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Memorandum

To: Mark Nelson, Nel/Son Distributing, Inc.

Copies: Dianne K. Conway and Gordon Thomas, Honeywell LLP

From: Kristin Anderson, Floyd|Snider

Date: April 26, 2021

Project No: NelSon-Granite Falls

Re: **Data Summary for the Former NelSon Petroleum Property**

This data summary memorandum was prepared on behalf of Nel/Son Distributing, Inc. (NelSon Distributing) doing business as Nelson Petroleum. It summarizes the data collected to date at NelSon Distributing's former bulk-fuel facility in Granite Falls, Washington (Property; also known as the former NelSon Petroleum Property). The Property is currently enrolled in the Washington State Department of Ecology (Ecology) Voluntary Cleanup Program (VCP) under site ID number NW2982. This memorandum contains all information necessary to support request of a No Further Action determination from Ecology for the Site.

PROPERTY HISTORY

The Property is located at 201 W Stanley Street in Granite Falls, Washington. The southern portion of the Property is the location of a former bulk-fuel facility that was operated and reconfigured under various ownership between 1938 and 2016 (SD&C 2008). The bulk-fuel facility was most recently operated by NelSon Distributing. A railroad spur of the Northern Pacific Railroad previously ran along the northern Property boundary, and a passenger depot was located on the north-adjacent property and extended onto the northwest corner of the Property (GFHS 2015). The railway was operational from approximately the mid-1890s to the early 1930s (Dorpat 2011).

An initial investigation of the Property was completed on behalf of a potential purchaser in 2003 (EAI 2003). Soil and reconnaissance groundwater samples collected during this investigation identified petroleum contamination consisting primarily of gasoline-range organics (GRO) and diesel-range organics (DRO) exceeding the applicable Model Toxics Control Act (MTCA) Method A cleanup levels (CULs) in soil in the vicinity of the bulk fuel facility. Petroleum was also detected at elevated concentrations in groundwater reconnaissance samples. The results of groundwater reconnaissance sampling were confirmed by permanent monitoring wells installed along the perimeter of the bulk-fuel facility in preparation for a remedial excavation (SD&C 2016a).

Petroleum-contaminated soil located on the Property was removed by excavation in 2016 (SD&C 2016b). Additional investigations completed on the Property following the remedial excavation have included groundwater monitoring to assess post-cleanup conditions, additional soil sampling to assess off-property petroleum impacts, and additional soil and groundwater sampling to characterize the northern portion of the Property. The results of the remedial excavation and subsequent investigations are summarized in this memorandum.

PROPERTY AND SURROUNDING LAND USE

The Property is located within the Central Business District (CBD) of the City of Granite Falls (City). Per the City's Comprehensive Plan (City of Granite Falls 2015), the CBD is the "primary commercial area" for the City. The Property is expected to remain commercial use for the foreseeable future in accordance with the City's Comprehensive Plan, which identifies the CBD as a primary source of economic development and target for increased commercial development. The Property is currently vacant and fenced on its east, west, and south sides. The southern portion of the Property is covered with crushed gravel surfacing and the northern portion is vegetated primarily with second-growth trees and other pioneering plants (grasses, Himalayan blackberry, etc.). A partial silt fence separates the crushed gravel surfaced area from the vegetated area.

The Property is bordered by additional properties designated as CBD to the east, west, and north; a Shell service station is located on the east-adjacent property, an appliance rental company is located on the west-adjacent property, and the north-adjacent property is clear-cut and undeveloped. The Property is bordered to the south by the City-owned W Stanley Street right-of-way (ROW) and beyond by a one-parcel City park on the south side of W Stanley Street.

Leaking underground storage tanks (LUSTs) containing petroleum in the immediate vicinity have been documented in Ecology's LUST database. Documented LUST sites include the former Stanley Street Market to the east of the Property at the current Shell service station and the former Bob & Carol's Deli Mart located to the southeast of the Property.

PROPERTY GEOLOGY AND HYDROGEOLOGY

The Property is located in Granite Falls in the western foothills of the Cascade mountain range. Overall topography in the vicinity slopes to the southwest, toward the Pilchuck River approximately 0.5 miles to the southwest.

Soils encountered typically consisted of topsoil underlain by a layer of peat and silt interbedded with silty sand and then water-bearing sand encountered at depths ranging from approximately 5.5 to 8.5 feet below ground surface (bgs). A consolidated unit of glacial till has been encountered at the Property at approximately 16 feet bgs (SD&C 2016a).

Groundwater at the Property is typically encountered in the water-bearing sand during soil boring and test pit investigation. In monitoring wells, measured depth to groundwater varies

seasonally and is typically between 1 and 4 feet. The observed direction of lateral groundwater flow on the Property is to the southwest, generally in the direction of the slope of surface topography and toward the Pilchuck River.

Where Property soils have been impacted by petroleum, these impacts are typically observed immediately above and within the water table interval, with lesser impacts in the saturated zone below approximately 9 feet bgs.

SUMMARY OF PREVIOUS INVESTIGATIONS

Previous investigations completed since preparations for remedial excavation in 2015 are summarized below. Earlier investigations completed before remediation, which are not representative of post-remediation conditions, are not discussed in this memorandum. Property features, including investigation locations, are shown on Figure 1.

Slotta Design and Construction 2015 Subsurface Investigation

At the request of Ecology, Slotta Design and Construction (SD&C) collected subsurface data in support of remedial-excavation planning. The scope of the investigation included collection of soil samples from seven direct-push borings within and surrounding the bulk-fuel facility. Five of the borings at the perimeter of the planned excavation were completed as monitoring wells with pre-packed well screens and designated MW-01 through MW-05 (refer to Figure 1). Initial groundwater samples from these wells indicated petroleum impacts primarily to the south and southwest of the bulk fuel facility and lesser impacts in groundwater to the east, west, and northwest. Detailed field observations and results from this investigation were reported to Ecology in SD&C's Subsurface Investigation Report prepared in January 2016 (SD&C 2016a). In situ soil and groundwater data from the investigation are included in the Property-wide soil and groundwater quality summaries presented in this memorandum. Boring logs for MW-01 through MW-05 are included in Attachment 1.

Slotta Design and Construction 2016 Remedial Excavation

SD&C oversaw excavation in June and July 2016 to remove the bulk-fuel-facility structures and the on-property extents of petroleum-contaminated soil associated with bulk fuel facility operations. Excavation was completed to depths between 7 and 9 feet bgs, extending as close as practicable to property lines to the east and south and beyond the property line up to the neighboring utility corridor to the southwest; the approximate final excavation extents are shown on Figure 1. A total of 2,685 tons of petroleum-contaminated soil was excavated and hauled offsite for disposal. Soil quality at the extents of the excavation was documented by confirmation samples, including 10 sidewall samples and 6 base samples (refer to Figure 1). Sidewall samples collected from the south and southwest portion of the excavation indicated that soil contamination likely extended off-property in these areas. The excavation also removed rail ballast-type fill material overlying a peat-rich material presumed to be the former ground surface at approximately 4 feet bgs to the northeast of the former bulk fuel facility. Detailed field

observations and results from the remedial excavation were reported to Ecology in SD&C's Site Demolition and Soil Excavation Report prepared in August 2016 (SD&C 2016b). In situ soil data from this investigation are included in the Property-wide soil quality summary presented in this memorandum.

Slotta Design and Construction 2016 Test Pit Exploration

After completion of the remedial excavation, SD&C oversaw excavation of 10 test pits in the northern portion of the property to characterize potential petroleum impacts from the former rail line. The test pits, designated TP-11 through TP-20 (refer to Figure 1) were advanced to 10 feet bgs and soil samples were collected from each test pit. Groundwater reconnaissance samples were also collected from temporary sample points within the test pits and contained elevated concentrations of oil-range organics (ORO) with poor matches to the chromatographic standard. These impacts were attributed to potential former rail operations in the report summarizing the investigation; however, groundwater grab samples are typically highly turbid, and, therefore, these samples are presumed impacted by abundant decaying organics and peat at depth in this portion of the Property. Soil samples collected from the test pits indicated that petroleum impacts due to the rail line were not likely present on the northern portion of the Property. Detailed field observations and results from the investigation were reported to Ecology in SD&C's Subsurface Soil and Groundwater Investigation Report prepared in December 2016 (SD&C 2017). Soil data from this investigation are included in the Property-wide soil quality summary presented in this memorandum. Test pit logs for TP-11 through TP-20 are included in Attachment 1.

Floyd|Snider 2019 Test Pit Investigation

Floyd|Snider oversaw excavation of three test pits in the W Stanley Street ROW south of the property to characterize petroleum impacts in off-property soil during sidewalk improvements conducted by the City in August 2019. The test pits, designated FSTP-05 through FSTP-07 (refer to Figure 1), were advanced to a depth of 5 feet bgs. Shallow fill soils consisting of sand and gravel with peat, debris, and organic odors indicating poor-quality fill were present in the ROW extending to approximately 3 feet bgs. The fill soil was underlain by a sand and gravel unit without debris. At test pits FSTP-05 and FSTP-06, strong petroleum odors, staining, and elevated headspace volatile organic compound (VOC) concentrations exceeding 100 parts per million by volume measured using a photoionization detector (PID) were encountered at 4 feet bgs, consistent with the previous observations on-property. At test pit FSTP-07, staining was not observed; however, soil with an oily appearance, elevated PID reading, and petroleum odor was encountered at 5 feet bgs. The test-pit exploration was stopped at FSTP-07 due to the change in field observations potentially indicating a separate or commingled source. Laboratory analytical data from the test-pit samples were consistent with field observations and indicated petroleum impacts at all test-pit locations. Soil data from this investigation are included in the Property-wide soil quality summary presented in this memorandum. Test pit

logs for FSTP-05 through FSTP-07 are included in Attachment 1, and laboratory analytical reports are presented in Attachment 2.

Floyd|Snider 2020 Data Gaps Investigation

Floyd|Snider completed additional soil borings and installed monitoring wells in April 2020 to fulfill the remaining data gaps for the Property identified in coordination with Ecology. The scope of this investigation included the following:

- Installation of four direct-push borings, designated FS-01 through FS-03 and FS-13 (refer to Figure 1), on the adjacent property to west to delineate residual petroleum impacts
- Advancement of seven direct-push borings, designated FS-04 through FS-07 and FS-10 through FS-12 (refer to Figure 1), in the W Stanley Street ROW to delineate the lateral extent of petroleum impacts in off-property soil
- Installation two direct-push borings, designated FS-08 and FS-09 (refer to Figure 1), along the eastern property line to document attenuation of slightly elevated petroleum detections close to the CULs at the locations of prior excavation sidewall confirmation samples
- Advancement of five direct-push borings completed with prepacked monitoring wells, designated MW-06 through MW-10 (refer to Figure 1) in the northern portion of the Property to further assess soil and groundwater quality in the vicinity of the former rail line

Borings were advanced to a depth of 10 feet bgs. Soils encountered typically consisted of topsoil underlain by a layer of peat and silt interbedded with silty sand. In the northern portion of the Property, borings were situated in areas that were accessible between trees and other larger established vegetation; however, void spaces due to tree roots limited sample recovery in some locations. Rail ballast was not encountered above the peat layer at any location, suggesting that ballast associated with the rail line was removed along with the rail structure, and ballast observed elsewhere on the Property was likely placed for construction of the bulk fuel facility.

Poorly graded clean sand was encountered at depths ranging from 5.5 to 8.5 feet bgs. At the time of drilling, saturated soil was typically encountered in the poorly graded clean sand in the southern portion of the Property and in shallower interbeds of silty sand on the northern portion of the Property. A surface fill layer consisting of well-graded sand and gravel placed above the topsoil was observed in the driveway of the west-adjacent property and in the ROW south of the property line. A sandy gravel resembling gravel borrow and presumed to be excavation backfill was encountered at the surface of FS-08 and to a depth of 9.5 feet bgs at FS-09, both advanced along the approximate eastern edge of the remedial excavation. Historical materials, such as rail ballast, construction/demolition debris, or other artifacts

associated with the former rail line and depot, were not encountered in any samples. A thin layer of fine gravel was encountered below the topsoil at approximately 1 foot bgs at MW-08. The wooded portion of the Property appeared to be recently occupied by persons camping, and numerous small areas with evidence of dumping of trash and burning were observed interspersed with trees and vegetation.

Field indications of petroleum contamination including odors, staining, sheen, and elevated headspace VOC concentrations measured with a PID were encountered in borings to the west and south of the Property, including FS-01, FS-04 through FS-07, FS-10, and FS-11. The depth interval of observed soil impacts was thickest in the western portion of the ROW in the vicinity of FS-05 and FS-06, where impacts extended from approximately 3 to 7 feet bgs. The impacted interval thinned significantly to the east and northwest and was generally limited to the water table interval between approximately 5 and 6 feet bgs. Indications of contamination were observed to extend only a short distance—approximately 20 feet or less—onto the adjacent property to the west and were not encountered in borings along the eastern property line or the northern portion of the Property. Soil boring and monitoring well logs presenting detailed observations at each boring are included in Attachment 1.

Samples for laboratory analysis were collected from the most heavily impacted intervals determined on the basis of field observations and from the underlying intervals without field indications of contamination. At boring locations where field indications of petroleum were not observed, samples were collected between approximately 4.5 and 6 feet bgs, the interval where the greatest petroleum impacts have been observed at the Property. A surface sample was also collected from MW-06 to characterize shallow soil in the vicinity of the former rail depot, and the fine gravel encountered at MW-08 was also sampled for potential impacts from former rail operations. Laboratory analytical results were well-correlated with field observations and demonstrated petroleum impacts to soil to the west and south of the Property. Soil data from this investigation are discussed in further detail in the Property-wide soil quality summary presented in this memorandum. Laboratory analytical reports are included in Attachment 2.

Slotta Design and Construction and Floyd|Snider Groundwater Monitoring 2016 to 2020

Groundwater samples were collected by SD&C from MW-01 through MW-05 during 12 monitoring events, including one pre-excavation event and nine additional post-excavation events. Detailed observations and results from these monitoring events were reported in various reports to Ecology, including the January 2016 Subsurface Investigation Report (SD&C 2016a), December 2016 Subsurface Soil and Groundwater Investigation Report (SD&C 2017), and quarterly monitoring reports covering the monitoring period from December 2016 to September 2019.

Wells MW-01 through MW-05 were additionally sampled by Floyd|Snider in December 2018 and March/April 2019, and wells MW-01 through MW-10 were sampled during a final monitoring

event completed in May 2020. During all sampling events, field indications of contamination, such as odor or sheen, were not encountered in groundwater at any monitoring well location.

During the March/April 2019 and May 2020 monitoring events, samples with detections of petroleum compounds (primarily ORO), qualified by the laboratory as poor matches to the chromatographic standard, were additionally analyzed by silica gel cleanup to assess the presence of naturally occurring organics and/or fuel metabolites in groundwater.

Groundwater data are discussed in detail in the Property-wide groundwater summary presented in this memorandum. Laboratory analytical reports for the Floyd|Snider monitoring events are included in Attachment 2.

SUMMARY OF SOIL QUALITY

Analytical data for soil remaining at the Property are discussed in this section. Sample results are discussed relative to the MTCA Method A CULs for unrestricted property usage as a conservative measure; however, because the Property is zoned in the CBD, direct contact with Property soil by members of the public is unlikely. Analytical results for petroleum constituents including benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds; GRO; DRO; and ORO are summarized in Table 1, and results for metals and semivolatile organic compounds (SVOCs) are summarized in Table 2.

Overall, soil data demonstrate that the 2016 remedial excavation removed the on-property extents of contamination associated with former bulk fuel facility operations. Remaining off-property soils surrounding the southwest corner of the Property are contaminated primarily by GRO and to a lesser extent by benzene and DRO; the remaining BTEX compounds and ORO did not exceed the applicable CULs in any in situ soil samples. All in situ soil sample results for benzene, GRO, and DRO collected between 2015 and 2020 are shown on Figures 2, 3, and 4, respectively.

Benzene exceeding the MTCA Method A CUL, as shown on Figure 2, is limited to the area immediately west of the Property where the 2016 remedial excavation was stopped due to the utility corridor. The excavation base sample A2F3 in this area and soil borings FS-01 and FS-05 suggest that benzene exceeding the CUL extends deeper to the west and is present from approximately 6.5 feet to at least 9 feet bgs, below the depth of other petroleum constituent impacts. In the ROW to the southwest at FS-04, however, benzene exceeding the CUL is limited to shallow soil above approximately 3 feet bgs (refer to Table 1). Benzene exceeding the CUL is delineated on the adjacent property to the west by non-detect results at FS-13, FS-02, and FS-03.

GRO exceeding the MTCA Method A CUL is the most widespread contaminant in the vicinity of the Property, as shown on Figure 3. Elevated GRO was detected in samples on the adjacent property to the west and in all samples collected in the ROW to the south of the Property. GRO exceeding the CUL is delineated on the west-adjacent property by results that are non-detect or

less than the CUL at FS-13, FS-02, and FS-03 and is estimated to extend only approximately 20 feet onto this property. At FS-12, collected farthest to the east in the ROW, the detected GRO concentration of 34 milligrams per kilogram (mg/kg) only slightly exceeded the CUL of 30 mg/kg, and GRO is assumed to be also be delineated in this direction. The depth of GRO exceeding the CUL in these areas is also well-delineated by results less than the CUL and limited to soil above approximately 7 feet bgs (refer to Table 1). The southern extent of GRO extending into W Stanley Street was not assessed due to potential commingled plumes and poor-quality fill underlying the roadway. Along the eastern property line, a single excavation confirmation sample (A1NW) that had a lower-level GRO exceedance of 61 mg/kg was found to be isolated and small in area, with no detectable GRO at adjacent boring FS-08.

DRO exceeding the MTCA Method A CUL is limited to the southern property line and ROW south of the Property, as shown on Figure 4. DRO did not exceed the CUL in any samples collected on the adjacent property to the west. In the test pits in the ROW, DRO was most elevated relative to GRO at the test pit farthest to the east (FSTP-07) where oily soil without sheen was observed. The chromatogram for this sample exhibited a wider peak than other Property samples, suggesting a different petroleum mixture or potential additional off-property source of DRO in the ROW vicinity of this sample. The depth of DRO exceeding the CUL in these areas is also well-delineated; all exceedances were limited to soils above approximately 7 feet bgs, with DRO concentrations less than the CUL or nondetect at 7 feet bgs and below.

A subset of samples collected from Property soil were also analyzed for metals and SVOCs, as summarized in Table 2. Results for these analytes were less than the applicable MTCA Method A CULs, except for a single shallow soil sample (0.5 to 1.5 feet bgs) at MW-06, which had an arsenic detection of 22 mg/kg slightly exceeding the CUL of 20 mg/kg and a carcinogenic polycyclic aromatic hydrocarbon (cPAH) toxic equivalent (TEQ) detection of 0.2 mg/kg exceeding the CUL of 0.1 mg/kg. The deeper sample collected from 3.5 to 5.5 feet bgs at MW-06, which was collected to target potential former rail ballast at approximately 4 feet bgs, was not impacted with arsenic or cPAHs, and shallow soil at MW-08 to the east along the northern property line was also not impacted. In the absence of widespread impacts along the property line or historical debris suggesting that this low-level arsenic and cPAH TEQ exceedance is associated with the former rail operations, it is presumed that very shallow arsenic may be related to recent dumping or burning in accessible areas within the vegetated portion of the Property.

SUMMARY OF GROUNDWATER QUALITY

Cumulative groundwater results, as summarized in Table 3, demonstrate that concentrations of petroleum constituents have decreased consistently since completion of the remedial excavation in 2016. During the first round of groundwater monitoring, petroleum consisting primarily of DRO exceeded the MTCA Method A CUL at all monitoring well locations. Following excavation, concentrations immediately attenuated to less than the CUL at MW-01 and MW-02 to the east and southeast. At MW-03 and MW-04, located to the south and southwest in the presumed downgradient direction from the former bulk fuel facility, concentrations attenuated to less than

the CUL within approximately 1 year of the remedial excavation. At MW-05 to the northwest of the former bulk fuel facility, concentrations of DRO and ORO at MW-05 have ranged between 140 and 670 micrograms per liter (μg/L), periodically greater than the CUL of 500 μg/L, since the second post-excavation monitoring event.

During Floyd|Snider monitoring events conducted in 2018 to 2020, DRO and ORO results from MW-05 were flagged by the laboratory as poor matches to the chromatographic standard. These samples were re-analyzed during the March/April 2019 and May 2020 events and did not contain detectable DRO or ORO after silica gel cleanup to remove polar organics such as naturally occurring organics and fuel metabolites. Petroleum constituents did not exceed the MTCA Method A CULs in any samples collected from MW-06 through MW-10 in the northern portion of the Property. Given the soil quality in the vicinity of MW-05, upgradient and downgradient groundwater results less than the CUL, and chromatogram flags indicating a poor match the standards, the low-level DRO and ORO detections at this location are presumed to be a residual halo of fuel metabolite or naturally occurring organics rather than an indication of ongoing petroleum contamination to groundwater.

TERRESTRIAL ECOLOGICAL EVALUATION

A Terrestrial Ecological Evaluation (TEE) was completed for the Property in accordance with MTCA using the soil data summarized in the previous sections.

The Property was first evaluated for TEE exclusion. Per WAC 173-340-7491(1)(a-d), none of the conditions for TEE exclusion apply to the Property. The Property was determined to qualify for a simplified TEE per WAC 173-340-7491(2)(a-c); the Property is not located on or directly adjacent to an area where management or land use plans will maintain or restore native or seminative vegetation, used by a threatened or endangered species (i.e., not designated as a priority habitat for endangered species by Washington Department of Fish and Wildlife; WDFW 2020), or within 500 feet of at least 10 acres of native vegetation.

The simplified TEE for the Property was completed using contaminant analysis in accordance with WAC 173-340-7492(2). The list of hazardous substances is provided in Table 749-2 (Priority Contaminants of Ecological Concern for Sites that Qualify for the Simplified Terrestrial Ecological Evaluation Procedure). Of the hazardous substances listed in Table 749-2, the compounds detected at the Property include arsenic, barium, chromium, lead, benzo(a)pyrene toxic equivalent (TEQ), GRO, and DRO. Maximum detected concentrations at the Property were compared to the generic screening levels for simplified TEE provided in Table 749-2.

Analyte	TEE Screening Level for Commercial Properties (mg/kg) [(1)]	Maximum Property Detected Concentration (mg/kg)
Arsenic	20	22
Barium	1,320	92
Chromium	135	40
Lead	220	66
Benzo(a)pyrene TEQ	300	0.20
Gasoline-range organics	12,000 [(2)]	1,900 [(2)]
Diesel-range organics	15,000 [(2)]	12,000 [(2)]

Notes:

1 Screening levels for some analytes are reported to three significant figures in the TEE regulation and are presented as they appear in the regulation. Analytical data for the Property are reported to two significant figures.

2 Table 749-2 also specifies that petroleum concentrations shall not exceed residual saturation at the soil surface. Surface soils at the Property are not impacted by petroleum, and the shallowest impacts at the Property were encountered below 2 feet bgs.

Per the TEE regulation, the simplified TEE can be ended if contaminants are not present at concentrations greater than the values provided in Table 749-2 or the affected area is less than 350 square feet. Detected soil concentrations at the Property do not exceed these values, except for a single arsenic result of 22 mg/kg slightly greater than the screening level of 20 mg/kg. Because the result is potentially attributable to recent activity in accessible areas of the wooded portion of the Property, the affected area is presumed to be small (i.e., less than 350 square feet); however, to be conservative, this result was further evaluated in accordance with the regulation for a site-specific TEE. Per WAC 173-340-7493(2)(a)(i), detected arsenic concentrations at the Property were compared with screening levels for wildlife appropriate for industrial/commercial land use. Because the dataset for the Property is limited, a direct comparison rather than a comparison of the 95% upper confidence limit of the data was performed. The arsenic screening level for wildlife is 132 mg/kg, greater than all available results; therefore, arsenic may be removed from further consideration and the TEE may be ended at this step with the determination that the Property does not pose an unacceptable risk to wildlife.

RECOMMENDATIONS

The soil data collected at the Property demonstrate that contaminated soils were removed to the maximum extent practicable during the remedial excavation completed in 2016. Groundwater data collected from Property monitoring wells have demonstrated that impacts due to petroleum in groundwater have attenuated to less than the applicable MTCA Method A CULs. Off-property impacts in soil due to former bulk fuel facility operations are limited on the

adjacent property to the west, extending approximately 20 feet onto this property. Petroleum impacts also extend to the south into the City-owned W Stanley Street ROW, where other potential sources of contaminants have been documented.

Soil and groundwater results from the northern portion of the Property demonstrate that former rail line operations in this area have not impacted soil and groundwater quality at concentrations greater than applicable CULs. This observation is consistent with the rail's historical use for passenger carriage and the presence of a former passenger terminal in the northwest corner of the Property. Evidence of historical materials associated with the railroad was not observed during soil investigations, suggesting that the rail structure has been removed in its entirety. A TEE completed for the Property also demonstrates that soils do not pose an unacceptable risk to wildlife.

At this time, the cleanup at the Property and subsequent data gaps investigation are considered complete, and the Property is eligible for a Property-specific No Further Action (NFA) determination from Ecology. A Property-specific NFA determination would require an environmental covenant or covenant equivalent to address residual soil contamination on the City-owned arterial roadway to the south of the Property. Residual soil contamination on the adjacent property to the west may be addressed by an environmental covenant or by additional contaminated soil removal, as determined by the adjacent property owner.

REFERENCES

City of Granite Falls. 2015. *The City of Granite Falls 2015-2035 Comprehensive Plan.* November.

Dorpat, P. 2011. "Seattle Then & Now: The Granite Falls Station." *Seattle Now & Then.* < https://pauldorpat.com/2011/08/14/seattle-then-now-the-granite-falls-station/ > Last accessed 17 September 2020.

