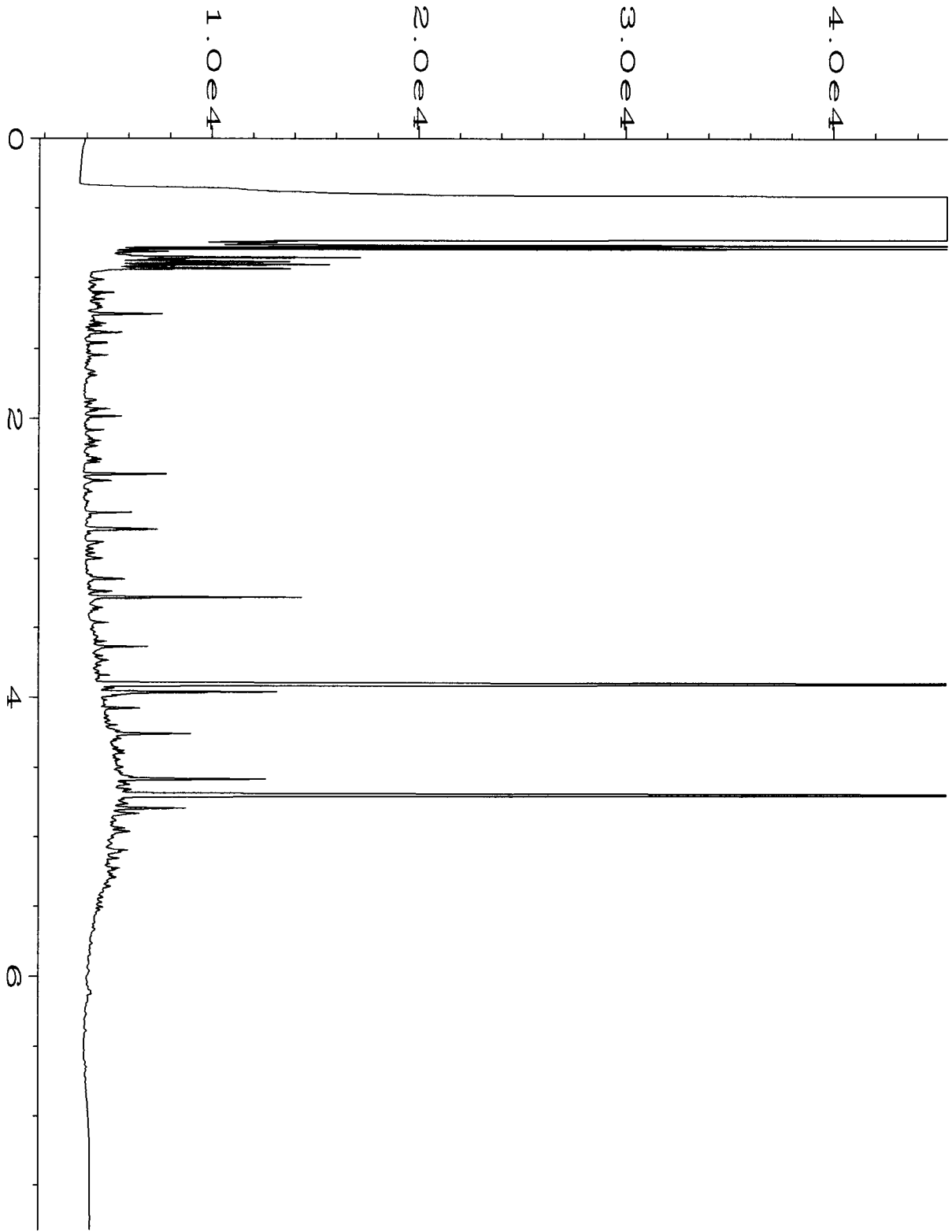
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Operator	: sp	Vial Number	: 50
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-15	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:10 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



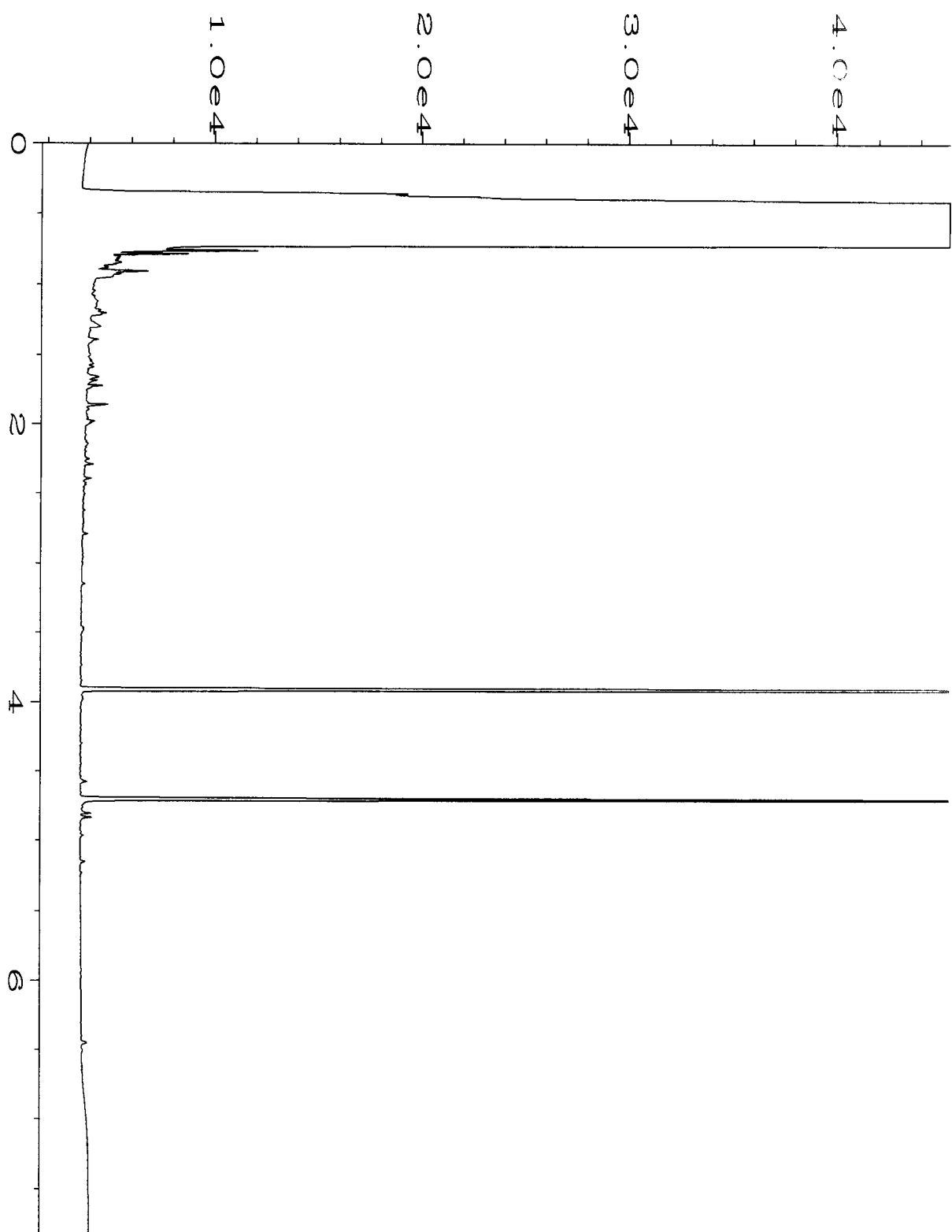
Data File Name	: C:\HPCHEM\6\DATA\07-22-14\041F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-16	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 05:59 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



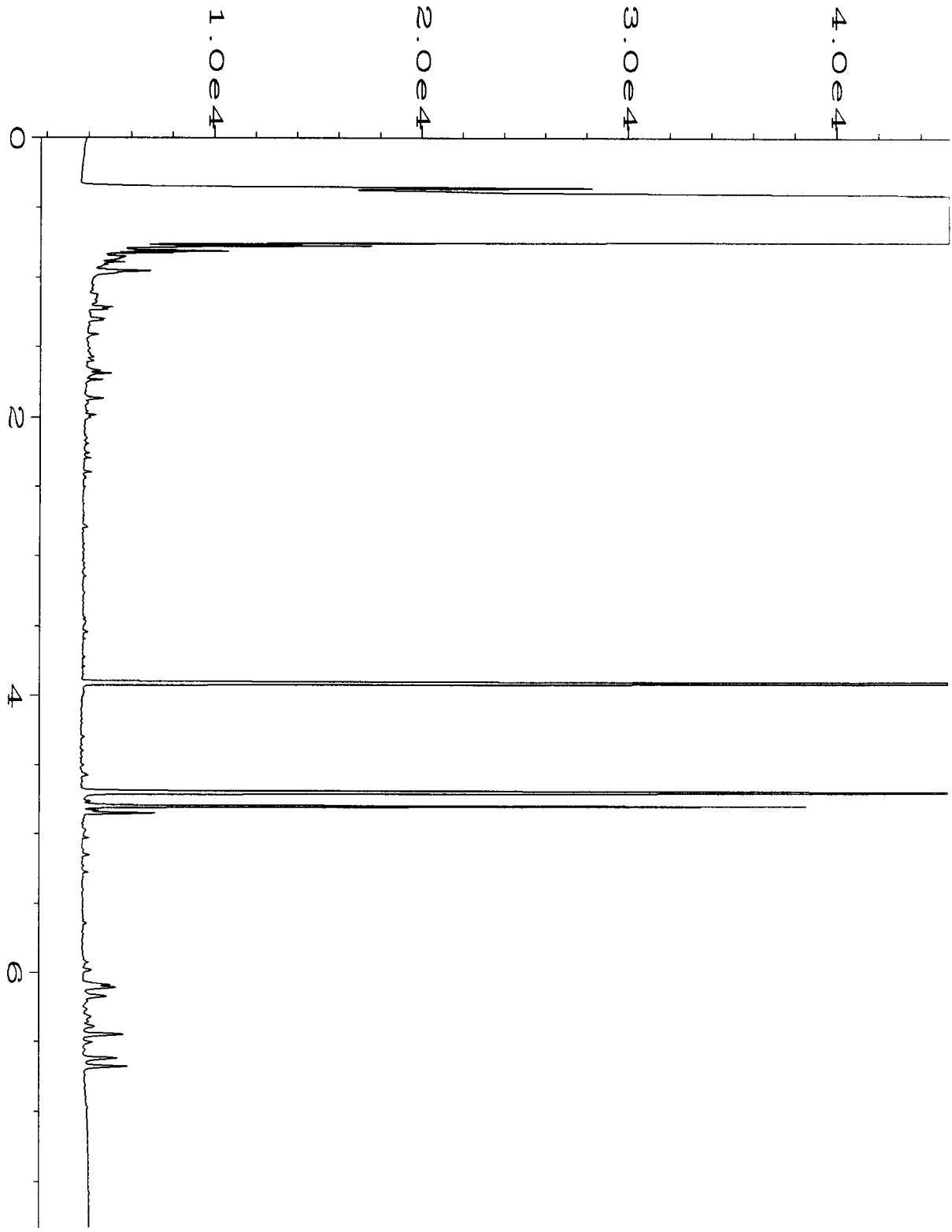
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\051F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 51
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-17	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:23 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



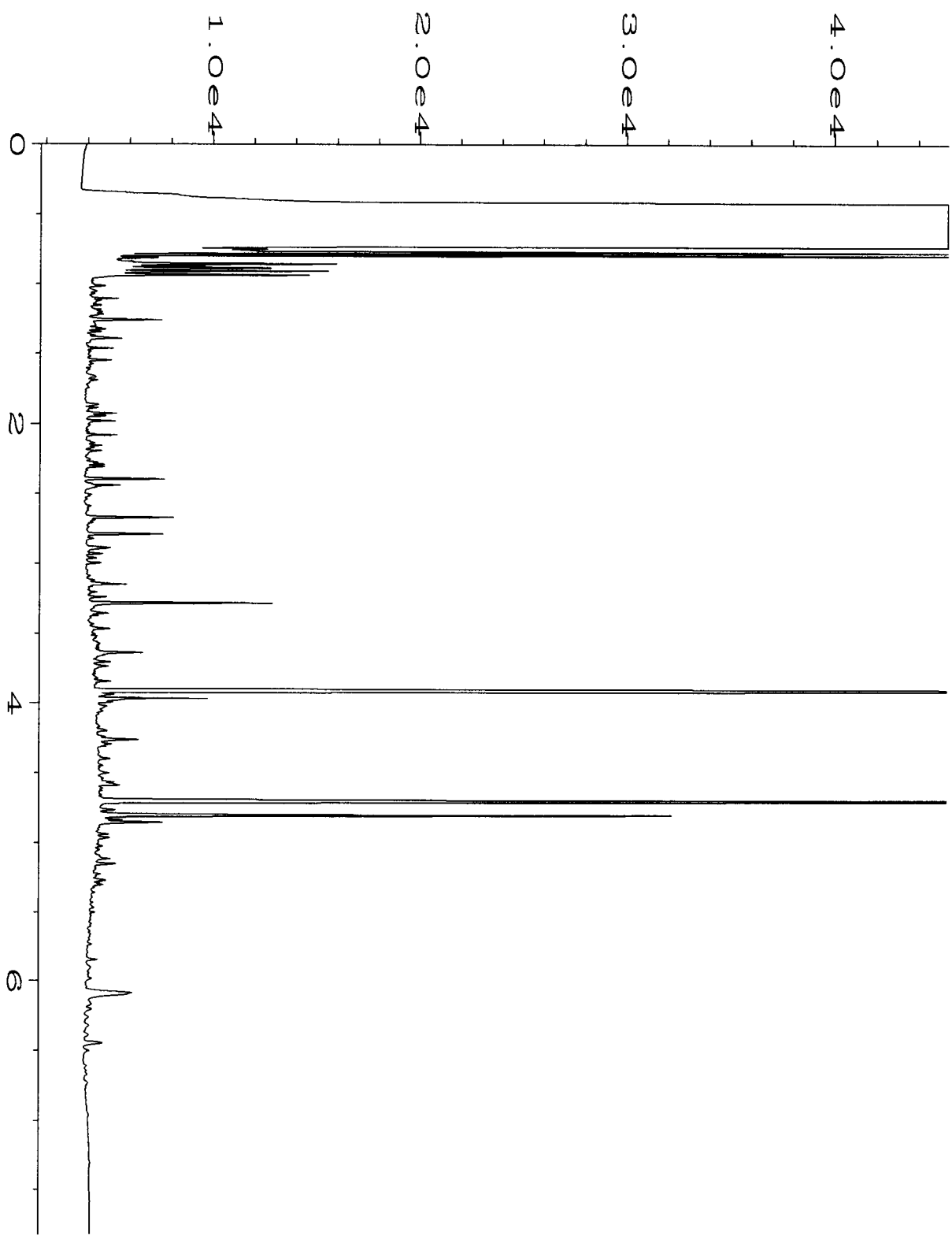
Data File Name	: C:\HPCHEM\6\DATA\07-22-14\042F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 42
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-18	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:12 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



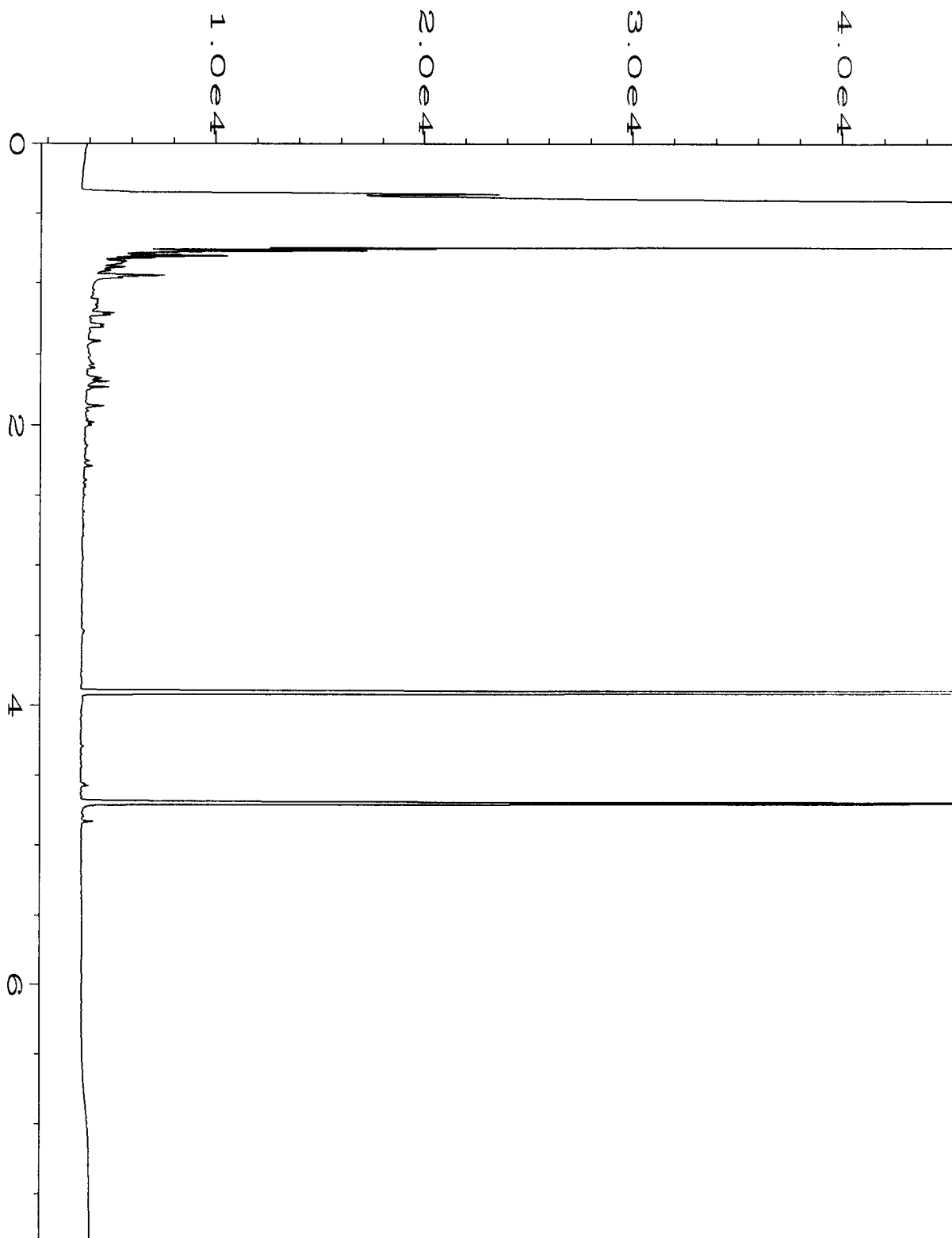
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\052F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 52
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-19	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:36 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-21-14\053F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 53
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-20	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 07:49 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		

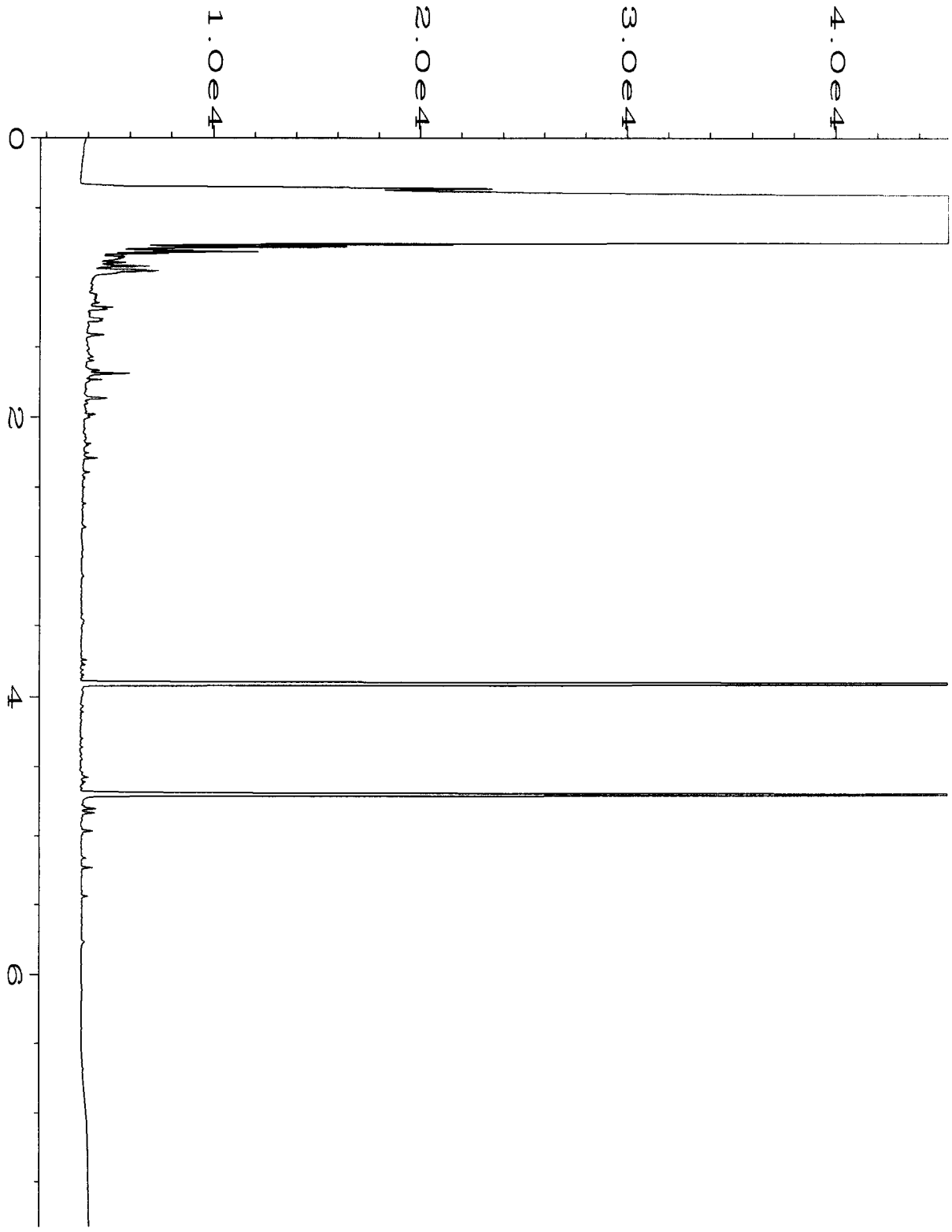


Data File Name	: C:\HPCHEM\6\DATA\07-22-14\043F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 43
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-21	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:25 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		

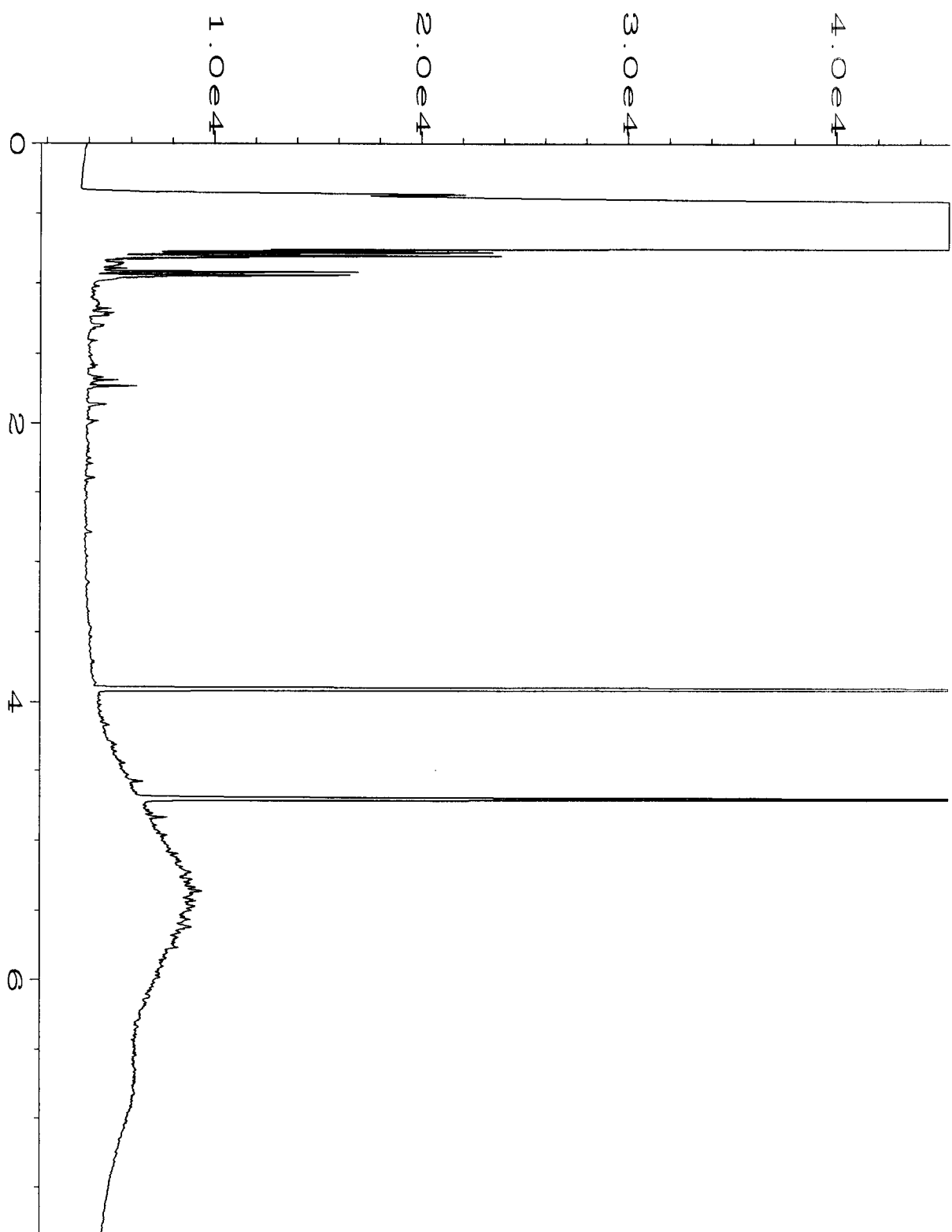


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\054F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 54
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-22	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:03 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		

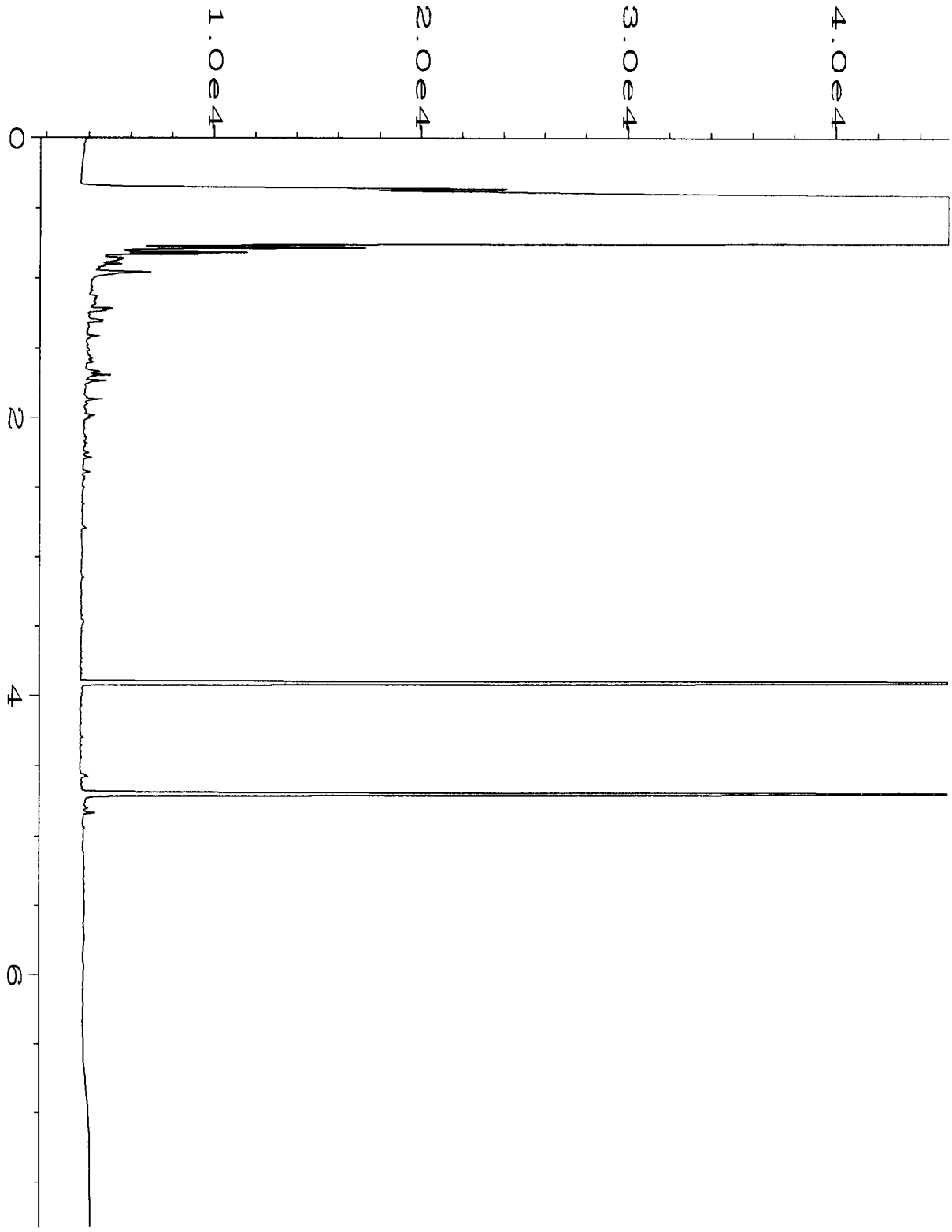




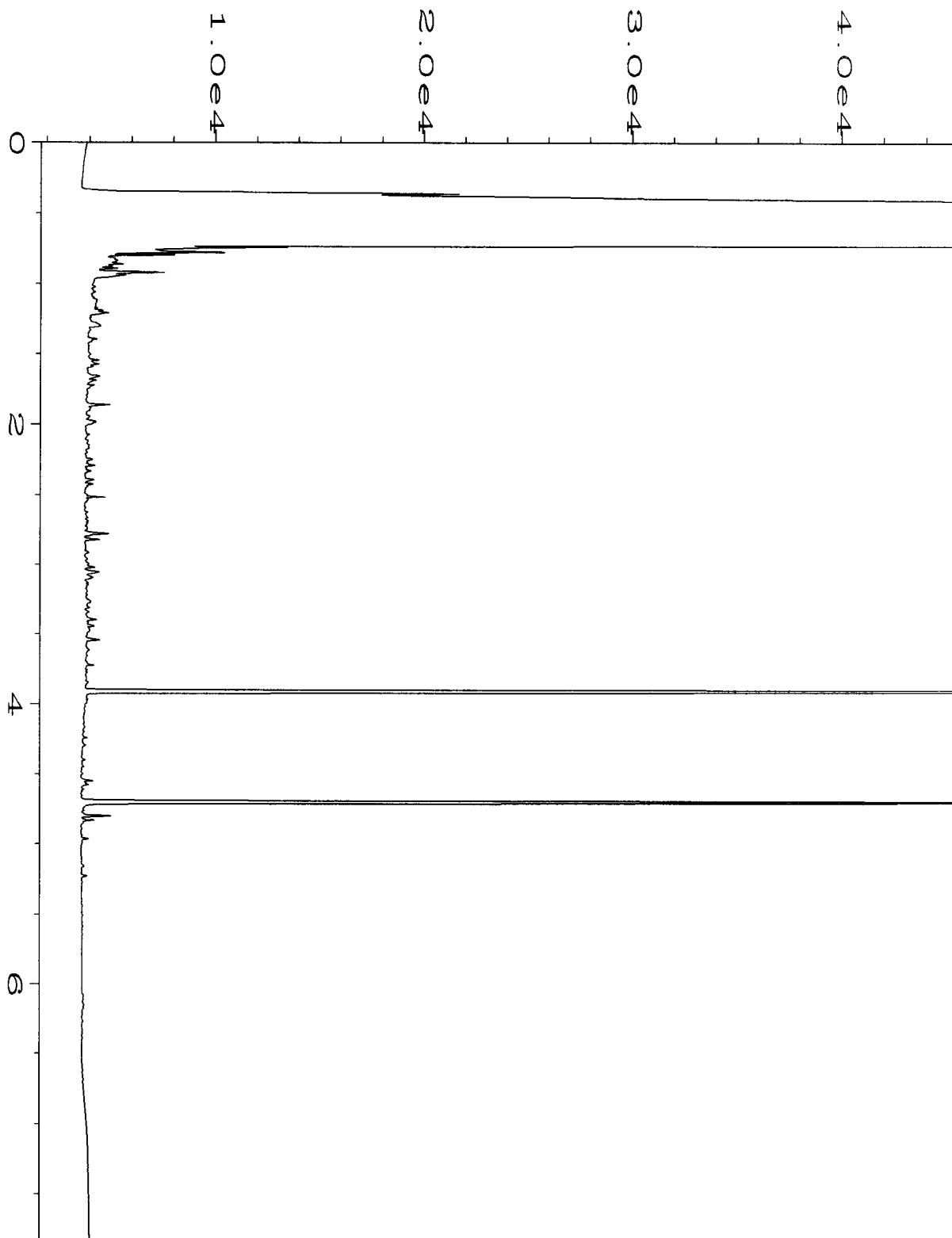
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\055F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 55
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-23	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:16 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



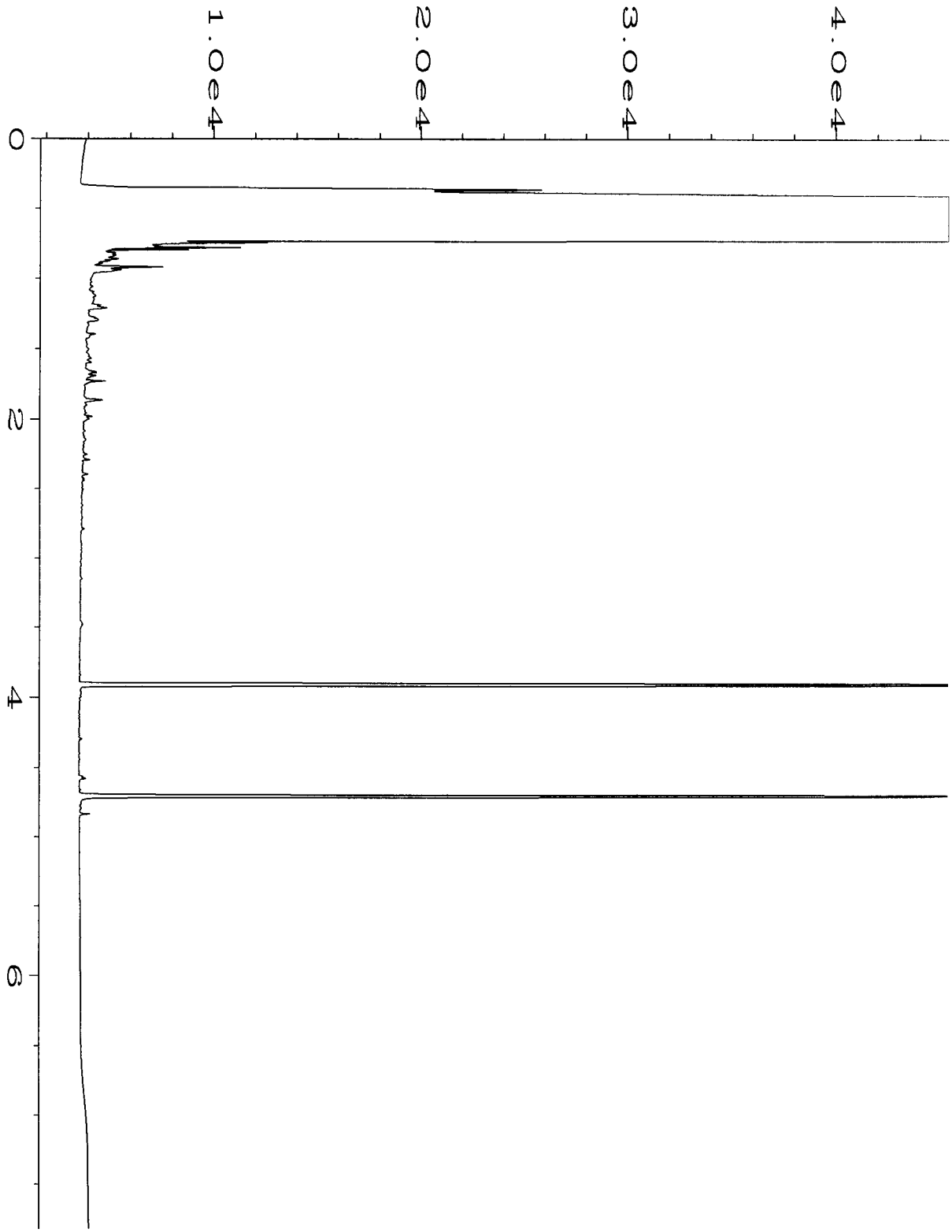
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\056F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 56
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-24	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:30 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:32 PM		



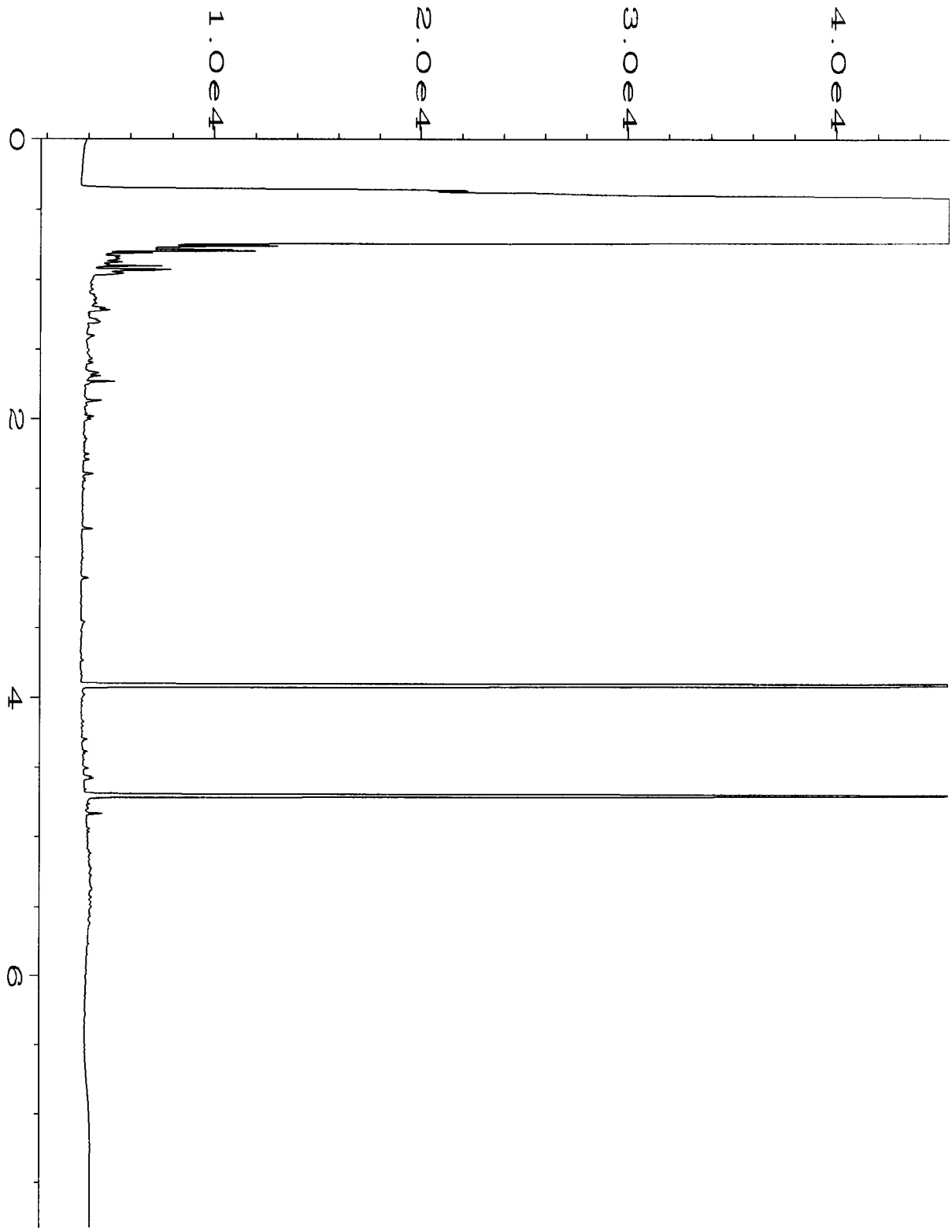
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\057F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 57
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-25	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:43 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



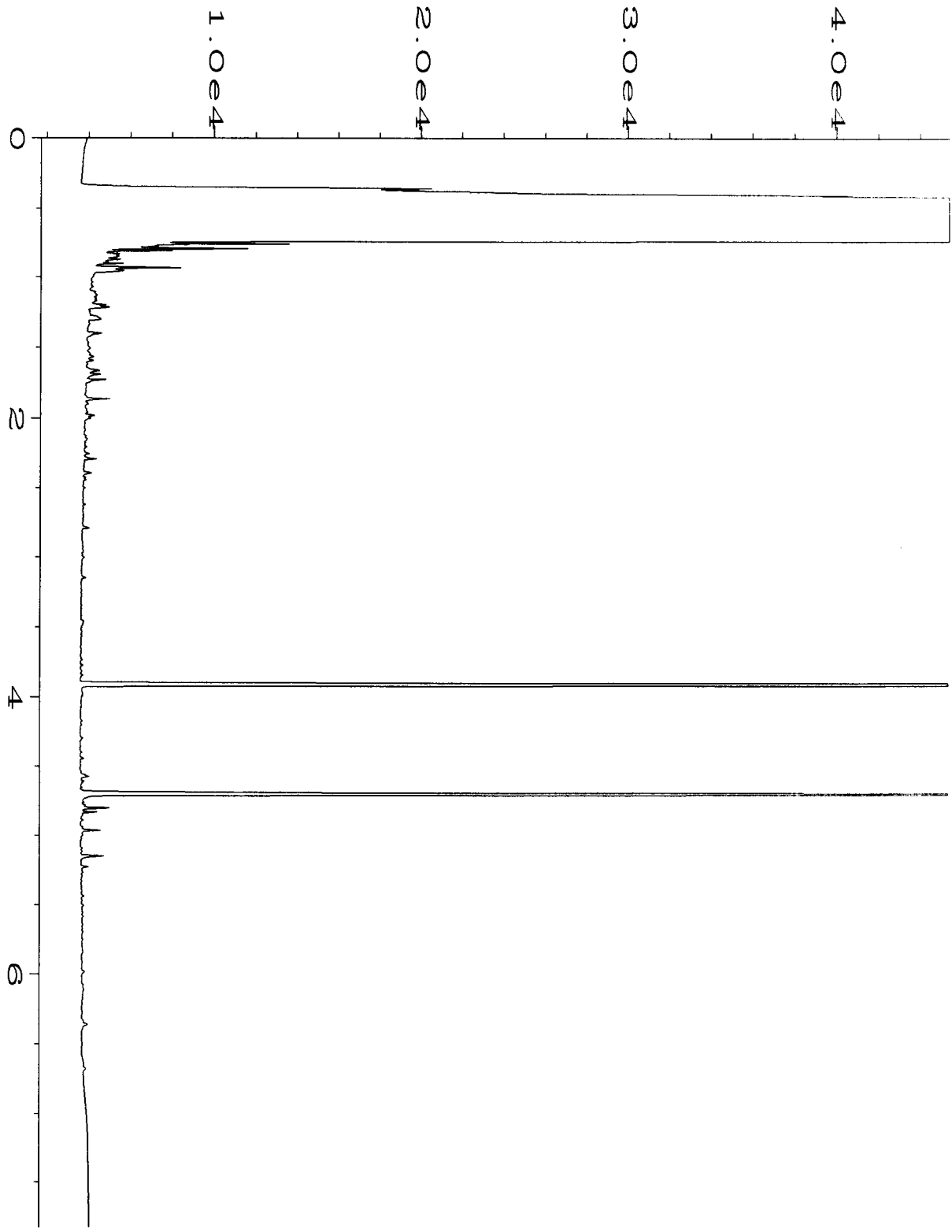
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\058F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 58
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-26	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 08:56 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



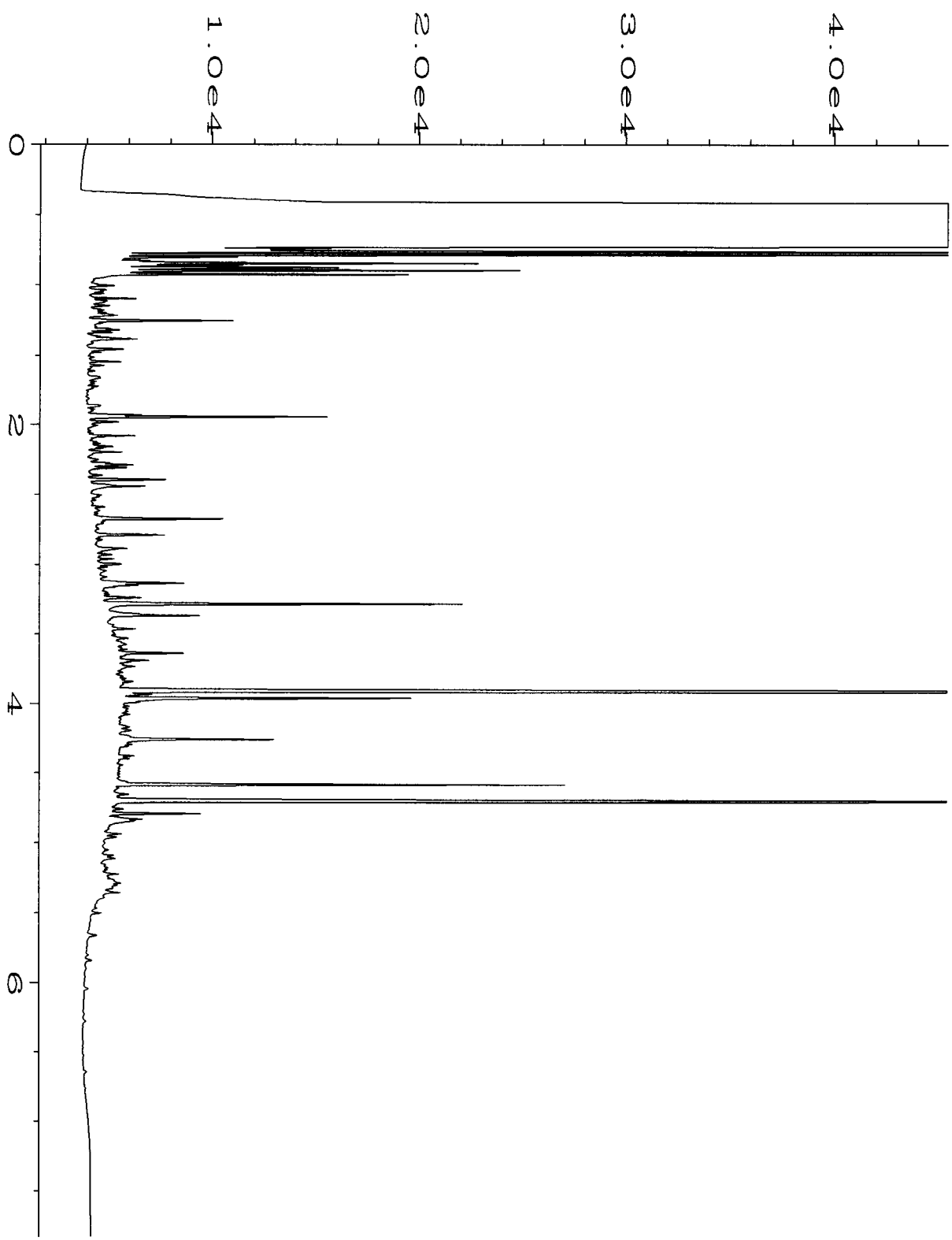
Data File Name	: C:\HPCHEM\6\DATA\07-21-14\059F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 59
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-27	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 09:10 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-21-14\060F0701.D	Page Number	: 1
Operator	: sp	Vial Number	: 60
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-28	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 09:23 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		