Environmental Associates, Inc. (EAI). 2003. *Preliminary Subsurface Exploration, Bulk Fuel Facility, 201 West Stanley Street, Granite Falls, Washington.* Letter from Don W. Spencer, Environmental Associates, Inc., to Mike Ongaro. 9 December.

Granite Falls Historical Society (GFHS). 2015. *So Where Was the Depot?* < http://www.gfhistory.org/Where%20was%20the%20depot.pdf > Last accessed 17 September 2020.

Slotta Design and Construction (SD&C). 2008. *Phase I and Phase II Environmental Site Assessment.* Letter from Timothy Slotta, Slotta Design and Construction, to Mark Nelson, Nelson Petroleum, Inc. 3 April.

_____. SD&C 2016a. *Subsurface Investigation Report, 201 W. Stanley Street, Granite Falls, WA.* Letter from Timothy S. Slotta, Slotta Design and Construction, to Mark Nelson, Nelson Petroleum, Inc. 14 January.

_____. SD&C 2016b. *Site Demolition and Soil Excavation Report, 201 W. Stanley Street, Granite Falls, WA.* Letter from Timothy S. Slotta, Slotta Design and Construction, to Mark Nelson, Nelson Petroleum, Inc. 28 August.

_____. SD&C 2017. *Voluntary Cleanup Program Request for Opinion Form.* Prepared for Nel/Son Distributing, Inc. VCP Project No. NW2982. 20 November.

Washington Department of Fish and Wildlife (WDFW). 2020. "Priority Habitats and Species: Maps." < https://wdfw.wa.gov/species-habitats/at-risk/phs/maps > Last accessed 17 September 2020.

LIST OF ATTACHMENTS

Table 1 BTEX and Petroleum Results for Soil

Table 2 Metals and SVOC Results for Soil

Table 3 BTEX and Petroleum Results for Groundwater

Figure 1 Property Features

Figure 2 Benzene Concentrations in Soil

Figure 3 Gasoline-Range Organics Concentrations in Soil

Figure 4 Diesel-Range Organics Concentrations in Soil

Attachment 1 Boring and Test Pit Logs

Attachment 2 Laboratory Analytical Reports

Tables

Table 1
BTEX and Petroleum Results for Soil

Analyte			Benzene	Ethylbenzene	Toluene	Xylene (total)	Gasoline-Range Organics	Diesel-Range Organics	Oil-Range Organics
MTCA Method A Cleanup Level [1]			0.03	6.0	7.0	9.0	30	2,000	2,000
Unit			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Location	Sample Date	Depth Range (feet)							
A1EW	6/29/2016	6–6	0.030 U	0.050 U	0.050 U	0.20 U	21 [2]	1,800 [3]	1,600 [4]
A1F	6/21/2016	7–7	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
A1F2	6/21/2016	7–7	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
A1NW	6/29/2016	6–6	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
	6/21/2016	5–5	0.077 U	0.072 U	0.063 U	0.20 U	**61** [2]	460 [5]	590 [6]
A1SW	6/21/2016	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	26 U	52 U
A2F	6/27/2016	9–9	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
A2F2	6/29/2016	9–9	0.030 U	0.050 U	0.050 U	0.20 U	4.9 [2]	25 U	50 U
A2F3	7/6/2016	9–9	**0.49**	0.061	0.12	0.31	14 [2,7]	25 U	50 U
A2NW	7/7/2016	6–6	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
A2SW	6/27/2016	6–6	0.60 U	3.3	1.0 U	4.0 U	**770** [2,7]	**11,000** [3]	250 U
A2SWW	7/6/2016	6–6	**0.36**	0.47	0.10	0.52	**150** [2,7]	390 [3]	51 U
A2WW	7/7/2016	6–6	0.060 U	0.10 U	0.10 U	0.40 U	**110** [2,7]	900 [3]	110 [4,8]
A3F	6/29/2016	7–7	0.030 U	0.050 U	0.050 U	0.20 U	4.8 [2]	25 U	50 U
A3NW	7/7/2016	6–6	0.030 U	0.050 U	0.050 U	0.20 U	8.7 [2,7]	25 U	50 U
A3SW	7/7/2016	6–6	0.030 U	0.050 U	0.050 U	0.20 U	23 [2,7]	140 [3]	50 U
FS-01	4/17/2020	5–6	0.020 U	0.20	0.020 U	0.33	**110**	640	250 U
	4/17/2020	6.5–7.5	**0.18**	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-02	4/17/2020	4–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-03	4/17/2020	4.5–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-04	4/17/2020	2–3	**0.44**	1.3	1.0	4.7	**410**	**2,300**	880 [9]
	4/17/2020	4.5–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-05	4/17/2020	5–6	0.20 U	1.0	1.0	1.6	**550**	1,500	250 U
	4/17/2020	7–8	**0.16**	0.045	0.086	0.060 U	15	50 U	250 U
FS-06	4/17/2020	4.5–5	0.020 UJ	1.2	0.20	3.4	**950**	**3,400**	250 U
	4/17/2020	7–8	0.020 U	0.020 U	0.020 U	0.060 U	11	50 U	250 U
FS-07	4/17/2020	4–5	0.020 UJ	6.0	0.10 U	0.30 U	**1,900**	**12,000**	250 U
	4/17/2020	6.5–7.5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-08	4/16/2020	4.5–5.5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-09	4/16/2020	7–8	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-10	4/17/2020	5–6	0.020 UJ	0.62	0.10 U	0.95	**440**	1,400	250 U
	4/17/2020	6.5–7.5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-11	4/17/2020	4–5	0.020 UJ	1.4	0.10 U	3.3	**1,200**	**4,200**	250 U
	4/17/2020	6–7	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
FS-12	4/17/2020	4–5	0.020 U	0.020 U	0.020 U	0.060 U	**34**	410	250 U
FS-13	4/17/2020	4.5–5.5	0.020 U	0.020 U	0.020 U	0.060 U	14	170	250 U
MW-01	11/11/2015	3.5–3.5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
MW-02	11/11/2015	3–3	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
MW-03	11/11/2015	3–3	0.030 U	0.50 U	0.50 U	2.0 U	**480** [2,7]	840 [3]	50 U
MW-04	11/11/2015	3–3	0.15 U	0.25 U	0.25 U	1.0 U	**120** [2,7]	870 [3]	50 U
MW-05	11/11/2015	3–3	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
MW-06	5/19/2020	0.5–1.5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
	4/16/2020	3.5–5.5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
MW-07	4/16/2020	4.5–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
MW-08	4/16/2020	1–2	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
	4/16/2020	4.5–5	0.040 U	0.040 U	0.040 U	0.12 U	10 U	100 U	500 U
MW-09	4/16/2020	4.5–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
MW-10	4/16/2020	4.5–5	0.020 U	0.020 U	0.020 U	0.060 U	5.0 U	50 U	250 U
TP-11	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
TP-12	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	200 [5]	740 [6]
TP-13	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	66 [5,10]	170 [4]
TP-14	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 [11]	50 [4]
TP-15	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
TP-16	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	26 U	53 U
TP-17	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
TP-18	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	260 [5]	370 [6]
TP-19	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
TP-20	3/7/2017	5–5	0.030 U	0.050 U	0.050 U	0.20 U	3.0 U	25 U	50 U
FSTP-05	8/2/2019	4–4	0.020 U	0.56	0.098	1.2	**170**	**3,400**	250 U
FSTP-06	8/2/2019	5–5	0.020 UJ	0.57	0.10 U	1.0	**300**	**3,100**	250 U
FSTP-07	8/2/2019	5–5	0.020 UJ	1.8	0.10 U	3.0	**640**	**8,400**	340 [9]

Notes:

RED BOLD Indicates a concentration that exceeds the applicable cleanup level.

1 MTCA cleanup levels listed are for unrestricted property use.

2 Per the laboratory, the chromatogram indicates that it is likely that sample contains highly weathered gasoline.

3 Per the laboratory, the chromatogram indicates that it is likely that sample contains weathered diesel.

4 Per the laboratory, the chromatogram indicates that it is likely that sample contains lube oil.

5 Per the laboratory, the chromatogram indicates that it is likely that sample contains unidentified diesel-range product.

6 Per the laboratory, the chromatogram indicates that it is likely that sample contains unidentified oil-range product.

7 Per the laboratory, the gasoline-range product results are biased high due to semivolatile-range product overlap.

8 Per the laboratory, the oil-range product results are biased high due to diesel-range product overlap.

9 Per the laboratory, the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

10 Per the laboratory, the diesel-range product reporting limits were raised due to motor oil-range product overlap.

11 Per the laboratory, the chromatogram indicates that it is likely that sample contains light oil.

Abbreviations:

BTEX Benzene, toluene, ethylbenzene, and xylenes

mg/kg Milligrams per kilogram

MTCA Model Toxics Control Act

Qualifiers:

U Analyte was not detected at the given reporting limit.

UJ Analyte was not detected at the given reporting limit, which is considered to be an estimate.

Table 2
Metals and SVOC Results for Soil

Analyte	MTCA Method A Cleanup Level [1] (mg/kg)	Location	A1F2	MW-06		MW-07	MW-08
		Sample ID	A1F2-7ft	MW-06-0.5-1.5 FT	MW-06-3.5-5.5 FT	MW-07-4.5-5 FT	MW-08-1-2 FT
		Sample Date	6/21/2016	5/19/2020	4/16/2020	4/16/2020	4/16/2020
		Depth Range (feet)	7–7	0.5–1.5	3.5–5.5	4.5–5	1–2
		Units					
Metals							
Arsenic	20	mg/kg	1.0 U	**22**	4.4	3.1	3.7
Barium	--	mg/kg	92	--	--	--	--
Cadmium	2	mg/kg	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
Chromium	2,000	mg/kg	37	15	23	40	9.5
Lead	250	mg/kg	3.2	66	3.0	6.7	30
Mercury	2.0	mg/kg	0.020 U	1.0 U	1.0 U	1.0 U	1.0 U
Selenium	--	mg/kg	5.0 U	--	--	--	--
Silver	--	mg/kg	0.50 U	--	--	--	--
Semivolatile Organic Compounds (SVOCs)							
cPAH TEQ [2]	0.10	mg/kg	--	**0.20**	0.0076 U	0.0076 U	0.031
Acenaphthene	--	mg/kg	--	0.010 U	0.010 U	0.010 U	0.010 U
Acenaphthylene	--	mg/kg	--	0.018	0.010 U	0.010 U	0.010 U
Anthracene	--	mg/kg	--	0.016	0.010 U	0.010 U	0.010 U
Benzo(a)anthracene	--	mg/kg	--	0.11	0.010 U	0.010 U	0.025
Benzo(a)pyrene	--	mg/kg	--	0.15	0.010 U	0.010 U	0.023
Benzo(b)fluoranthene	--	mg/kg	--	0.20	0.010 U	0.010 U	0.027
Benzo(g,h,i)perylene	--	mg/kg	--	0.074	0.010 U	0.010 U	0.014
Benzo(k)fluoranthene	--	mg/kg	--	0.063	0.010 U	0.010 U	0.010 U
Chrysene	--	mg/kg	--	0.13	0.010 U	0.010 U	0.034
Dibenzo(a,h)anthracene	--	mg/kg	--	0.050 U	0.010 U	0.010 U	0.010 U
Fluoranthene	--	mg/kg	--	0.13	0.010 U	0.010 U	0.025
Fluorene	--	mg/kg	--	0.010 U	0.010 U	0.010 U	0.010 U
Indeno(1,2,3-c,d)pyrene	--	mg/kg	--	0.081	0.010 U	0.010 U	0.013
Naphthalene	5.0	mg/kg	--	0.032	0.010 U	0.010 U	0.041
Phenanthrene	--	mg/kg	--	0.062	0.010 U	0.010 U	0.081
Pyrene	--	mg/kg	--	0.17	0.010 U	0.010 U	0.036
1,2-Dibromoethane	0.0050	mg/kg	0.0050 U	--	--	--	--
1,2-Dichloroethane	--	mg/kg	0.010 U	--	--	--	--

Notes:

-- Not analyzed or not established.

RED BOLD Indicates a concentration that exceeds the applicable cleanup level.

1 MTCA cleanup levels listed are for unrestricted property use.

2 cPAH TEQs were calculated with non-detect results set to one-half the reporting limit.

Abbreviations:

cPAH Carcinogenic polycyclic aromatic hydrocarbon
mg/kg Milligrams per kilogram
MTCA Model Toxics Control Act
TEQ Toxic equivalent

Qualifier:

U Analyte was not detected at the given reporting limit.

Table 3
BTEX and Petroleum Results for Groundwater

Analyte			Benzene	Ethylbenzene	Toluene	Total Xylenes	Gasoline-Range Organics	Diesel-Range Organics	Oil-Range Organics
MTCA Method A Cleanup Level			5	700	1,000	1,000	800/1,000 (1)	500	500
Unit			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Well ID	Sampler	Date							
MW-01	Slotta Design and Construction (2)	11/11/2015	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**650**	1,200 U
		9/9/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	300
		12/12/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		3/17/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		7/12/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		11/6/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		3/15/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		6/19/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		9/28/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
	Floyd|Snider (3)	12/21/2018	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
		3/25/2019	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
		5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-02	Slotta Design and Construction (2)	11/11/2015	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**640**	1,200 U
		9/9/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		12/12/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		3/17/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		7/12/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		11/6/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		3/15/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		6/19/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
		9/28/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	130 U	250 U
	Floyd|Snider (3)	12/21/2018	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
		4/04/2019	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
		5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-03	Slotta Design and Construction (2)	11/11/2015	1.0 U	1.0 U	1.0 U	3.0 U	83	**1,600**	1,200 U
		9/9/2016	1.0 U	1.0 U	1.0 U	3.0 U	110	**1,100**	**530**
		12/12/2016	1.0 U	1.0 U	1.0 U	3.0 U	67	**620**	310
		3/17/2017	1.0 U	1.0 U	1.0 U	3.0 U	100	420	250 U
		7/12/2017	1.0 U	1.0 U	1.0 U	3.0 U	63	170	250 U
		11/6/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	230	250 U
		3/15/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	300	250 U
		6/19/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	340	250 U
		9/28/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	220	250 U
	Floyd|Snider (3)	12/21/2018	1.0 U	1.0 U	1.0 U	3.0 U	100 U	68 (4)	250 U
		3/25/2019	1.0 U	1.0 U	1.0 U	3.0 U	100 U	110 (4)	250 U
		3/25/2019 (5)	--	--	--	--	--	69 (4)	250 U
		5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	69 (4)	250 U
MW-04	Slotta Design and Construction (2)	11/11/2015	**33**	1.6	1.2	7.2	250	**2,200**	1,200 U
		9/9/2016	1.0 U	1.0 U	1.0 U	3.0 U	420	230	250 U
		12/12/2016	1.0 U	1.0 U	1.0 U	3.0 U	140	**6,600**	**3,400**
		3/17/2017	1.0 U	1.0 U	1.0 U	3.0 U	130	300	250 U
		7/12/2017	1.0 U	1.0 U	1.0 U	3.0 U	80	140	250 U
		11/6/2017	1.0 U	1.0 U	1.0 U	3.0 U	78	**2,000**	**1,200**
		3/15/2018	1.0 U	1.0 U	1.0 U	3.0 U	70	290	250 U
		6/19/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	370	250 U
		9/28/2018	1.0 U	1.0 U	1.0 U	3.0 U	56	320	250 U
	Floyd|Snider (3)	12/21/2018	1.0 U	1.0 U	1.0 U	3.0 U	100 U	160 (4)	250 U
		4/04/2019	1.0 U	1.0 U	1.0 U	3.0 U	100 U	290 (4)	250 U
		4/04/2019	--	--	--	--	--	110	250 U
		5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	170	250 U
MW-05	Slotta Design and Construction (2)	11/11/2015	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**830**	510 U
		9/9/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**1,100**	**1,100**
		12/12/2016	1.0 U	1.0 U	1.0 U	3.0 U	50 U	250	250 U
		3/17/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	290	260
		7/12/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	140	250 U
		11/6/2017	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**600**	**650**
		3/15/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	350	320
		6/19/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	500	410
		9/23/2018	1.0 U	1.0 U	1.0 U	3.0 U	50 U	**520**	410
	Floyd|Snider (3)	12/21/2018	1.0 U	1.0 U	1.0 U	3.0 U	100 U	250 (4)	250 U
		3/25/2019	1.0 U	1.0 U	1.0 U	3.0 U	100 U	**660** (4)	**670** (4)
		3/25/2019 (5)	--	--	--	--	--	50 U	250 U
		5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	**530** (4)	380 (4)
		5/19/2020 (5)	--	--	--	--	--	50 U	250 U
MW-06	Floyd|Snider (3)	5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-07	Floyd|Snider (3)	5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-08	Floyd|Snider (3)	5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-09	Floyd|Snider (3)	5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	50 U	250 U
MW-10	Floyd|Snider (3)	5/19/2020	1.0 U	1.0 U	1.0 U	3.0 U	100 U	60 (4)	250 U

Notes:

-- Not analyzed.

RED BOLD Indicates a concentration that exceeds the applicable cleanup level.

Sample collected prior to excavation to remove contaminated soil at the Property.

1 Benzene present in groundwater/no detectable benzene in groundwater.

2 Samples collected by Slotta Design and Construction were analyzed by ALS in Everett, Washington.

3 Samples collected by Floyd|Snider were analyzed by Friedman & Bruya, Inc., in Seattle, Washington.

4 The laboratory noted that the sample chromatographic pattern does not resemble the fuel standard used for quantitation.

5 Samples were re-analyzed for diesel- and oil-range organics after performing a silica gel cleanup.

Abbreviations:

BTEX Benzene, toluene, ethylbenzene, and xylenes

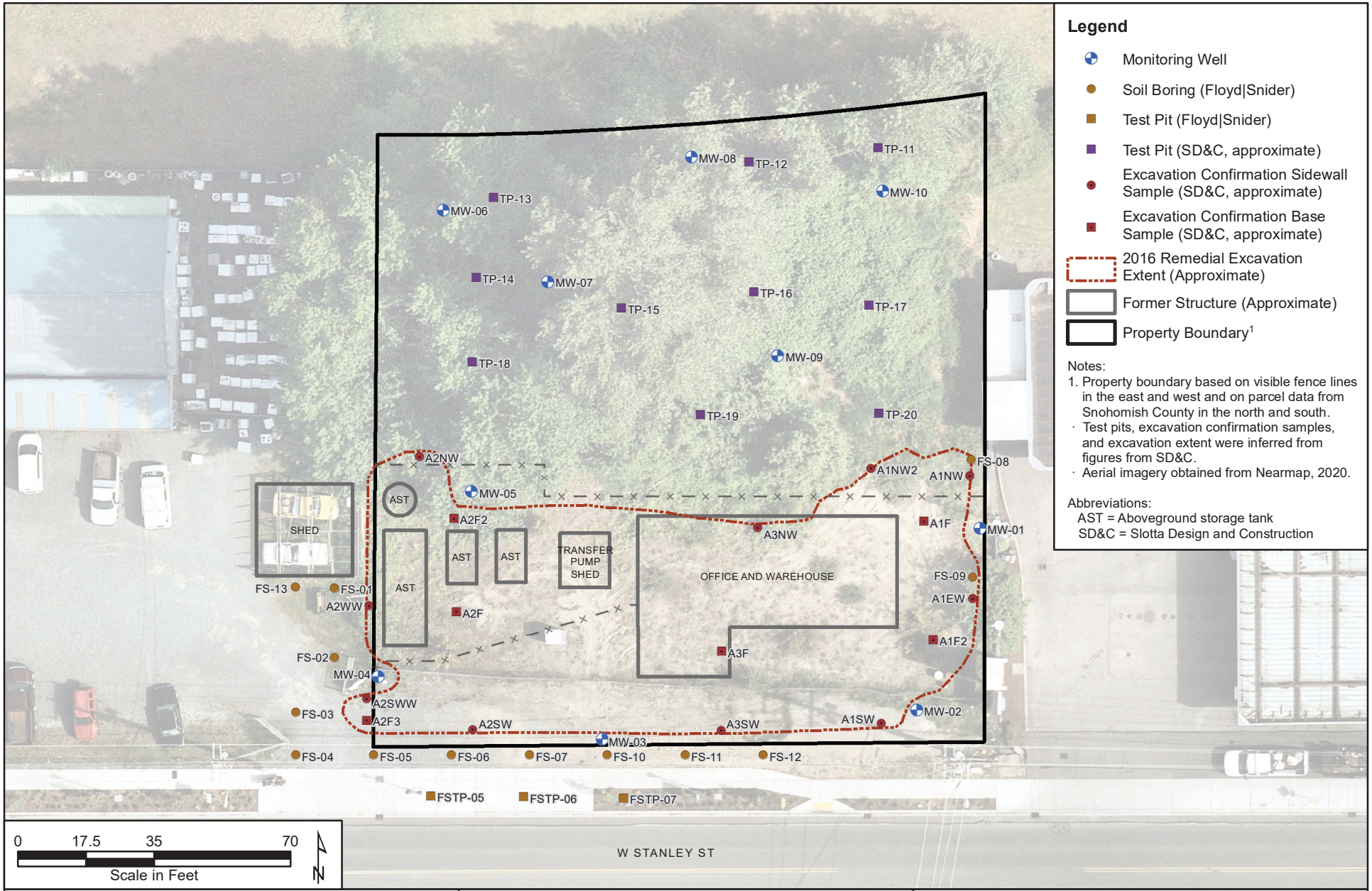
µg/L Micrograms per liter

MTCA Model Toxics Control Act

Qualifier:

U Analyte was not detected at the given reporting limit.

Figures



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Data Summary Memorandum
Former NelSon Petroleum Property
Granite Falls, WA

Figure 1
Property Features

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9/25/2020

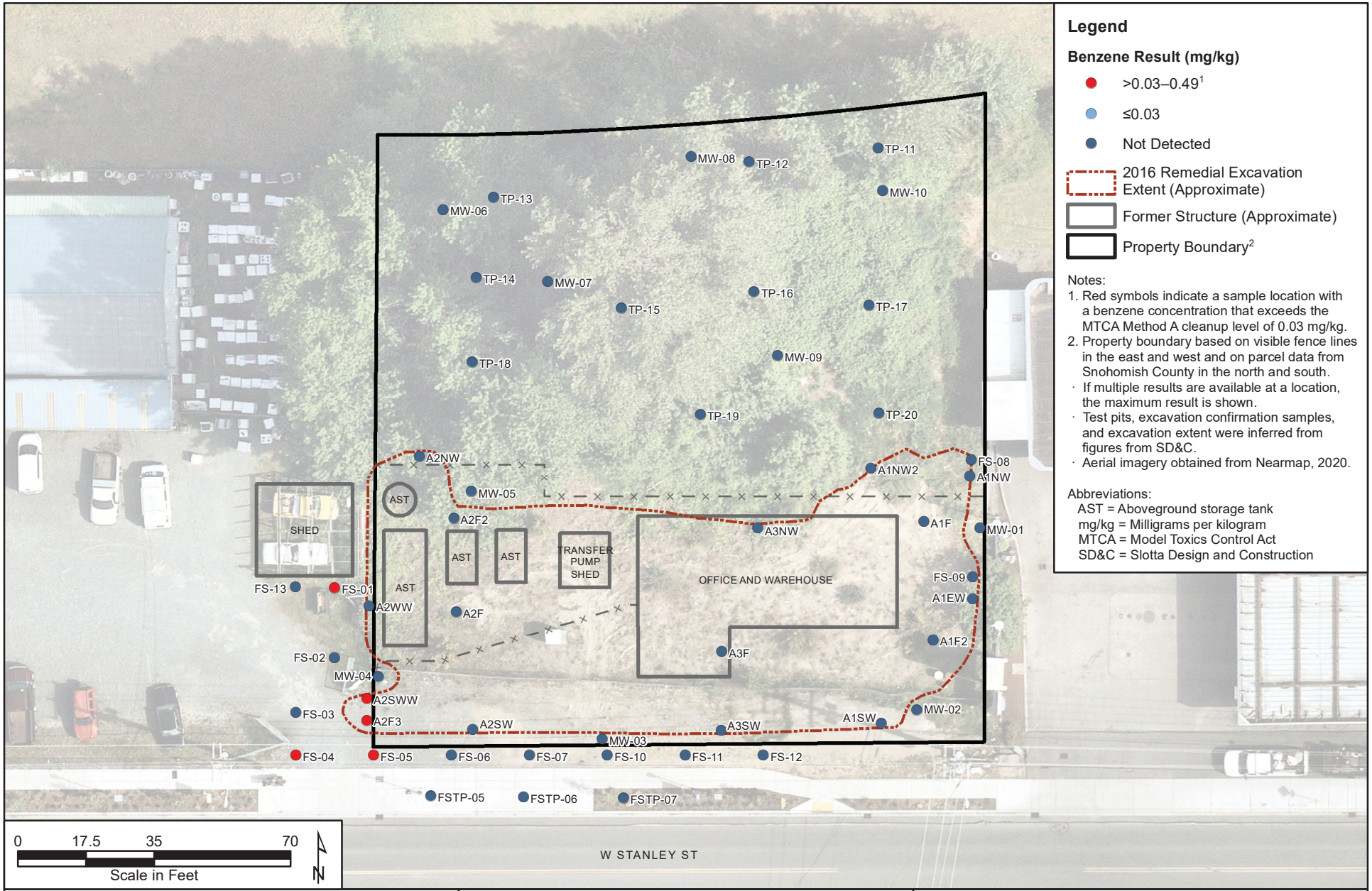

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Figure 2
Benzene Concentrations in Soil

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9/25/2020

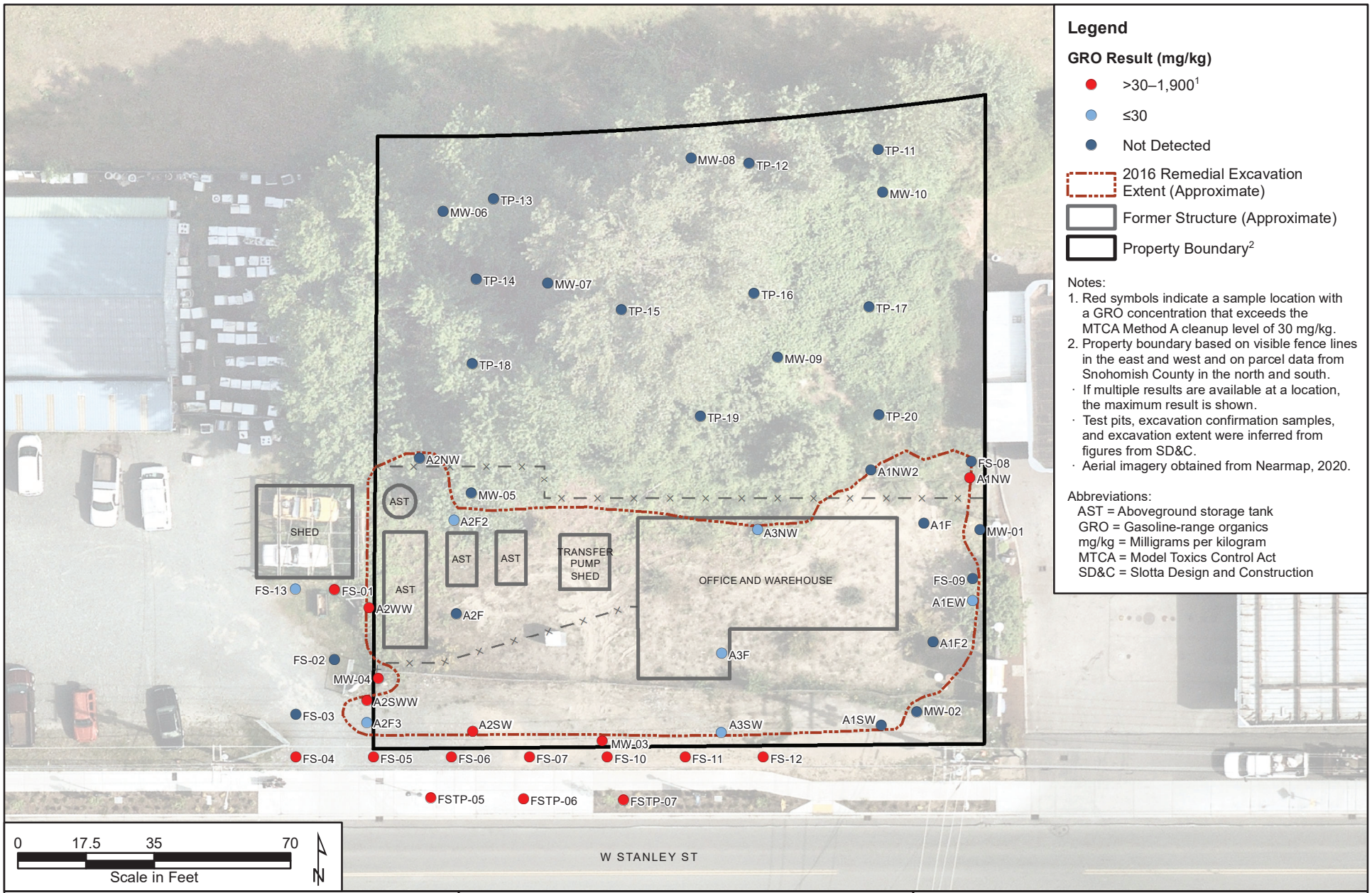

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Figure 3
Gasoline-Range Organics Concentrations in Soil

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9/25/2020

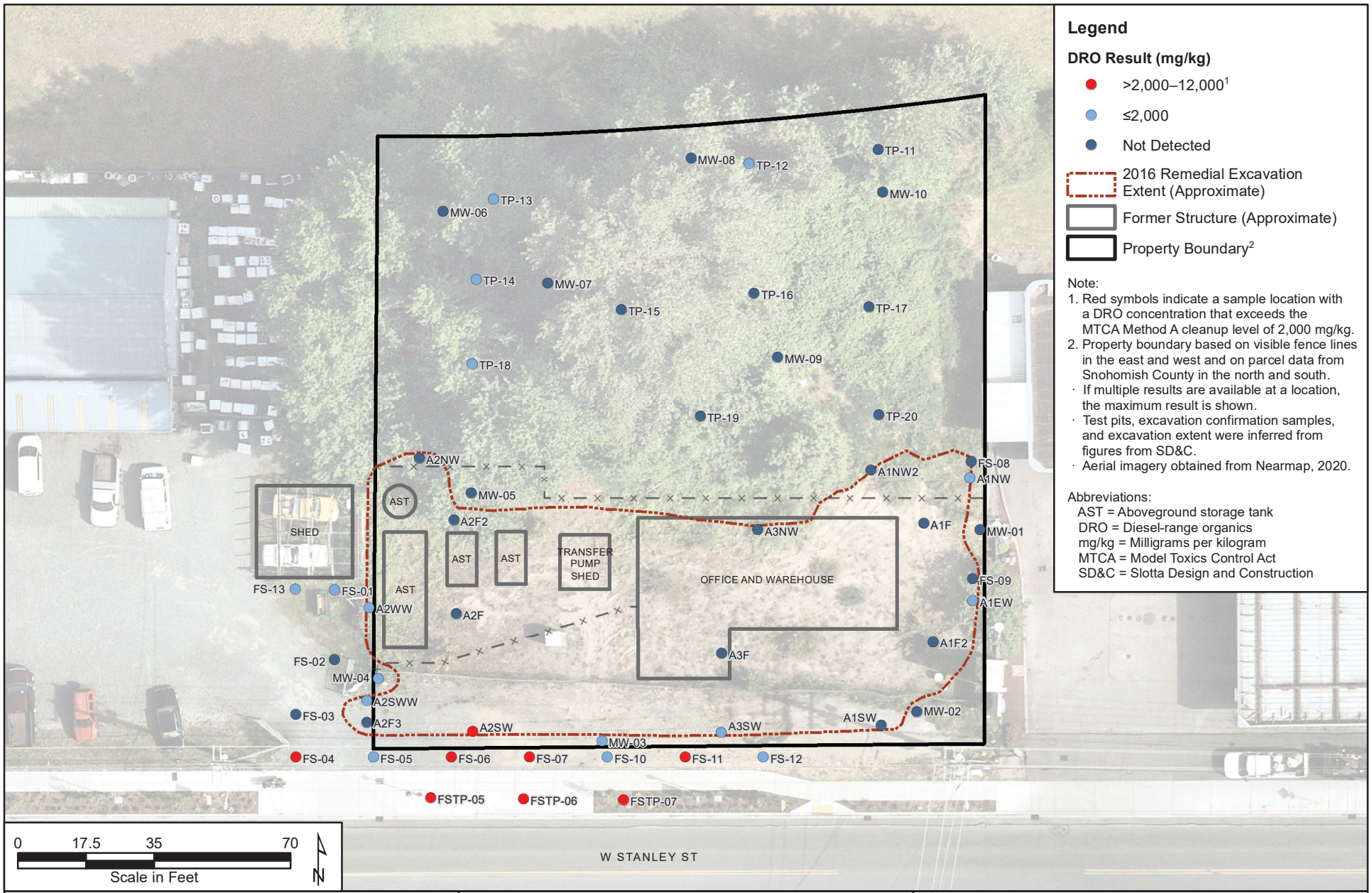

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Figure 4
Diesel-Range Organics Concentrations in Soil

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9/25/2020

Attachment 1
Boring and Text Pit Logs

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 11-11-15 **Subcontractor and Equipment** Holoscene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	MW-1 15' NE of Building Corner	Grass
				Fine to coarse silty SAND	SM
				dark brown with fine-to coarse	
		None	1	-grained sand with roots and gravel (topsoil)	
				Damp Dense No odor.	
				Fine to Medium grained Sandy SILT	SM/ML
			2	brown with decaying organics,	
				Moist, Medium Dense	
				No Hydrocarbon Odor.	
	MW-1@3'	None	3		
				Becomes Saturated – Groundwater @ 3.5'	
			4		
				Fine-to coarse-grained Silty SAND.	SM
				Gray, Moist, Dense	
			5		
		None			
				Interbeds of Fine-grained SILT and	SM
			6	Fine-to-Coarse Grained SAND brown	
				Saturated, Dense, No Odor	
			7		
		None	8		
			9		
Casing 10 slot 5 to 10'					
			10		
		None	11		
			12		
			13		
		None			
			14		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 11-11-15 **Subcontractor and Equipment** Holoscene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	MW-2 5' W of Shell Sign on SE Corner Gravel Fine to coarse silty SAND dark-grey to brown with fine-to coarse	SM
		None	1	-grained sand with roots and gravel (Topsoil) Damp Dense No odor.	
			2	Fine to Medium grained Sandy SILT brown with decaying organics, Moist, Medium Dense No Hydrocarbon Odor.	SM/ML
	MW-2@3'	None	3	Becomes Saturated – Groundwater @ 3.5'	
			4		
				Fine-to coarse-grained Silty SAND. Gray, Moist, Dense	SM
		None	5		
			6	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
	Casing 10 slot 5 to 10'		7		
		None	8		
			9		
		None	10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 11-11-15 **Subcontractor and Equipment** Holoscene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	MW-3 5' 15' SW of Pump Island	Asphalt
				Fine to coarse silty GRAVEL	GW
				dark-grey to brown with fine-to coarse	
			1	-grained sand (Road FILL) Damp,	
		None		Dense No odor.	
				Fine to Medium grained Sandy SILT	SM/ML
			2	brown with decaying organics,	
				Wet, Medium Dense	
				Moderate Hydrocarbon Odor.	
	MW-3@ 3'	100	3	Becomes Saturated – Groundwater @ 3.5'	
				with a sheen	
			4		
				Fine-to coarse-grained Silty SAND.	SM
				Gray, Saturated, Dense, Moderate	
		120	5	Odor	
				Interbeds of Fine-grained SILT and	SM/ML
			6	Fine-to-Coarse Grained SAND gray	
				Saturated, Dense, No Odor	
	Casing 10 slot 5 to 10'		7		
		None			
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 11-11-15 **Subcontractor and Equipment** Holoscene Drilling, Geoprobe

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	MW-4 5' 5' SW of AST Compound Fine to coarse silty GRAVEL Dark-grey to brown with fine-to coarse	Asphalt GW
		None	1	-grained sand (Road FILL) Damp, Dense No odor.	
			2	Fine to Medium grained Sandy SILT brown with decaying organics, Wet, Medium Dense Moderate Hydrocarbon Odor.	SM/ML
	MW-4@ 3'	98	3	Becomes Saturated – Groundwater @ 3.5' with a sheen	
			4		
			5	Fine-to coarse-grained Silty SAND. Gray, Saturated, Dense, Moderate Odor	SM
		130			
			6	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND gray Saturated, Dense, No Odor	SM/ML
	Casing 10 slot 5 to 10'		7		
		None	8		
			9		
			10	END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 11-11-15 **Subcontractor and Equipment** Holoscene Limited Access Rig

Penetration Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Soil Classification
			0	MW-5 5' NE of AST Compound Fine to coarse silty GRAVEL Dark-grey to brown with fine-to coarse	Grass GW
			1	-grained sand (FILL) Damp, Dense No odor.	
			2	Fine to Medium grained Sandy SILT brown with decaying organics, (Peat) Wet, Medium Dense No Hydrocarbon Odor.	SM/ML
	MW-5@ 3'	None	3	Becomes Saturated – Groundwater @ 3.5'	
			4		
			5	Fine-to coarse-grained Silty SAND. Gray, Saturated, Dense, No Odor	SM
			6	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND gray Saturated, Dense, No Odor	SM/ML
	Casing 10 slot 3 to 8'		7		
			8	END OF BORING - Refusal	

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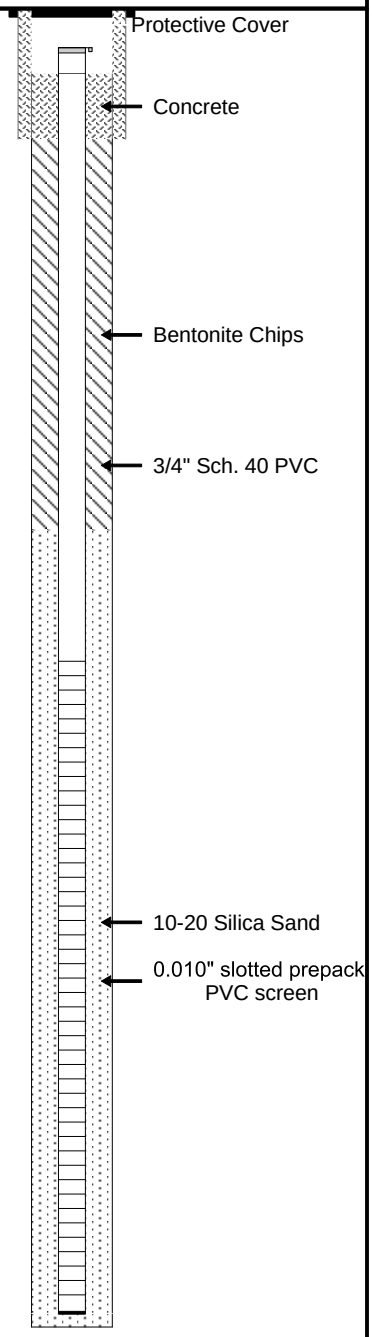
PROJECT: **NelSon - Granite Falls**	LOCATION: **Granite Falls, WA**	WELL ID: **MW-06**	
LOGGED BY: **K. Anderson**	COORDINATE SYSTEM: **NAVD88**	BORING LOCATION: **Northern portion of Property**	
DRILLED BY: **Brandon Pizzoto, Cascade Drilling**	ECOLOGY WELL ID: **BLK-782**	NORTHING: **397391.348**	EASTING: **1362296.13**
DRILLING EQUIPMENT: **Geoprobe LAR**	SCREENED INTERVAL: **5-10**	GROUND SURFACE ELEV.: **399**	TOC ELEVATION: **Not surveyed**
DRILLING METHOD: **Geoprobe**		TOTAL DEPTH (ft bgs): **10**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **2" x 5' Liner**		BORING DIAMETER: **2"**	DRILL DATE: **4/16/2020**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID
0	OL-OH	Black-brown **TOPSOIL** with rootlets. No odor. Driller reports soft subsurface and void space.		
2	ML	Brown **SILT**. Moist.		
3.5	SW-SM	Gray, well graded **SAND** with silt and gravel. Moist. No odor or debris.		MW-06-3.5-5.5 FT
5		At 5 feet, becomes wet.		
5.5	SW	Gray, fine **SAND** with trace silt. Wet. No odor.		
7.5	SP	Poorly graded **SAND**.		
10		Bottom of boring = 10 feet bgs.		



ABBREVIATIONS:
ft bgs = feet below ground surface
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Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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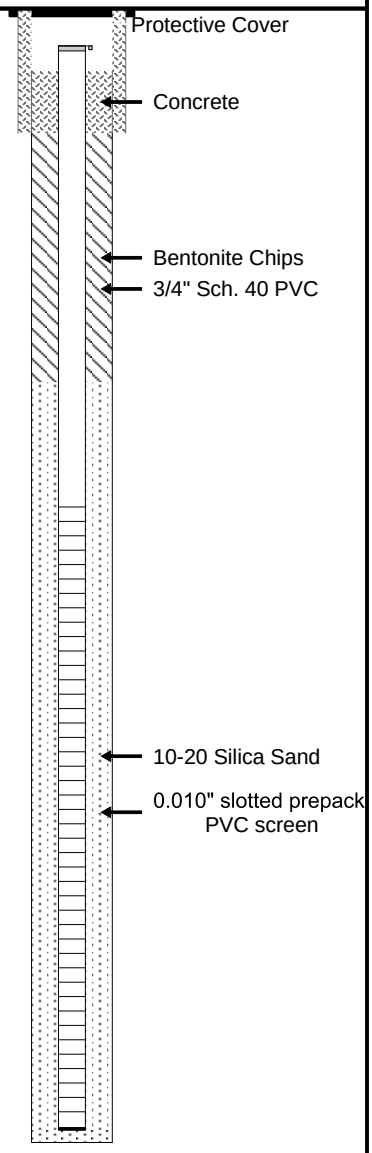
PROJECT: **NelSon - Granite Falls**	LOCATION: **Granite Falls, WA**	WELL ID: **MW-07**	
LOGGED BY: **K. Anderson**	COORDINATE SYSTEM: **NAVD88**	BORING LOCATION: **Northern portion of Property**	
DRILLED BY: **Brandon Pizzoto, Cascade Drilling**	ECOLOGY WELL ID: **BLK-781**	NORTHING: **397372.905**	EASTING: **1362323.04**
DRILLING EQUIPMENT: **Geoprobe LAR**	SCREENED INTERVAL: **4-9**	GROUND SURFACE ELEV.: **399**	TOC ELEVATION: **Not surveyed**
DRILLING METHOD: **Geoprobe**		TOTAL DEPTH (ft bgs): **10**	DEPTH TO WATER (ft bgs): **4.5**
SAMPLING METHOD: **2" x 5' Liner**		BORING DIAMETER: **2"**	DRILL DATE: **4/16/2020**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID
0	OL-OH	Black-brown **TOPSOIL** with rootlets. No odor or debris. Becomes peaty at 1 foot bgs.		
2	SM	Brown silty **SAND** with gravel. No odor or debris.		
4 ▼	SW-SM	Gray, well graded **SAND** with silt and gravel. Moist to wet. No odor.		MW-07-4.5-5 FT
6	SP	Gray, poorly graded fine **SAND** with little silt. Wet.		
8		At 7.75 feet, coarse **SAND** lens.		
9		At 9.5 feet, becomes very fine **SAND**.		
10		Bottom of boring = 10 feet bgs.		
11				



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PROJECT: **NelSon - Granite Falls**	LOCATION: **Granite Falls, WA**	WELL ID: **MW-08**	
LOGGED BY: **K. Anderson**	COORDINATE SYSTEM: **NAVD88**	BORING LOCATION: **Northern portion of Property**	
DRILLED BY: **Brandon Pizzoto, Cascade Drilling**	ECOLOGY WELL ID: **BLK-780**	NORTHING: **397404.912**	EASTING: **1362359.81**
DRILLING EQUIPMENT: **Geoprobe LAR**	SCREENED INTERVAL: **5-10**	GROUND SURFACE ELEV.: **399**	TOC ELEVATION: **Not surveyed**
DRILLING METHOD: **Geoprobe**		TOTAL DEPTH (ft bgs): **10**	DEPTH TO WATER (ft bgs): **-**
SAMPLING METHOD: **2" x 5' Liner**		BORING DIAMETER: **2"**	DRILL DATE: **4/16/2020**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID	Well Construction
0	OL-OH	Dark brown **TOPSOIL** with rootlets. No odor or debris.			Protective Cover
1	GP	Fine **GRAVEL** with few fine woody fragments and fine black vitreous particles. No odor or debris.		MW-08-1-2 FT	Concrete
2					Bentonite Chips
3	OL-OH	Black-brown **PEAT** with rootlets. Moist. No odor.			3/4" Sch. 40 PVC
4	ML	Brown **SILT**. Moist. No odor. Driller reports multiple attempts at 5-10 foot interval with no recovery due to soft/wet soil.		MW-08-4.5-5 FT	
5					
6					
7					10-20 Silica Sand
8					0.010" slotted prepack PVC screen
9					
10	SP	Poorly graded **SAND** with silt and large gravel. Wet. No odor.			
		Bottom of boring = 10 feet bgs.			
11					

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PROJECT: **NelSon - Granite Falls**	LOCATION: **Granite Falls, WA**	WELL ID: **MW-09**	
LOGGED BY: **K. Anderson**	COORDINATE SYSTEM: **NAVD88**	BORING LOCATION: **Northern portion of Property**	
DRILLED BY: **Brandon Pizzoto, Cascade Drilling**	ECOLOGY WELL ID: **BLK-783**	NORTHING: **397353.873**	EASTING: **1362382.07**
DRILLING EQUIPMENT: **Geoprobe LAR**	SCREENED INTERVAL: **5-10**	GROUND SURFACE ELEV.: **399**	TOC ELEVATION: **Not surveyed**
DRILLING METHOD: **Geoprobe**		TOTAL DEPTH (ft bgs): **10**	DEPTH TO WATER (ft bgs): **5**
SAMPLING METHOD: **2" x 5' Liner**		BORING DIAMETER: **2"**	DRILL DATE: **4/16/2020**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID	Well Construction
0	OL-OH	Black-brown **TOPSOIL** with rootlets. Moist. No odor or debris.			Protective Cover
1		Intermixed black-brown **TOPSOIL** and well graded **SAND** with gravel. No odor.			Concrete
2					
3		Black-brown **PEAT**. No odor.			Bentonite Chips; 3/4" Sch. 40 PVC
4	ML	Brown **SILT**. Moist.			
5	SW-SM	Gray, well graded **SAND** with silt and gravel. Moist. No odor. At 5 feet, becomes wet.		MW-09-4.5-5 FT	
6					
7	SP	Gray-brown, poorly graded fine **SAND** with trace silt. Wet. No odor.			10-20 Silica Sand; 0.010" slotted prepack PVC screen
8					
9					
10		Bottom of boring = 10 feet bgs.			
11					

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PROJECT: **NelSon - Granite Falls**	LOCATION: **Granite Falls, WA**	WELL ID: **MW-10**	
LOGGED BY: **K. Anderson**	COORDINATE SYSTEM: **NAVD88**	BORING LOCATION: **Northern portion of Property**	
DRILLED BY: **Brandon Pizzoto, Cascade Drilling**	ECOLOGY WELL ID: **BLK-779**	NORTHING: **397396.214**	EASTING: **1362408.96**
DRILLING EQUIPMENT: **Geoprobe LAR**	SCREENED INTERVAL: **4-9**	GROUND SURFACE ELEV.: **399**	TOC ELEVATION: **Not surveyed**
DRILLING METHOD: **Geoprobe**		TOTAL DEPTH (ft bgs): **10**	DEPTH TO WATER (ft bgs): **4.5**
SAMPLING METHOD: **2" x 5' Liner**		BORING DIAMETER: **2"**	DRILL DATE: **4/16/2020**

Depth (feet)	USCS Symbol	Description	Drive/ Recovery	Sample ID	Well Construction
0	OL-OH	**TOPSOIL** with rootlets. No odor. Piece of plastic at ground surface.			Protective Cover
		Dark brown **PEAT** with rootlets. No odor.			Concrete
1					
2					Bentonite Chips
					3/4" Sch. 40 PVC
3	ML	Brown **SILT**. Medium plasticity. Moist. No odor or debris.			
4	SW	Gray, well graded **SAND** with gravel and little silt. Moist. No odor or debris.			
		At 4.5 feet, becomes wet.		MW-10-4.5-5 FT	
5					
6					10-20 Silica Sand
					0.010" slotted prepack PVC screen
7					
8	SP	Gray, poorly graded fine **SAND** with little silt. Wet. No odor.			
		At 8 feet, becomes brown.			
9					
		At 9.5 feet, gravel larger than 2".			
10		Bottom of boring = 10 feet bgs.			
11					

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-01	
LOGGED BY: K. Anderson	**BORING LOCATION:** Adjacent property to west		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397294.261	**EASTING:** 1362268.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	OL-OH	**TOPSOIL**.			
1	SW-SM	Brown, well graded **SAND** with silt and gravel. Wood fragments. Dry. At 3 feet bgs, slight odor.			
2					
3	ML	Black-brown, peaty **SILT**. Hydrocarbon odor.		0.4	
4					
5	SW-SM	Well graded **SAND** with silt and gravel.		8.4	FS-01-5-6 FT
6 ▼	ML	Gray **SILT**. Wet.		38.0	
7		At 6.5 feet, strong hydrcarbon odor		0.8	FS-01-6.5-7.5 FT
8					
9	SP	Gray, poorly graded fine **SAND**. Wet. No odor		0.4	
10		Bottom of boring = 10 feet bgs.			
11					
12					

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-02	
LOGGED BY: K. Anderson	**BORING LOCATION:** Adjacent property to west		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397276.261	**EASTING:** 1362268.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 8	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown, well graded **SAND** with silt and gravel. Dry. No odor or debris			
1					
2		At 1.5 feet, becomes black-brown.		0.0	
3	OL-OH	Black-brown **PEAT**. Moist. No odor.			
4					
5	ML	Brown **SILT**. Soft. No odor. At 4.5 feet, becomes gray and firm.		0.3	FS-02-4-5 FT
6					
7				0.0	
8 ▼	SP	Poorly graded fine **SAND**. Firm. Wet. No odor.			
9					
10		Bottom of boring = 10 feet bgs.			
11					
12					

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-03	
LOGGED BY: K. Anderson	**BORING LOCATION:** Adjacent property to west		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397262.273	**EASTING:** 1362258.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 7.5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW	Brown, well graded **SAND** with silt and gravel. Dry.			
1					
2		At 1.5 feet, becomes black-brown. Few wood fragments. No odor.			
3	OL-OH	Black-brown **PEAT**. No odor.		0.2	
4	ML	Brown **SILT**. Soft. Moist. No odor.			
5	SW-SM	Gray, well graded silty **SAND** with gravel. Moist.		0.1	FS-03-4.5-5 FT
6	ML	**SILT**. No odor.		0.0	
7					
8	SP	Gray, poorly graded fine **SAND**. Wet. No odor.			
9					
10		Bottom of boring = 10 feet bgs.			
11					
12					