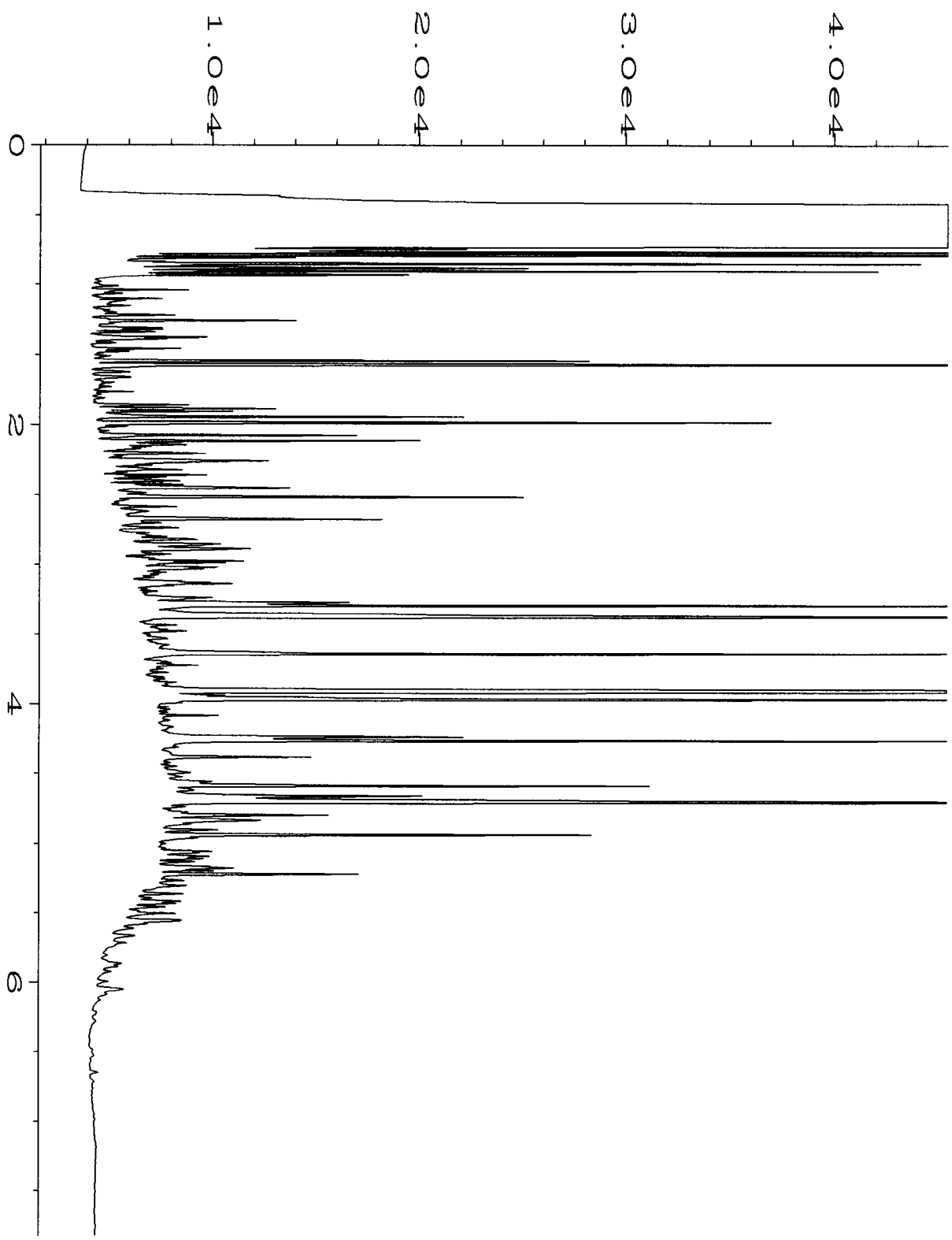


Data File Name	: C:\HPCHEM\6\DATA\07-21-14\061F0901.D	Page Number	: 1
Operator	: sp	Vial Number	: 61
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-29	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 10:02 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:33 PM		

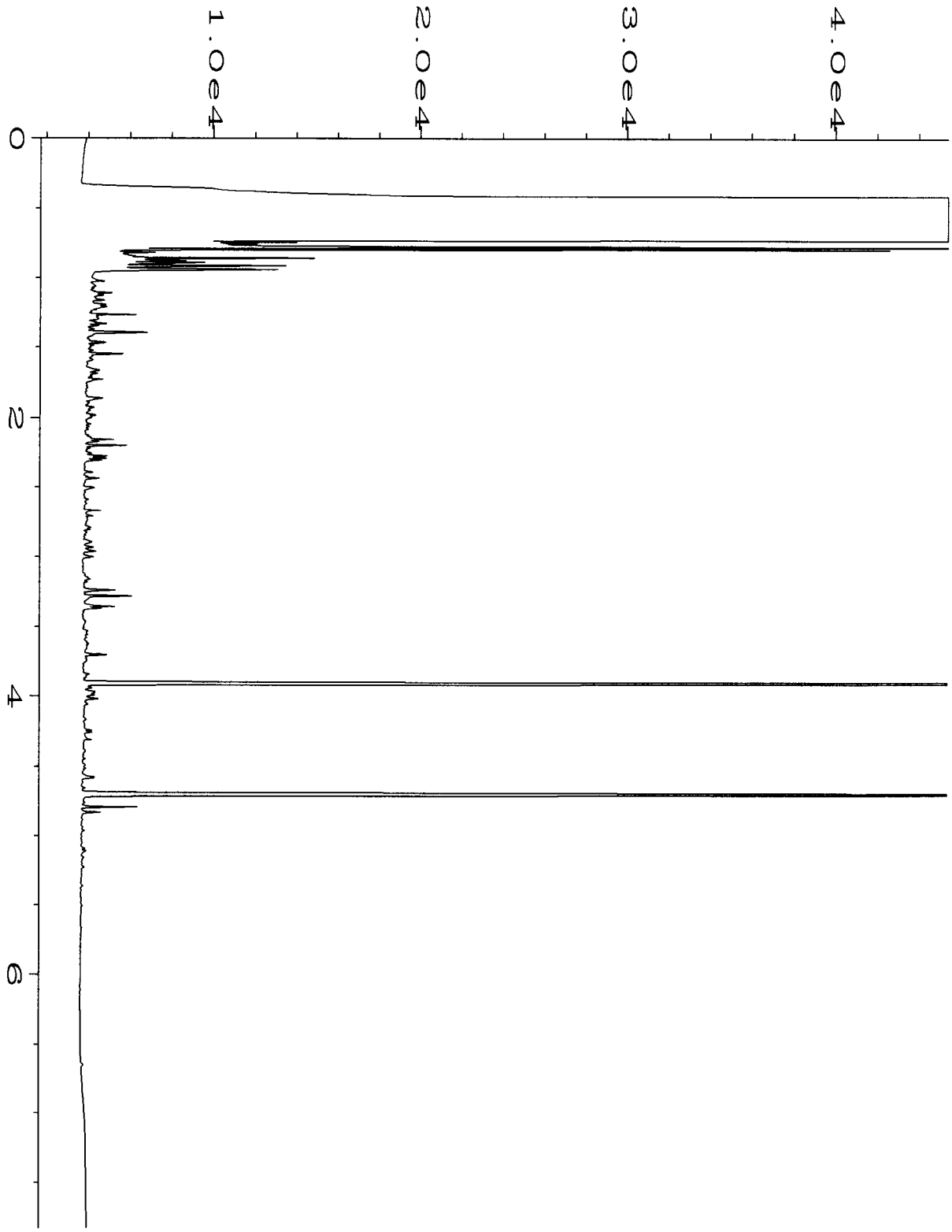


Data File Name	: C:\HPCHEM\6\DATA\07-22-14\044F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 44
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-30	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:38 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		

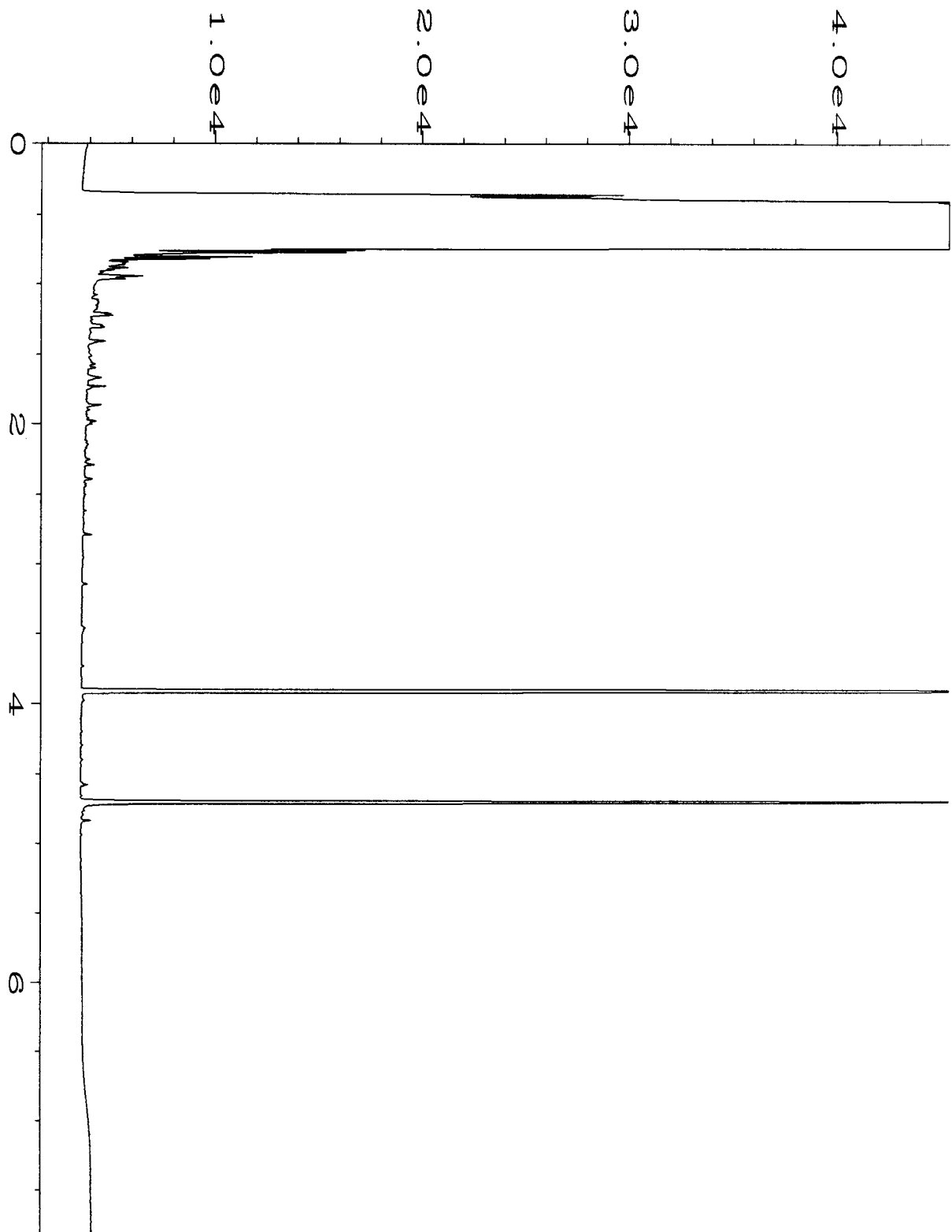




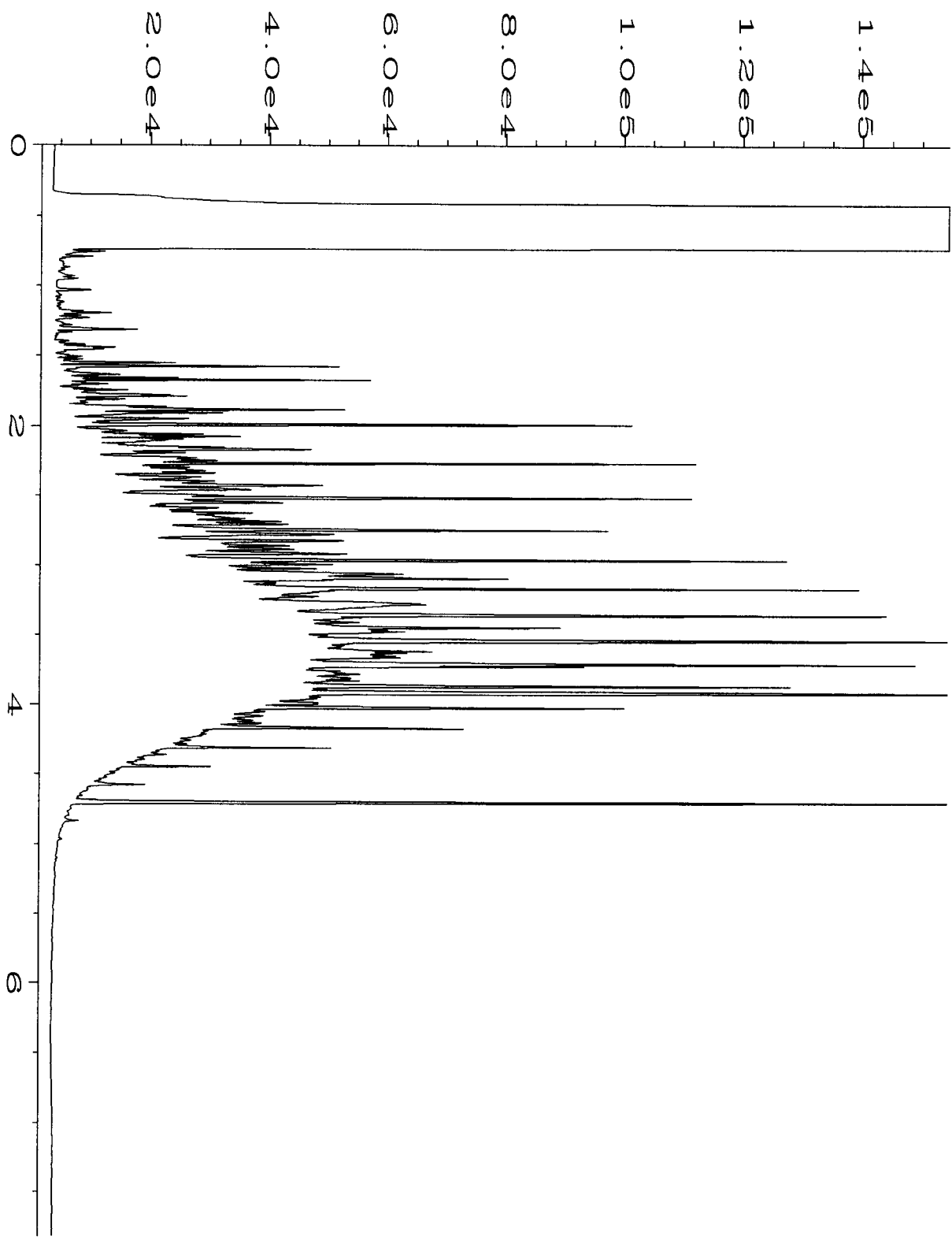
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Operator	: mwdl	Vial Number	: 45
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407277-31	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 06:51 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:31 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-22-14\033F0601.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 33
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1497 mb	Sequence Line	: 6
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 04:16 PM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:32 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-21-14\038F0501.D	Page Number	: 1
Operator	: sp	Vial Number	: 38
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1495 mb	Sequence Line	: 5
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 21 Jul 14 04:04 PM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 01:31 PM		



Data File Name	: C:\HPCHEM\6\DATA\07-22-14\003F0201.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 3
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 500 Dx 42-27B	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 08:53 AM	Analysis Method	: DX.MTH
Report Created on:	23 Jul 14 09:32 AM		

PCA Metals, As, Se, Ba, Cd, Cu, As, Pb, Pt, ~~407877~~  
 Send Report To YENVY VAN

**SAMPLE CHAIN OF CUSTODY**

NE 07-17-14

US3/US/EO4  
 1 of 4

Company HFA  
 Address 411 1st Ave S, #610  
 City, State, ZIP Seattle, WA 98104  
 Phone # 206-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)		PO#
PROJECT NAME/NO.		0714.02.02
TRUCK CITY STS		Table 1
MOUNT WENOMI WA		
REMARKS		

Page # 1 of 4

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED							Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH		PCA Metals	
TC152-8.5	01/E	7/15/14	1020	Soil	5	X	X		X						
TC641-5-8.5	02	"	1152	Soil	5	X	X	X							
TC641-5-8.5	03	"	1230	Soil	5	X	X	X							
TC643-5-8.5	04	"	1312	Soil	5	X	X	X	X						IMPACTED
TC643-5-8.5	05	"	1400	Soil	5	X	X	X	X						SUBST. SHOWN
TC643-5-14.5	06	"	1322	Soil	5	X	X	X							
TC642-5-15.0	07	"	1432	Soil	5	X	X	X							
TC642-5-8.5	08	"	1500	Soil	5	X	X	X							
TC644-5-6.0	09	"	1534	Soil	5	X	X	X							
TC644-5-15.0	10	"	1552	Soil	5	X	X	X							

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS:COCCOCC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<i>[Signature]</i>	YENVY VAN	HFA	7/17/14	7:24
<i>[Signature]</i>	Kurt Johnson	FSB	7/17/14	7:26
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				

Samples received at 3 %

407277

SAMPLE CHAIN OF CUSTODY

NE 07-17-14

USF/US/EDU/NE

Send Report To NEWLY VAND

Company NEA

Address 411 1st Ave S, #610

City, State, ZIP SEA TNE, WA 98104

Phone # 253-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)

PROJECT NAME/NO.

TRUCK CITY SITE  
HOUST WENAND, WA

PO#

0714,02,02  
TAB 1

REMARKS

Page # 2 of 4

TURNAROUND TIME

Standard (2 Weeks)  
 RUSH  
Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL

Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED						Notes		
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS		TPH-HCD	
TC6H4-4-6.0	11E	7/15/14	1638	GW	5	X	X	X						
TC6H6-5-4.8	12	7/16/14	0747	Soil	5			X				X		
TC6H6-4-4.8	13	"	0820	Gas	5			X				X		
TC6H8-5-9.5	14	"	1017	Soil	5	X	X	X						
TC6H8-5-15.0	15	"	1034	Soil	5	X	X	X						
TC6H8-4-9.5	16	"	1100	Gas	5	X	X	X						
TC6H7-5-15.0	17	"	1205	Soil	5	X	X	X						
TC6H7-4-6.5	18	"	1225	Gas	5	X	X	X						
TC6H9-5-9.5	19	"	1301	Soil	5	X	X	X						
TC6H9-5-15.0	20	"	1310	Soil	5	X	X	X						

Friedman & Bryna, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS/COC/COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
<u>[Signature]</u>	<u>Roxanne Degens</u>	<u>MFA</u>	<u>7/17/14</u>	<u>7:26</u>
Relinquished by:				
Relinquished by:				
Received by:				
Received by:				

Samples received at 3 C

PCRA Metals: As, Se, Ba, Cd, Cr, Ag, Hg, Pb

SAMPLE CHAIN OF CUSTODY

\* = DR0

ME 07-12-14

US3/05/2014  
ME 07-12-14 3 of 4/11/12

407277

Send Report To Year-VI User

Company HEN

Address 411 1st Ave S. #101

City, State, ZIP SEATTLE, WA 98104

Phone # 253-320-5378 Fax #

SAMPLERS (signature)	PROJECT NAME/NO.	PO#
	TRUCK CITY	0714, 02, 02
	PLANT VERSION	TASK 1
REMARKS		

TURNAROUND TIME	SAMPLE DISPOSAL
<input checked="" type="checkbox"/> Standard (2 Weeks)	<input checked="" type="checkbox"/> Dispose after 30 days
<input type="checkbox"/> RUSH	<input type="checkbox"/> Return samples
Rush charges authorized by	<input type="checkbox"/> Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes	
						* TPH-Diesel	TPH-Gasoline	*BTEX by 8021B	VOCs by 8260	SVOCs by 8270	PHH	*PAH	*Naphthalenes	* PCB	PCRA & Metals		Ferrous Iron
TCB49-W-6.5	21E	7/16/14	1342	Grd	5	X	X	X									(*) - Per PVW 8/21/14
TC4-S-7.0	22	"	1528	Soil	5	X	X	X									add to 830620
TC4-S-15.0	23	"	1534	Soil	5	X	X	X									List mt.
TC5-S-9.5	24	7/18/14	0807	Soil	5	X		X									
TC5-S-15.0	25	7/18/14	0820	Soil	5	X		X									Table 830-1 DR0
TC3-S-9.7	26	7/17/14	1010	Soil	5	X	X	X									impacted
TC3-S-15.0	27	7/13/14	1012	Soil	5	X	X	X									impacted
TC2-S-6.5	28	7/13/14	1432	Soil	5	X	X	X									
TC2-S-15.0	29	7/13/14	1450	Soil	5	X	X	X									
TC1-W-10.0	30H	7/13/14	1450	GW	3	X	X	X									Table 830-1 DR0

Friedman & Bryna, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044  
FORMS/COC/COC.DOC

Relinquished by:	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by:		Roxanne DeGans	MFA	7/17/14	7:20
Relinquished by:		Kurt Johnson	F&B	7/17/14	7:26
Received by:					
Relinquished by:					
Received by:					

407277

SAMPLE CHAIN OF CUSTODY

HE 07-17-14

US3/US/EO9/AI

Send Report To Yen-H Van

Company MECA

Address 441 1st Avenue S, #601

City, State, ZIP SEATTLE, WA 98104

Phone # 206-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)	
PROJECT NAME/NO.	PO#
<u>TRUCK CITY</u>	<u>0714, 02, 02</u>
<u>HOUST VERMONT, WA</u>	<u>TASK 1</u>
REMARKS	

TURNAROUND TIME	SAMPLE DISPOSAL
Standard (2 Weeks)	
<input type="checkbox"/> RUSH	<input checked="" type="checkbox"/> Dispose after 30 days
Rush charges authorized by _____	
<input type="checkbox"/> Return samples	
<input type="checkbox"/> Will call with instructions	

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	Sulfate	Nitrate	Manganese	Methane	Formaldehyde	
ICDUP-W-10.0	32 A-H	7/17/14	1015	GW	3	X	X	X	X	X	X	X	X	X	X	Manganese only
TC3-W-10.0	33 A-G	7/17/14	1235	GW	7	X	X	X	X	X	X	X	X	X	X	830-16PO
TC5-W-10.0		7/17/14	1330	GW	5	X	X	X	X	X	X	X	X	X	X	
TC1-W-10.0	33 A-G	7/17/14	1450	GW	2	X	X	X	X	X	X	X	X	X	X	830-16PO

Friedman & Bruya, Inc.  
3012 16th Avenue West  
Seattle, WA 98119-2029  
Ph. (206) 285-8282  
Fax (206) 283-5044  
FORMS\COC\COC.DOC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Received by: _____	Kurt Johnson	FRB	7/17	5:25
Relinquished by: _____				
Received by: _____				
Relinquished by: _____				
Received by: _____				
Relinquished by: _____				

Samples received at: 3 0



FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.  
Yelena Aravkina, M.S.  
Michael Erdahl, B.S.  
Arina Podnozova, B.S.  
Eric Young, B.S.

3012 16th Avenue West  
Seattle, WA 98119-2029  
(206) 285-8282  
fbi@isomedia.com  
www.friedmanandbruya.com

August 14, 2014

Yen-Vy Van, Project Manager  
Maul Foster Alongi  
411 1<sup>st</sup> Ave S, Suite 610  
Seattle, WA 98104

Dear Ms. Van:

Included are the additional results from the testing of material submitted on July 18, 2014 from Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312, project. There are 7 pages included in this report.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl  
Project Manager

Enclosures

c: Mary Benzinger, Brian Fauth  
MFA0814R.DOC

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

CASE NARRATIVE

This case narrative encompasses samples received on July 18, 2014 by Friedman & Bruya, Inc. from the Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312 project. Samples were logged in under the laboratory ID's listed below.

<u>Laboratory ID</u>	<u>Maul Foster &amp; Alongi</u>
407312 -01	TCDUP-S
407312 -02	TC6-S-7.0
407312 -03	TC6-S-15.0
407312 -04	TCBH5-S-4.5
407312 -05	TCBH5-S-15.0
407312 -06	TC2-W-10.0
407312 -07	TCBH5-W-4.5
407312 -08	TCBH13-S-4.5
407312 -09	TCBH12-S-3.5
407312 -10	TC4-W-10.0
407312 -11	TCBH14-S-8.5
407312 -12	TCBH10-S-4.0
407312 -13	TCBH13-W-4.5
407312 -14	TCBH11-S-4.7
407312 -15	TCBH10-W-4.0
407312 -16	TC6-W-10.0
407312 -17	TCBH5-W-4.5

The 200.8 total metals analysis for sample TC2-W-10.0 was analyzed from a 40 ml VOA without preservative. The data were flagged accordingly.

All other quality control requirements were acceptable.

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	TC2-W-10.0 pc	Client:	Maul Foster Alongi
Date Received:	07/18/14	Project:	Maul Foster & Alongi Truck City
Date Extracted:	08/13/14	Lab ID:	407312-06
Date Analyzed:	08/13/14	Data File:	407312-06.023
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	104	60	125
Indium	98	60	125
Holmium	102	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	1.02
Arsenic	7.10
Selenium	<1
Silver	<1
Cadmium	<1
Barium	125
Lead	<1

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Total Metals By EPA Method 200.8

Client ID:	Method Blank	Client:	Maul Foster Alongi
Date Received:	Not Applicable	Project:	Maul Foster & Alongi Truck City
Date Extracted:	08/13/14	Lab ID:	I4-507 mb
Date Analyzed:	08/13/14	Data File:	I4-507 mb.017
Matrix:	Water	Instrument:	ICPMS1
Units:	ug/L (ppb)	Operator:	AP

Internal Standard:	% Recovery:	Lower Limit:	Upper Limit:
Germanium	95	60	125
Indium	97	60	125
Holmium	98	60	125

Analyte:	Concentration ug/L (ppb)
Chromium	<1
Arsenic	<1
Selenium	<1
Silver	<1
Cadmium	<1
Barium	<1
Lead	<1

FRIEDMAN & BRUYA, INC.