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-04	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.273	**EASTING:** 1362258.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 7	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	Brown, well graded **GRAVEL** with sand and some silt. Dry. No odor or debris.			
2	SW-SM	Black-brown, well graded **SAND** with gravel and silt. Hydrcarbon odor. No debris.		26.5	FS-04-2-3 FT
3	OL-OH	Black-brown **PEAT**. No odor.			
4	ML	Brown **SILT**.		0.7	
	SW	Gray, well graded **SAND** with silt and gravel. No odor.			FS-04-4.5-5 FT
5	ML	Brown **SILT**. No odor.		0.2	
6		Gray sandy **SILT**.			
7 ▼	SP	Gray, poorly graded very fine **SAND**. Wet. No odor.		0.1	
9				0.2	
10		Bottom of boring = 10 feet bgs.			
12					

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NOTES:
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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-05	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.273	**EASTING:** 1362278.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	GW	**GRAVEL** surfacing. Dry.			
1		Brown, well graded **SAND** with silt and gravel. Dry to moist. Some wood debris.			
2					
3	SW-SM	At 3 feet, hydrcarbon odor.		190.0	
4		At 4 feet, large wood piece.			
5 ▼		At 5 feet, becomes wet. Moderate to strong odor. Slight rainbow sheen clings to soil.		184.0 348.0	FS-05-5-6 FT
6		Gray sandy **SILT**. Odor dissapates.			
7	ML	At 7 feet, no odor.		1.0	FS-05-7-8 FT
8					
9	SP	Gray, poorly graded fine **SAND**. Wet. No odor.			
10		Bottom of boring = 10 feet bgs.		0.2	
11					
12					

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-06	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.276	**EASTING:** 1362298.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown, well graded **SAND** with silt and gravel. Dry to moist. No odor or debris.			
1					
2				0.0	
3	OL-OH	Black-brown **PEAT**. Hydrcarbon odor.			
4	ML	Brown **SILT**. Soft.			
5 ▼	SW-SM	Gray, well graded **SAND** with silt and gravel. Moist. Strong odor.		175.0	FS-06-4.5-5 FT
		At 5 feet, becomes very gravely and wet at 5 feet bgs.		113.0	
6	ML	Gray **SILT**. Odor lessens.			
7		At 7 feet, few sandy pockets and no odor at 7 feet bgs.		0.8	FS-06-7-8 FT
8					
9	SP	Gray, poorly graded fine **SAND**. Wet. No odor.			
10		Bottom of boring = 10 feet bgs.		0.0	
11					
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-07	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.276	**EASTING:** 1362318.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 6	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown to gray, well graded **SAND** with silt and gravel. Moist.			
3		At 3.5 feet, becomes brown and has hydrcarbon odor.		242.0	FS-07-4-5 FT
5		At 5 feet, brick fragment with silt.			
5		At 5.5 feet, becomes gray.			
6 ▼		At 6 feet, becomes wet.		103.0	
6	ML	Gray sandy **SILT**. Few sandy pockets. Moist. No odor.		0.2	FS-07-6.5-7.5 FT
8				0.4	
10		Bottom of boring = 10 feet bgs.			
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
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NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-08	
LOGGED BY: K. Anderson	**BORING LOCATION:** Eastern Property line		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397327.113	**EASTING:** 1362431.68	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5.5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Well graded **SAND** with silt and gravel.			
1					
2		At 1.5 feet, becomes mixed with **ORGANIC SOIL** and fine rootlets. No odor or debris.			
3		At 3.5 feet, becomes brown. No organic soil.			
4	ML	3-inch **PEAT** lens followed by dark brown sandy **SILT**.		0.0	
5	SW-SM	Gray, well graded **SAND** with silt and gravel.			FS-08-4.5-5.5 FT
		▼ At 5.5 feet, becomes wet. No odor.			
6				0.1	
7					
8				0.1	
9					
10		Bottom of boring = 10 feet bgs.			
11					
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-09	
LOGGED BY: K. Anderson	**BORING LOCATION:** Eastern Property line		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397296.993	**EASTING:** 1362432.09	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 7	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SP	Brown, poorly graded fine **SAND** with rootlets. Dry. No odor or debris.			
3		At 3.5 feet, becomes moist.			
4	SW-SM	Brown, well graded **SAND** with gravel and silt. Moist. No odor or debris.		0.1	
6				0.1	
7 ▼		At 7 feet, becomes gray and wet. No odor.			FS-09-7-8 FT
8				1.5	
9				0.5	
10	SP	Gray, poorly graded fine **SAND**.			
		Bottom of boring = 10 feet bgs.			
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-10	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.276	**EASTING:** 1362338.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown, well graded **SAND** with silt and gravel. Dry. No odor or debris.			
3	OL-OH	Dark brown **PEAT**. Moist. Slight odor.			
4	ML	Brown **SILT** with wood fragments. Hydrocarbon odor.		13.9	
5	SW-SM	Well graded **SAND** with silt and gravel. Hydrocarbon odor. At 5 feet, becomes wet. Strong odor.		39.0	FS-10-5-6 FT
7	ML	Gray sandy **SILT**. No odor.		0.6	FS-10-6.5-7.5 FT
10		Bottom of boring = 10 feet bgs.		0.2	

ABBREVIATIONS:
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ppm = parts per million
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NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-11	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.276	**EASTING:** 1362358.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown, well graded **SAND** with silt and gravel. Dry. Piece of decomposing wood debris.			
3	OL-OH	Dark brown silty **PEAT**. Slight hydrcarbon odor from 3.5 to 4.5 feet.		43.9	FS-11-4-5 FT
5 ▼	SW-SM	Dark brown, well graded **SAND** with silt and gravel. Hydrcarbon odor at 4.75 feet.		30.4	
		At 5 feet, becomes wet.			
6		At 6 feet, becomes gray. No odor.		0.0	FS-11-6-7 FT
10		Bottom of boring = 10 feet bgs.			
12					

ABBREVIATIONS:
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NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-12	
LOGGED BY: K. Anderson	**BORING LOCATION:** W Stanley Street ROW		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397251.276	**EASTING:** 1362378.31	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0		Brown, well graded **SAND** with silt and gravel. Dry. No odor or debris.			
1	SW-SM				
2					
3		Black-brown silty **PEAT**. No odor.		0.0	
4	OL-OH	Dark brown, well graded **SAND** with silt and gravel. Moist. No odor.			FS-12-4-5 FT
5 ▼		At 5 feet, becomes wet. No odor.		5.0	
6		At 6 feet, becomes gray.			
7	SW-SM			0.6	
8					
9				0.3	
10		Bottom of boring = 10 feet bgs.			
11					
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

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PROJECT: NelSon - Granite Falls	**LOCATION:** Granite Falls, WA	**BORING ID:** FS-13	
LOGGED BY: K. Anderson	**BORING LOCATION:** Adjacent property to west		
DRILLED BY: Brandon Pizzoto, Cascade Drilling	**NORTHING:** 397294.425	**EASTING:** 1362258.23	
DRILLING EQUIPMENT: Geoprobe LAR	**SURFACE ELEVATION:** 401	**COORDINATE SYSTEM:** NAVD88	
DRILLING METHOD: Direct Push	**TOTAL DEPTH (ft bgs):** 10	**DEPTH TO WATER (ft bgs):** 5.5	
SAMPLING METHOD/SAMPLER LENGTH: 2" x 5' Liner	**BORING DIAMETER:** 2"	**DRILL DATE:** 4/17/2020	

Depth (feet)	USCS Symbol	Soil Description and Observations (color, texture, moisture, **MAJOR CONSTITUENT**, odor, staining, sheen, debris, etc.)	Drive/ Recovery	PID (ppm)	Sample ID
0	SW-SM	Brown, well graded **SAND** with silt and gravel.			
1		At 1 foot, becomes black-brown. Few wood fragments. No odor.			
2					
3					
4	OL-OH	Black-brown **PEAT**. Moist.		1.5	
5	SW-SM	Gray, well graded **SAND** with silt and gravel. Moist. No odor.		8.5	FS-13-4.5-5.5
6		At 5.5 feet, becomes wet. No odor.			
7				1.1	
8					
9				0.0	
10		Bottom of boring = 10 feet bgs.			
11					
12					

ABBREVIATIONS:
ft bgs = feet below ground surface
ppm = parts per million
USCS = Unified Soil Classification System
▼ = denotes groundwater table

NOTES:
Recovered intervals evenly decompressed for log/sample unless otherwise noted.

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	5' S and 15'E of NE Property Corner	Grass
				Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor. Buried metal debris including 1' dia. corrugated pipe and 4" dia. pvc pipe	
		None	2	Tan Fine to Medium grained Sandy SILT brown with decaying organics, Moist, Medium Dense	SM/ML
			3	Becomes Saturated – Groundwater @ 2.5'	
		None		Fine-to coarse-grained Silty SAND. Gray, Moist, Dense	SM
			4		
		None		Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown	SM
	TP-11@5'		5	Saturated, Dense, No Odor	
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	5' S and 60'E of NE Property Corner	Grass
				Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense	SM/ML
			3	Becomes Saturated – Groundwater @ 2.5'	
			4		
		None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
	TP-12@5'		6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	10' S and 40'W of NW Property Corner Grass Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense Becomes Saturated – Groundwater @ 2.5'	SM/ML
			3		
			4		
	TP-13@5'	None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	40' S and 35'W of NW Property Corner Grass Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense Becomes Saturated – Groundwater @ 2.5'	SM/ML
			3		
			4		
	TP-14@5'	None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	50' S and 80'W of NW Property Corner Grass	
				Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense Becomes Saturated – Groundwater @ 2.5'	SM/ML
			3		
			4		
		None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
	TP-15@5'				
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	40' S and 55'W of NE Property Corner Grass	
				Fine to coarse silty SAND	SM
				dark brown with fine-to coarse	
				-grained sand with roots and gravel (topsoil)	
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy	SM/ML
				SILT with gravel 1-2 inches subrounded	
				brown with decaying organics,	
				Moist, Medium Dense	
				Becomes Saturated – Groundwater @ 2.5'	
			3		
			4		
		None	5	Interbeds of Fine-grained SILT and	SM
	TP-16@5'			Fine-to-Coarse Grained SAND brown	
				Saturated, Dense, No Odor	
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	40' S and 30'W of NE Property Corner Grass	
				Fine to coarse silty SAND	SM
				dark brown with fine-to coarse	
				-grained sand with roots and gravel (topsoil)	
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy	SM/ML
				SILT with gravel 1-2 inches subrounded	
				brown with decaying organics,	
				Moist, Medium Dense	
				Becomes Saturated – Groundwater @ 2.5'	
			3		
			4		
		None	5	Interbeds of Fine-grained SILT and	SM
	TP-17@5'			Fine-to-Coarse Grained SAND brown	
				Saturated, Dense, No Odor	
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	55' S and 20'E of NW Property Corner	Grass
				Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense	SM/ML
			3	Becomes Saturated – Groundwater @ 2.5'	
			4		
		None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
	TP-18@5'				
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	65' S and 70'E of NW Property Corner	Grass
				Fine to coarse silty SAND dark brown with fine-to coarse -grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense	SM/ML
			3	Becomes Saturated – Groundwater @ 2.5'	
			4		
		None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown	SM
	TP-19@5'			Saturated, Dense, No Odor	
			6		
			7		
			8		
			9		
			10		
				END OF BORING	

Project Nelson Petroleum Inc. **Location** 201 West Stanley Street, Granite Falls, WA
Date: 3-17-17 **Subcontractor and Equipment** Wes Roberts Construction, Excavator

Penetration Soil Results	Sample Depth (feet)	PID (ppm)	Depth (feet)	Lithologic Description	Classification
			0	65' S and 25'E of NW Property Corner	Grass
				Black Fine to coarse silty SAND fine-to coarse-grained sand with roots and gravel (topsoil)	SM
		None	1	Damp Dense No odor.	
		None	2	Brown Fine to Medium grained Sandy SILT with gravel 1-2 inches subrounded brown with decaying organics, Moist, Medium Dense	SM/ML
			3	Becomes Saturated – Groundwater @ 2.5'	
			4		
		None	5	Interbeds of Fine-grained SILT and Fine-to-Coarse Grained SAND brown Saturated, Dense, No Odor	SM
	TP-20@5'		6		
			7		
			8		
			9		
			10		
				END OF BORING	

Test Pit Log

Site: Former NelSon Petroleum Property
Logged by: K. Anderson
Date: 08/02/2019

FSTP-05				
Depth(feet)	**USCS Symbol**	**Description**	**Sample Depth**	**Sample ID**
0-3	SW-SM	Well graded SAND with gravel, silt, peat and debris (fill). Organic odor.		
3-5	SP	Dark gray poorly graded SAND with abundant gravel. No debris. Gray staining and strong petroleum odor. PID >100 ppmv	4 ft	FSTP-05-4FT

FSTP-06				
Depth(feet)	**USCS Symbol**	**Description**	**Sample Depth**	**Sample ID**
0-3	SW-SM	Well graded SAND with gravel, silt, peat and debris (fill). Organic odor.		
3-5	SP	Dark gray poorly graded SAND with abundant gravel. No debris. Gray staining and strong petroleum odor. PID >100 ppmv	5 ft	FSTP-06-5FT

FSTP-07				
Depth(feet)	**USCS Symbol**	**Description**	**Sample Depth**	**Sample ID**
0-3	SW-SM	Well graded SAND with gravel, silt, peat and debris (fill). Organic odor.		
3-5	SP	Dark gray poorly graded SAND with abundant gravel. No debris. Oil appearance in soil and strong petroleum odor. Staining not present. PID >100 ppmv	5 ft	FSTP-07-5FT

Attachment 2
Laboratory Analytical Reports

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
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December 27, 2018

Scott Adamek, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Mr Adamek:

Included are the results from the testing of material submitted on December 21, 2018 from the Nelson-Granite Falls, F&BI 812336 project. There are 6 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
FDS1227R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on December 21, 2018 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 812336 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
812336 -01	MW01-122118
812336 -02	MW02-122118
812336 -03	MW03-122118
812336 -04	MW04-122118
812336 -05	MW05-122118
812336 -06	trip blanks

All quality control requirements were acceptable.

Date of Report: 12/27/18
Date Received: 12/21/18
Project: Nelson-Granite Falls, F&BI 812336
Date Extracted: 12/24/18
Date Analyzed: 12/24/18

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW01-122118 812336-01	<1	<1	<1	<3	<100	82
MW02-122118 812336-02	<1	<1	<1	<3	<100	82
MW03-122118 812336-03	<1	<1	<1	<3	<100	83
MW04-122118 812336-04	<1	<1	<1	<3	<100	84
MW05-122118 812336-05	<1	<1	<1	<3	<100	83
trip blanks 812336-06	<1	<1	<1	<3	<100	82
Method Blank 08-2876 MB	<1	<1	<1	<3	<100	82

Date of Report: 12/27/18
Date Received: 12/21/18
Project: Nelson-Granite Falls, F&BI 812336
Date Extracted: 12/24/18
Date Analyzed: 12/24/18

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW01-122118 812336-01	<50	<250	53
MW02-122118 812336-02	<50	<250	111
MW03-122118 812336-03	68 x	<250	113
MW04-122118 812336-04	160 x	<250	116
MW05-122118 812336-05	250 x	<250	100
Method Blank 08-2901 MB	<50	<250	101

Date of Report: 12/27/18
Date Received: 12/21/18
Project: Nelson-Granite Falls, F&BI 812336

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: 812336-01 (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	100	65-118
Toluene	ug/L (ppb)	50	95	72-122
Ethylbenzene	ug/L (ppb)	50	90	73-126
Xylenes	ug/L (ppb)	150	90	74-118
Gasoline	ug/L (ppb)	1,000	74	69-134

Date of Report: 12/27/18
Date Received: 12/21/18
Project: Nelson-Granite Falls, F&BI 812336

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	96	112	63-142	15

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.

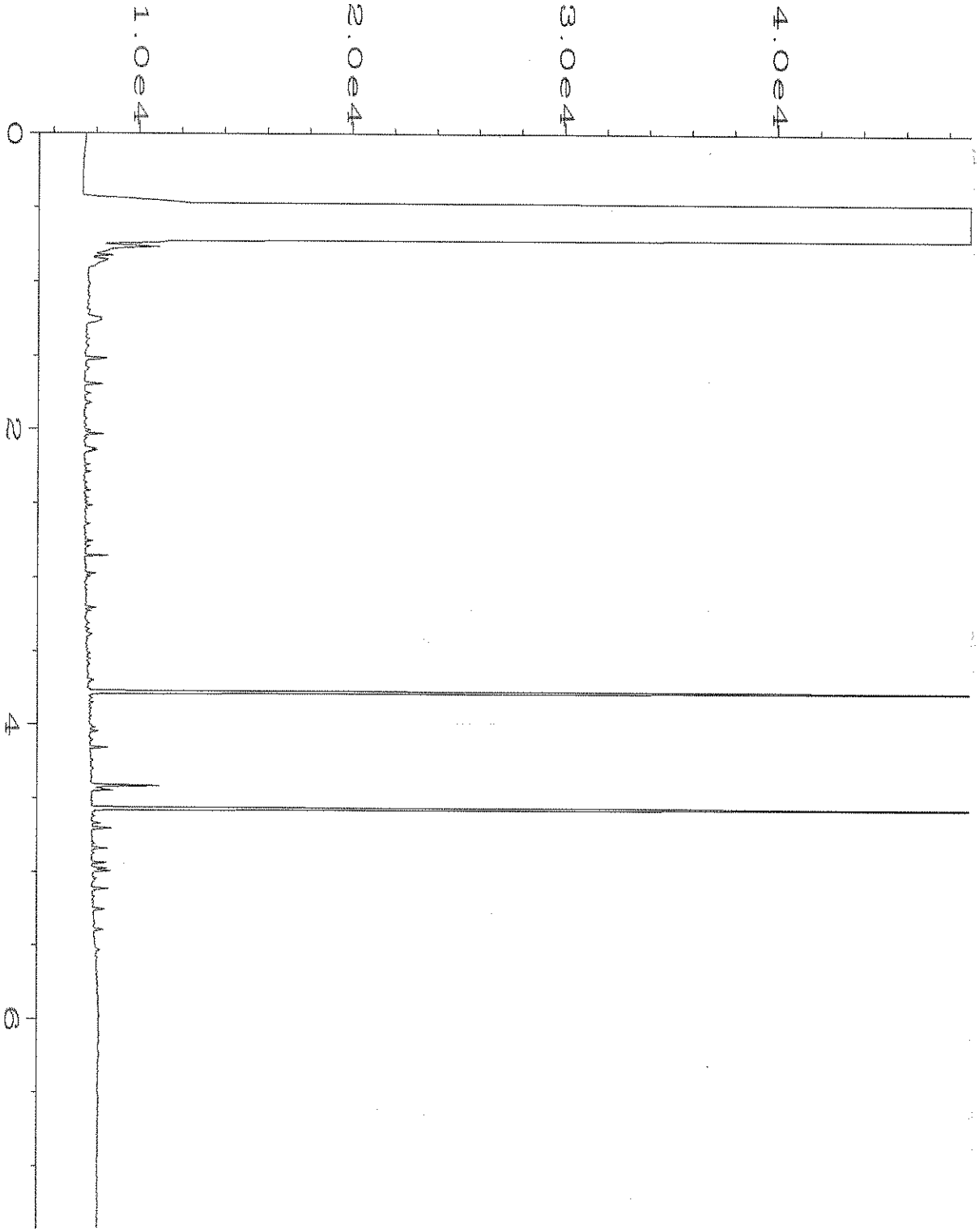
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

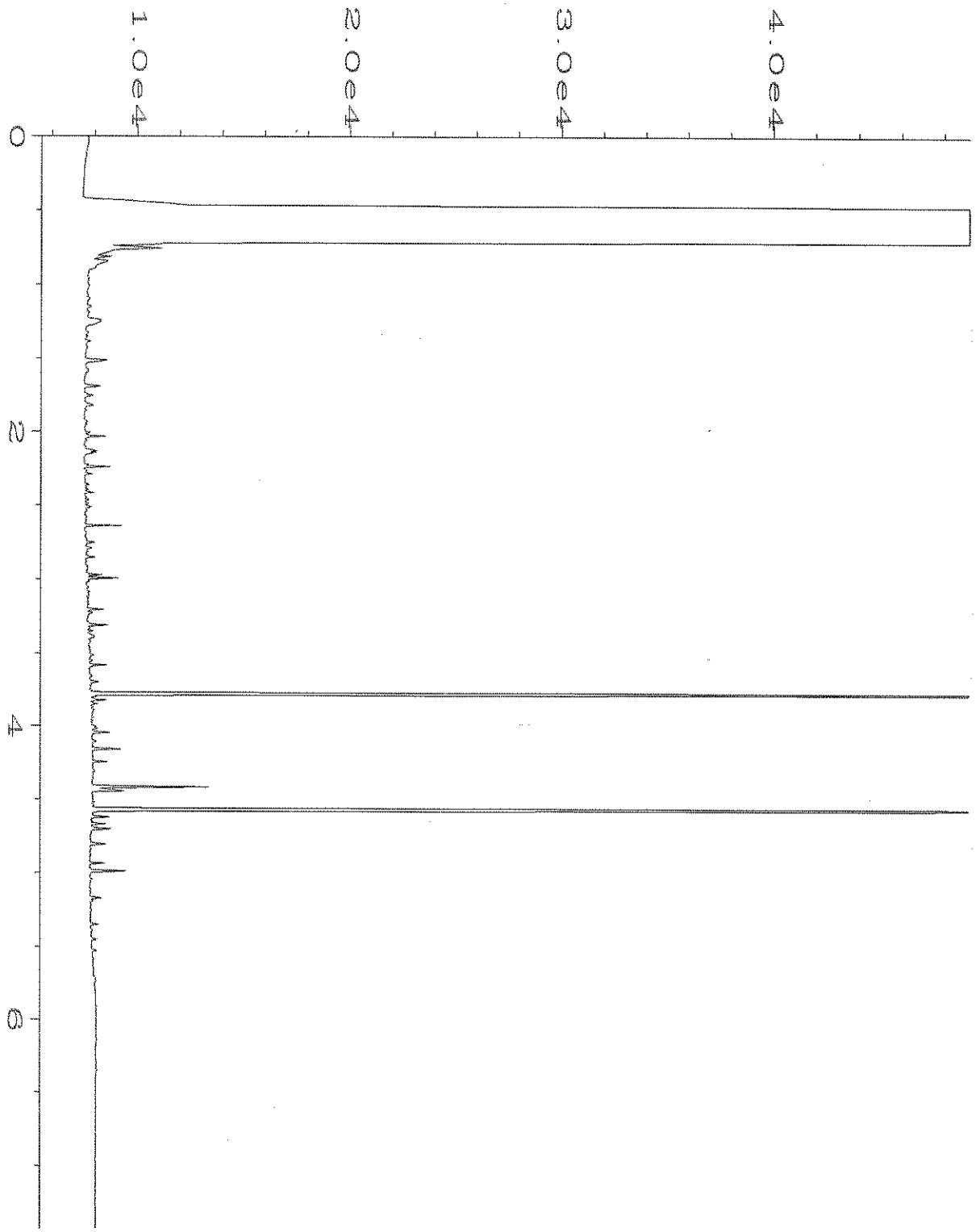
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

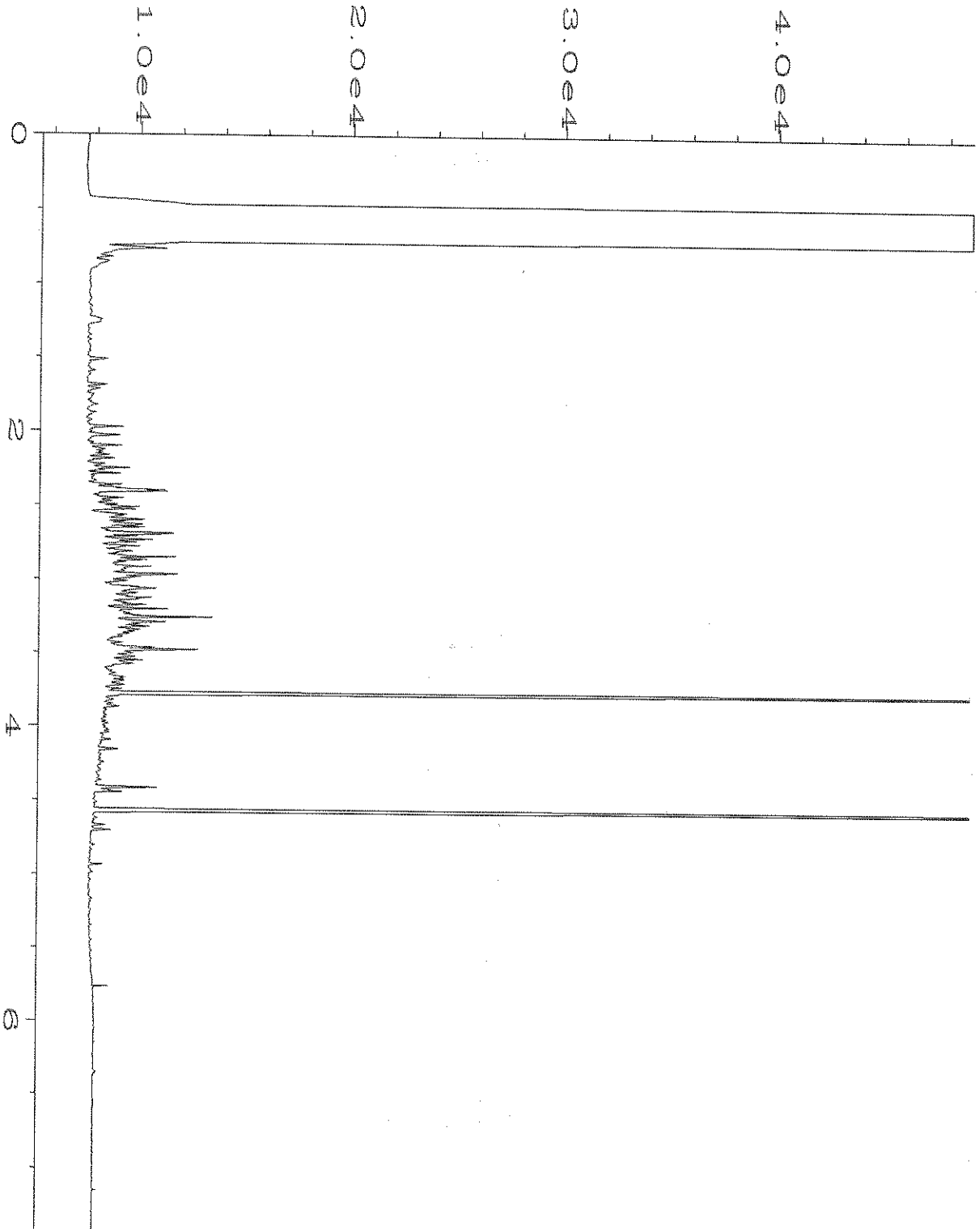
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Data File Name	: C:\HPCHEM\1\DATA\12-24-18\017F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 17
Sample Name	: 812336-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 24 Dec 18 01:50 PM	Instrument Method	: DX.MTH
Report Created on:	26 Dec 18 08:41 AM	Analysis Method	: DX.MTH

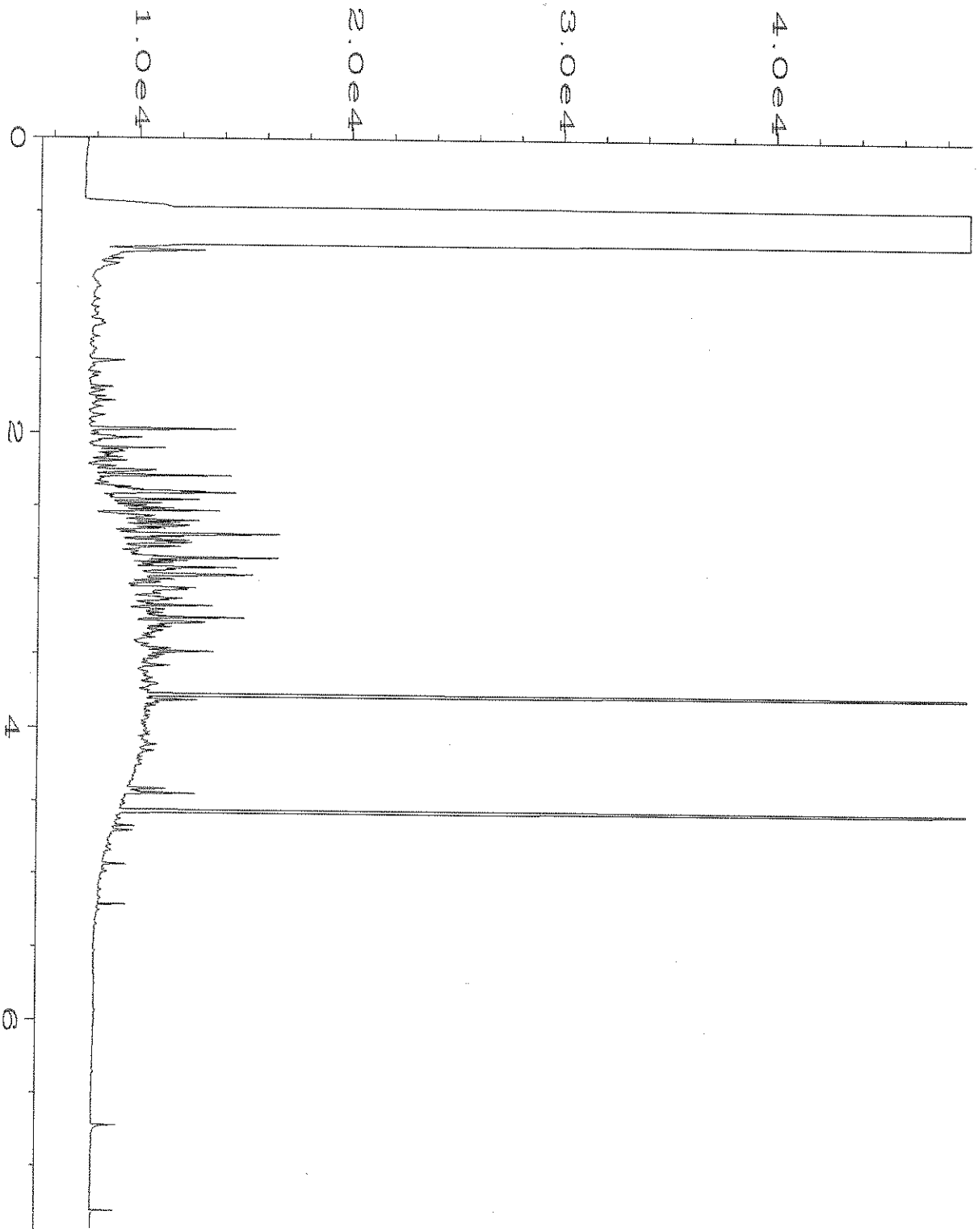


Data File Name	: C:\HPCHEM\1\DATA\12-24-18\018F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 18
Sample Name	: 812336-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 24 Dec 18 02:01 PM	Instrument Method	: DX.MTH
Report Created on:	26 Dec 18 08:41 AM	Analysis Method	: DX.MTH

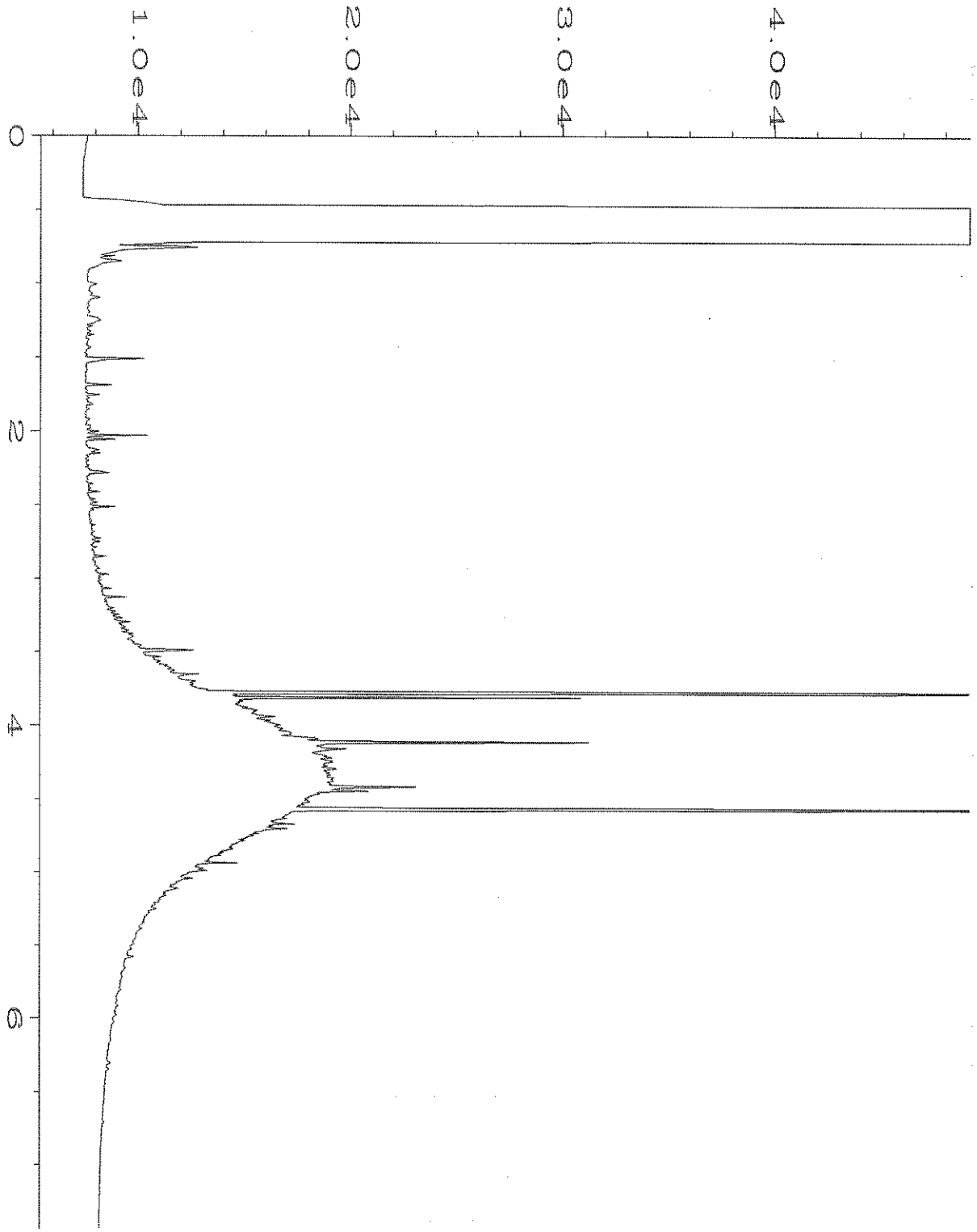


Data File Name : C:\HPCHEM\1\DATA\12-24-18\019F0701.D
Operator : TL
Instrument : GC1
Sample Name : 812336-03
Run Time Bar Code:
Acquired on : 24 Dec 18 02:13 PM
Report Created on: 26 Dec 18 08:41 AM

Page Number : 1
Vial Number : 19
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\1\DATA\12-24-18\020F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 20
Sample Name	: 812336-04	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 24 Dec 18 02:24 PM	Instrument Method	: DX.MTH
Report Created on:	26 Dec 18 08:41 AM	Analysis Method	: DX.MTH



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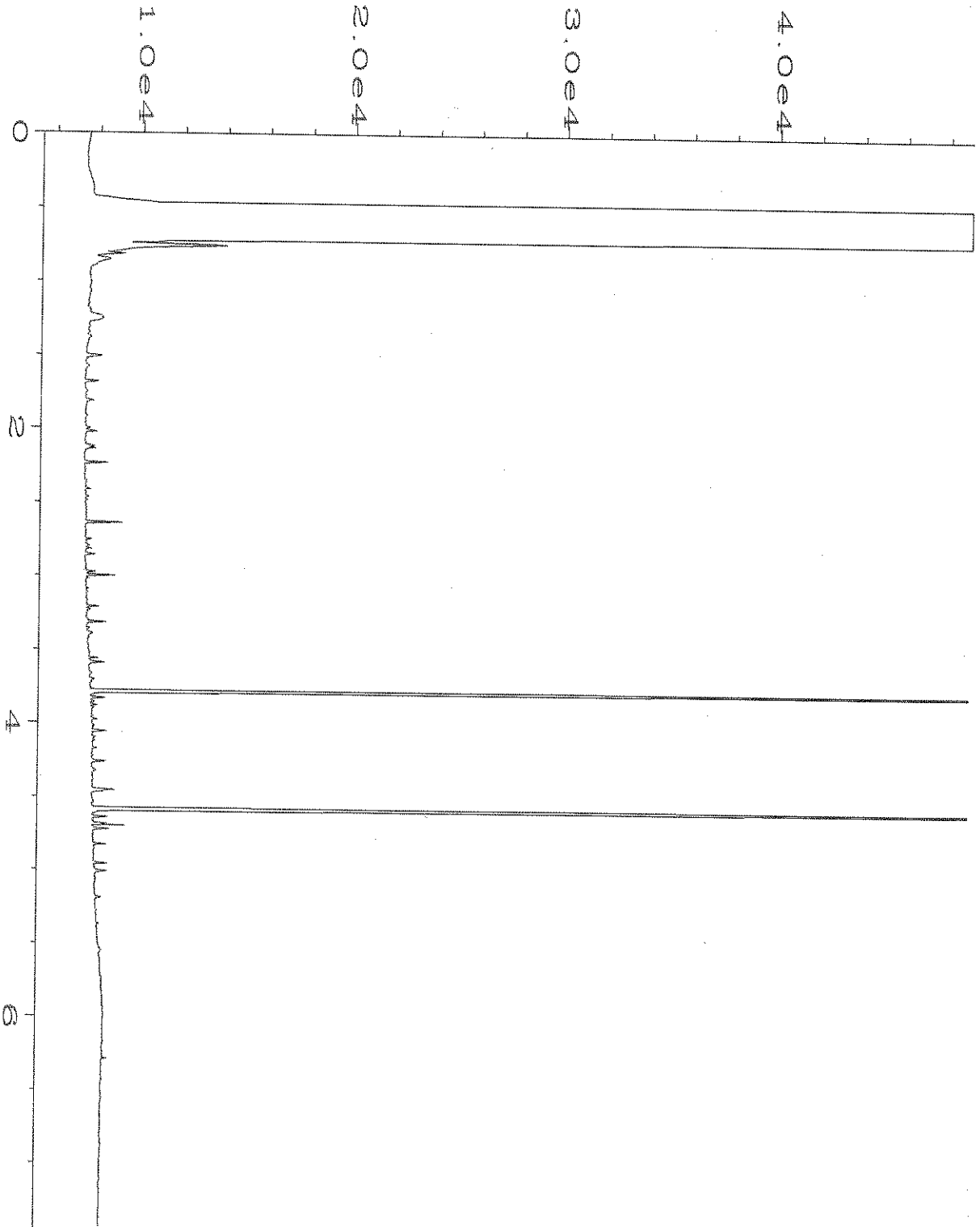
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 21
Sample Name	: 812336-05	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 24 Dec 18 02:35 PM	Instrument Method	: DX.MTH
Report Created on	: 26 Dec 18 08:41 AM	Analysis Method	: DX.MTH



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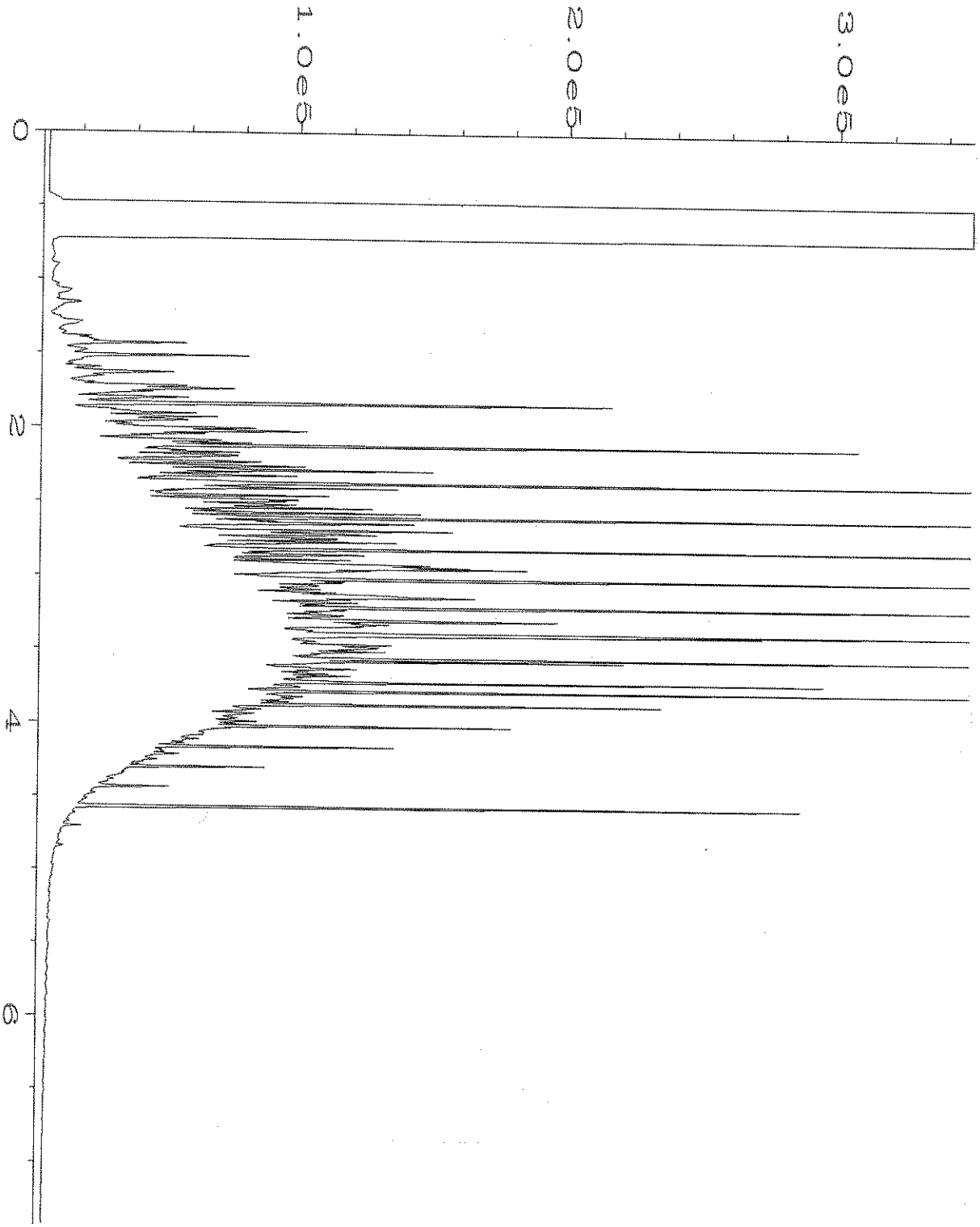
Operator : TL
Instrument : GC1
Sample Name : 08-2901 mb
Run Time Bar Code:
Acquired on : 24 Dec 18 10:48 AM
Report Created on: 26 Dec 18 08:37 AM

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\1\DATA\12-24-18\005F0601.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 5
Sample Name	: 1000 Dx 55-96F	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 24 Dec 18 01:39 PM	Instrument Method	: DX.MTH
Report Created on	: 26 Dec 18 08:37 AM	Analysis Method	: DX.MTH

812336
~~812336~~ EWB

SAMPLE CHAIN OF CUSTODY

ME 12-21-18

EO4 / VW2

Page # ____ of ____

Report To ~~Scott~~ Adamek

Company Floyd|Snider

Address 601 Union Street Suite 6000

City, State, ZIP Seattle, WA 98101

Phone 206-682-~~7814~~ Email Scott.Adamek@floydsnider.com

SAMPLERS (*signature*)	
PROJECT NAME: Nelson-Granite Falls	PO #
REMARKS	INVOICE TO

TURNAROUND TIME
- ☐ Standard Turnaround
- ☐ RUSH ____
- Rush charges authorized by: ____

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other ____

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
						ANALYSES REQUESTED											
MW01-122118	01 A-D	12/21/18	13:08	GW	4		X	X	X								
MW02-122118	02		12:45				X	X	X								
MW03-122118	03		11:26				X	X	X								
MW04-122118	04		11:20				X	X	X								
MW05-122118	05		12:20				X	X	X								
trip blanks	06 A-B	—	—	—	—			X	X								

~~Samples~~ received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	12/21/18	1443
Received by:	DD VA	F+BT	1 1	1443
Relinquished by:				
Received by:				

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

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.

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fbi@isomedia.com
www.friedmanandbruya.com

April 1, 2019

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the results from the testing of material submitted on March 26, 2019 from the Nelson-Granite Falls, F&BI 903495 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
FDS0401R.doc

CASE NARRATIVE

This case narrative encompasses samples received on March 26, 2019 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 903495 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
903495 -01	MW05-032519
903495 -02	MW03-032519
903495 -03	MW01-032519

All quality control requirements were acceptable.

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495
Date Extracted: 03/27/19
Date Analyzed: 03/27/19

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 51-134)
MW05-032519 903495-01	<100	103
MW03-032519 903495-02	<100	104
MW01-032519 903495-03	<100	101
Method Blank 09-508 MB	<100	106

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495
Date Extracted: 03/27/19
Date Analyzed: 03/27/19

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW05-032519 903495-01	660 x	670 x	88
MW03-032519 903495-02	110 x	<250	104
MW01-032519 903495-03	<50	<250	98
Method Blank 09-687 MB	<50	<250	99

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495
Date Extracted: 03/27/19
Date Analyzed: 03/28/19

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
MW05-032519 903495-01	<50	<250	95
MW03-032519 903495-02	69 x	<250	108
Method Blank 09-687 MB	<50	<250	87

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495

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

Laboratory Code: 903496-06 (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	93	69-134

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495

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	100	84	58-134	17

Date of Report: 04/01/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495

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 Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	84	84	61-133	0

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 analyte 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 due to sample matrix effects.

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.

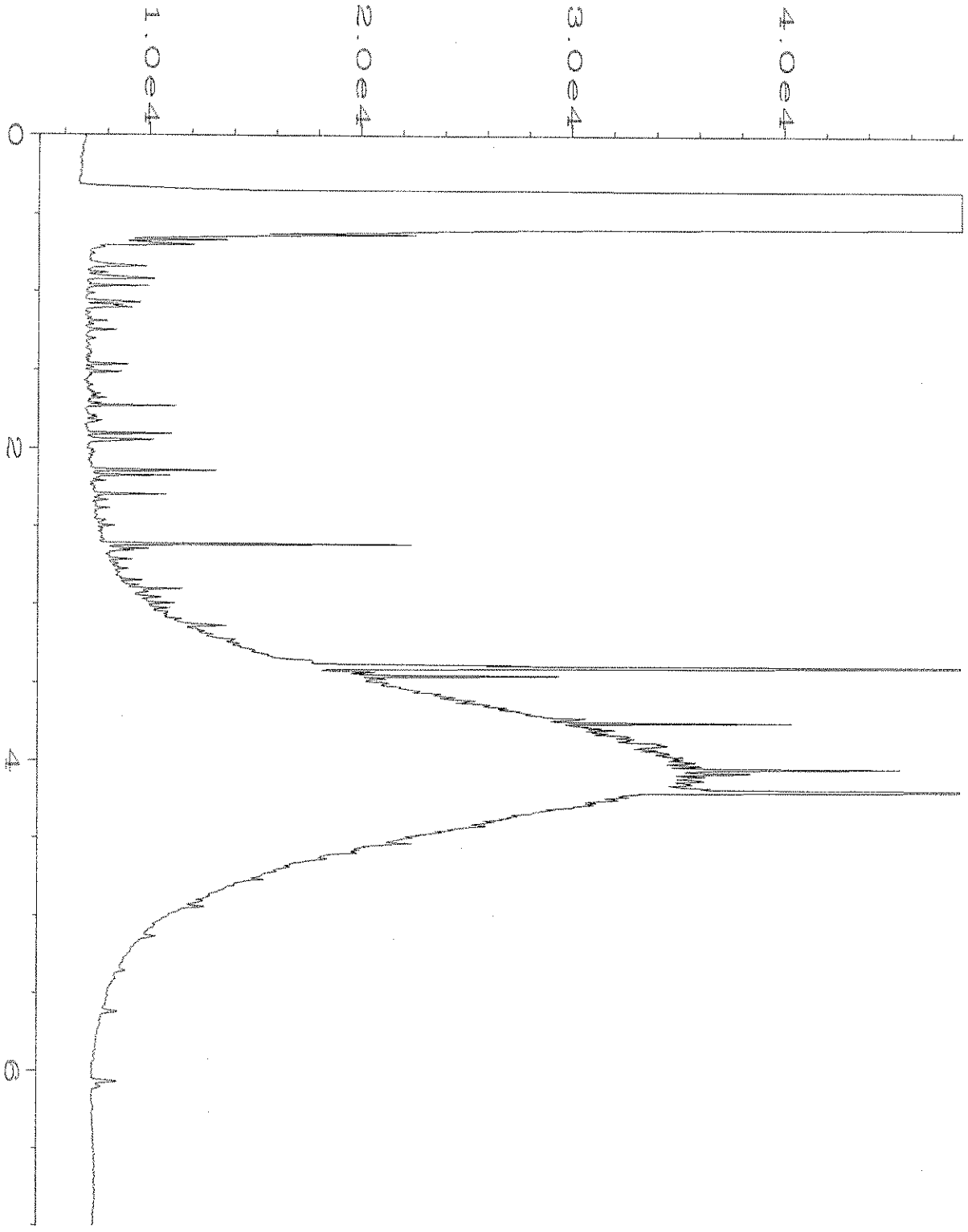
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

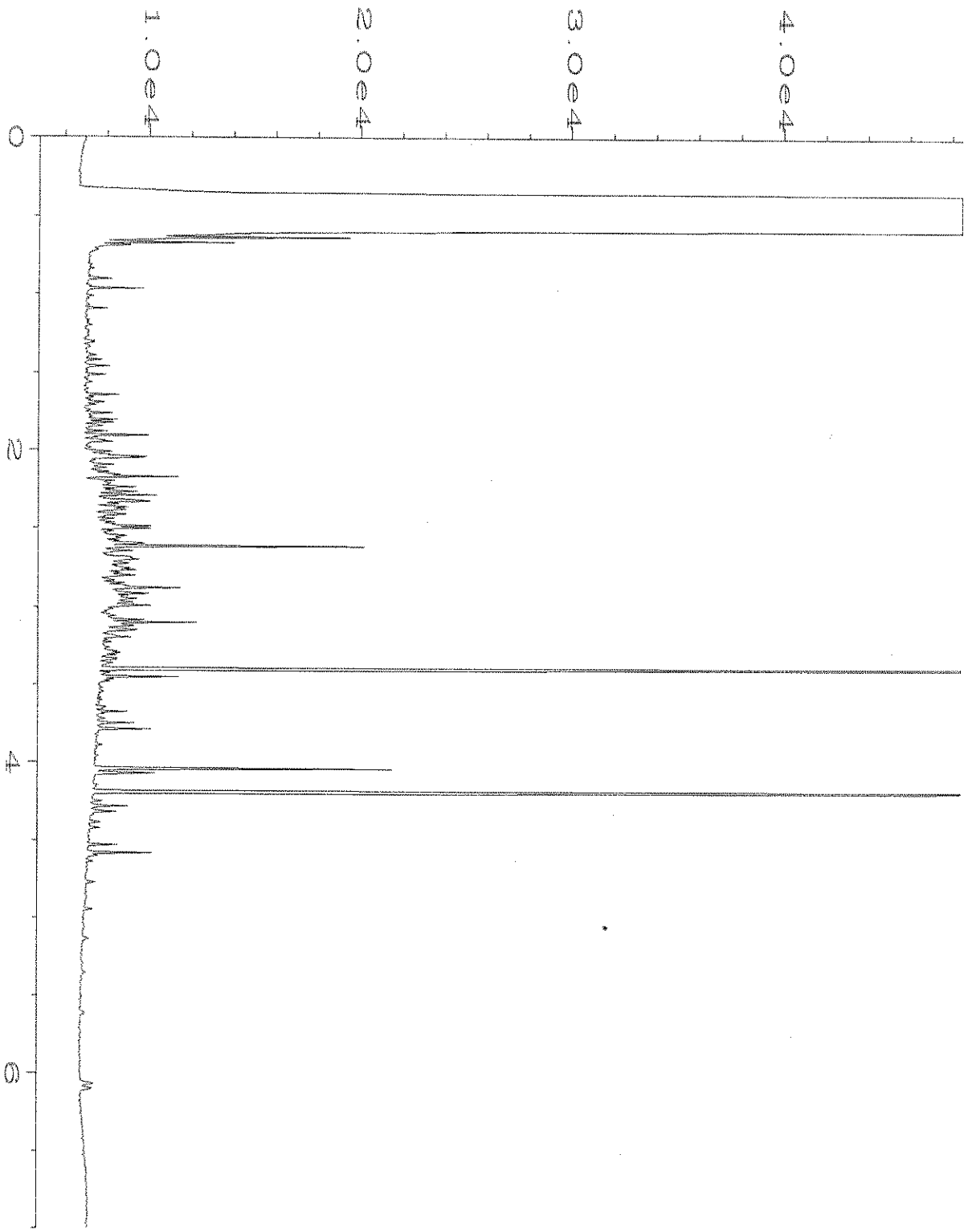
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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.