---

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/18/14

Project: Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312

Date Extracted: 08/13/14

Date Analyzed: 08/14/14

**RESULTS FROM THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL MERCURY  
USING EPA METHOD 1631E**  
Results Reported as ug/L (ppb)

<u>Sample ID</u> Laboratory ID	<u>Total Mercury</u>
TC2-W-10.0 pc 407312-06	<0.25
Method Blank	<0.25

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/18/14

Project: Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES  
FOR TOTAL METALS USING EPA METHOD 200.8**

Laboratory Code: 408128-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Chromium	ug/L (ppb)	20	<1	98	97	64-132	1
Arsenic	ug/L (ppb)	10	9.65	100 b	107 b	60-150	7 b
Selenium	ug/L (ppb)	5	<1	99	100	43-178	1
Silver	ug/L (ppb)	5	<1	90	92	71-115	2
Cadmium	ug/L (ppb)	5	<1	98	101	83-116	3
Barium	ug/L (ppb)	50	25.4	101 b	104 b	79-126	3 b
Lead	ug/L (ppb)	10	7.28	95 b	97 b	79-121	2 b

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Chromium	ug/L (ppb)	20	102	80-119
Arsenic	ug/L (ppb)	10	96	80-111
Selenium	ug/L (ppb)	5	99	81-119
Silver	ug/L (ppb)	5	94	80-116
Cadmium	ug/L (ppb)	5	99	83-113
Barium	ug/L (ppb)	50	100	83-117
Lead	ug/L (ppb)	10	101	83-115

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Date of Report: 08/14/14

Date Received: 07/18/14

Project: Maul Foster & Alongi Truck City, PO 0714.02.02 Task 1, F&BI 407312

**QUALITY ASSURANCE RESULTS  
FOR THE ANALYSIS OF WATER SAMPLES FOR  
TOTAL MERCURY  
USING EPA METHOD 1631E**

Laboratory Code: 407312-06 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Mercury	ug/L (ppb)	0.5	<0.25	100	99	71-125	1

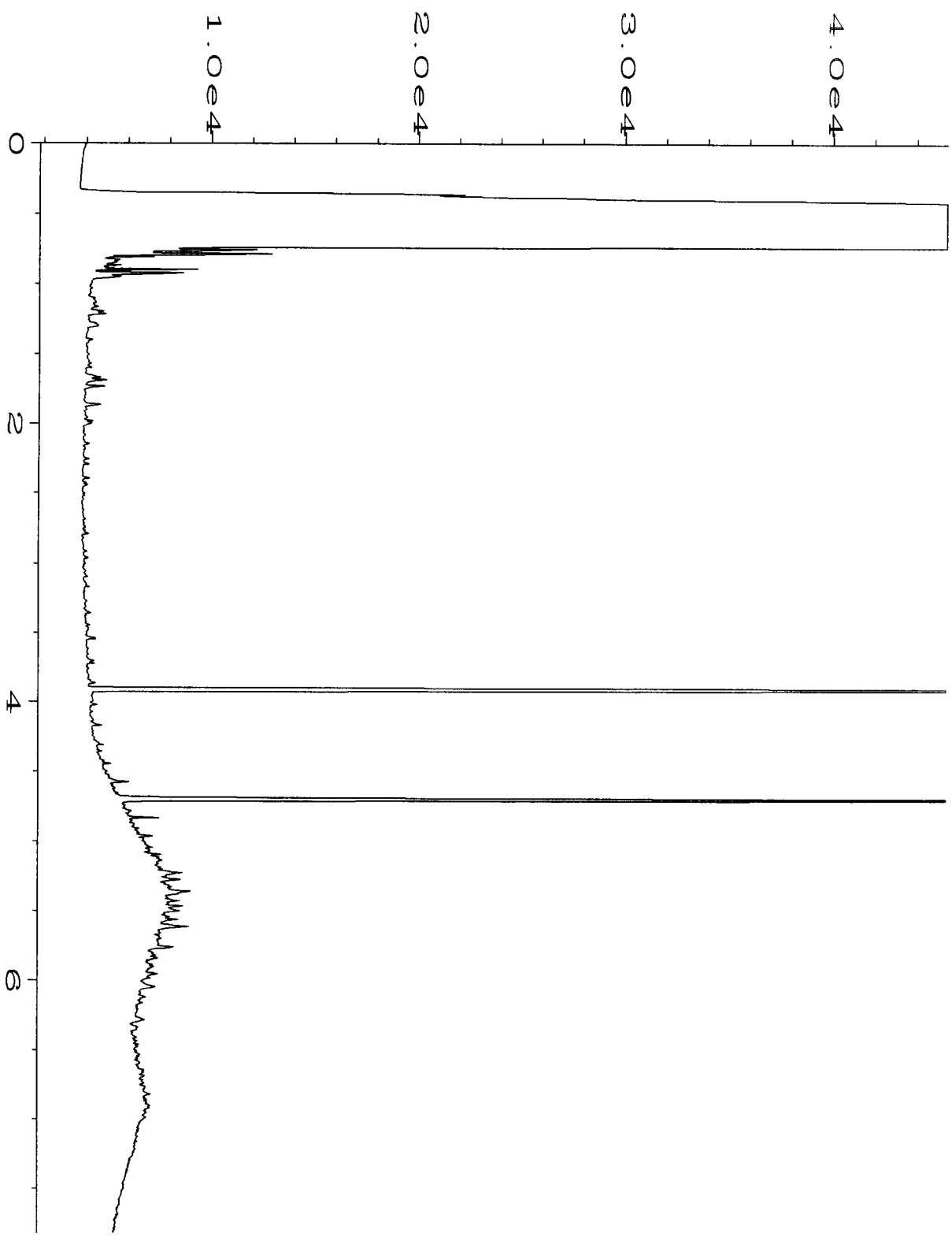
Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Mercury	ug/L (ppb)	0.5	97	88-113

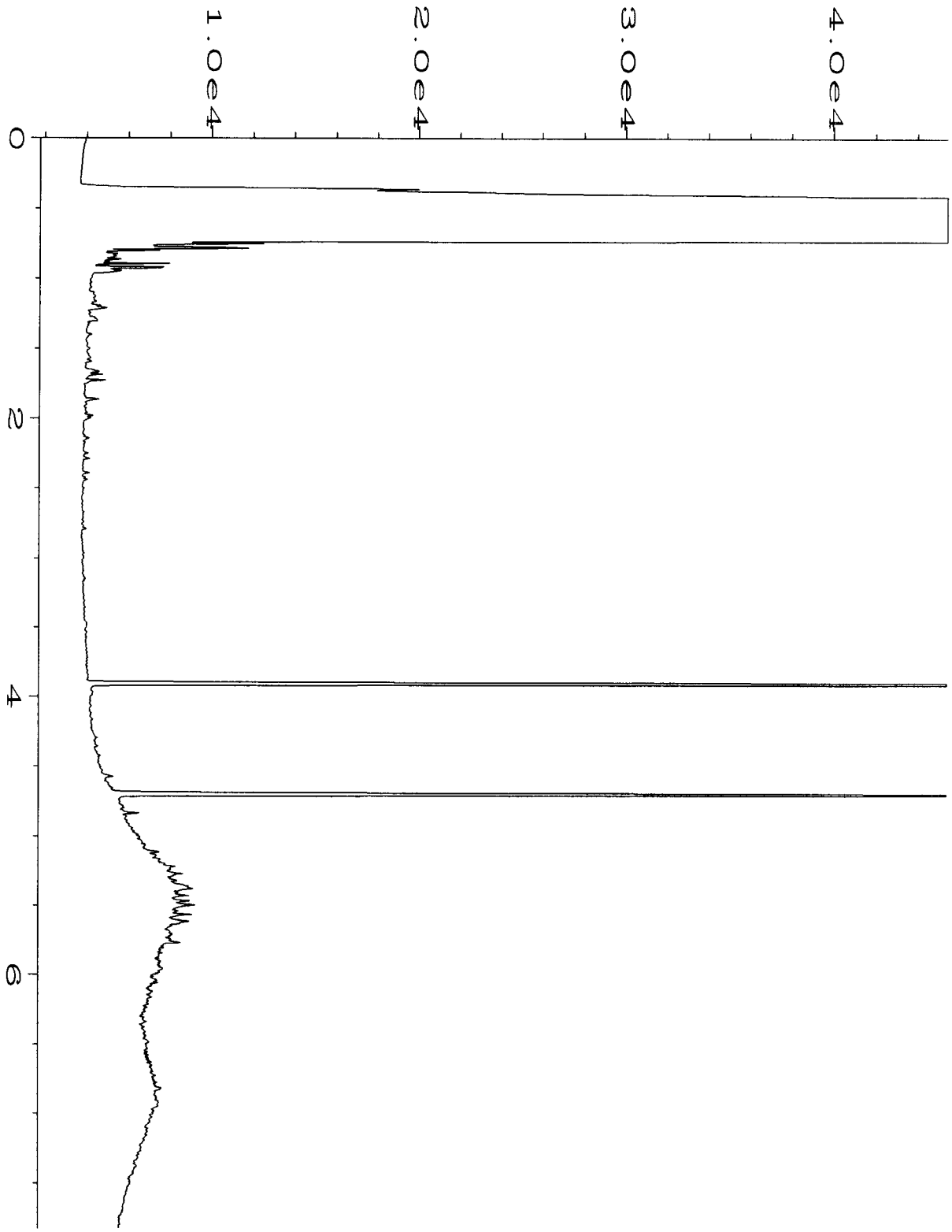
**Data Qualifiers & Definitions**

- a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.
- b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.
- ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.
- c - The presence of the analyte may be due to carryover from previous sample injections.
- cf - The sample was centrifuged prior to analysis.
- d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.
- dv - Insufficient sample volume was available to achieve normal reporting limits.
- f - The sample was laboratory filtered prior to analysis.
- fb - The analyte was detected in the method blank.
- fc - The compound is a common laboratory and field contaminant.
- hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.
- hs - Headspace was present in the container used for analysis.
- ht - The analysis was performed outside the method or client-specified holding time requirement.
- ip - Recovery fell outside of control limits. Compounds in the sample matrix interfered with the quantitation of the analyte.
- j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.
- J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.
- jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.
- js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.
- lc - The presence of the analyte is likely due to laboratory contamination.
- L - The reported concentration was generated from a library search.
- nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.
- pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.
- ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.
- vo - The value reported fell outside the control limits established for this analyte.
- x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

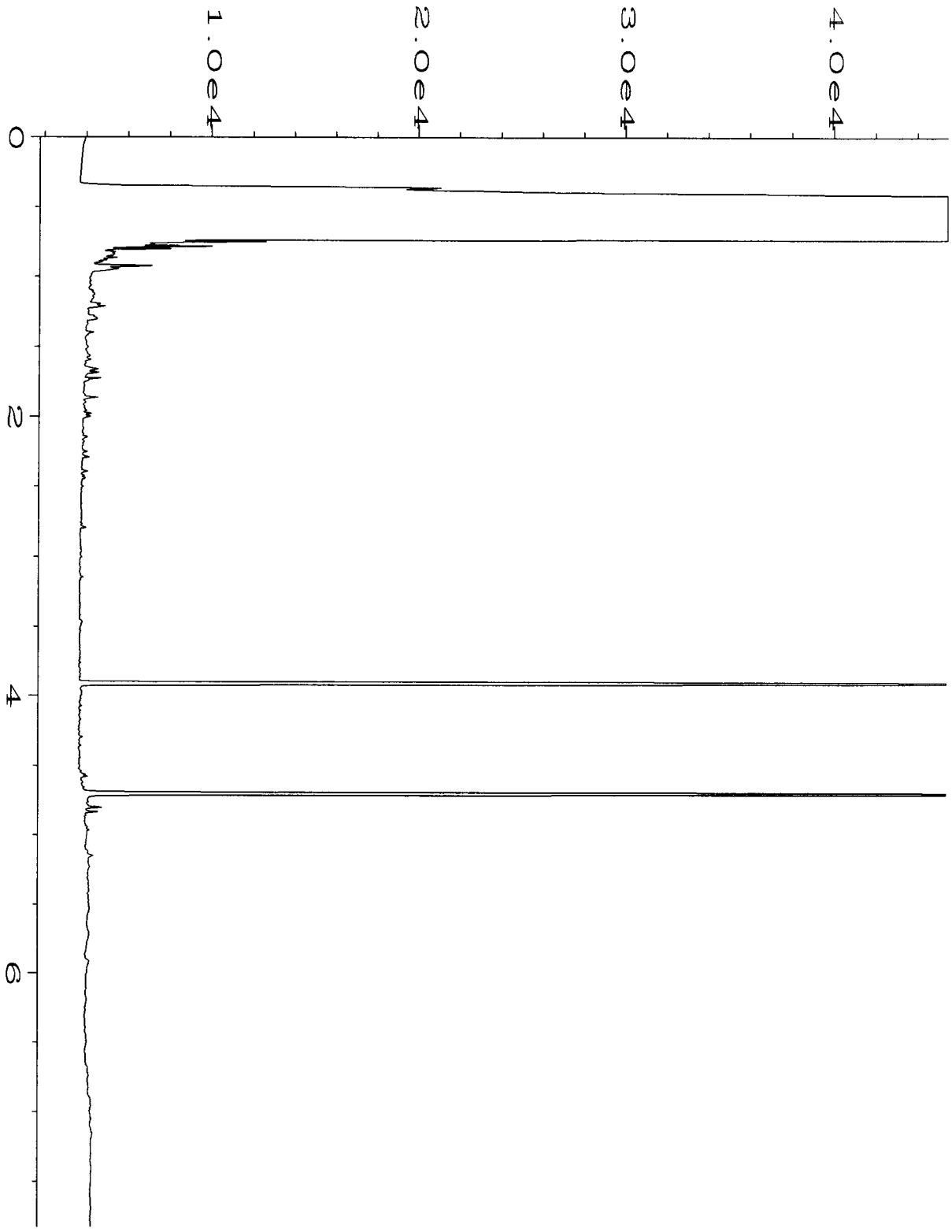




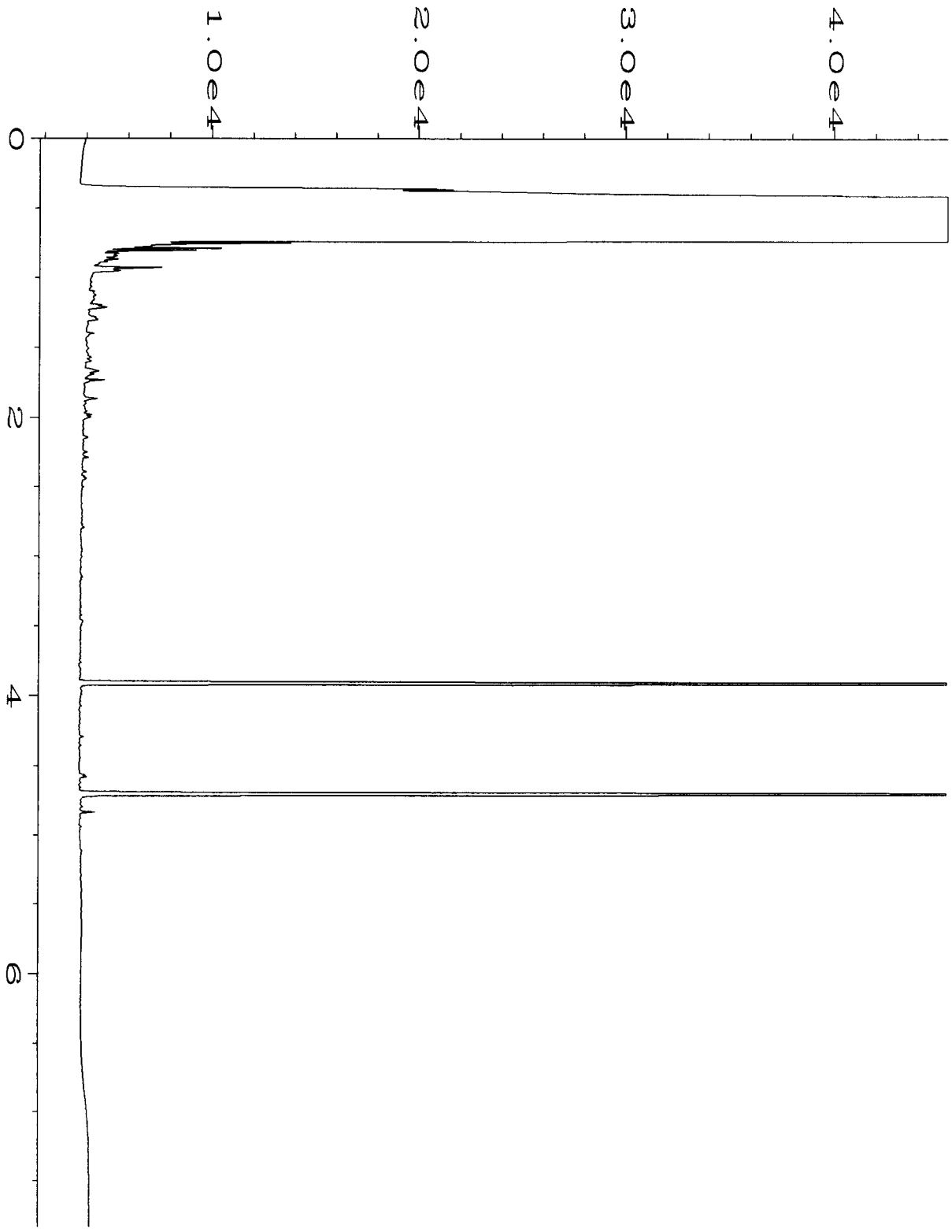
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Acquired on	: 22 Jul 14 01:18 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



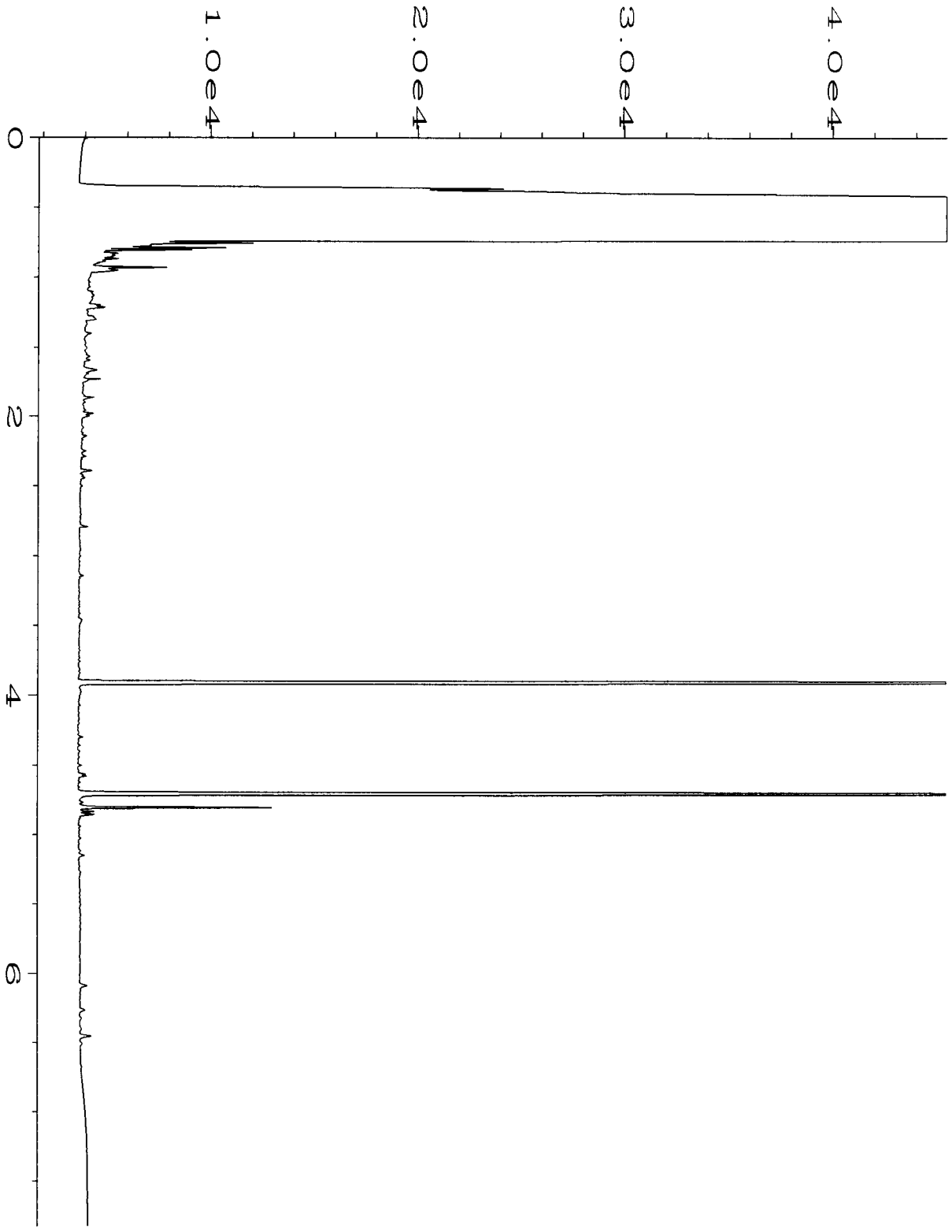
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-02	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:31 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



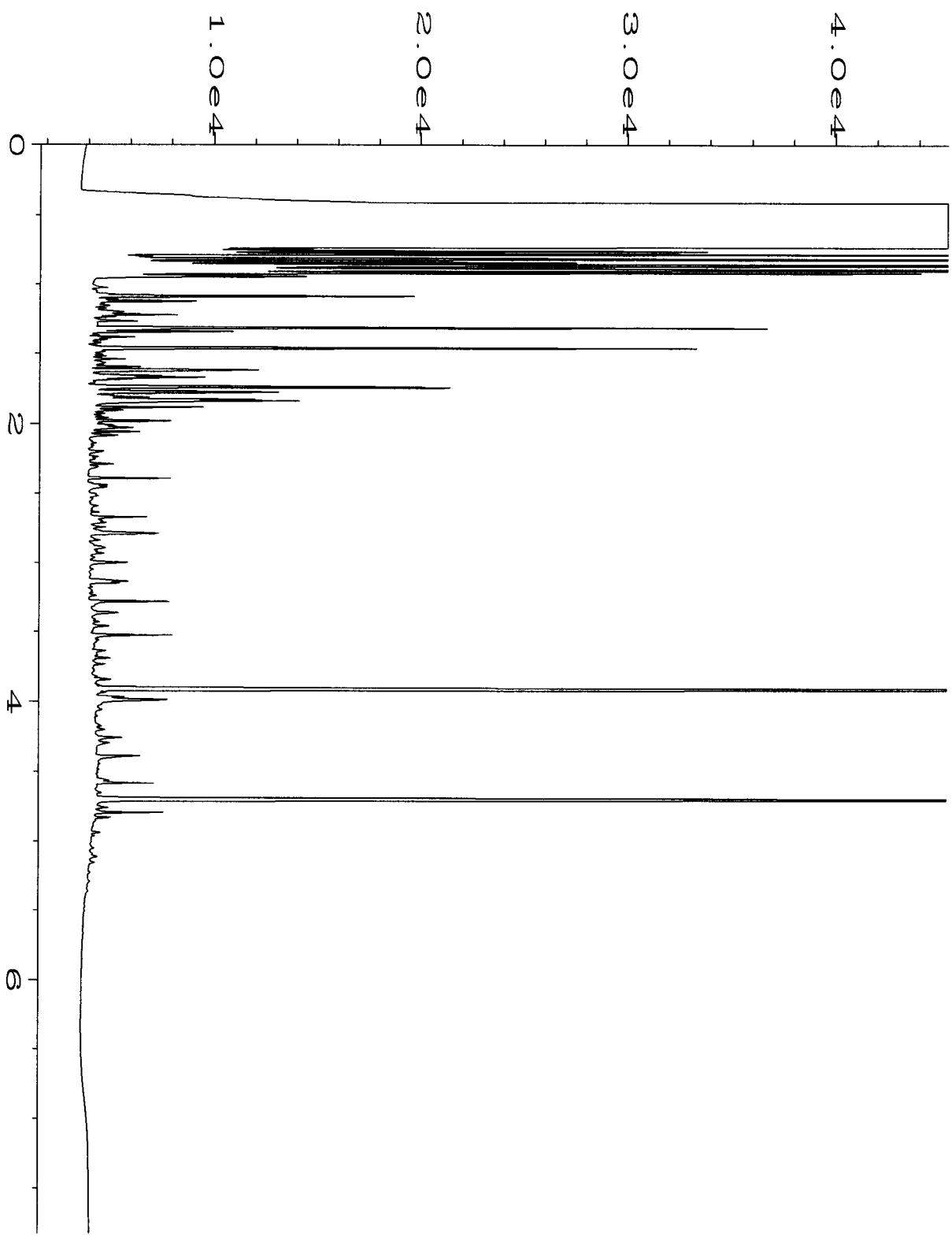
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-03	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:45 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



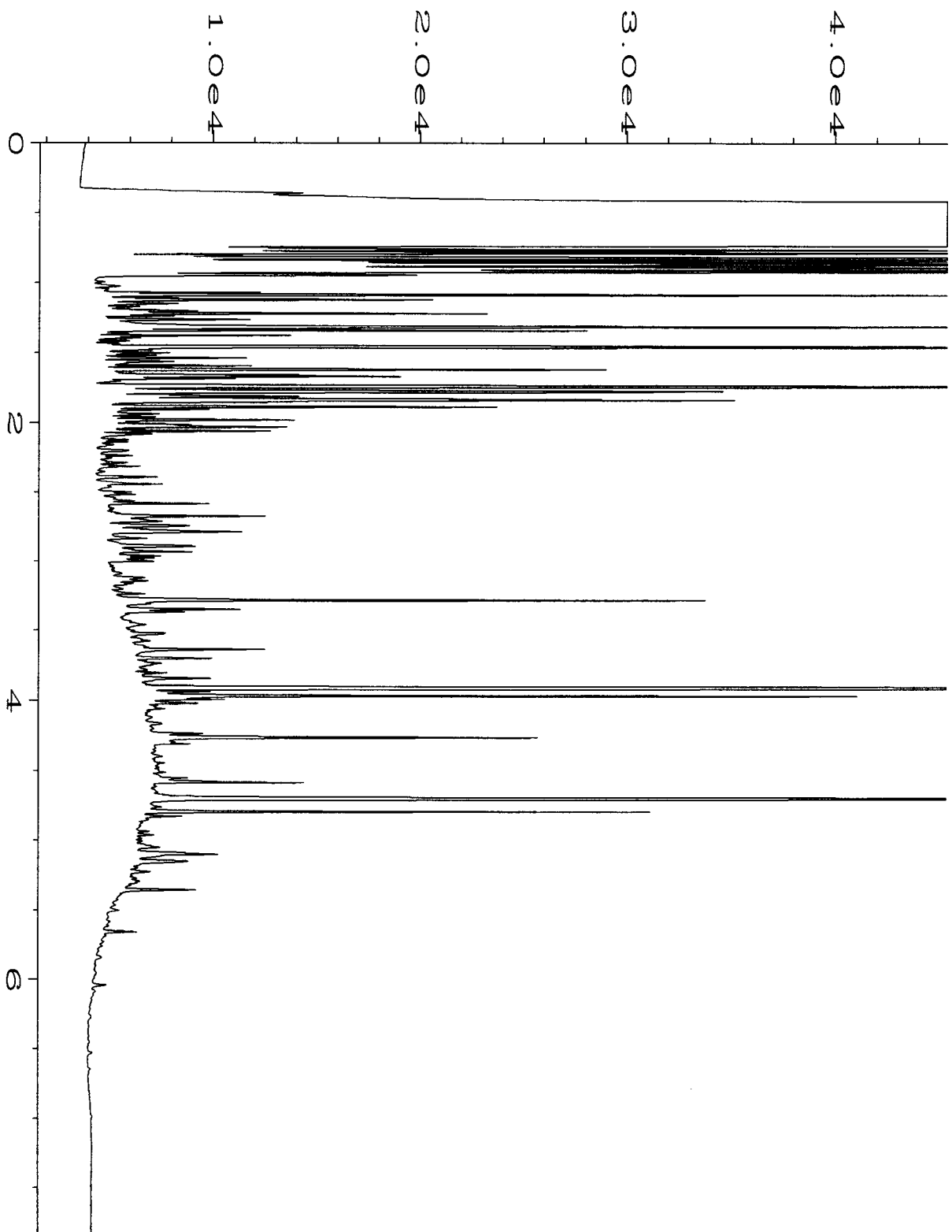
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-04	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 01:58 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



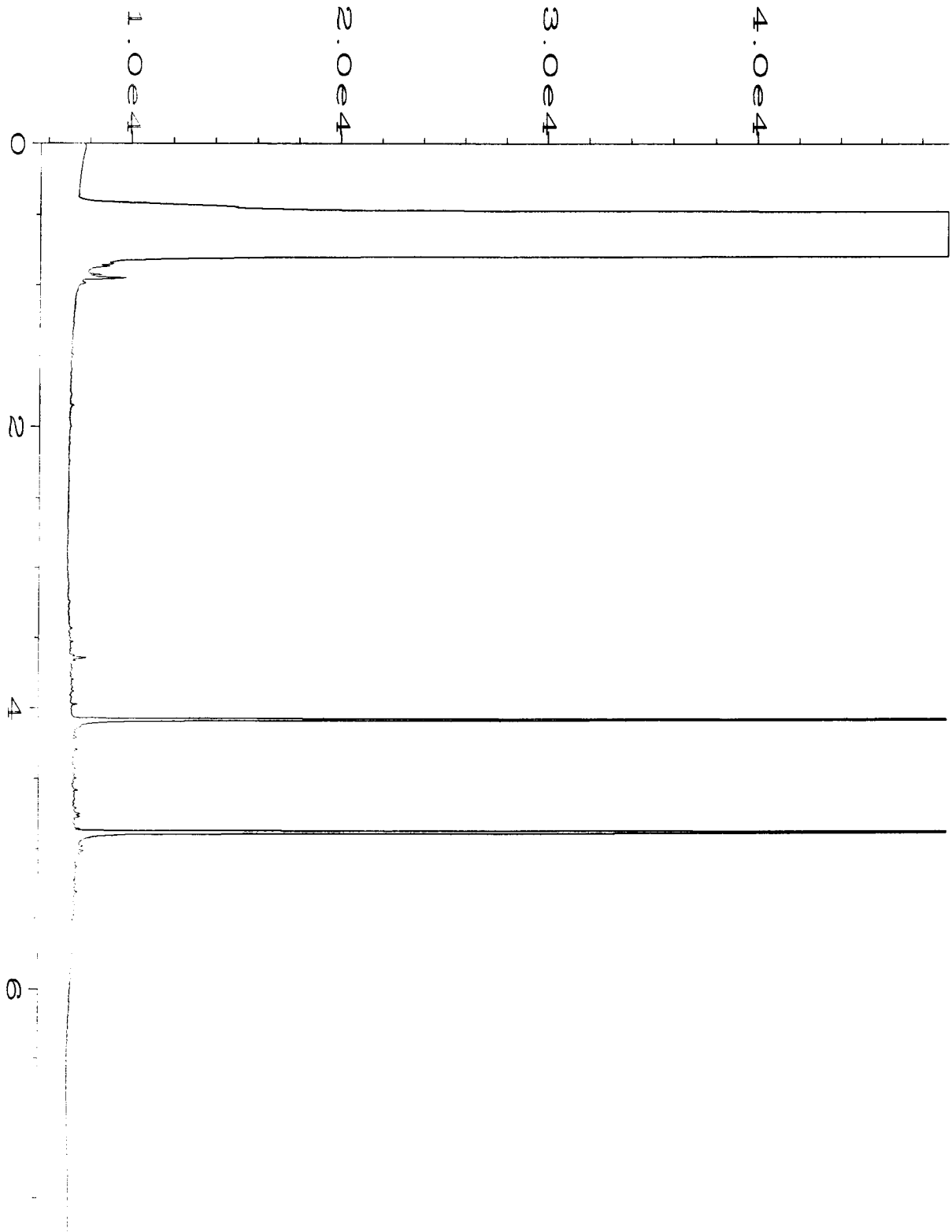
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Sample Name	: 407312-05	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 22 Jul 14 02:11 AM	Analysis Method	: DX.MTH
Report Created on:	22 Jul 14 09:41 AM		



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Operator	: mwdl	Vial Number	: 44
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-06	Sequence Line	: 7
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Acquired on	: 23 Jul 14 06:31 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

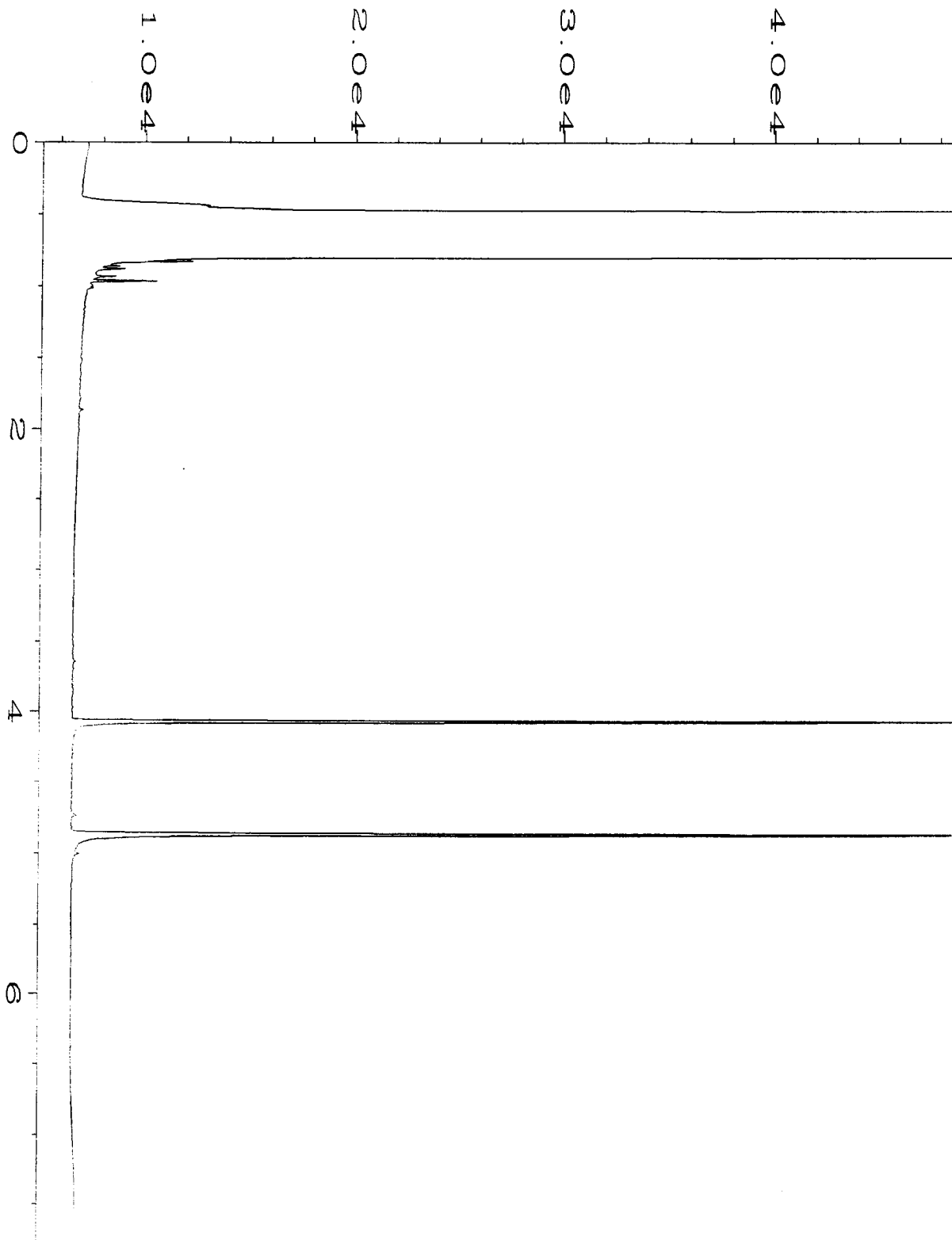


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Operator	: mwdl	Vial Number	: 45
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-07	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 06:45 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

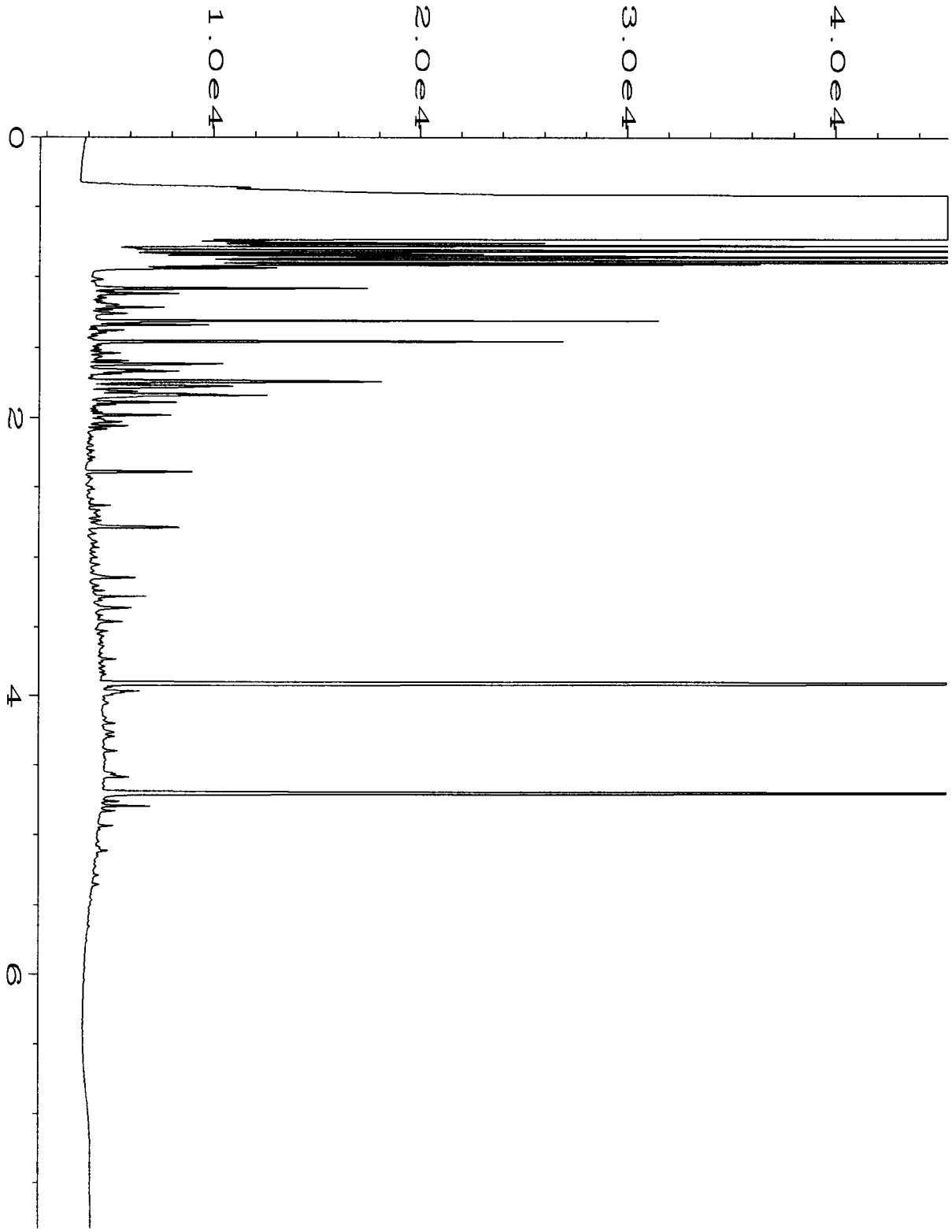


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Operator	: mwdl	Vial Number	: 6
Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-08 rr	Sequence Line	: 3
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 25 Jul 14 09:47 AM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 12:12 PM		

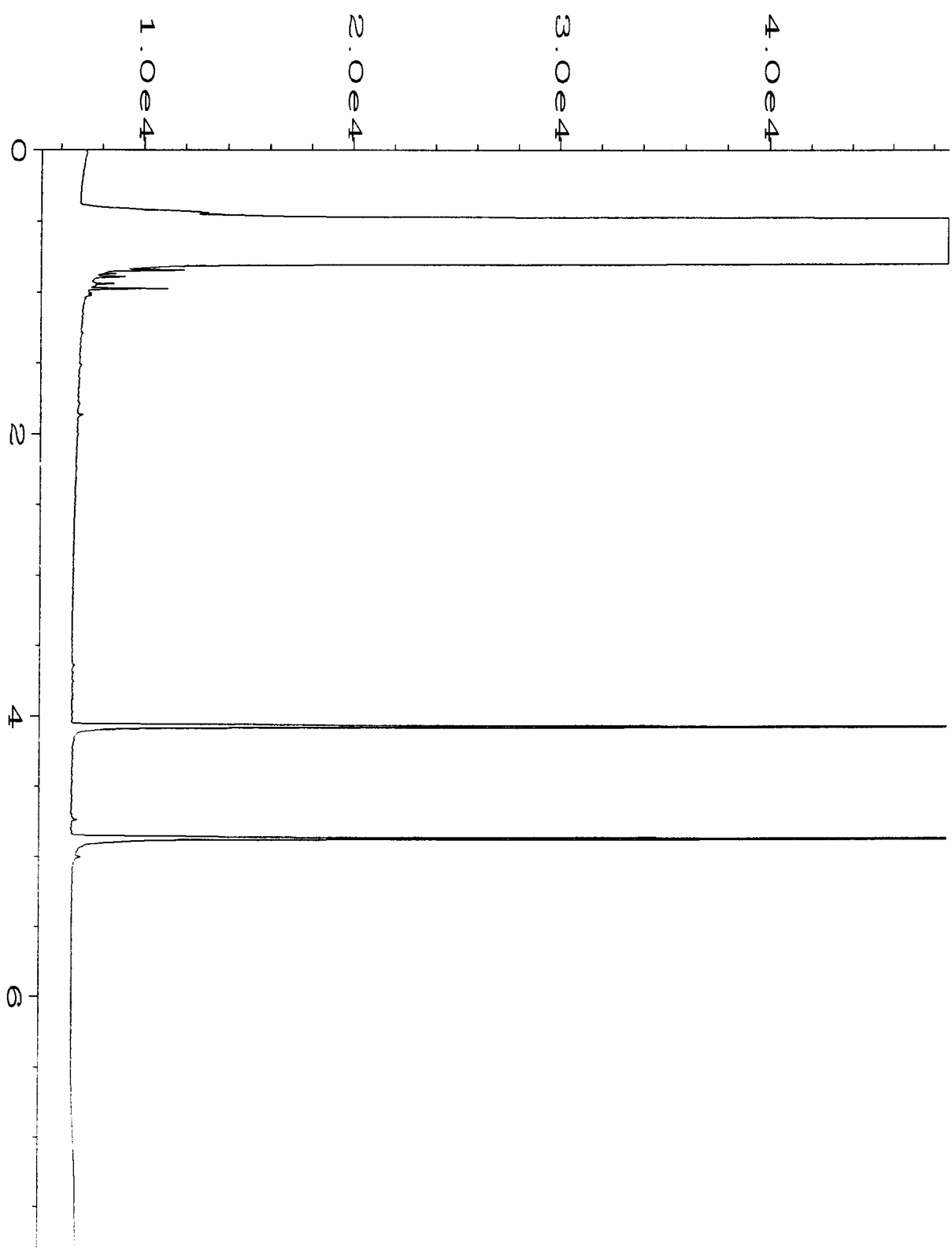




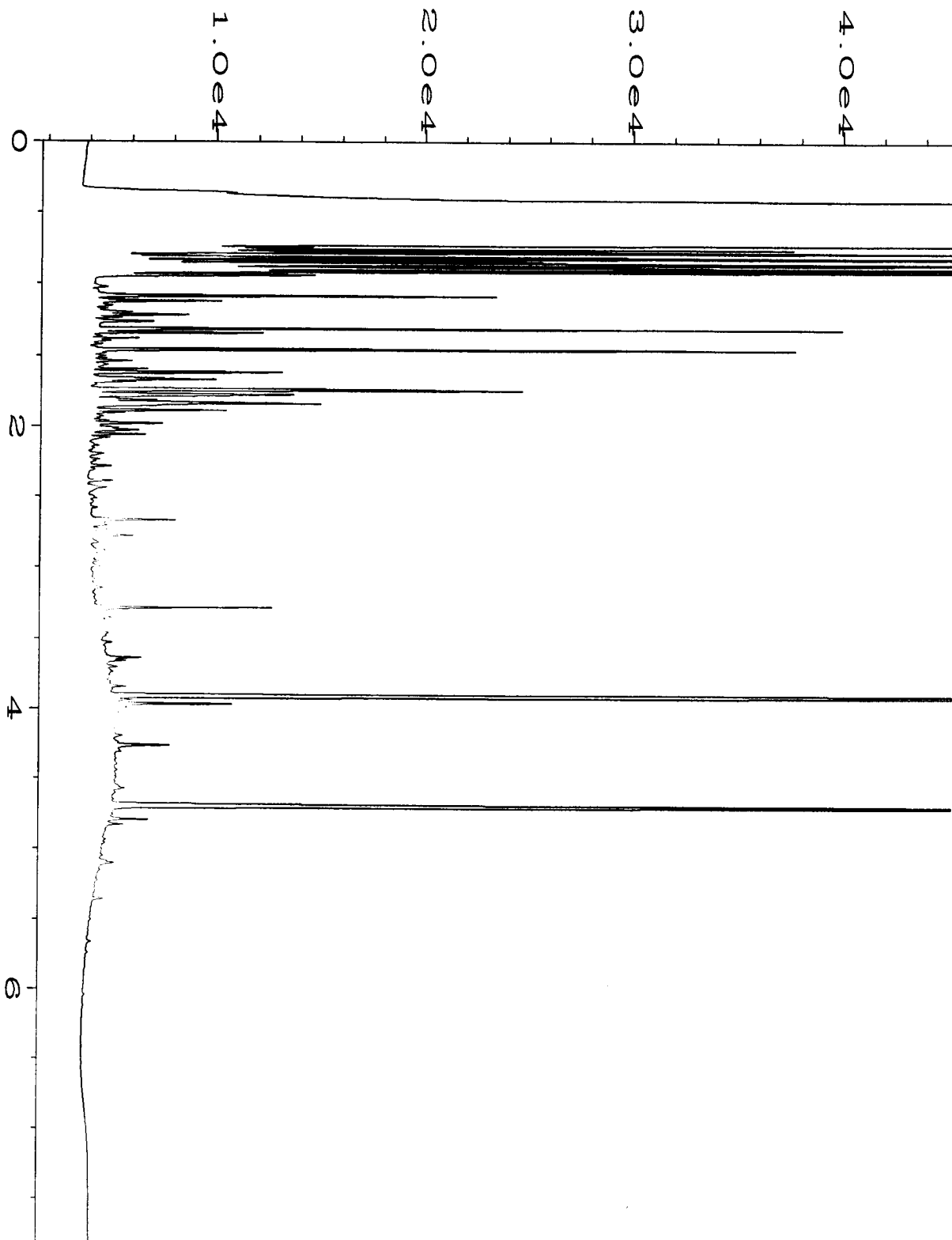
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Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-09	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 24 Jul 14 04:58 PM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 08:38 AM		



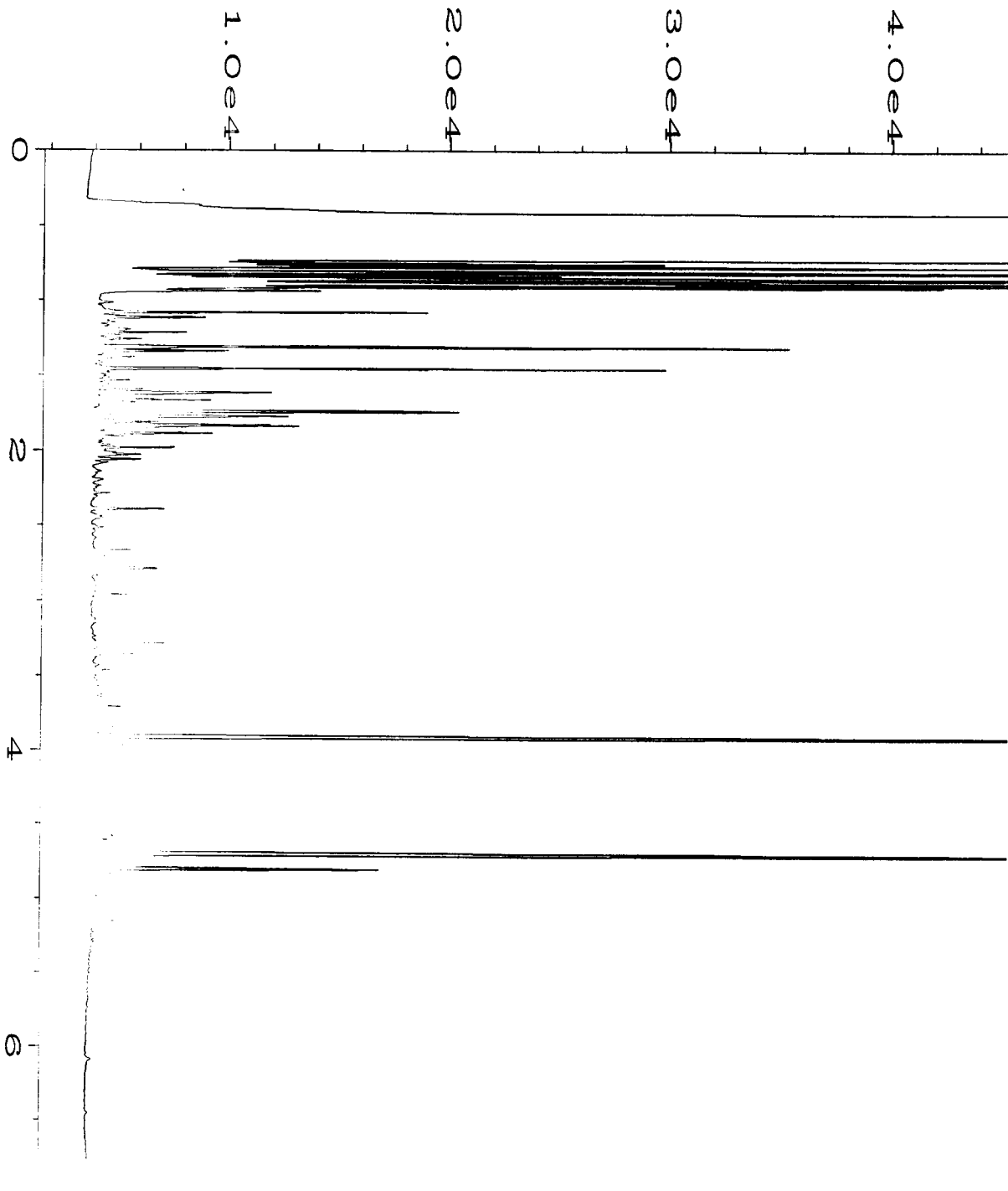
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-10	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 06:58 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