Data File Name	: C:\HPCHEM\6\DATA\03-27-19\027F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 27
Sample Name	: 903495-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:23 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



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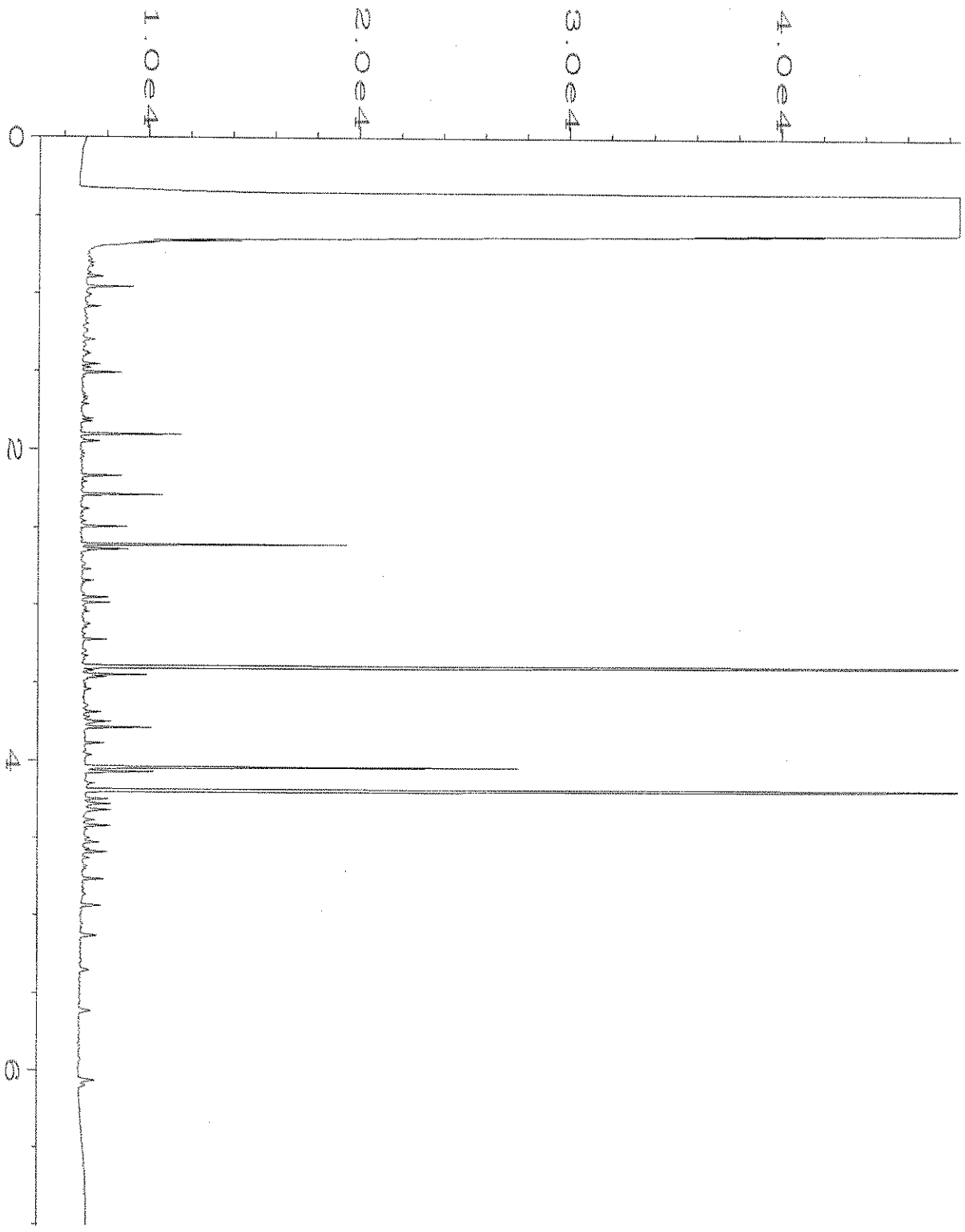
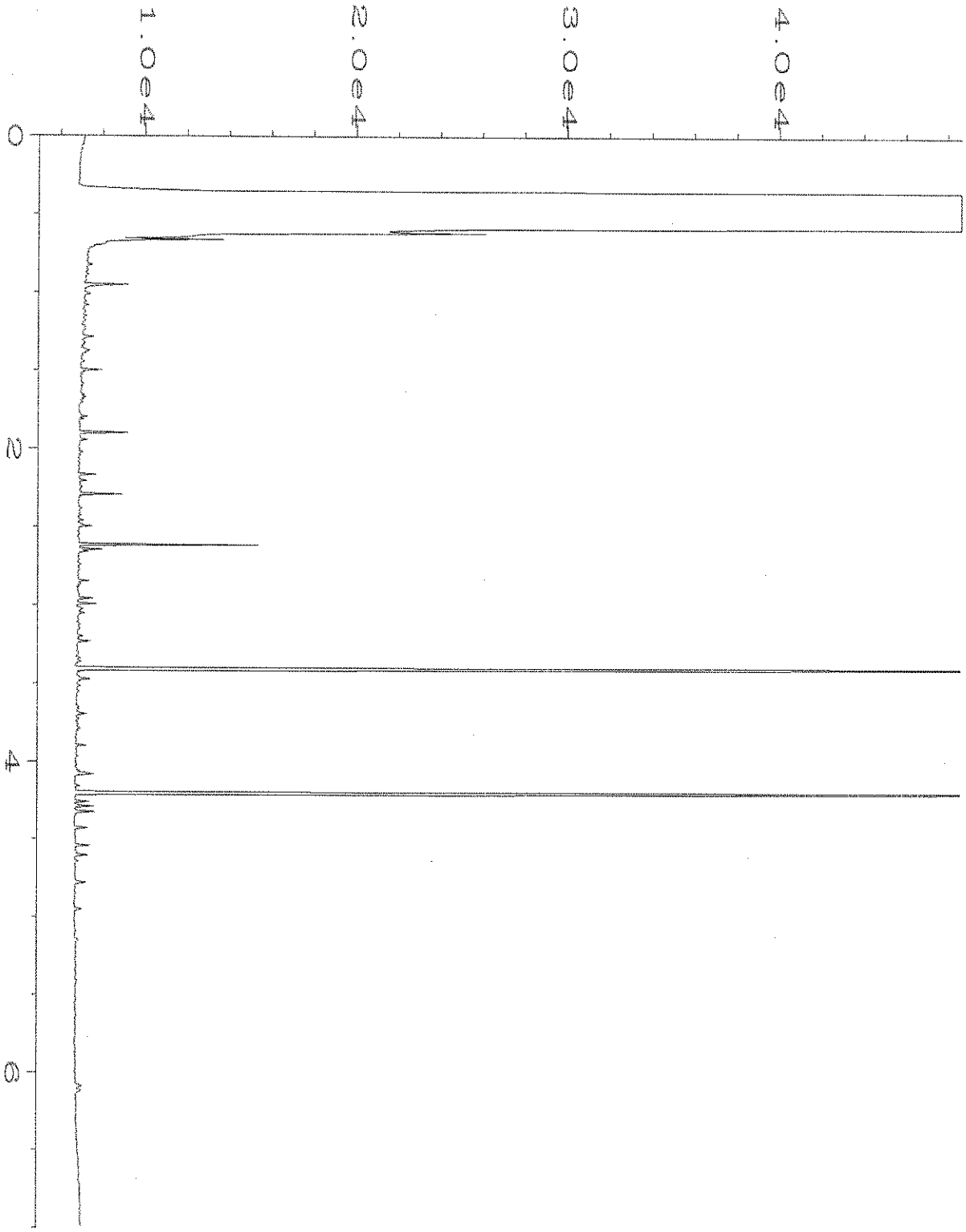
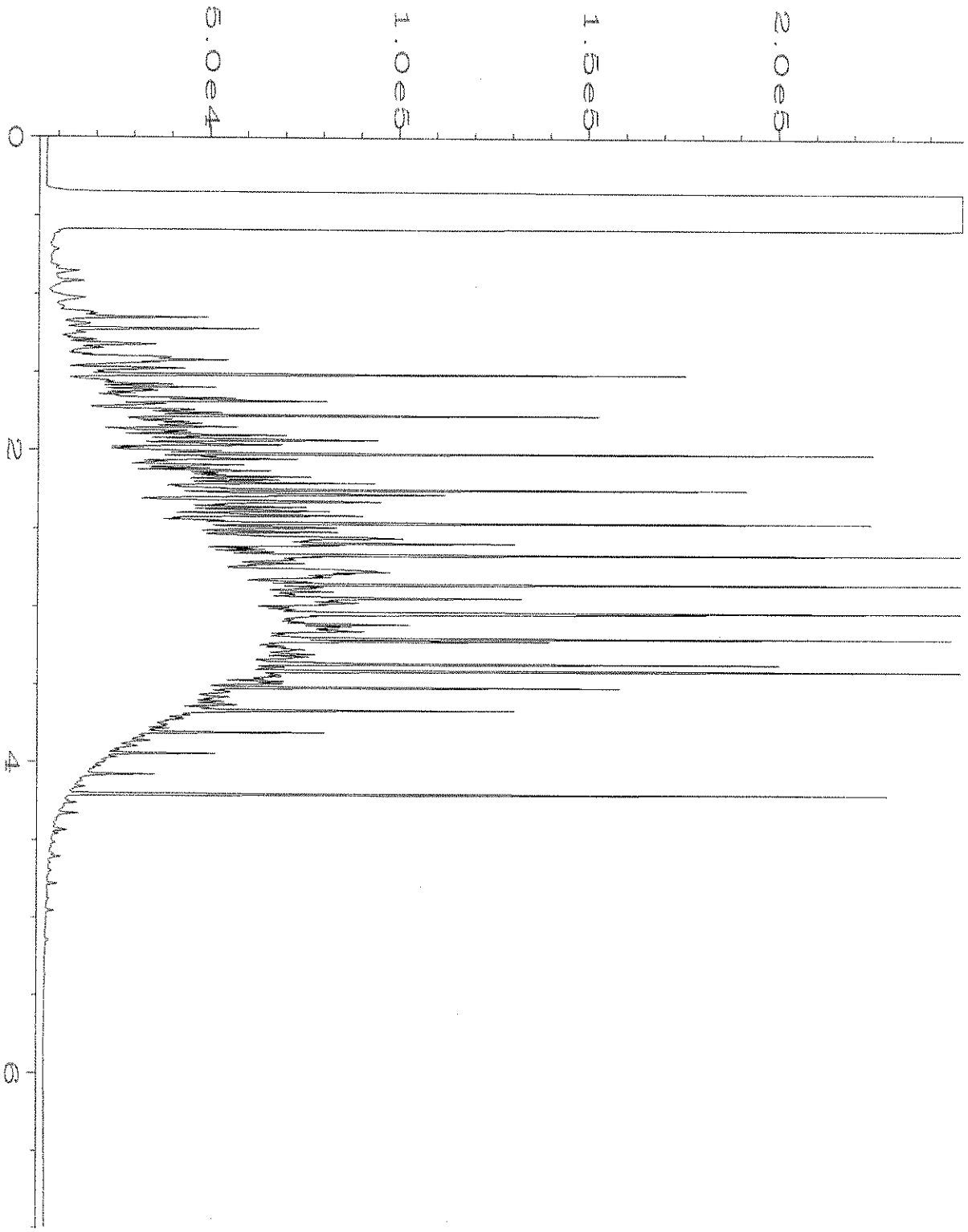
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 28
Sample Name	: 903495-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:34 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



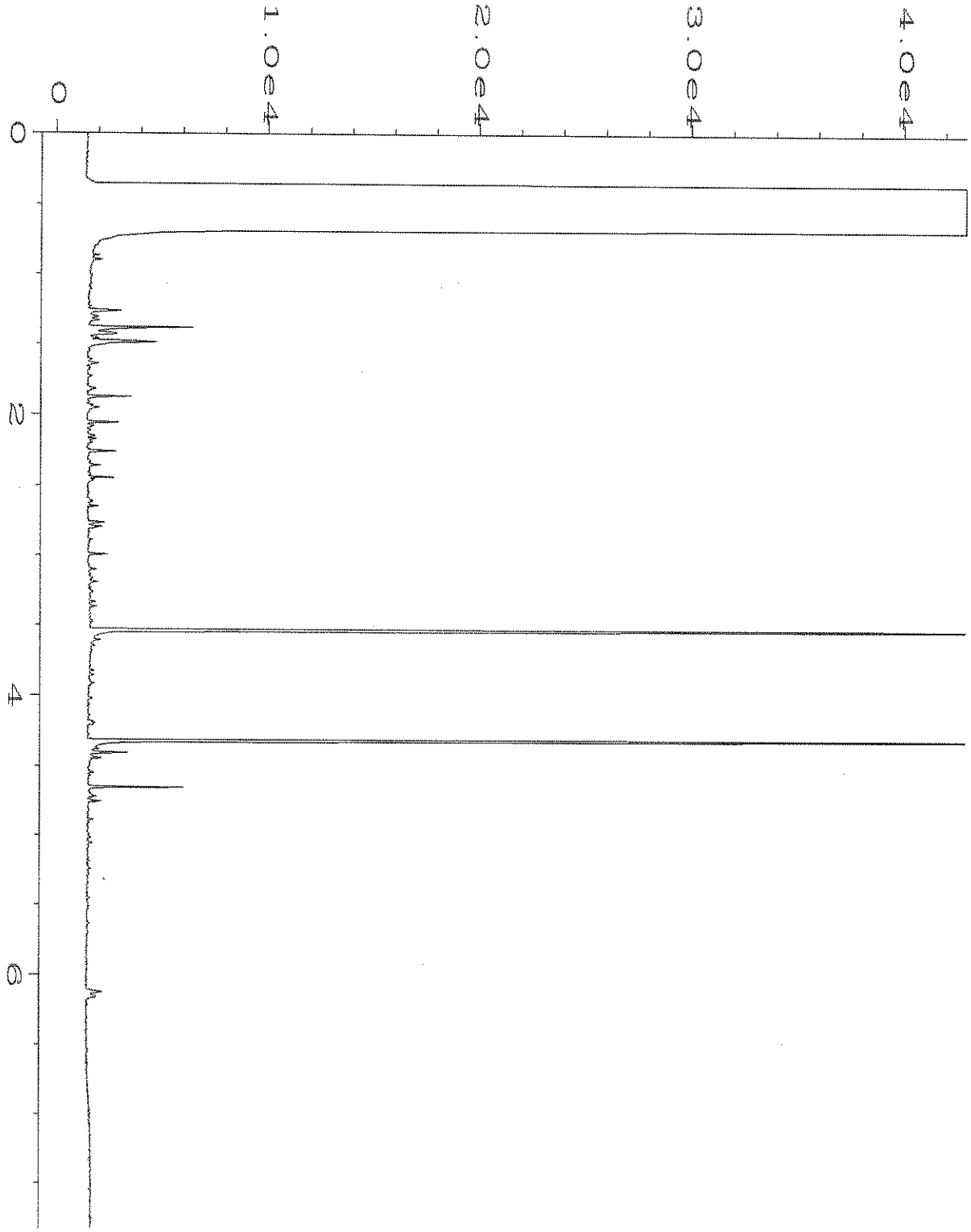
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\029F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 29
Sample Name	: 903495-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:45 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



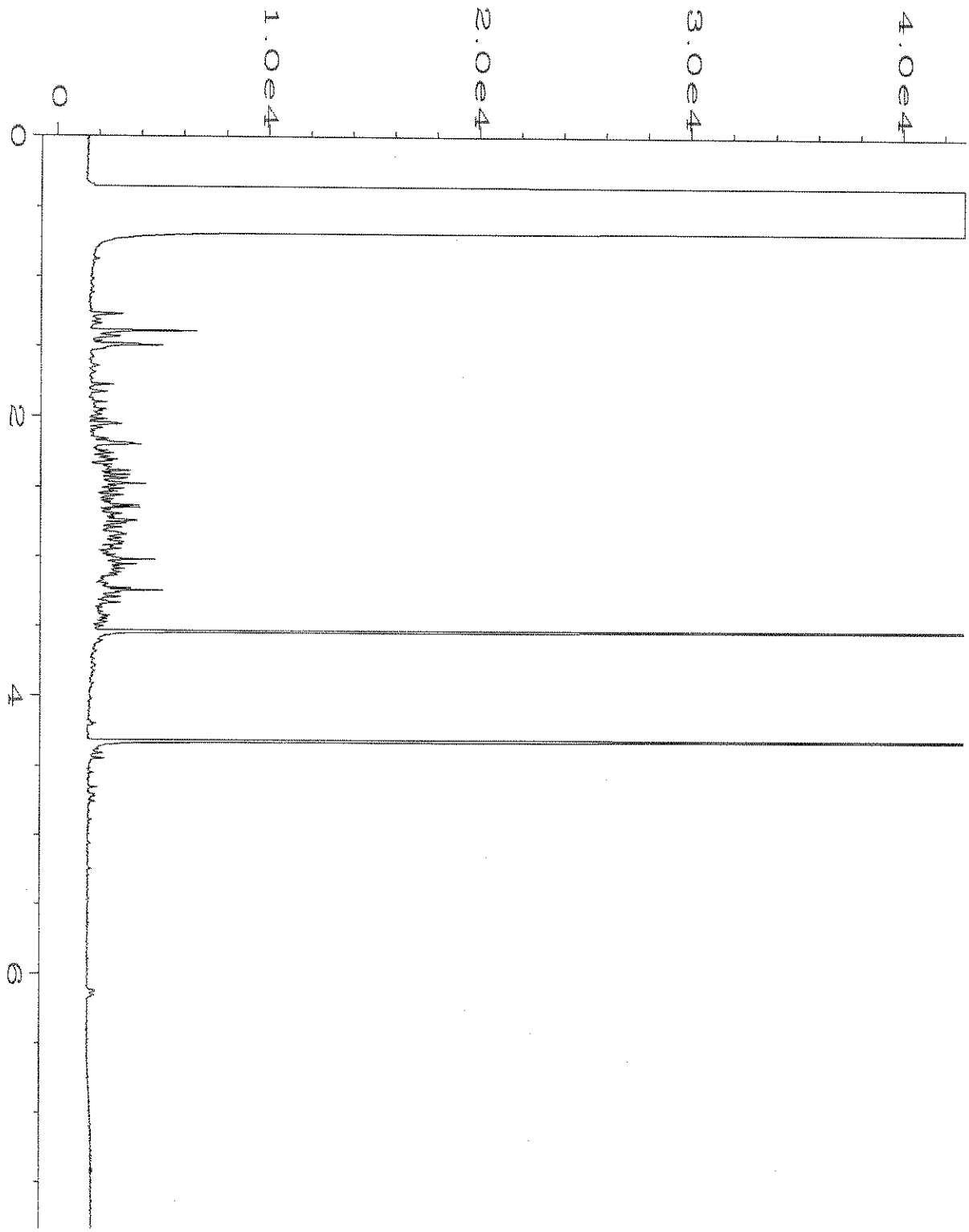
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\023F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 23
Sample Name	: 09-687 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 27 Mar 19 01:30 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\03-27-19\005F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 5
Sample Name	: 1000 Dx 56-131C	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 27 Mar 19 03:07 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH

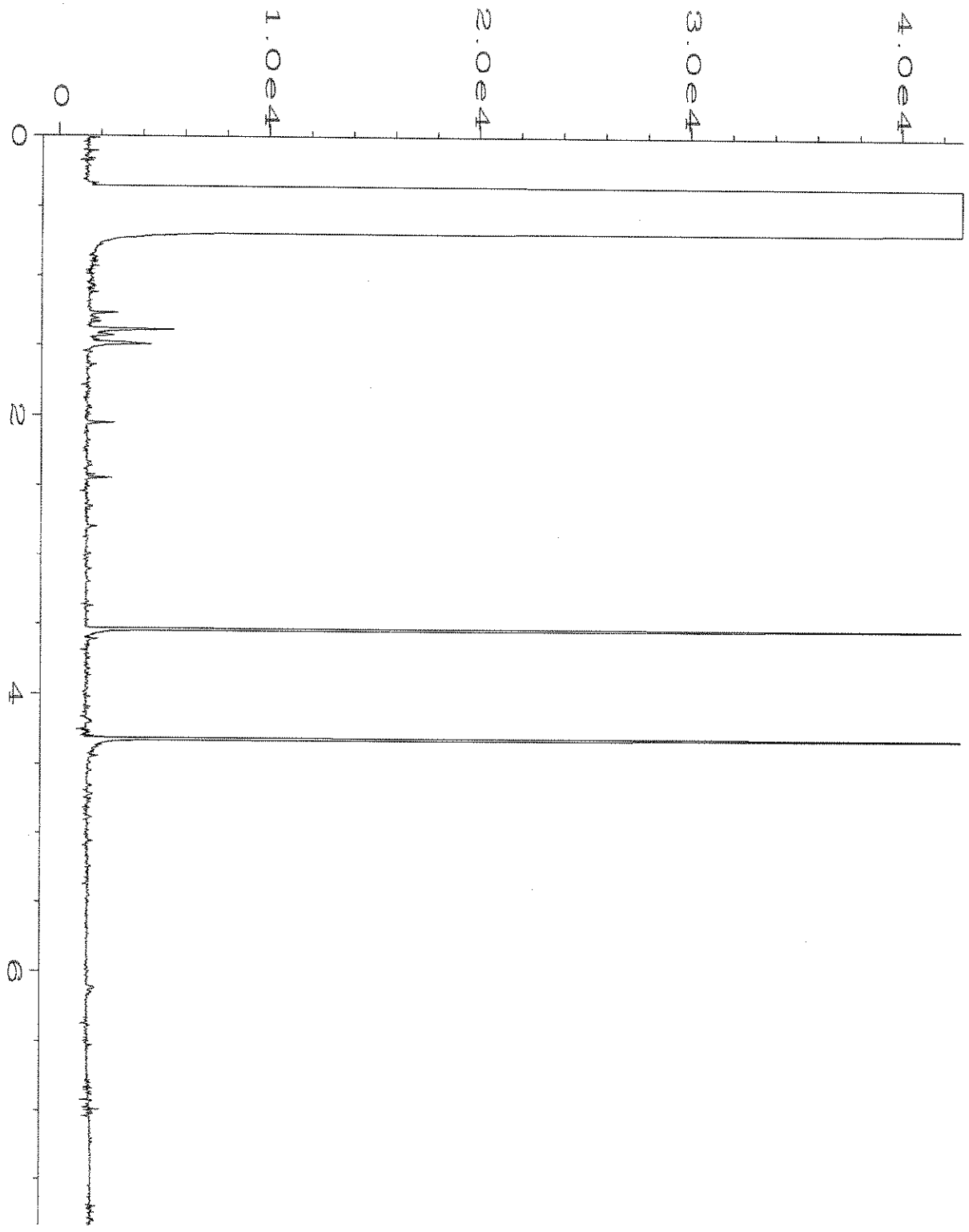


Data File Name	: C:\HPCHEM\4\DATA\03-28-19\041F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 41
Sample Name	: 903495-01 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 28 Mar 19 06:54 PM	Instrument Method	: DX.MTH
Report Created on	: 29 Mar 19 09:04 AM	Analysis Method	: DX.MTH



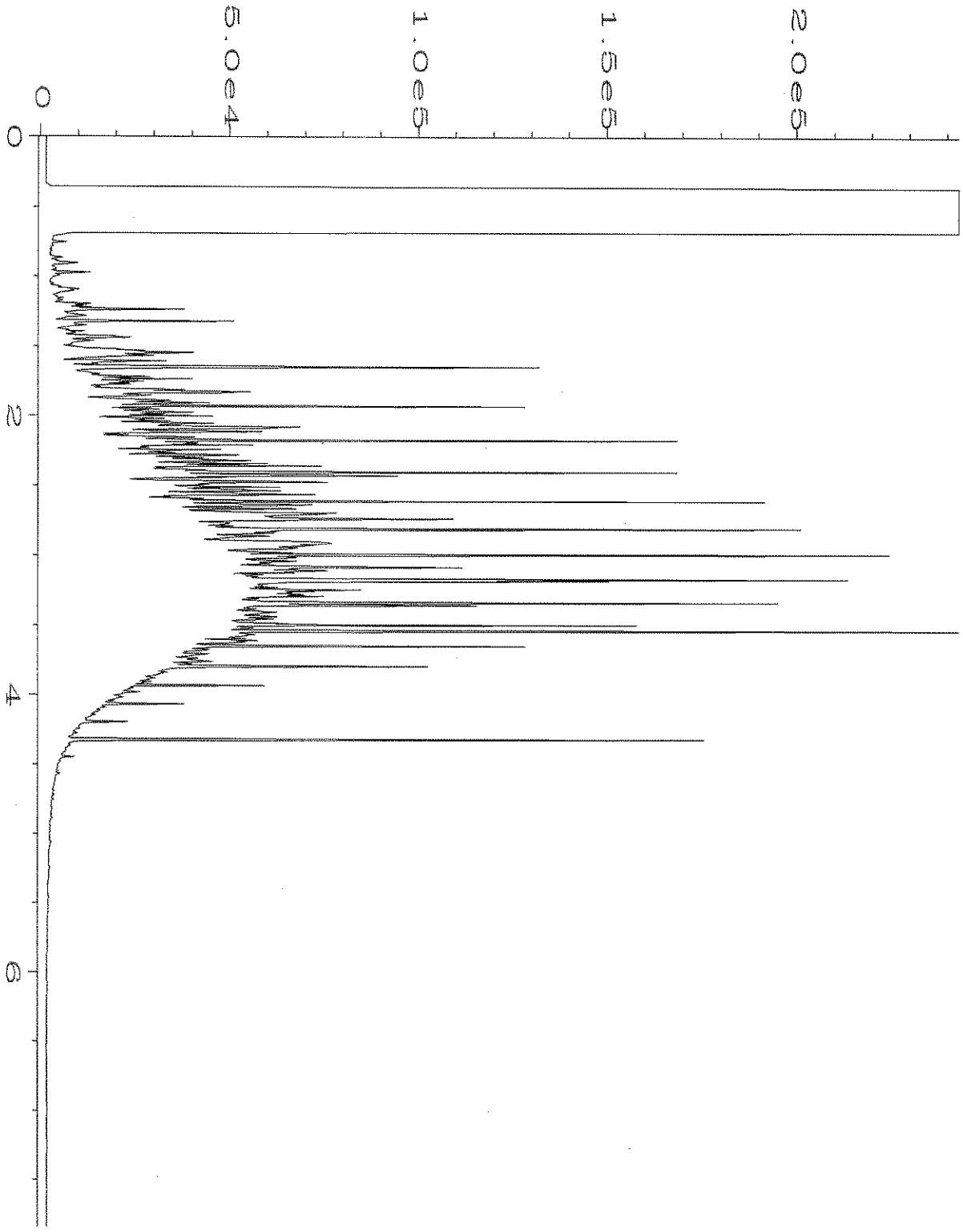
Data File Name : C:\HPCHEM\4\DATA\03-28-19\042F0801.D
Operator : TL
Instrument : GC#4
Sample Name : 903495-02 sg
Run Time Bar Code:
Acquired on : 28 Mar 19 07:06 PM
Report Created on: 29 Mar 19 09:04 AM

Page Number : 1
Vial Number : 42
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\4\DATA\03-28-19\029F0601.D
Operator : TL
Instrument : GC#4
Sample Name : 09-687 mb sg
Run Time Bar Code:
Acquired on : 28 Mar 19 04:04 PM
Report Created on: 29 Mar 19 08:59 AM

Page Number : 1
Vial Number : 29
Injection Number : 1
Sequence Line : 6
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\03-28-19\005F0901.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 56-131C	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 9
Acquired on	: 28 Mar 19 07:31 PM	Instrument Method	: DX.MTH
Report Created on	: 29 Mar 19 09:05 AM	Analysis Method	: DX.MTH

SAMPLE CHAIN OF CUSTODY

903495

ME 03-26-19

Page # 1 of 1 UW1

Report To Kristin Andersen

Company Floyd | Snider

Address 601 Union St, Ste 600

City, State, ZIP Seattle, WA 98101

Phone 206-292-2078 Email kristin.andersen@floydsnider.com

SAMPLERS (signature)

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS: hold extra diesel volume for silica gel cleanup

INVOICE TO

TURNAROUND TIME
- ☒ Standard Turnaround AOS
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	HOLD	Dx w/SG			Notes
MW05 - 032519	01 A-E	3/25/19	1135	W	5		X	X					X	■			*hold extra Dx volume
MW 03 - 032519	02		1137	W	5		X	X					X	■			"
MW04 - 032519	KA			W	5		X	X					X				"
MW01 - 032519	03 A-D		1248	W	4		X	X									
MW02 - 032519	KA			W	4		X	X									■ - per KA 3/20/19 MC

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Andersen	FS	3/26/19	1500
Received by:	Liz Webber-Bruya	F?B1	3/26/19	1542
Relinquished by:				
Received by:		Samples received at 3 °C		

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

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.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 23, 2019

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the additional results from the testing of material submitted on March 26, 2019 from the Nelson-Granite Falls, F&BI 903495 project. There are 4 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
FDS0423R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on March 26, 2019 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 903495 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
903495 -01	MW05-032519
903495 -02	MW03-032519
903495 -03	MW01-032519

All quality control requirements were acceptable.

Date of Report: 04/23/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495
Date Extracted: 03/27/19
Date Analyzed: 03/27/19

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

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Surrogate (% Recovery) Limit (52-124)
MW05-032519 903495-01	<1	<1	<1	<3	85
MW03-032519 903495-02	<1	<1	<1	<3	85
MW01-032519 903495-03	<1	<1	<1	<3	84
Method Blank 09-508 MB	<1	<1	<1	<3	86

Date of Report: 04/23/19
Date Received: 03/26/19
Project: Nelson-Granite Falls, F&BI 903495

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENES USING EPA METHOD 8021B

Laboratory Code: 903496-06 (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

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	99	72-122
Ethylbenzene	ug/L (ppb)	50	97	73-126
Xylenes	ug/L (ppb)	150	102	74-118

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 analyte 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 due to sample matrix effects.

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.

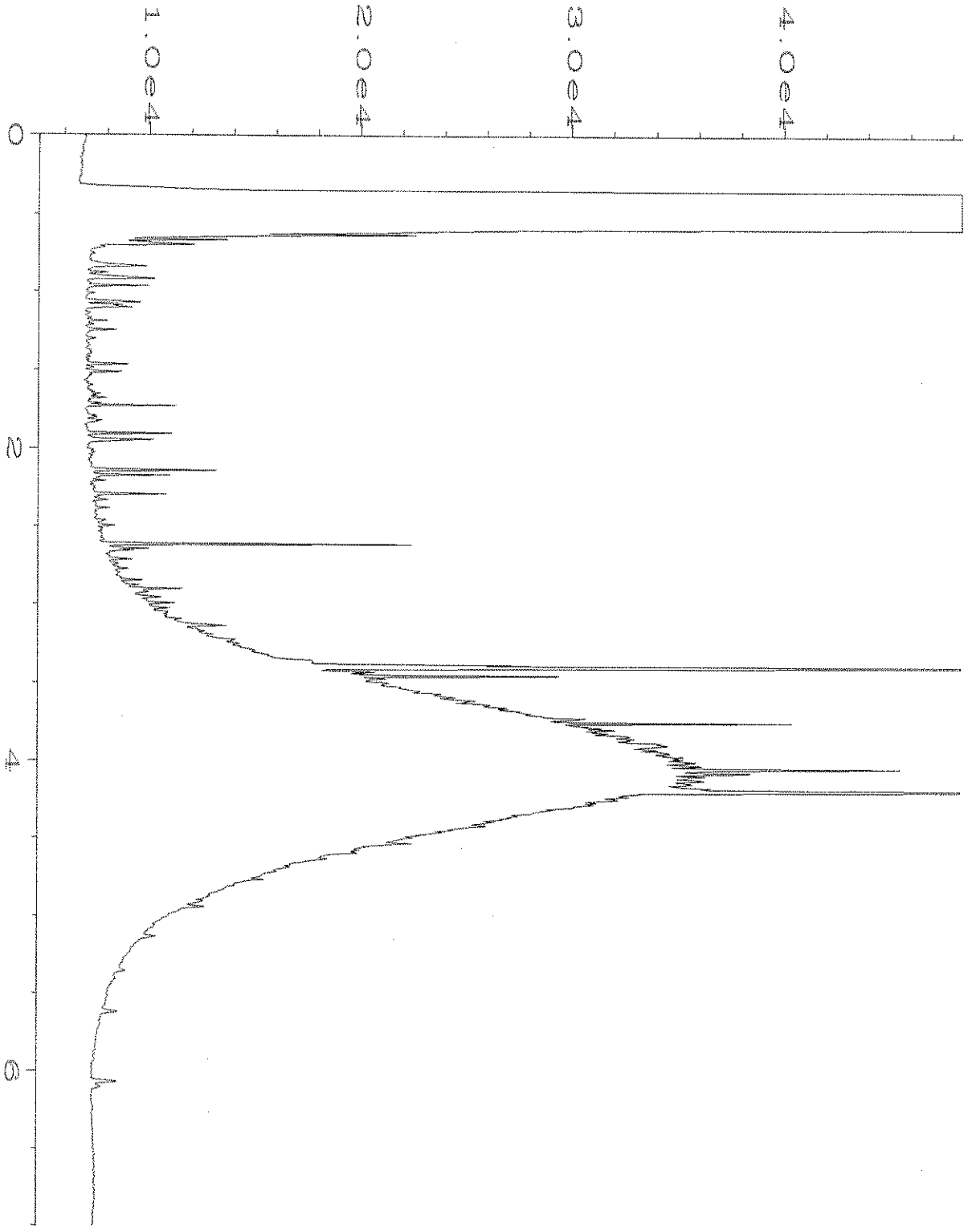
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

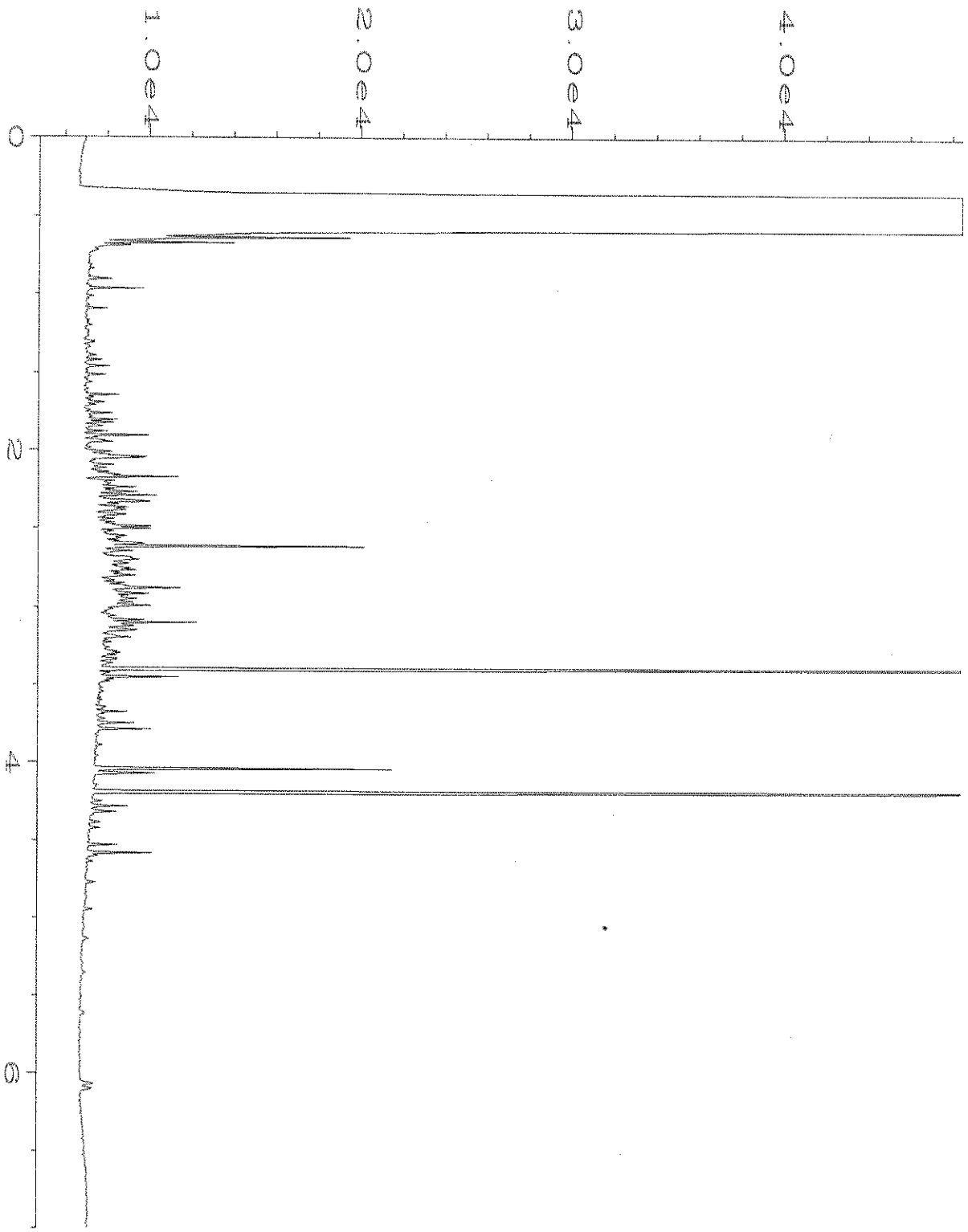
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

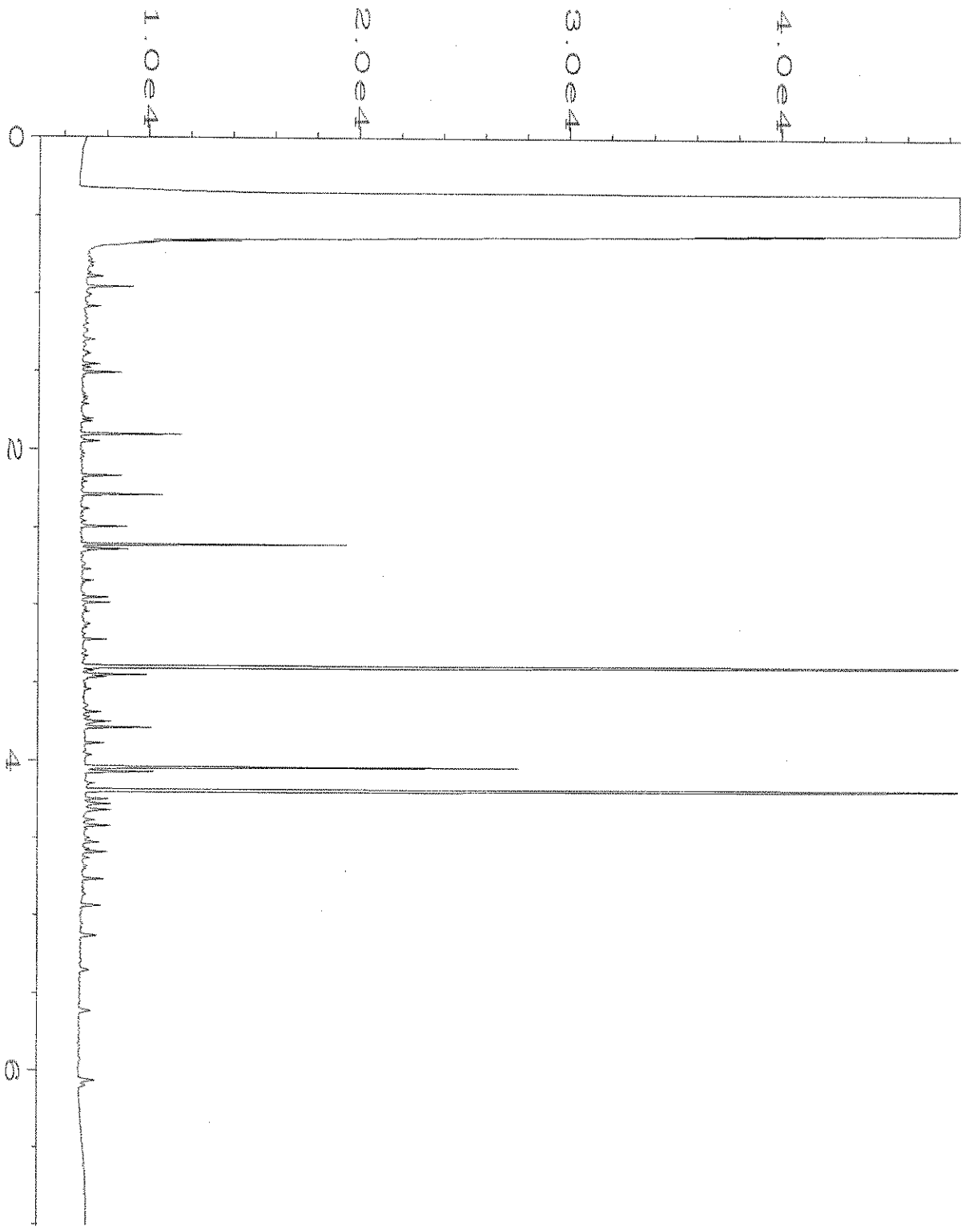
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



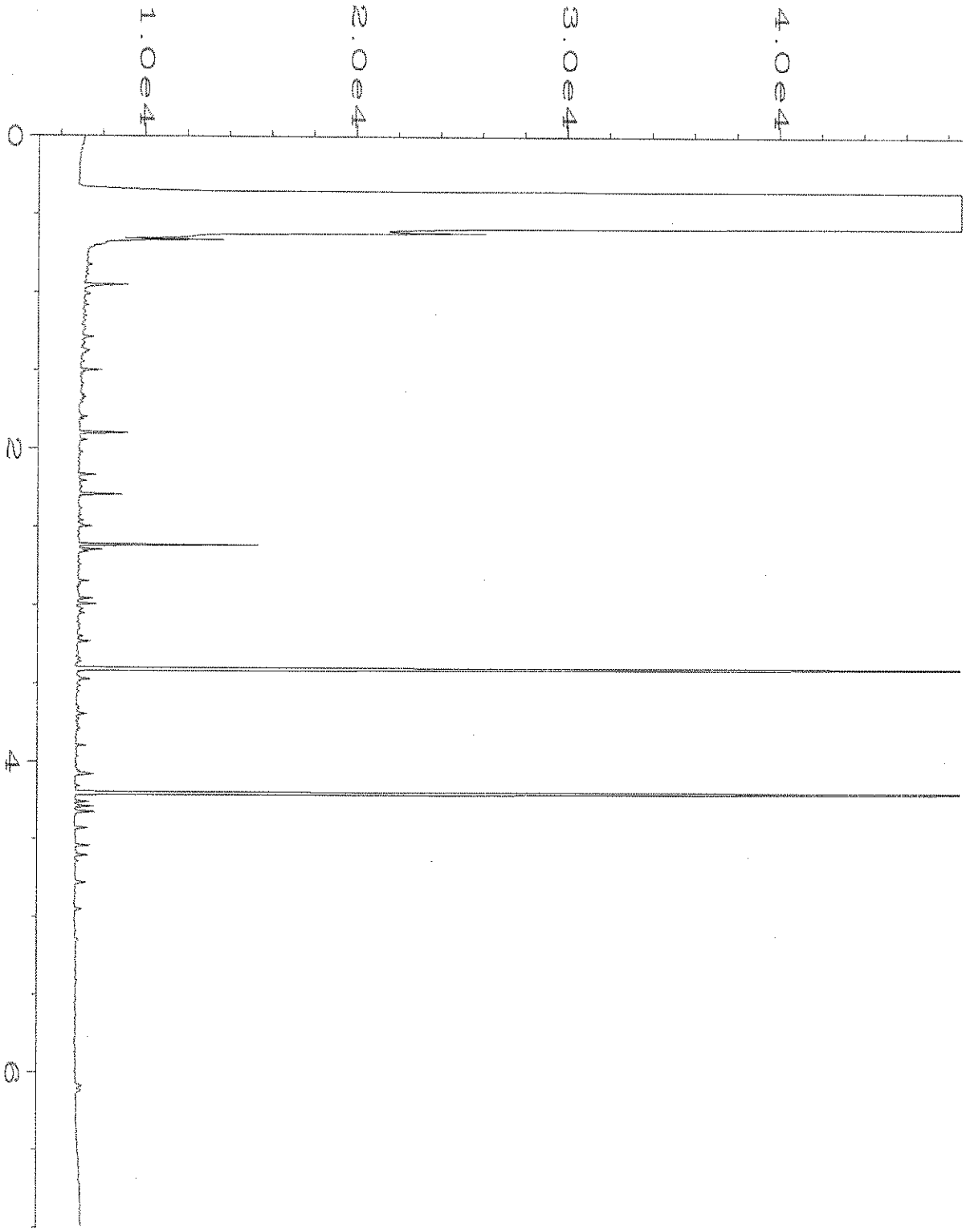
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\027F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 27
Sample Name	: 903495-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:23 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



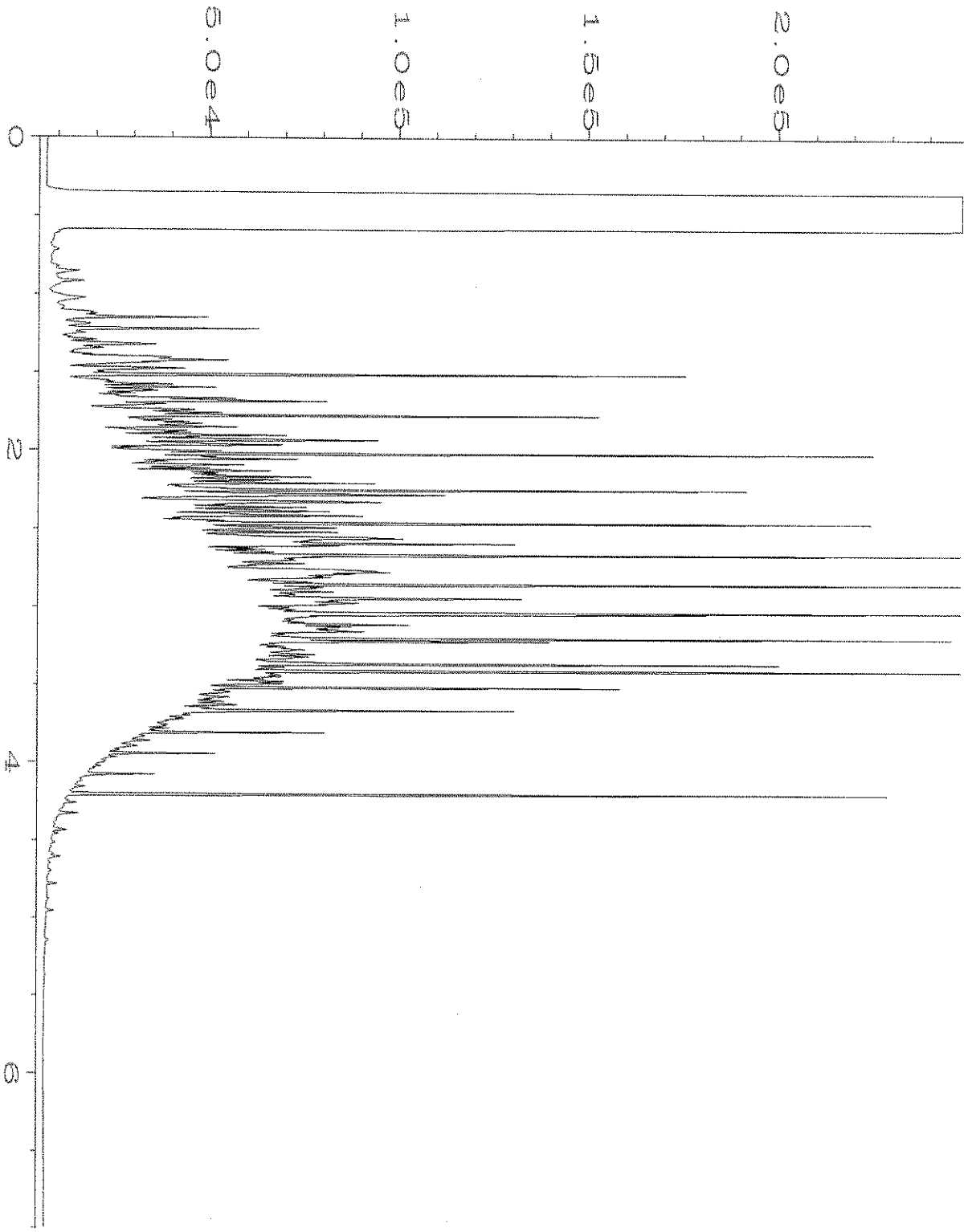
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\028F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 28
Sample Name	: 903495-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:34 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