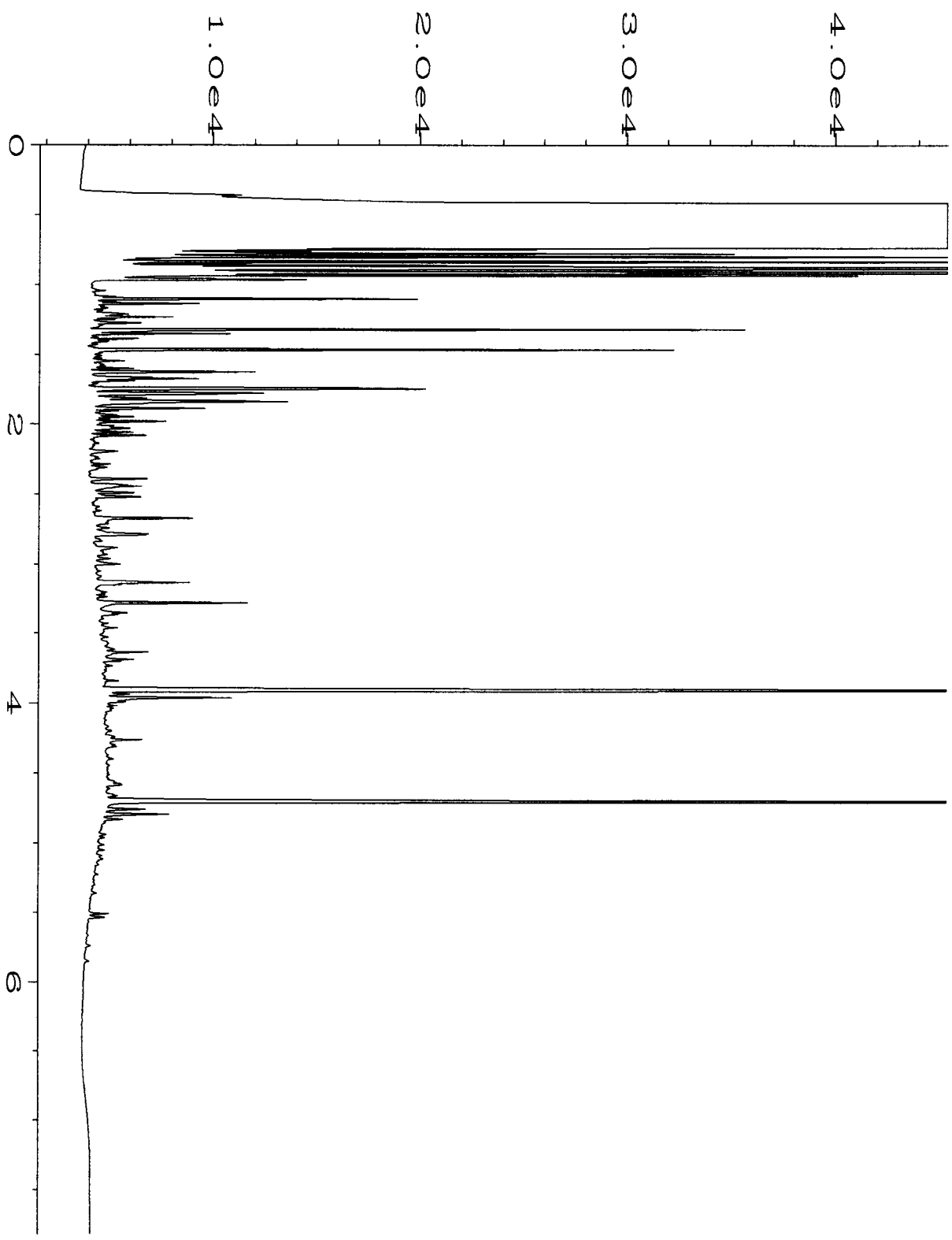
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Operator	: mwdl	Vial Number	: 25
Instrument	: GC1	Injection Number	: 1
Sample Name	: 407312-12	Sequence Line	: 8
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 24 Jul 14 05:23 PM	Analysis Method	: DX.MTH
Report Created on:	25 Jul 14 08:38 AM		



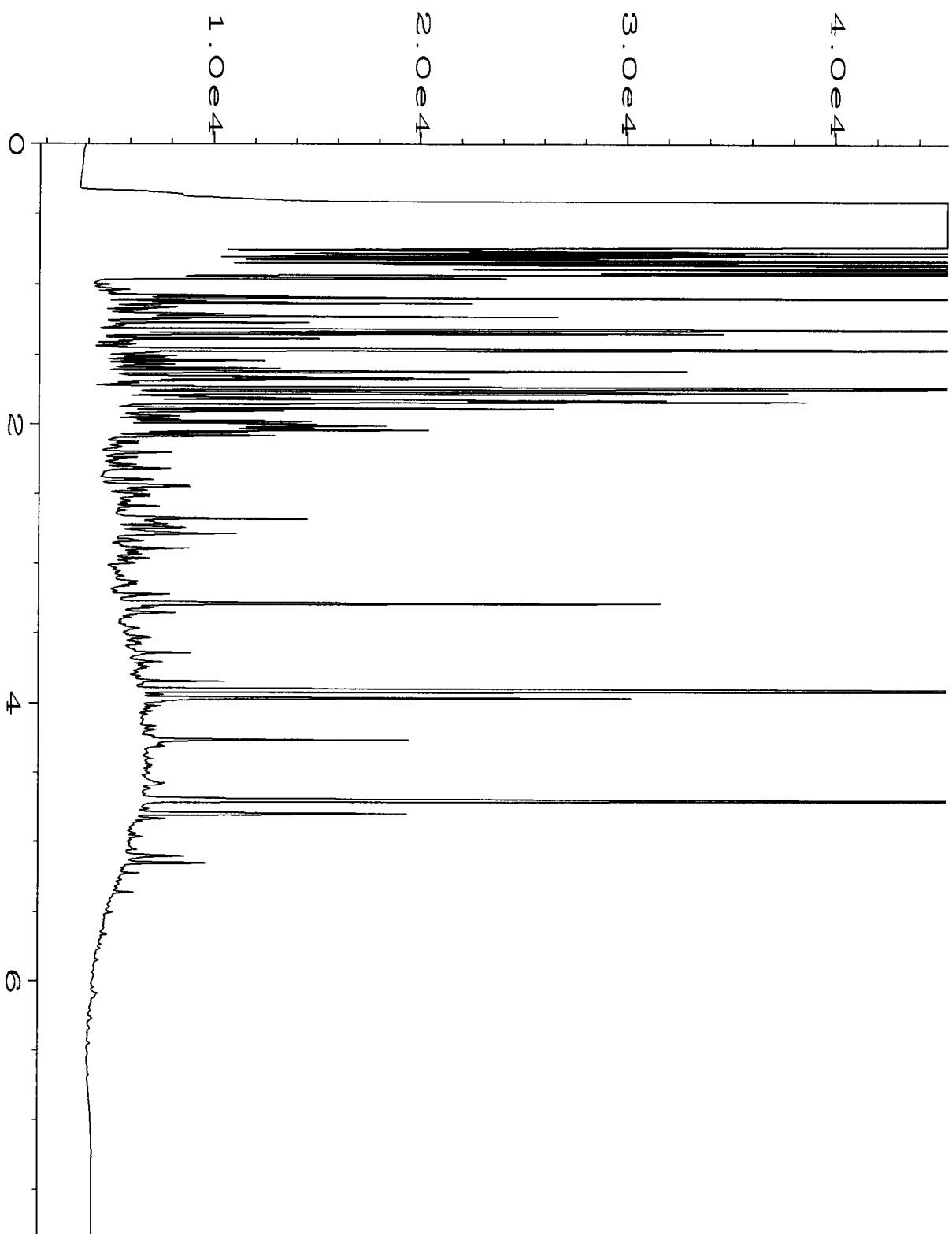
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Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-13	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 07:11 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



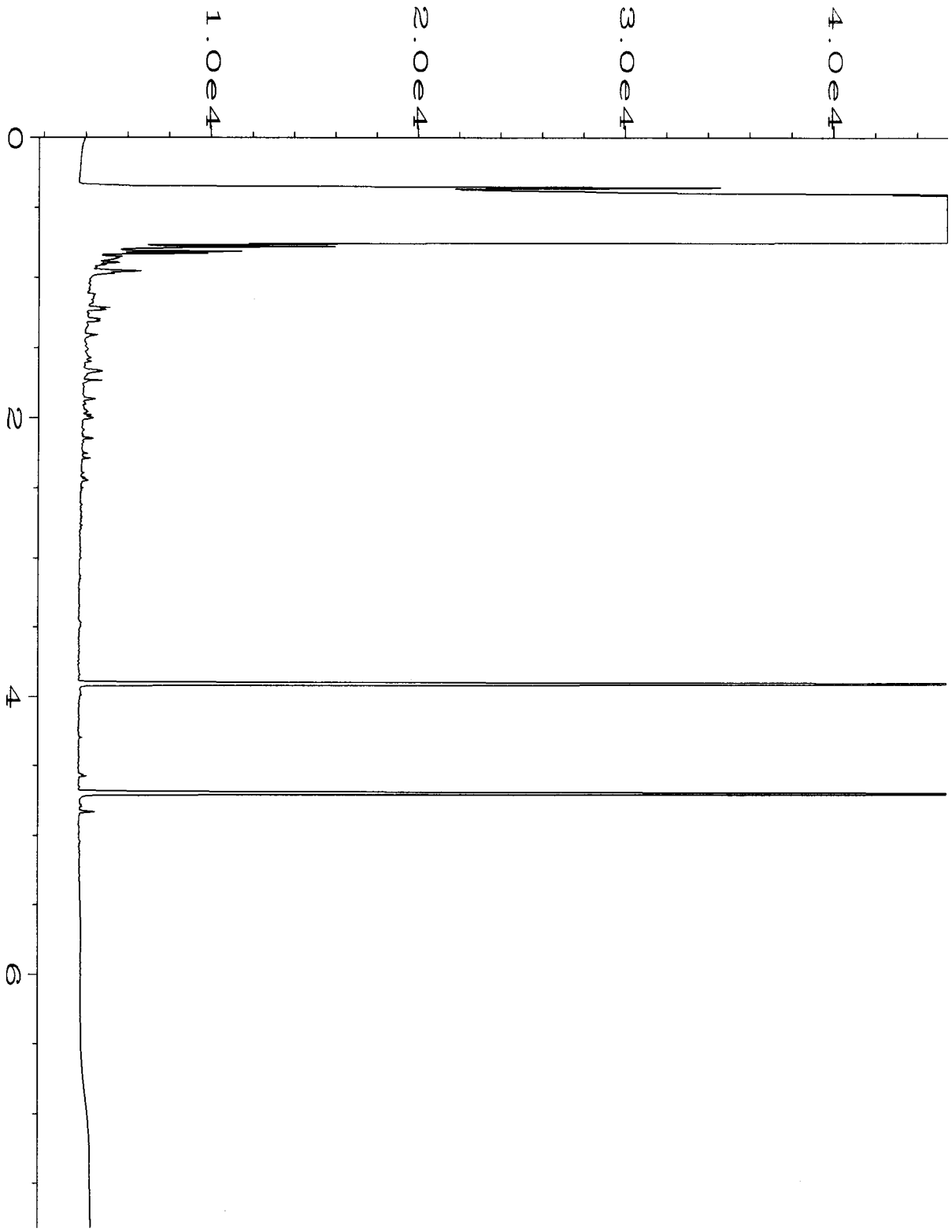
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Sample Name	: 107312-15	Sequence Line	: 7
Run Time Bar Code		Instrument Method	: DX.MTH
Acquired on	: 23 Jul 14 07:25 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\049F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 49
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-16	Sequence Line	: 7
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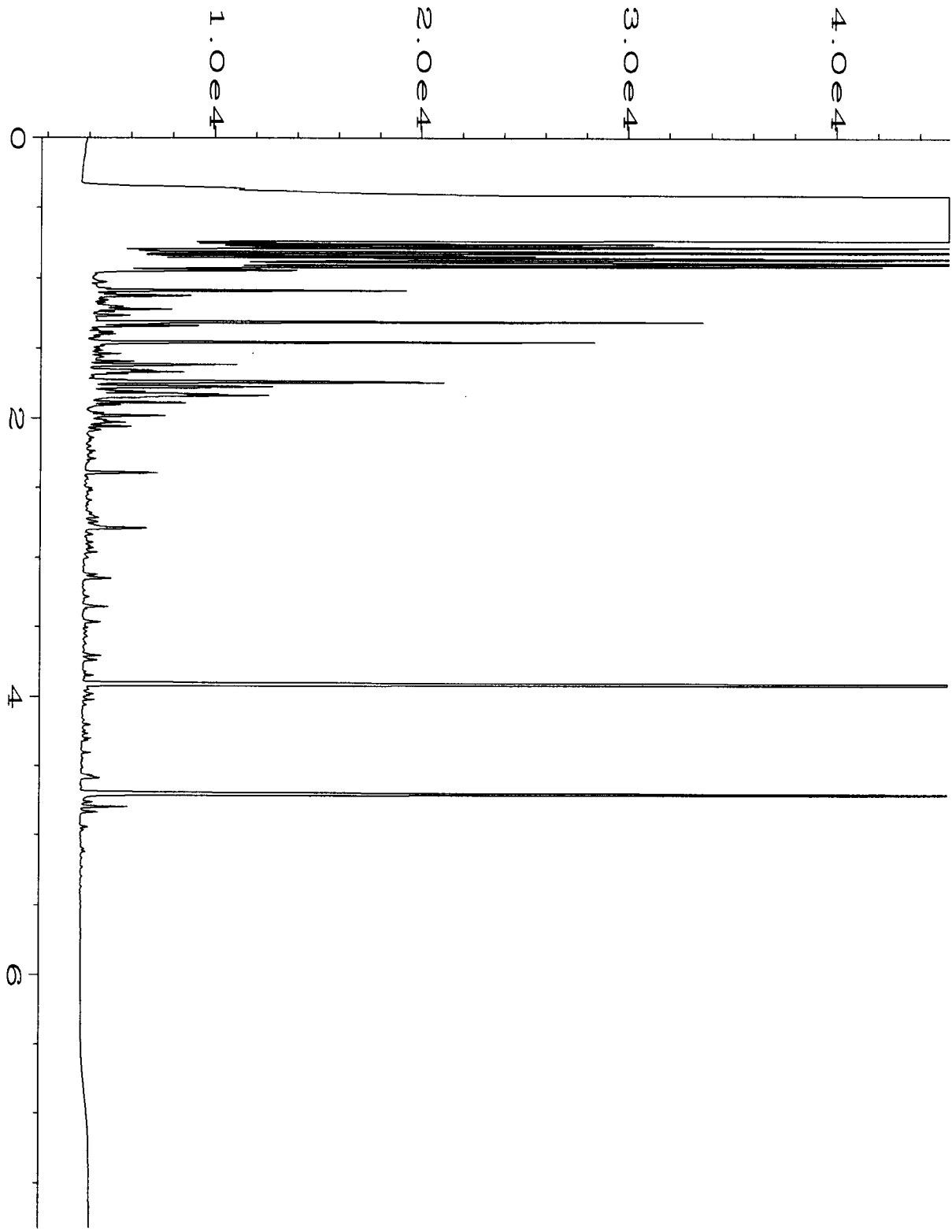


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Operator	: mwdl	Vial Number	: 50
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 407312-17	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 07:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		

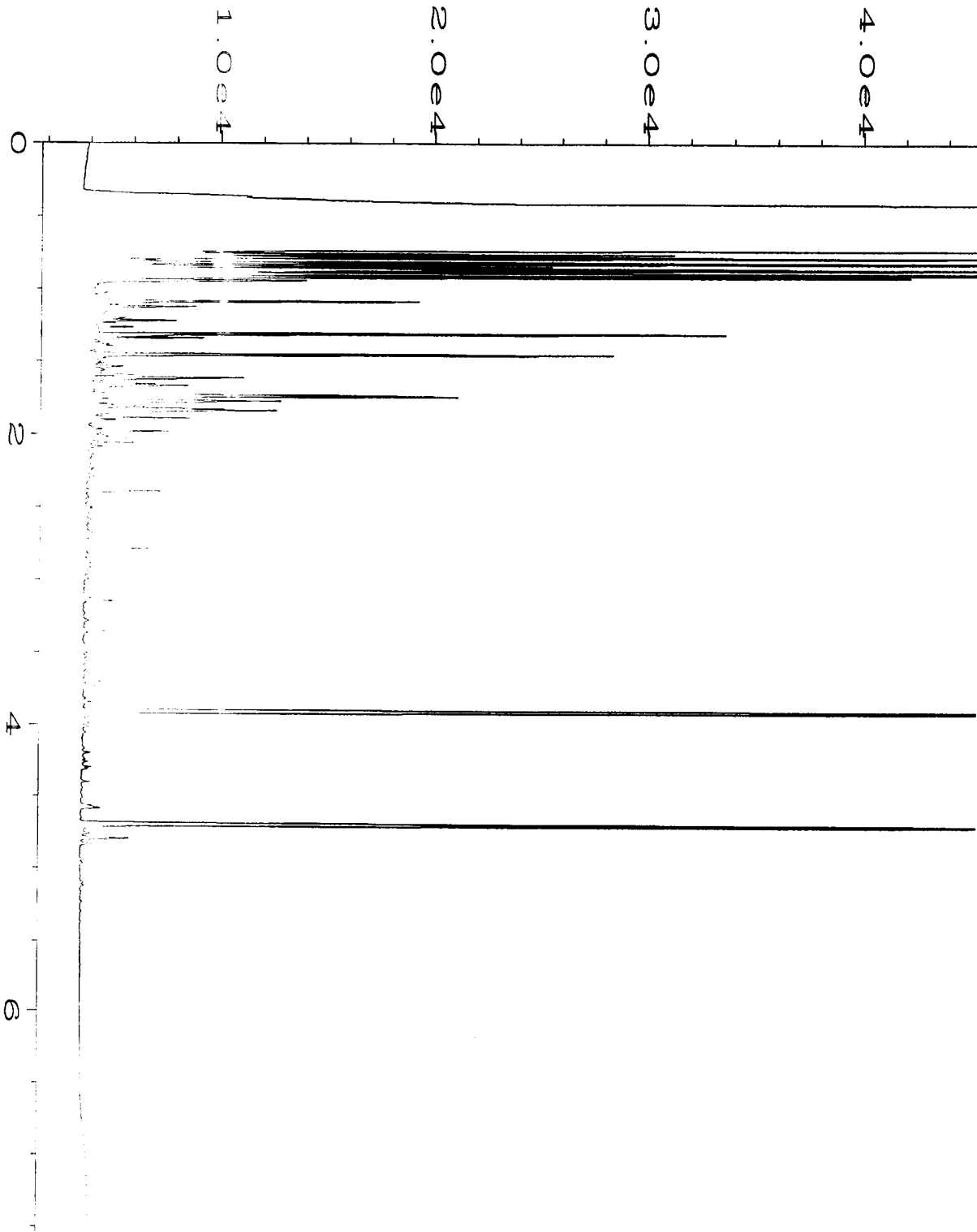


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Operator	: sp	Vial Number	: 69
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1502 mb	Sequence Line	: 9
Run Time Bar Code:		Instrument Method:	DX.MTH
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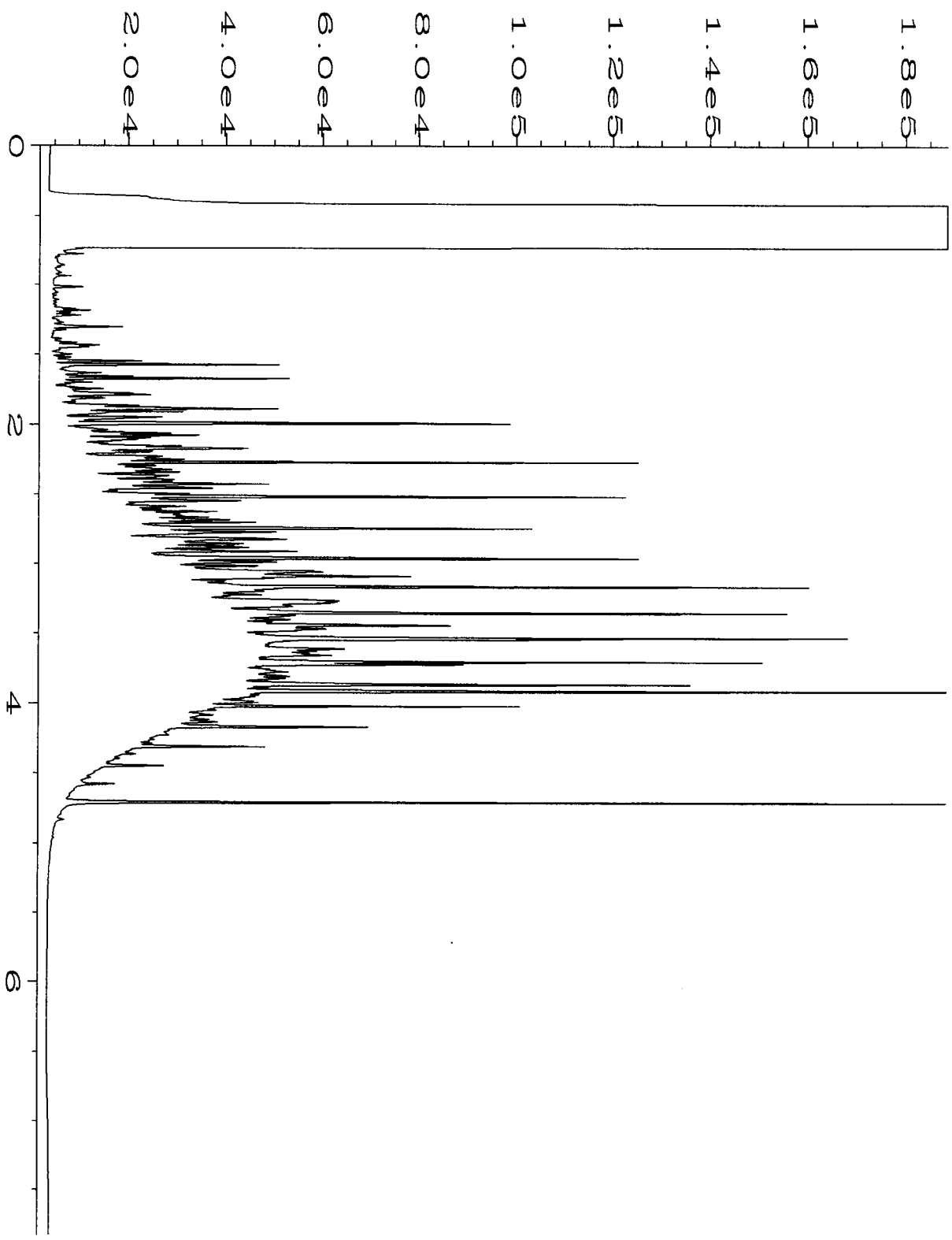




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Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1522 mb	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 05:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\041F0701.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 41
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 04-1522 mb	Sequence Line	: 7
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 05:52 PM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:26 AM		



Data File Name	: C:\HPCHEM\6\DATA\07-23-14\003F0201.D	Page Number	: 1
Operator	: mwdl	Vial Number	: 3
Instrument	: GC #6	Injection Number	: 1
Sample Name	: 500 Dx 42-27B	Sequence Line	: 2
Run Time Bar Code:		Instrument Method:	DX.MTH
Acquired on	: 23 Jul 14 09:15 AM	Analysis Method	: DX.MTH
Report Created on:	24 Jul 14 09:27 AM		

407312

SAMPLE CHAIN OF CUSTODY

ME 07-18-14

ATZ/EO3/US2

Send Report To YENVY VAN

Company HEA

Address 411 1st Ave S, # 601

City, State, ZIP SEATTLE, WA 98104

Phone # 253-320-5378 Fax #

SAMPLERS (signature)

PROJECT NAME/NO.

TRUCK CITY

PO# 0714, 02, 02

TASK 1

REMARKS

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes	
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	PAH	KRABmet	HCLD	Total RCRA		
TC DUP-5	01E	7/14/14	0937	soil	5	X	X	X									0-per YW
TC 6-5-7.0	02	"	1606	soil	6	X	X	X									8/12/14 MY
TC 6-5-15.0	03	"	1640	soil	5	X	X	X									
TC BWS-5-4.5	04	7/18/14	0930	soil	5	X	X	X									
TC BWS-5-15.0	05	"	0952	soil	5	X	X	X									
TC 2-W-10.0	06E	"	1018	soil	6	X	X	X									
TC BWS-W-4.5	07L	"	1603	soil	6	X	X	X									
TC BWS-5-4.5	08E	"	1128	soil	6	X	X	X									9 months later
TC BWS-5-3.5	09L	"	1220	soil	6	X	X	X									
TC A-W-10.0	10E	"	1137	soil	6	X	X	X									

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

Fax (206) 283-5044

FORMS\COC\COC.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by:		YENVY VAN		MDA		7/18/14	6:50
Received by:		Kurt Johnson		FDS			
Relinquished by:							
Received by:							

**SAMPLE CHAIN OF CUSTODY**

107312

HE 07-18-14

412/603/152/13  
2 of 2/13

Send Report To Yen Van-Vy  
 Company Maul Foster & Agency  
 Address 411 1st Ave South Suite 601  
 City, State, ZIP Seattle, WA 98104  
 Phone # 253-320-5378 Fax # \_\_\_\_\_

SAMPLERS (signature)	PROJECT NAME/NO.	PO#
	Truck City / 0741.02.02	
REMARKS	Truck City / 0741.02.02 Tank 2	

Page # \_\_\_\_\_ of \_\_\_\_\_

TURNAROUND TIME  
 Standard (2 Weeks)  
 RUSH  
 Rush charges authorized by \_\_\_\_\_

SAMPLE DISPOSAL  
 Dispose after 30 days  
 Return samples  
 Will call with instructions

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of containers	ANALYSES REQUESTED										Notes
						TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260	SVOCs by 8270	HFS	TPH-HCLD	PAHs			
TC6H14-5-8.5	114E	7/16/14	1302	soil	5			X					X			(S) - per VVV 7/24/14 ns
TC6H10-5-4.0	121	"	1406	soil	5			X					X			-PAHs covered
TC6H13-11-4.5	131	"	1433	soil	5			X					X			per VVV 7/22/14 HFS insufficient volume
TC6H11-5-4.7	141	"	1500	soil	5			X					X			
TC6H10-11-4.0	151	"	1535	soil	5			X					X			(S) 7-14-14 Added at lab
TC6-11-10.0	161	"	1248	soil	5			X					X			
TC6H5-11-4.5	17C	7/18/14	11:00	soil	3			X					X			V

Friedman & Bruya, Inc.  
 3012 16th Avenue West  
 Seattle, WA 98119-2029  
 Ph. (206) 285-8282  
 Fax (206) 283-5044  
 FORMS\COCCOC.DOC

SIGNATURE		PRINT NAME		COMPANY		DATE	TIME
Relinquished by: _____		Yen-Vy Van		NSA		7/18/14	6:50
Received by: _____		Kurt Jackson		F#B			
Relinquished by: _____							
Received by: _____							

# APPENDIX E

## DATA VALIDATION MEMORANDA



# DATA QUALITY ASSURANCE/QUALITY CONTROL REVIEW

PROJECT NO. 0714.02.02 | AUGUST 15, 2014 | SKAGIT COUNTY

This report reviews the analytical results for groundwater and soil samples collected by the Maul Foster & Alongi, Inc. (MFA) project team on the Truck City site property and four neighboring parcels in Mount Vernon, Washington. The samples were collected in July 2014.

Friedman & Bruya, Inc. (FB) and Fremont Analytical (FR) in Seattle, Washington, performed the analyses. FB report numbers 407277, 407312, and FR report number 1407180 were reviewed. Analyses were added to some samples and were reported by FB in 407277 additional and 407312 additional. Samples analyzed by FR were subcontracted from FB sample delivery group (SDG) 407277.

The analyses performed and samples analyzed are listed below. Sample TCBH5-S-4.5 was collected at two different times and both samples were submitted with SDG 407312. Some analyses may not have been performed on all samples. Data validation tracking sheets associated with the analyses, documenting data review, are attached.

Analysis	Reference
1,2-Dibromoethane in water	USEPA 8011 Modified
1,2-Dibromoethane in soil	USEPA 8260C Direct Sparge
Anions	USEPA 300.0
BTEX Compounds	USEPA 8021B
Diesel and Motor Oil	NWTPH-Dx
Dissolved Mercury	USEPA 1631E
Dissolved Gases	RSK 175
EPH	NW-EPH
Ferrous Iron	SM 3500 Fe B
Gasoline	NWTPH-Gx
Hydrocarbon Identification	NWTPH-HCID
Polycyclic Aromatic Hydrocarbons	USEPA 8270D SIM
Total and Dissolved Metals	USEPA 200.8
Total Mercury	USEPA 1631E
Volatile Organic Compounds	USEPA 8260C
VPH	NW-VPH

BTEX = benzene, toluene, ethylbenzene, and xylenes.  
 EPH = extractable petroleum hydrocarbons.  
 NWTPH = Northwest Total Petroleum Hydrocarbons.  
 RSK = USEPA National Risk Management Research Laboratory.  
 SIM = selective ion monitoring.  
 USEPA = U.S. Environmental Protection Agency.  
 VPH = volatile petroleum hydrocarbons.

Samples Analyzed		
SDG No. 407277	SDG No. 1407180	SDG No. 407312
TC1-S2-8.5	TC5-S-15.0	TCDUP-S
TCBH1-S-8.5	TC1-W-10.0	TC6-S-7.0
TCBH1-W-8.5	TC3-W-10.0	TC6-S-15.0
TCBH3-S-8.5	TC5-W-10.0	TCBH5-S-4.5 (1)
TCBH3-W-8.5	-	TCBH5-S-15.0
TCBH3-S-14.5	-	TC2-W-10.0
TCBH2-S-15.0	-	TCBH5-W-4.5
TCBH2-W-8.5	-	TCBH13-S-4.5
TCBH4-S-6.0	-	TCBH12-S-3.5
TCBH4-S-15.0	-	TC4-W-10.0
TCBH4-W-6.0	-	TCBH14-S-8.5
TCBH6-S-4.8	-	TCBH10-S-4.0
TCBH6-W-4.8	-	TCBH13-W-4.5
TCBH8-S-9.5	-	TCBH11-S-4.7
TCBH8-S-15.0	-	TCBH10-W-4.0
TCBH8-W-9.5	-	TC6-W-10.0
TCBH7-S-15.0	-	TCBH5-W-4.5 (2)
TCBH7-W-6.5	-	-
TCBH9-S-9.5	-	-
TCBH9-S-15.0	-	-
TCBH9-W-6.5	-	-
TC4-S-7.0	-	-
TC4-S-15.0	-	-
TC5-S-9.5	-	-
TC5-S-15.0	-	-
TC3-S-9.7	-	-
TC3-S-15.0	-	-
TC2-S-6.5	-	-
TC2-S-15.0	-	-
TC1-W-10.0	-	-
TC5-W-10.0	-	-
TCDup-W-10.0	-	-
TC3-W-10.0	-	-



## DATA QUALIFICATIONS

Analytical results were evaluated according to applicable sections of USEPA procedures (USEPA, 2008, 2010) and appropriate laboratory and method-specific guidelines (FB, 2014; FR, 2014; USEPA, 1986).

Data validation procedures were modified, as appropriate, to accommodate quality control (QC) requirements for methods not specifically addressed by the USEPA procedures (e.g., NWTPH analyses).

In report 407277, the laboratory noted in the case narrative that a USEPA Method 8260C direct sparge internal standard exceeded acceptance criteria because of matrix interference for samples TCBH3-S-8.5 and TC3-S-9.7. The laboratory qualified associated sample results with “J,” as estimated. No additional qualification was necessary.

In report 407277, the laboratory also noted in the case narrative that a USEPA Method 8270D SIM internal standard exceeded acceptance criteria for sample TC1-S2-8.5 because of matrix interference. Associated sample results were qualified with “J,” as estimated, by the laboratory. The laboratory diluted and reanalyzed TC1-S2-8.5 and reported both the initial and reanalyzed results. The initial sample results qualified with “J” by the laboratory will be additionally qualified as not reportable (NR) by the reviewer; the associated diluted sample results will be reported.

Report	Sample	Component	Original Result (mg/kg)	Qualified Result (mg/kg)
407277	TC1-S2-8.5	Benzo(a)pyrene	0.01 UJ	0.01 UJ NR
407277	TC1-S2-8.5	Benzo(b)fluoranthene	0.01 UJ	0.01 UJ NR
407277	TC1-S2-8.5	Benzo(k)fluoranthene	0.01 UJ	0.01 UJ NR
407277	TC1-S2-8.5	Indeno(1,2,3-cd)pyrene	0.01 UJ	0.01 UJ NR
407277	TC1-S2-8.5	Dibenz(a,h)anthracene	0.01 UJ	0.01 UJ NR
407277	TC1-S2-8.5	Benzo(g,h,i)perylene	0.01 UJ	0.01 UJ NR

mg/kg = milligrams per kilogram.

UJ = the result is non-detect and an estimated value.

In reports 407312 and 407277, all NWTPH-Dx water matrix detected diesel was identified by the laboratory as having chromatographic patterns that did not closely match the calibration standards. The associated diesel results were qualified with “J,” as estimated.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
407277	TCBH1-W-8.5	Diesel	790	790 J
407277	TCBH3-W-8.5	Diesel	1100	1100 J
407277	TCBH4-W-6.0	Diesel	120	120 J
407277	TCBH7-W-6.5	Diesel	56	56 J
407277	TC1-W-10.0	Diesel	120	120 J
407277	TC5-W10.0	Diesel	360	360 J
407312	TCBH5-W-4.5	Diesel	210	210 J

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
407312	TC6-W-10.0	Diesel	89	89 J
407312	TCBH5-W-4.5	Diesel	210	210 J

ug/L = micrograms per liter.

The data are considered acceptable for their intended use, with the appropriate data qualifiers assigned.

## HOLDING TIMES, PRESERVATION, AND SAMPLE STORAGE

### Holding Times

Extractions and analyses were performed within the recommended holding time criteria.

### Preservation and Sample Storage

In report 407277 additional and 407312 additional, FB noted in the case narrative that analysis was conducted from unpreserved sample containers on samples TCDup-W-10.0 (manganese) and TC2-W-10.0 (total metals) by USEPA Method 200.8. The results have been qualified with “J,” as estimated.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
407277 additional	TCDup-W-10.0	Total Manganese	1300	1300 J
407312 additional	TC2-W-10.0	Total Chromium	1.02	1.02 J
407312 additional	TC2-W-10.0	Total Arsenic	7.10	7.10 J
407312 additional	TC2-W-10.0	Total Selenium	1 U	1 UJ
407312 additional	TC2-W-10.0	Total Silver	1 U	1 UJ
407312 additional	TC2-W-10.0	Total Cadmium	1 U	1 UJ
407312 additional	TC2-W-10.0	Total Barium	125	125 J
407312 additional	TC2-W-10.0	Total Lead	1 U	1 UJ

U = the result is non-detect.

The remaining samples were preserved and stored appropriately. The temperature of samples upon receipt at the laboratory was not indicated on the chains of custody or in the reports. The reviewer confirmed with FB that sample receipt temperature was within the recommended temperature range of 2 to 6 degrees Celsius.

## BLANKS

### Method Blanks

Laboratory method blank analyses were performed at the required frequencies. For purposes of data qualification, the method blanks were associated with all samples prepared in the analytical batch. All laboratory method blanks were non-detect.

### Trip Blanks

Trip blanks were not submitted for this sampling event. At least one USEPA Method 8260C sample (TC1-W-10.0) was non-detect for all target analytes; thus, no further action was required.

### Equipment Rinsate Blanks

Equipment rinsate blanks were not required for this sampling event, as all samples were collected using dedicated, single-use equipment.

## SURROGATE RECOVERY RESULTS

The samples were spiked with surrogate compounds to evaluate laboratory performance on individual samples.

In report 407277, all USEPA Method 8260C direct sparge surrogate results for sample TCBH3-S-8.5 exceeded upper and lower acceptance limits because of matrix interference. The laboratory noted in the case narrative that the internal standard also exceeded acceptance criteria because of matrix interference. The associated non-detect result was qualified as estimated by the laboratory. No additional qualification is required.

In report 1407180, the NW-VPH method blank surrogate 1,4-difluorobenzene exceeded upper percent recovery acceptance limits. All method blank results were non-detect. No qualification was required.

All remaining surrogate recoveries were within acceptance limits.

## MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS

Matrix spike/matrix spike duplicate (MS/MSD) results are used to evaluate laboratory precision and accuracy. All MS/MSD samples were extracted and analyzed at the required frequency.

In reports 407277 and 407277 additional, the USEPA Method 200.8 water matrix MS/MSDs for batches 14-458, 14-459, and I4-507 exceeded the relative percent difference (RPD) for total and dissolved manganese. The samples used to prepare the MS/MSDs were from unrelated projects and/or had high concentrations of the target analyte. The remaining batch QC met acceptance criteria; thus, no results were qualified.

In report 407277, the USEPA Method 8260C water matrix MS exceeded the upper percent recovery acceptance limit for trichloroethene, at 107 percent. The exceedance was minor; thus, no results were qualified.

In report 407277, the USEPA Method 8260C soil matrix MS/MSD results were within all laboratory acceptance control limits; however, percent recoveries were low for dichlorodifluoromethane (13 and 10 percent) and chloromethane (44 and 38 percent). The batch laboratory control sample (LCS) also had low results for dichlorodifluoromethane that met laboratory control criteria, at 33 percent. Associated sample results were non-detect for chloromethane and dichlorodifluoromethane. USEPA National Functional Guidelines for volatile organic data review recommend qualification of non-detect results associated with low MS recoveries as follows: MS percent recoveries between the lower control limit and 20 percent result in “UJ” qualification, and MS percent recoveries that are less than 20 percent result in qualification based on the professional judgment of the reviewer. Non-detect results associated with MS/MSD percent recoveries of less than 20 percent have been qualified with “UR,” as rejected.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
407277	TC1-S2-8.5	Dichlorodifluoromethane	0.5 U	0.5 UR
407277	TC1-S2-8.5	Chloromethane	0.5 U	0.5 UJ
407277	TCBH3-S-8.5	Dichlorodifluoromethane	0.5 U	0.5 UR
407277	TCBH3-S-8.5	Chloromethane	0.5 U	0.5 UJ
407277	TC3-S-9.7	Dichlorodifluoromethane	0.5 U	0.5 UR
407277	TC3-S-9.7	Chloromethane	0.5 U	0.5 UJ
407277	TC3-S-15.0	Dichlorodifluoromethane	0.5 U	0.5 UR
407277	TC3-S-15.0	Chloromethane	0.5 U	0.5 UJ

In report 1407180, the USEPA Method 300.0 MS/MSD results for nitrate were below the lower percent recovery acceptance limit. The remaining batch QC had acceptable results. The sample used to prepare the MS/MSD was qualified as estimated, with “J,” for nitrate.

Report	Sample	Component	Original Result (mg/L)	Qualified Result (mg/L)
1407180	TC1-W-10.0	Nitrate	0.329	0.329 J

mg/L = milligrams per liter.

All remaining MS/MSD results were within acceptance limits for percent recovery and RPDs.

## LABORATORY DUPLICATE RESULTS

Duplicate results are used to evaluate laboratory precision. All laboratory duplicate samples were extracted and analyzed at the required frequency.

In report 1407180, the water matrix NW-EPH aliphatic and aromatic laboratory duplicates exceeded RPD acceptance limits for several aliphatic and aromatic hydrocarbon ranges. The laboratory noted for the aliphatic laboratory duplicate that the exceedances were due to sample matrix effect. The laboratory duplicates were prepared with a sample from an unrelated project; thus, no results were qualified. Additional QC sample results (when available) used for evaluating precision (LCS duplicates [LCSDs]) were with acceptance criteria.

All remaining laboratory duplicate RPDs were within acceptance limits.

## LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS

An LCS/LCSD is spiked with target analytes to provide information on laboratory precision and accuracy. The LCS/LCSD samples were extracted and analyzed at the required frequency.

In report 407277, the USEPA Method 8270C water matrix LCS/LCSD exceeded upper percent recovery acceptance limits for trichlorofluoromethane, 2,2-dichloropropane, and 1,1,1-trichloroethane. The associated samples were non-detect for these analytes; thus, no qualification was required.

In report 407277, the USEPA Method 8270C soil matrix LCS met acceptance criteria for dichlorodifluoromethane; however, the percent recovery was significantly low, at 33 percent, and associated MS/MSD had low percent recoveries. Associated sample results are qualified in the MS/MSD section above.

In report 1407180, water matrix NW-EPH LCS/LCSD results for C8-C10 and C10-C12 aromatic hydrocarbons were below the lower percent recovery acceptance limits. The LCS also had minor percent recovery exceedances for C12-C16 and C16-C21 aromatic hydrocarbons. The minor exceedances were not qualified. All sample results associated with the significant LCS/LCSD exceedances were qualified with “J,” as estimated, for detected results, and with “UJ,” as estimated, for non-detect results.

Report	Sample	Component	Original Result (ug/L)	Qualified Result (ug/L)
1407180	TC1-W-10.0	C8-C10 Aromatic Hydrocarbons	89.9	89.9 J
1407180	TC1-W-10.0	C10-C12 Aromatic Hydrocarbons	80.0 U	80.0 UJ
1407180	TC5-W-10.0	C8-C10 Aromatic Hydrocarbons	213 U	213 UJ
1407180	TC5-W-10.0	C10-C12 Aromatic Hydrocarbons	213 U	213 UJ

All remaining LCS/LCSD analytes were within acceptance limits for percent recovery and RPD.

## FIELD DUPLICATE RESULTS

Field duplicate samples measure both field and laboratory precision. Two field duplicates were submitted for analysis: in report 407277 (TC1-W-10.0/TCDup-W-10.0) and in report 407312 (TC2-S-6.5/TCDUP-S). MFA uses acceptance criteria of 100 percent RPD for results that are less than five times the method reporting limit (MRL), or 50 percent RPD for results that are greater than five times the MRL. Non-detect data are not used in the evaluation of field duplicate results. All field duplicate analytes were within the acceptance criteria.

## CONTINUING CALIBRATION VERIFICATION RESULTS

Continuing calibration verification (CCV) results are used to demonstrate instrument precision and accuracy through the end of the sample batch. CCV results were not reported by FB or FR. The reviewer confirmed with FB and FR that all CCVs met percent recovery acceptance criteria, with the following exception. In FR report 1407180, an NW-EPH CCV exceeded the upper percent recovery acceptance limit for C10-C12 aliphatic hydrocarbons; the associated samples were non-detect, so no results were qualified.

## REPORTING LIMITS

FB used routine reporting limits for non-detect results, except when samples required dilutions because of high analyte concentrations and/or matrix interferences. All USEPA Method 8270D SIM water samples were analyzed at 1:2 dilutions or higher, and all USEPA Method 8270D SIM soil samples were analyzed at 1:5 dilutions or higher. Multiple analyses at different dilutions were reported for some samples. Results associated with the lowest dilution factor and acceptable QC will be used; remaining results associated with higher dilutions or unacceptable QC will be qualified as “not reportable.”

## DATA PACKAGE

The data packages were reviewed for transcription errors, omissions, and anomalies. None were found.

## REFERENCES

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- FB. 2014. Quality assurance manual. Friedman & Bruya, Inc., Seattle, Washington.
- FR. 2014. Quality assurance manual. Fremont Analytical. Seattle, Washington.
- USEPA. 1986. Test methods for evaluating solid waste: physical/chemical methods. EPA-530/SW-846. U.S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. September (revision 6, February 2007).
- USEPA. 2008. USEPA contract laboratory program, national functional guidelines for organics data review. EPA 540/R-08/01. U.S. Environmental Protection Agency, Office of Emergency and Remedial Response. June.
- USEPA. 2010. USEPA contract laboratory program national functional guidelines for inorganic superfund data review. EPA 540/R-10/011. U.S. Environmental Protection Agency, Office of Superfund Remediation and Technology Innovation. January.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	Hydrocarbon Identification in Soil and Water
Method	NWTPH-HCID

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	Yes	Soil field dup non-detect.	
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA	Not reported.	
Batch	Method Blank	Yes/Yes		
	LCS/LCSD %	NA	Not reported.	
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA	Not reported. Field dup reported.	
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	NA		
	MDL	NA		
	Surrogates	Yes/Yes		

Samples reviewed (in bold):			
TCDUP-S	TC2-W-10.0	<b>TCBH14-S-8.5</b>	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	<b>TCBH10-S-4.0</b>	TCBH5-W-4.5
TC6-S-15.0	<b>TCBH13-S-4.5</b>	<b>TCBH13-W-4.5</b>	-
TCBH5-S-4.5	<b>TCBH12-S-3.5</b>	<b>TCBH11-S-4.7</b>	-
TCBH5-S-15.0	TC4-W-10.0	<b>TCBH10-W-4.0</b>	-

<b>Comments:</b>



# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	BTEX in Soil and Water
Method	USEPA 8021B

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes/Yes		
	LCS/LCSD %	Yes/Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes/Yes	Lab dups non-detect.	
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes/Yes		

Samples reviewed (in bold):			
TCDUP-S	TC2-W-10.0	<b>TCBH14-S-8.5</b>	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	<b>TCBH10-S-4.0</b>	TCBH5-W-4.5
TC6-S-15.0	<b>TCBH13-S-4.5</b>	<b>TCBH13-W-4.5</b>	-
TCBH5-S-4.5	<b>TCBH12-S-3.5</b>	<b>TCBH11-S-4.7</b>	-
TCBH5-S-15.0	TC4-W-10.0	<b>TCBH10-W-4.0</b>	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	BTEX and gasoline in Soil and Water
Method	USEPA 8021B/NWTPH-Gx

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	Yes	Soil field dup is non-detect.	
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes/Yes		
	LCS/LCSD %	Yes/Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes/Yes	Lab dups non-detect.	
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes/Yes		

Samples reviewed (in bold):			
<b>TCDUP-S</b>	<b>TC2-W-10.0</b>	TCBH14-S-8.5	<b>TC6-W-10.0</b>
<b>TC6-S-7.0</b>	<b>TCBH5-W-4.5</b>	TCBH10-S-4.0	<b>TCBH5-W-4.5</b>
<b>TC6-S-15.0</b>	TCBH13-S-4.5	TCBH13-W-4.5	-
<b>TCBH5-S-4.5</b>	TCBH12-S-3.5	TCBH11-S-4.7	-
<b>TCBH5-S-15.0</b>	<b>TC4-W-10.0</b>	TCBH10-W-4.0	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	Diesel and Motor Oil in Soil and Water
Method	NWTPH-Dx

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	Yes	Soil field dup is non-detect.	
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes/Yes		
	LCS/LCSD %	Yes/Yes		
	LCS/LCSD RPD	Yes	LCS/LCSD for water batch.	
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes	MS/MSD for soil batch.	
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes/Yes		

Samples reviewed (in bold):			
<b>TCDUP-S</b>	<b>TC2-W-10.0</b>	TCBH14-S-8.5	<b>TC6-W-10.0</b>
<b>TC6-S-7.0</b>	<b>TCBH5-W-4.5</b>	TCBH10-S-4.0	<b>TCBH5-W-4.5</b>
<b>TC6-S-15.0</b>	TCBH13-S-4.5	TCBH13-W-4.5	-
<b>TCBH5-S-4.5</b>	TCBH12-S-3.5	TCBH11-S-4.7	-
<b>TCBH5-S-15.0</b>	<b>TC4-W-10.0</b>	TCBH10-W-4.0	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	Dissolved Metals
Method	USEPA 200.8

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes/Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes/Yes	Lab dups non-detect.	
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Internal standards are within acceptance limits.	

Samples reviewed (in bold):			
TCDUP-S	<b>TC2-W-10.0</b>	TCBH14-S-8.5	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	TCBH10-S-4.0	TCBH5-W-4.5
TC6-S-15.0	TCBH13-S-4.5	TCBH13-W-4.5	-
TCBH5-S-4.5	TCBH12-S-3.5	TCBH11-S-4.7	-
TCBH5-S-15.0	TC4-W-10.0	TCBH10-W-4.0	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	Dissolved Mercury
Method	USEPA 1631E

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):			
TCDUP-S	<b>TC2-W-10.0</b>	TCBH14-S-8.5	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	TCBH10-S-4.0	TCBH5-W-4.5
TC6-S-15.0	TCBH13-S-4.5	TCBH13-W-4.5	-
TCBH5-S-4.5	TCBH12-S-3.5	TCBH11-S-4.7	-
TCBH5-S-15.0	TC4-W-10.0	TCBH10-W-4.0	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 4, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312
Analysis	Semivolatile Organic Compounds
Method	USEPA 8270D SIM

Reviewer	MEB
Date	8/4/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	NA		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):			
TCDUP-S	TC2-W-10.0	TCBH14-S-8.5	TC6-W-10.0
TC6-S-7.0	<b>TCBH5-W-4.5</b>	TCBH10-S-4.0	TCBH5-W-4.5
TC6-S-15.0	TCBH13-S-4.5	TCBH13-W-4.5	-
TCBH5-S-4.5	TCBH12-S-3.5	TCBH11-S-4.7	-
TCBH5-S-15.0	<b>TC4-W-10.0</b>	TCBH10-W-4.0	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 15, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312 additional
Analysis	Total Metals
Method	USEPA 200.8

Reviewer	MEB
Date	8/15/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Internal standards are within acceptance limits.	

Samples reviewed (in bold):			
TCDUP-S	<b>TC2-W-10.0</b>	TCBH14-S-8.5	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	TCBH10-S-4.0	TCBH5-W-4.5
TC6-S-15.0	TCBH13-S-4.5	TCBH13-W-4.5	-
TCBH5-S-4.5	TCBH12-S-3.5	TCBH11-S-4.7	-
TCBH5-S-15.0	TC4-W-10.0	TCBH10-W-4.0	-

Comments:
Lab noted in case narrative that sample was analyzed from unpreserved VOA. Qualify results with "J."

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 15, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407312 additional
Analysis	Total Mercury
Method	USEPA 1631E

Reviewer	MEB
Date	8/15/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):			
TCDUP-S	<b>TC2-W-10.0</b>	TCBH14-S-8.5	TC6-W-10.0
TC6-S-7.0	TCBH5-W-4.5	TCBH10-S-4.0	TCBH5-W-4.5
TC6-S-15.0	TCBH13-S-4.5	TCBH13-W-4.5	-
TCBH5-S-4.5	TCBH12-S-3.5	TCBH11-S-4.7	-
TCBH5-S-15.0	TC4-W-10.0	TCBH10-W-4.0	-

<b>Comments:</b>



# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Hydrocarbon Identification in soil and water
Method	NWTPH-HCID
Batch	04-1504, 04-1497

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	NA		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	NA		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	<b>TCBH6-S-4.8</b>	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	<b>TCBH6-W-4.8</b>	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Gasoline in Soil
Method	NWTPH-Gx
Batch	04-1463, 04-1465

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
<b>TC1-S2-8.5</b>	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
<b>TCBH3-S-8.5</b>	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	<b>TC3-S-9.7</b>	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	<b>TC3-S-15.0</b>	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	BTEX Compounds in Soil
Method	USEPA 8021B
Batch	04-1463, 04-1465 (shared with NWTPH-Gx)

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	<b>TCBH8-S-15.0</b>	<b>TC4-S-7.0</b>	<b>TC2-S-15.0</b>
<b>TCBH1-S-8.5</b>	<b>TCBH4-S-6.0</b>	TCBH8-W-9.5	<b>TC4-S-15.0</b>	TC1-W-10.0
TCBH1-W-8.5	<b>TCBH4-S-15.0</b>	<b>TCBH7-S-15.0</b>	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	<b>TCBH9-S-9.5</b>	TC3-S-9.7	TC3-W-10.0
<b>TCBH3-S-14.5</b>	TCBH6-W-4.8	<b>TCBH9-S-15.0</b>	TC3-S-15.0	-
<b>TCBH2-S-15.0</b>	<b>TCBH8-S-9.5</b>	TCBH9-W-6.5	<b>TC2-S-6.5</b>	-

Comments:

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277, 407277 additional
Analysis	Gasoline in Water
Method	NWTPH-Gx
Batch	04-1464

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	<b>TC5-W-10.0</b>
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
<b>TCBH3-W-8.5</b>	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	BTEX in Water
Method	USEPA 8021B
Batch	04-1464 (shared with gasoline)

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	<b>TCBH2-W-8.5</b>	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	<b>TCBH8-W-9.5</b>	TC4-S-15.0	TC1-W-10.0
<b>TCBH1-W-8.5</b>	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	<b>TC5-W-10.0</b>
TCBH3-S-8.5	<b>TCBH4-W-6.0</b>	<b>TCBH7-W-6.5</b>	TC5-S-15.0	<b>TCDup-W-10.0</b>
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	<b>TCBH6-W-4.8</b>	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	<b>TCBH9-W-6.5</b>	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Diesel and Motor Oil in Water
Method	NWTPH-Dx
Batch	04-1497

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	NA		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	<b>TCBH2-W-8.5</b>	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	<b>TCBH8-W-9.5</b>	TC4-S-15.0	<b>TC1-W-10.0</b>
<b>TCBH1-W-8.5</b>	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	<b>TC5-W-10.0</b>
TCBH3-S-8.5	<b>TCBH4-W-6.0</b>	<b>TCBH7-W-6.5</b>	TC5-S-15.0	TCDup-W-10.0
<b>TCBH3-W-8.5</b>	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	<b>TCBH9-W-6.5</b>	TC2-S-6.5	-

<b>Comments:</b>
All detected diesel results flagged by lab as not having chromatographic patterns that match the diesel standard.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Diesel and Motor Oil in Soil
Method	NWTPH-Dx
Batch	04-1495

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	NA		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
<b>TC1-S2-8.5</b>	TCBH2-W-8.5	<b>TCBH8-S-15.0</b>	<b>TC4-S-7.0</b>	<b>TC2-S-15.0</b>
<b>TCBH1-S-8.5</b>	<b>TCBH4-S-6.0</b>	TCBH8-W-9.5	<b>TC4-S-15.0</b>	TC1-W-10.0
TCBH1-W-8.5	<b>TCBH4-S-15.0</b>	<b>TCBH7-S-15.0</b>	<b>TC5-S-9.5</b>	TC5-W-10.0
<b>TCBH3-S-8.5</b>	TCBH4-W-6.0	TCBH7-W-6.5	<b>TC5-S-15.0</b>	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	<b>TCBH9-S-9.5</b>	<b>TC3-S-9.7</b>	TC3-W-10.0
<b>TCBH3-S-14.5</b>	TCBH6-W-4.8	<b>TCBH9-S-15.0</b>	<b>TC3-S-15.0</b>	-
<b>TCBH2-S-15.0</b>	<b>TCBH8-S-9.5</b>	TCBH9-W-6.5	<b>TC2-S-6.5</b>	-

Comments:

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Dissolved Metals
Method	USEPA 200.8
Batch	14-459

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	No	Mn RPD 29%. See comment.	
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Internal Standard acceptable.	

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
Only dissolved manganese requested/reported.
MS/MSD prepared with sample from unrelated project. Remaining QC acceptable; thus, no results qualified by reviewer.



# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277, 407277 additional
Analysis	Total Metals in Water
Method	USEPA 200.8
Batch	14-458, I4-507

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	No	Total Mn RPD 41%. See comment.	
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Internal Standard acceptable.	

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	<b>TCDup-W-10.0</b>
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
Cr, As, Se, Ag, Cd, Ba, Pb for sample TC3-W-10.0, Mn for sample TCDup-W-10.0.
MS/MSD prepared with sample with high concentration of total Mn. Remaining QC acceptable. No results qualified.
Case narrative states that total Mn for sample TCDup-W-10.0 was analyzed from unpreserved container. Qualify result as estimated (J).

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Total Metals in Soil
Method	USEPA 200.8
Batch	14-462

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Internal Standard acceptable.	

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	<b>TC2-S-15.0</b>
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	<b>TC3-S-9.7</b>	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	<b>TC3-S-15.0</b>	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	<b>TC2-S-6.5</b>	-

<b>Comments:</b>
Cr, As, Se, Ag, Cd, Ba, Pb

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Total Mercury in Water and Soil
Method	USEPA 1631E
Batch	Both analyzed 7/22/2014

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	<b>TC2-S-15.0</b>
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	<b>TC3-S-9.7</b>	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	<b>TC3-S-15.0</b>	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	<b>TC2-S-6.5</b>	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	1,2-Dibromoethane in Water
Method	USEPA 8011 Modified
Batch	Analyzed 7/23/2014

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
<b>TCBH3-W-8.5</b>	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>
Surrogates not required/reported for USEPA Method 8011.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	1,2-Dibromoethane in Soil
Method	USEPA 8260C—Direct Sparge
Batch	04-1480

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	No		J

Samples reviewed (in bold):				
<b>TC1-S2-8.5</b>	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
<b>TCBH3-S-8.5</b>	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	<b>TC3-S-9.7</b>	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	<b>TC3-S-15.0</b>	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
TCBH3-S-8.5 surrogates low/high because of matrix interference. Lab "J" qualified result.
TC3-S-9.7 lab "J" qualified result because of internal standard failure.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Volatile Organic Compounds in Water
Method	USEPA 8260C
Batch	04-1481

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA	Trip blank recommended per method.	
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	No	LCS/LCSD high recoveries; see comments.	
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	NA		
	MS/MSD %	No	MS TCE = 107%	
	MS/MSD RPD	NA		
General	Dilution	Yes	TCBH3-W-8.5 reported at 1:0 and 1:10 dilutions. See comment.	
	Reporting Limit	NA		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
<b>TCBH3-W-8.5</b>	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
TCBH3-W-8.5 reanalyzed at 1:10 because of analytes that exceeded calibration window for the 1:0 dilution.
LCS/LCSD—trichlorofluoromethane = 132/128%, 2,2-dichloropropane = 167, 154%, 1,1,1-trichloroethane = 123/118%.
Associated samples are non-detect; thus no results are qualified.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Volatile Organic Compounds in Soil
Method	USEPA 8260C
Batch	04-1479

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	No	See comments.	UJ
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	No	See comments.	UJ
	MS/MSD RPD	No	Dichlorodifluoromethane RPD = 26%. Samples are ND.	
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
<b>TC1-S2-8.5</b>	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
<b>TCBH3-S-8.5</b>	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	<b>TC3-S-9.7</b>	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	<b>TC3-S-15.0</b>	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
Reviewer assessed MS/MSD against 40-150% limits. Dichlorodifluoromethane (DCDFM) MS= 13%, MSD = 10%.
MSD chloromethane = 38%, MS is low but passing (44%).
MS/MSD prepared with TC1-S2-8.5. UJ flag sample results for DCDFM and chloromethane.
LCS DCDFM = 33%. UJ qualify all associated results, which are non-detect.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Polycyclic Aromatic Hydrocarbons in Soil
Method	USEPA 8270D SIM
Batch	04-1500

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes	Analyzed at 1:5.	
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	NA		
	MS/MSD %	Yes	1:5 dilution.	
	MS/MSD RPD	Yes		
General	Dilution	Yes	All analyzed at dilution 1:5 or higher. No reason noted.	
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes	Anthracene-d10, 1:50 analysis of TC1-S2-8.5 = 150% (OK)	

Samples reviewed (in bold):				
<b>TC1-S2-8.5</b>	TCBH2-W-8.5	TCBH8-S-15.0	<b>TC4-S-7.0</b>	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	<b>TC4-S-15.0</b>	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	<b>TC5-S-15.0</b>	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
TC1-S2-8.5 "J" qualified for "benzo" compounds by lab because of internal standard failure. Sample reanalyzed at 1:50.
TC1-S2-8.5 1:50 surrogate anthracene-d10 150% is at the upper limit. Lab flagged surrogates because of the dilution.



# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 6, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	407277
Analysis	Polycyclic Aromatic Hydrocarbons in Water
Method	USEPA 8270D SIM
Batch	04-1498

Reviewer	MEB
Date	8/6/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes	Temp not indicated. Confirmed temp is acceptable.	
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes	Analyzed at 1:2.	
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	NA		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes	All analyzed at dilution 1:2 or higher. No reason noted.	
	Reporting Limit	NA		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	<b>TC5-W-10.0</b>
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 11, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	1407180
Analysis	Ferrous Iron
Method	SM 3500 Fe B
Batch	R15698

Reviewer	MEB
Date	8/11/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes		
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	Yes		
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 11, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	1407180
Analysis	Anions
Method	USEPA 300.0
Batch	R15690

Reviewer	MEB
Date	8/11/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes		
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	No	Nitrate MS = 67.6%, MSD = 61.3% (qualify TC1-W-10.0)	J
	MS/MSD RPD	Yes		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	NA		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 11, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	1407180
Analysis	EPH—Water Matrix
Method	NW-EPH
Batch	8192

Reviewer	MEB
Date	8/11/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes		
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA	Not reported. Confirmed with lab, one CCV high C10-C12 aliphatic. Samples non-detect: no qualification.	
Batch	Method Blank	Yes		
	LCS/LCSD %	No	Ali C21-C34 = 69.7%, LCSD OK, no qualification of Ali.	J
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	No	Ali C8-C10, Ali C10-C12 RPD (see comments)	
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	Yes		

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	<b>TC5-W-10.0</b>
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

Comments:
A second analysis of the aliphatic lab dup confirmed RPD exceedances due to sample matrix.
The aliphatic lab dup was prepared with sample from unrelated project, so no results are qualified.
The aromatic LCS/LCSD had low recoveries for Aro C8-C10 and Aro C10-C12. LCS also has slightly low recovery for C12-C16 and slightly high recovery for C16-C21. Qualify (J) all Aro C8-C10 and Aro C10-C12 for batch 8192.

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 11, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	1407180
Analysis	VPH—Water Matrix
Method	NW-VPH
Batch	R15782

Reviewer	MEB
Date	8/11/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes		
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	Yes		
	Lab Dup RPD	NA		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	No	Method blank surr 1,4-dfb = 148% (no qualification)	

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	<b>TC1-W-10.0</b>
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	TC5-S-15.0	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	<b>TC3-W-10.0</b>
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# DATA VALIDATION TRACKING

PROJECT NO. 0714.02.02 | AUGUST 14, 2014 | SKAGIT COUNTY

This document tracks Stage 2A validation completion for the analysis indicated below.

Lab Report	1407180
Analysis	EPH—Soil Matrix
Method	NW-EPH
Batch	8313

Reviewer	MEB
Date	8/14/2014

	Validation Area	Acceptable Yes/No/NA	Comments	Q
Sample	Temperature	Yes		
	Holding Time	Yes		
	Trip Blank	NA		
	Field/Eq. Blank	NA		
	Field Dup RPD	NA		
Calibr.	CCB	NA		
	ICV	NA		
	CCV	NA		
Batch	Method Blank	Yes		
	LCS/LCSD %	Yes		
	LCS/LCSD RPD	NA		
	Lab Dup RPD	Yes		
	MS/MSD %	NA		
	MS/MSD RPD	NA		
General	Dilution	Yes		
	Reporting Limit	Yes		
	MDL	NA		
	Surrogates	No	Lab dup surrogate low. Sample is OK. No qualification.	

Samples reviewed (in bold):				
TC1-S2-8.5	TCBH2-W-8.5	TCBH8-S-15.0	TC4-S-7.0	TC2-S-15.0
TCBH1-S-8.5	TCBH4-S-6.0	TCBH8-W-9.5	TC4-S-15.0	TC1-W-10.0
TCBH1-W-8.5	TCBH4-S-15.0	TCBH7-S-15.0	TC5-S-9.5	TC5-W-10.0
TCBH3-S-8.5	TCBH4-W-6.0	TCBH7-W-6.5	<b>TC5-S-15.0</b>	TCDup-W-10.0
TCBH3-W-8.5	TCBH6-S-4.8	TCBH9-S-9.5	TC3-S-9.7	TC3-W-10.0
TCBH3-S-14.5	TCBH6-W-4.8	TCBH9-S-15.0	TC3-S-15.0	-
TCBH2-S-15.0	TCBH8-S-9.5	TCBH9-W-6.5	TC2-S-6.5	-

<b>Comments:</b>

# APPENDIX F

## TERRESTRIAL ECOLOGICAL EVALUATION





# Voluntary Cleanup Program

## Washington State Department of Ecology Toxics Cleanup Program

### TERRESTRIAL ECOLOGICAL EVALUATION FORM

Under the Model Toxics Control Act (MTCA), a terrestrial ecological evaluation is necessary if hazardous substances are released into the soils at a Site. In the event of such a release, you must take one of the following three actions as part of your investigation and cleanup of the Site:

1. Document an exclusion from further evaluation using the criteria in WAC 173-340-7491.
2. Conduct a simplified evaluation as set forth in WAC 173-340-7492.
3. Conduct a site-specific evaluation as set forth in WAC 173-340-7493.

When requesting a written opinion under the Voluntary Cleanup Program (VCP), you must complete this form and submit it to the Department of Ecology (Ecology). The form documents the type and results of your evaluation. You still need to submit your evaluation as part of your cleanup plan or report.

If you have questions about how to conduct a terrestrial ecological evaluation, please contact the Ecology site manager assigned to your Site. For additional guidance, please refer to [www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm](http://www.ecy.wa.gov/programs/tcp/policies/terrestrial/TEEHome.htm).

#### Step 1: IDENTIFY HAZARDOUS WASTE SITE

Please identify below the hazardous waste site for which you are documenting an evaluation.

Facility/Site Name: Truck City Stop Site

Facility/Site Address: 3216 Old Highway 99 South, Mount Vernon, WA 98273

Facility/Site No: 2673; Cleanup Site ID: 5176 | VCP Project No.:

#### Step 2: IDENTIFY EVALUATOR

Please identify below the person who conducted the evaluation and their contact information.

Name: Yen-Vy Van | Title: Senior Hydrogeologist

Organization: Maul Foster Alongi, Inc.

Mailing address: 411 First Avenue, Suite 610

City: Seattle | State: WA | Zip code: 98104

Phone: 206-858-7618 | Fax: | E-mail: [yvan@maulfoster.com](mailto:yvan@maulfoster.com)



### Step 3: DOCUMENT EVALUATION TYPE AND RESULTS

#### A. Exclusion from further evaluation.

##### 1. Does the Site qualify for an exclusion from further evaluation?

- Yes *If you answered "YES," then answer **Question 2**.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3B** of this form.*

##### 2. What is the basis for the exclusion? Check all that apply. Then skip to **Step 4** of this form.

Point of Compliance: WAC 173-340-7491(1)(a)

- All soil contamination is, or will be,\* at least 15 feet below the surface.
- All soil contamination is, or will be,\* at least 6 feet below the surface (or alternative depth if approved by Ecology), and institutional controls are used to manage remaining contamination.

Barriers to Exposure: WAC 173-340-7491(1)(b)

- All contaminated soil, is or will be,\* covered by physical barriers (such as buildings or paved roads) that prevent exposure to plants and wildlife, and institutional controls are used to manage remaining contamination.

Undeveloped Land: WAC 173-340-7491(1)(c)

- There is less than 0.25 acres of contiguous<sup>#</sup> undeveloped<sup>±</sup> land on or within 500 feet of any area of the Site and any of the following chemicals is present: chlorinated dioxins or furans, PCB mixtures, DDT, DDE, DDD, aldrin, chlordane, dieldrin, endosulfan, endrin, heptachlor, heptachlor epoxide, benzene hexachloride, toxaphene, hexachlorobenzene, pentachlorophenol, or pentachlorobenzene.
- For sites not containing any of the chemicals mentioned above, there is less than 1.5 acres of contiguous<sup>#</sup> undeveloped<sup>±</sup> land on or within 500 feet of any area of the Site.

Background Concentrations: WAC 173-340-7491(1)(d)

- Concentrations of hazardous substances in soil do not exceed natural background levels as described in WAC 173-340-200 and 173-340-709.

\* An exclusion based on future land use must have a completion date for future development that is acceptable to Ecology.

<sup>±</sup> "Undeveloped land" is land that is not covered by building, roads, paved areas, or other barriers that would prevent wildlife from feeding on plants, earthworms, insects, or other food in or on the soil.

<sup>#</sup> "Contiguous" undeveloped land is an area of undeveloped land that is not divided into smaller areas of highways, extensive paving, or similar structures that are likely to reduce the potential use of the overall area by wildlife.

## B. Simplified evaluation.

### 1. Does the Site qualify for a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 2** below.*
- No or Unknown *If you answered "NO" or "UNKNOWN," then skip to **Step 3C** of this form.*

### 2. Did you conduct a simplified evaluation?

- Yes *If you answered "YES," then answer **Question 3** below.*
- No *If you answered "NO," then skip to **Step 3C** of this form.*

### 3. Was further evaluation necessary?

- Yes *If you answered "YES," then answer **Question 4** below.*
- No *If you answered "NO," then answer **Question 5** below.*

### 4. If further evaluation was necessary, what did you do?

- Used the concentrations listed in Table 749-2 as cleanup levels. *If so, then skip to **Step 4** of this form.*
- Conducted a site-specific evaluation. *If so, then skip to **Step 3C** of this form.*

### 5. If no further evaluation was necessary, what was the reason? Check all that apply. Then skip to **Step 4** of this form.

#### Exposure Analysis: WAC 173-340-7492(2)(a)

- Area of soil contamination at the Site is not more than 350 square feet.
- Current or planned land use makes wildlife exposure unlikely. Used Table 749-1.

#### Pathway Analysis: WAC 173-340-7492(2)(b)

- No potential exposure pathways from soil contamination to ecological receptors.

#### Contaminant Analysis: WAC 173-340-7492(2)(c)

- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations that exceed the values listed in Table 749-2.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations that exceed the values listed in Table 749-2, and institutional controls are used to manage remaining contamination.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 15 feet at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays.
- No contaminant listed in Table 749-2 is, or will be, present in the upper 6 feet (or alternative depth if approved by Ecology) at concentrations likely to be toxic or have the potential to bioaccumulate as determined using Ecology-approved bioassays, and institutional controls are used to manage remaining contamination.

**C. Site-specific evaluation.** A site-specific evaluation process consists of two parts: (1) formulating the problem, and (2) selecting the methods for addressing the identified problem. Both steps require consultation with and approval by Ecology. See WAC 173-340-7493(1)(c).

**1. Was there a problem?** See WAC 173-340-7493(2).

- Yes *If you answered "YES," then answer **Question 2** below.*
- No *If you answered "NO," then identify the reason here and then skip to **Question 5** below:*
- No issues were identified during the problem formulation step.
  - While issues were identified, those issues were addressed by the cleanup actions for protecting human health.

**2. What did you do to resolve the problem?** See WAC 173-340-7493(3).

- Used the concentrations listed in Table 749-3 as cleanup levels. *If so, then skip to **Question 5** below.*
- Used one or more of the methods listed in WAC 173-340-7493(3) to evaluate and address the identified problem. *If so, then answer **Questions 3 and 4** below.*

**3. If you conducted further site-specific evaluations, what methods did you use?**

*Check all that apply. See WAC 173-340-7493(3).*

- Literature surveys.
- Soil bioassays.
- Wildlife exposure model.
- Biomarkers.
- Site-specific field studies.
- Weight of evidence.
- Other methods approved by Ecology. If so, please specify:

**4. What was the result of those evaluations?**

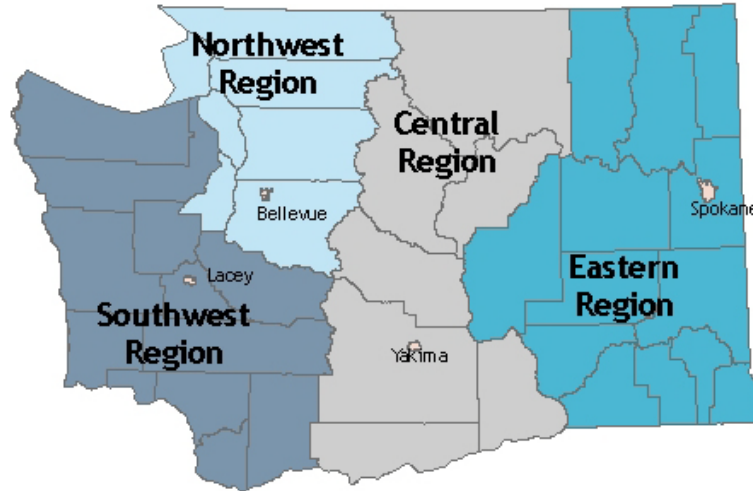
- Confirmed there was no problem.
- Confirmed there was a problem and established site-specific cleanup levels.

**5. Have you already obtained Ecology's approval of both your problem formulation and problem resolution steps?**

- Yes *If so, please identify the Ecology staff who approved those steps:*
- No

## Step 4: SUBMITTAL

Please mail your completed form to the Ecology site manager assigned to your Site. If a site manager has not yet been assigned, please mail your completed form to the Ecology regional office for the County in which your Site is located.



<b>Northwest Region:</b> Attn: Sara Nied 3190 160 <sup>th</sup> Ave. SE Bellevue, WA 98008-5452	<b>Central Region:</b> Attn: Mark Dunbar 15 W. Yakima Ave., Suite 200 Yakima, WA 98902
<b>Southwest Region:</b> Attn: Scott Rose P.O. Box 47775 Olympia, WA 98504-7775	<b>Eastern Region:</b> Attn: Patti Carter N. 4601 Monroe Spokane WA 99205-1295

If you need this publication in an alternate format, please call the Toxics Cleanup Program at 360-407-7170. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.