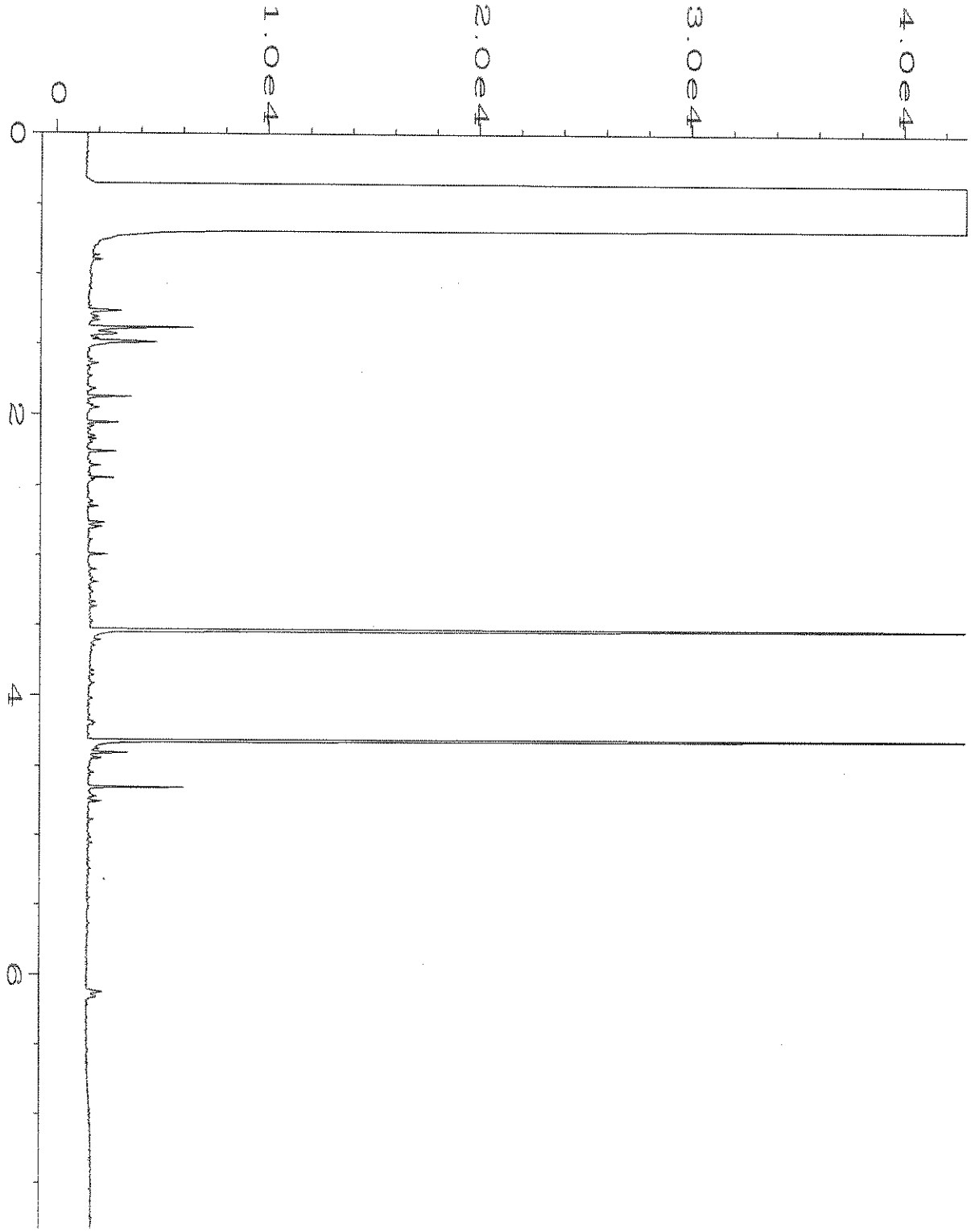
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\029F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 29
Sample Name	: 903495-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 27 Mar 19 02:45 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



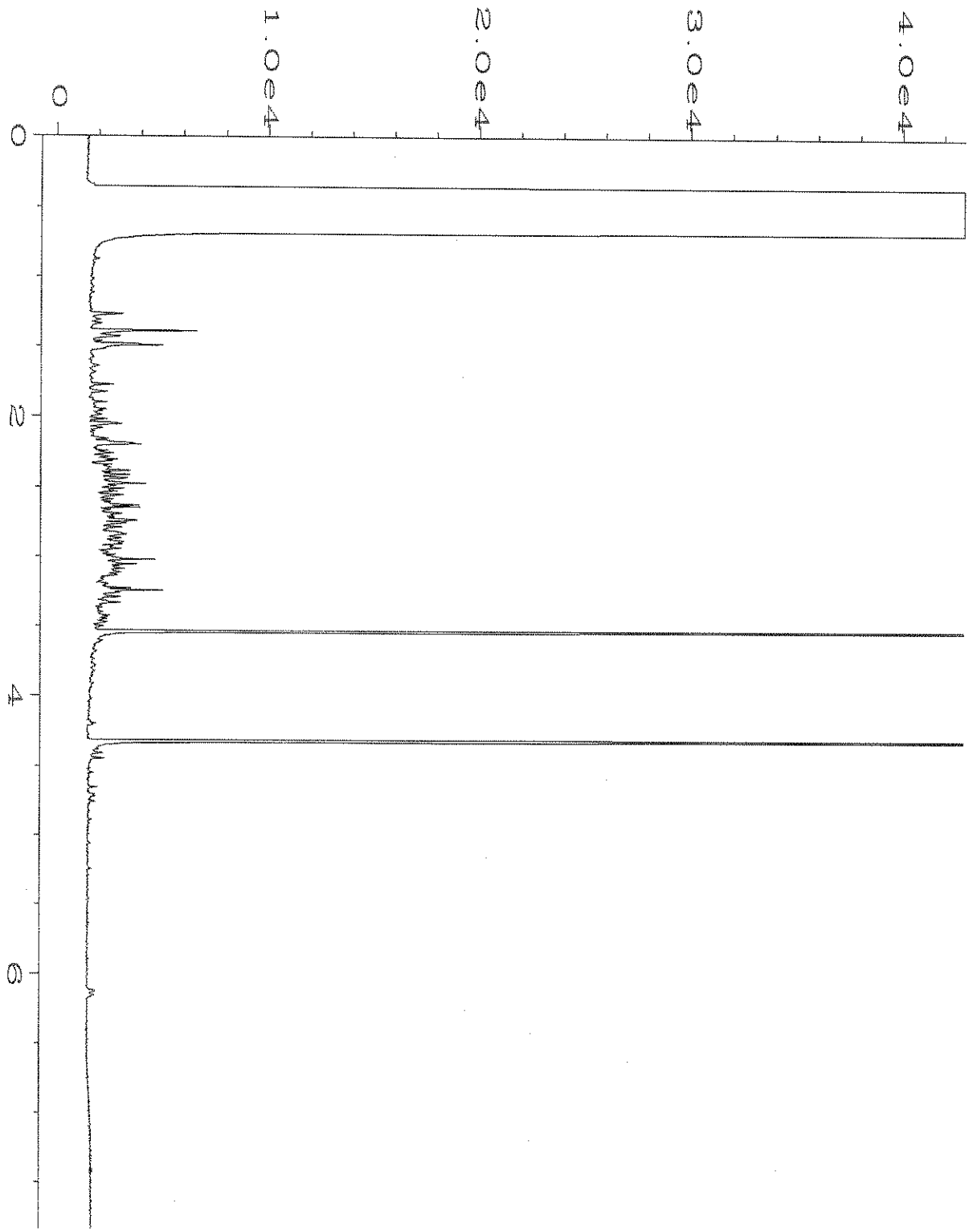
Data File Name	: C:\HPCHEM\6\DATA\03-27-19\023F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 23
Sample Name	: 09-687 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 27 Mar 19 01:30 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\03-27-19\005F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 5
Sample Name	: 1000 Dx 56-131C	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 27 Mar 19 03:07 PM	Instrument Method	: DX.MTH
Report Created on	: 28 Mar 19 08:30 AM	Analysis Method	: DX.MTH

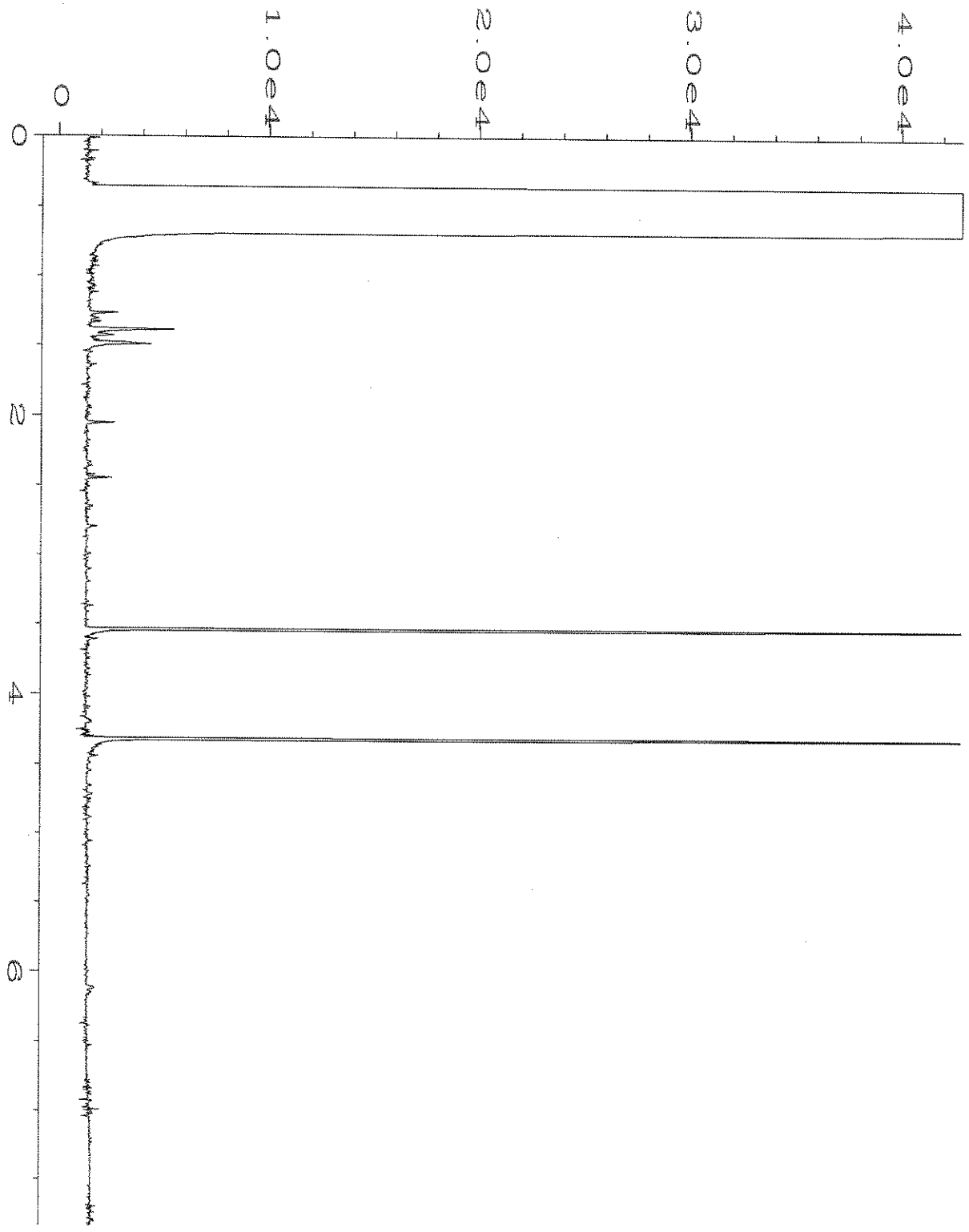


Data File Name	: C:\HPCHEM\4\DATA\03-28-19\041F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 41
Sample Name	: 903495-01 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 28 Mar 19 06:54 PM	Instrument Method	: DX.MTH
Report Created on	: 29 Mar 19 09:04 AM	Analysis Method	: DX.MTH



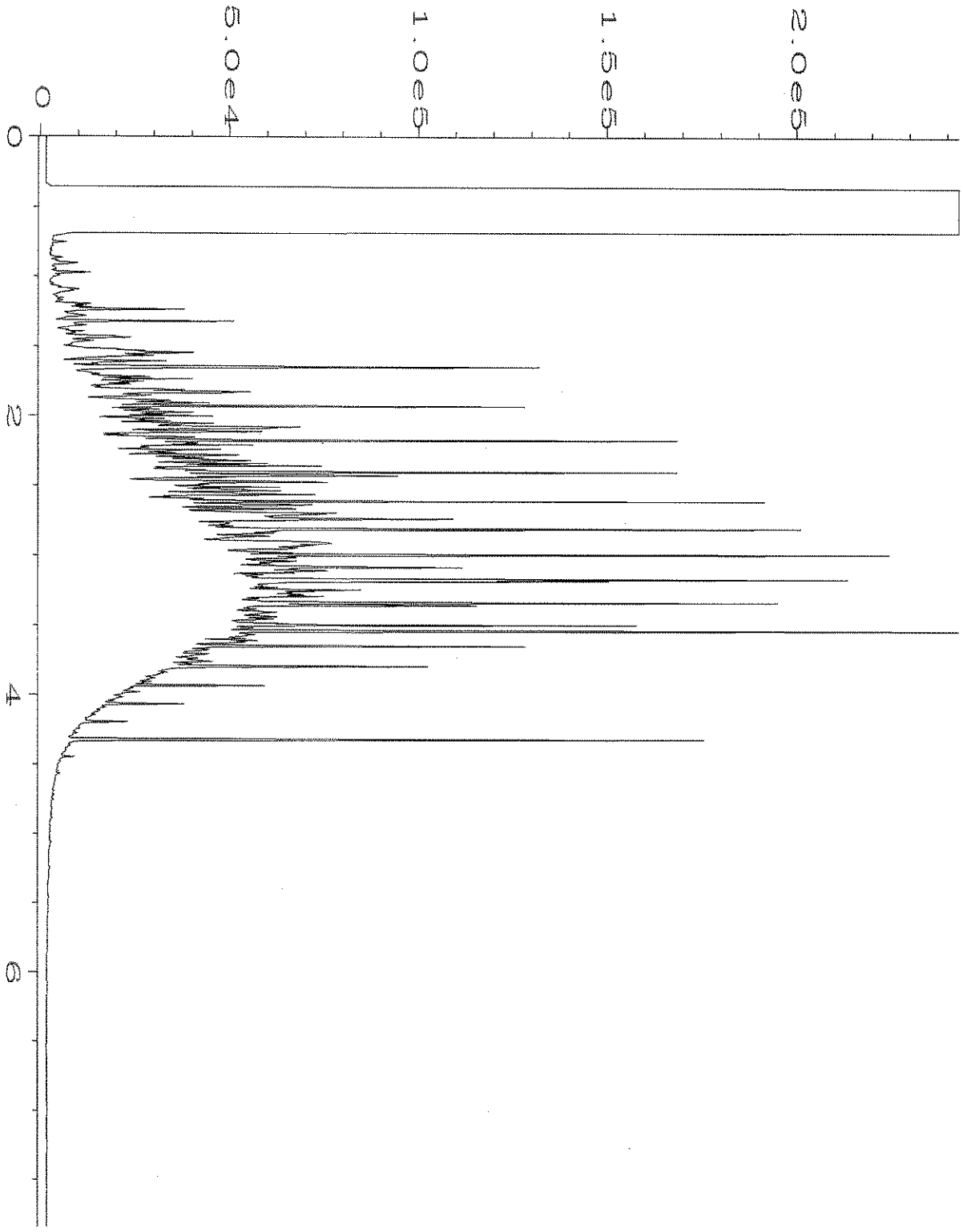
Data File Name : C:\HPCHEM\4\DATA\03-28-19\042F0801.D
Operator : TL
Instrument : GC#4
Sample Name : 903495-02 sg
Run Time Bar Code:
Acquired on : 28 Mar 19 07:06 PM
Report Created on: 29 Mar 19 09:04 AM

Page Number : 1
Vial Number : 42
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\4\DATA\03-28-19\029F0601.D
Operator : TL
Instrument : GC#4
Sample Name : 09-687 mb sg
Run Time Bar Code:
Acquired on : 28 Mar 19 04:04 PM
Report Created on: 29 Mar 19 08:59 AM

Page Number : 1
Vial Number : 29
Injection Number : 1
Sequence Line : 6
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\03-28-19\005F0901.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 56-131C	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 9
Acquired on	: 28 Mar 19 07:31 PM	Instrument Method	: DX.MTH
Report Created on	: 29 Mar 19 09:05 AM	Analysis Method	: DX.MTH

SAMPLE CHAIN OF CUSTODY

903495

ME 03-26-19

Page # 1 of 1 UW1/

Report To Kristin Andersen

Company Floyd | Snider

Address 601 Union St, Ste 600

City, State, ZIP Seattle, WA 98101

Phone 206-292-2078 Email kristin.andersen@floydsnider.com

SAMPLERS (*signature*)

PROJECT NAME: Nelson – Granite Falls

PO #

REMARKS: hold extra diesel volume for Silicagel cleanup

INVOICE TO

TURNAROUND TIME
- ☒ Standard Turnaround AOS
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	HOLD	Dx w/SG			Notes
MW05 - 032519	01 A-E	3/25/19	1135	W	5		X	X	X				X	■			★hold extra Dx volume
MW03 - 032519	02		1137	W	5		X	X	X				X	■			" "
MW04 - 032519	KA			W	5		X	X					X				" "
MW01 - 032519	03 A-D		1248	W	4		X	X	X								
MW02 - 032519	KA			W	4		X	X									■ - per KA 3/28/19 ME
																	X per KA 4/16/19 ME

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Andersen	FS	3/26/19	1500
Received by:	Liz Webber-Bruya	F?B1	3/26/19	1542
Relinquished by:				
Received by:		Samples received at 3 °C		

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

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.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

April 11, 2019

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the results from the testing of material submitted on April 5, 2019 from the Nelson-Granite Falls, F&BI 904129 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
FDS0411R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 5, 2019 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 904129 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
904129 -01	MW04-040419
904129 -02	MW02-040419

All quality control requirements were acceptable.

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129
Date Extracted: 04/08/19
Date Analyzed: 04/08/19

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW04-040419 904129-01	<1	<1	<1	<3	<100	76
MW02-040419 904129-02	<1	<1	<1	<3	<100	76
Method Blank 09-531 MB	<1	<1	<1	<3	<100	77

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129
Date Extracted: 04/05/19
Date Analyzed: 04/05/19

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
MW04-040419 904129-01	110	<250	126
Method Blank 09-728 MB	<50	<250	128

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129
Date Extracted: 04/05/19
Date Analyzed: 04/05/19

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND RESIDUAL RANGE USING METHOD NWTPH-Dx

Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Residual Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 51-134)
MW04-040419 904129-01	290 x	<250	122
MW02-040419 904129-02	<50	<250	108
Method Blank 09-728 MB	<50	<250	122

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129

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: 904135-09 (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	96	65-118
Toluene	ug/L (ppb)	50	94	72-122
Ethylbenzene	ug/L (ppb)	50	89	73-126
Xylenes	ug/L (ppb)	150	94	74-118
Gasoline	ug/L (ppb)	1,000	90	69-134

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129

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 Silica Gel

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	92	100	61-133	8

Date of Report: 04/11/19
Date Received: 04/05/19
Project: Nelson-Granite Falls, F&BI 904129

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	100	100	58-134	0

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 analyte 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 due to sample matrix effects.

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.

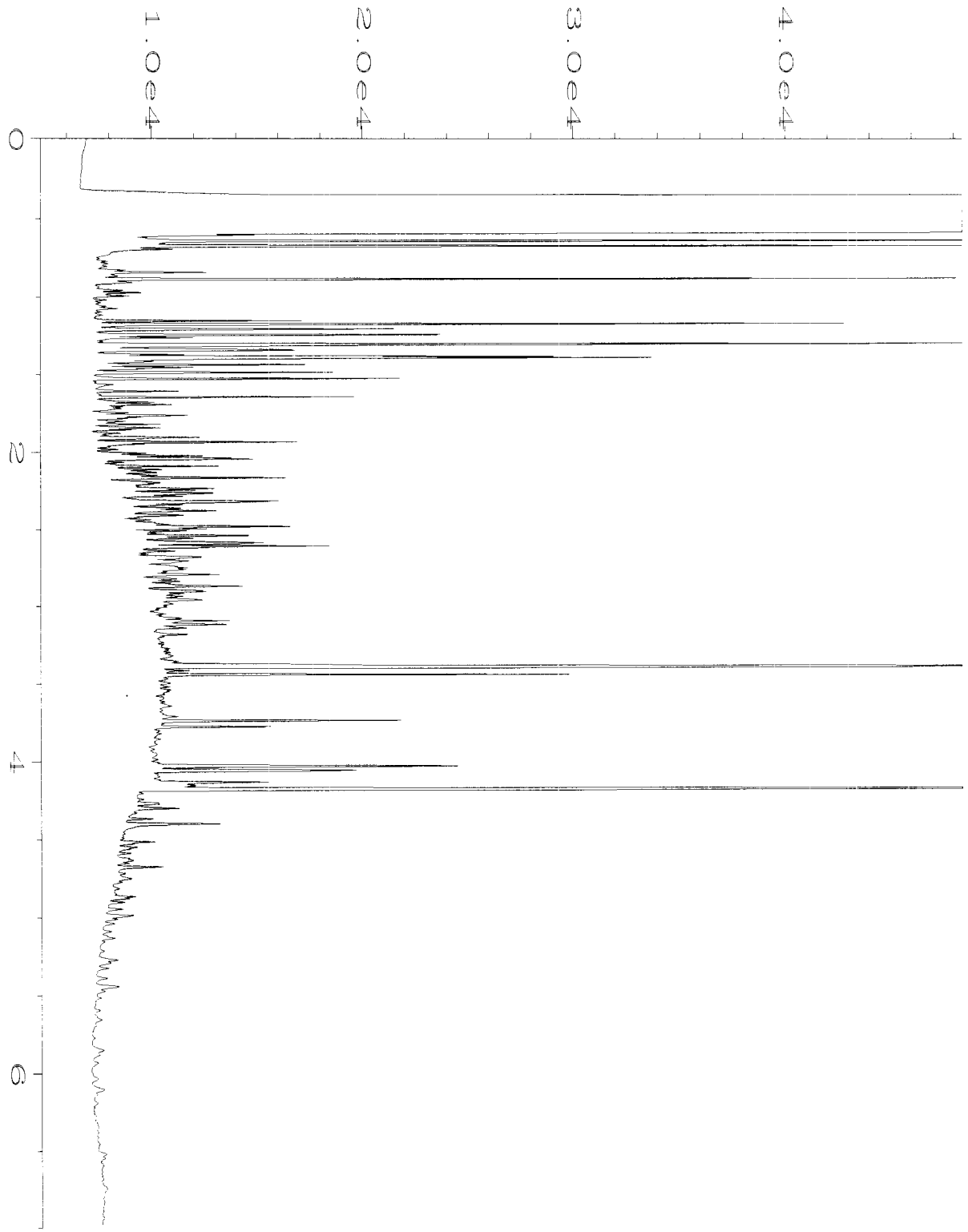
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

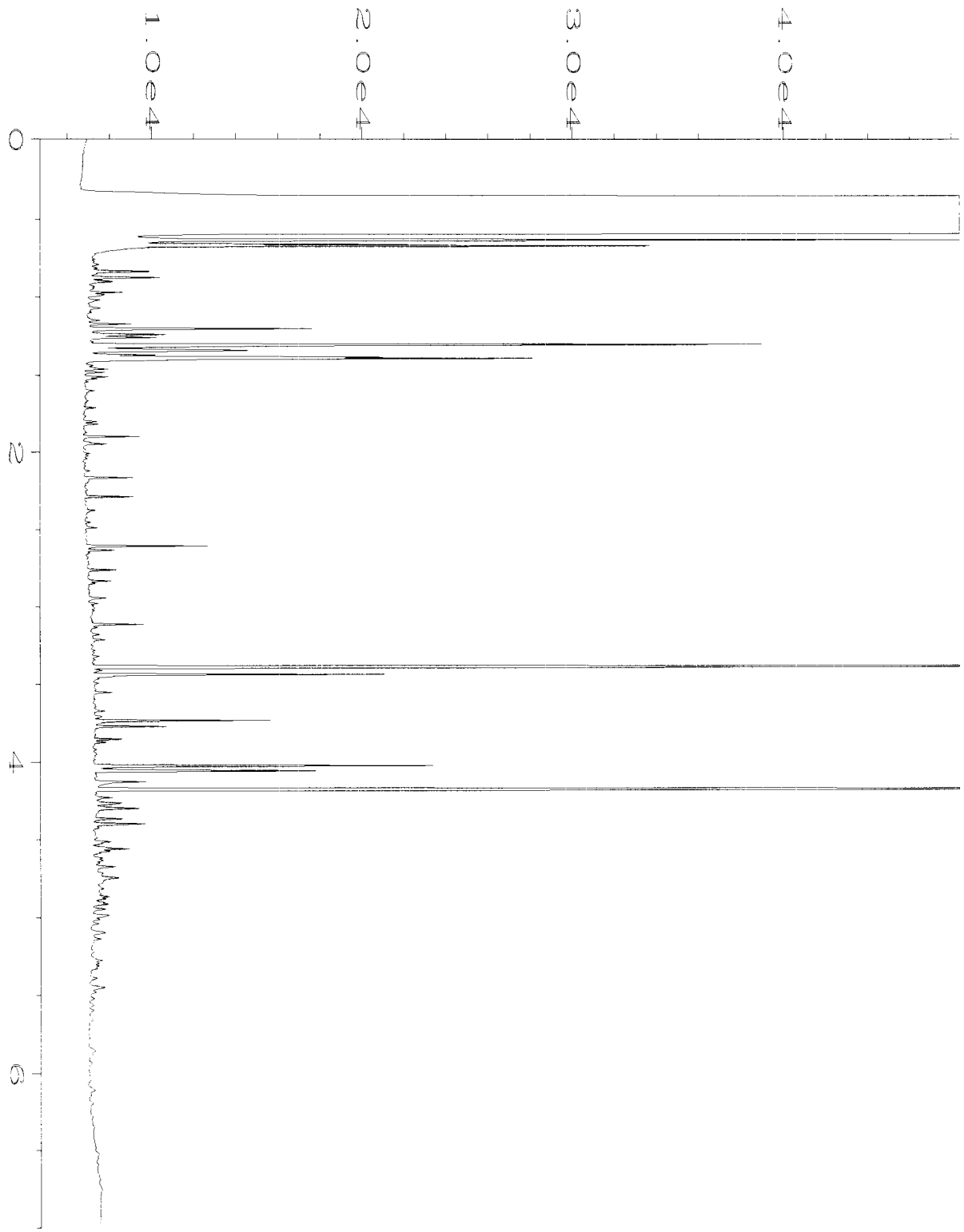
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

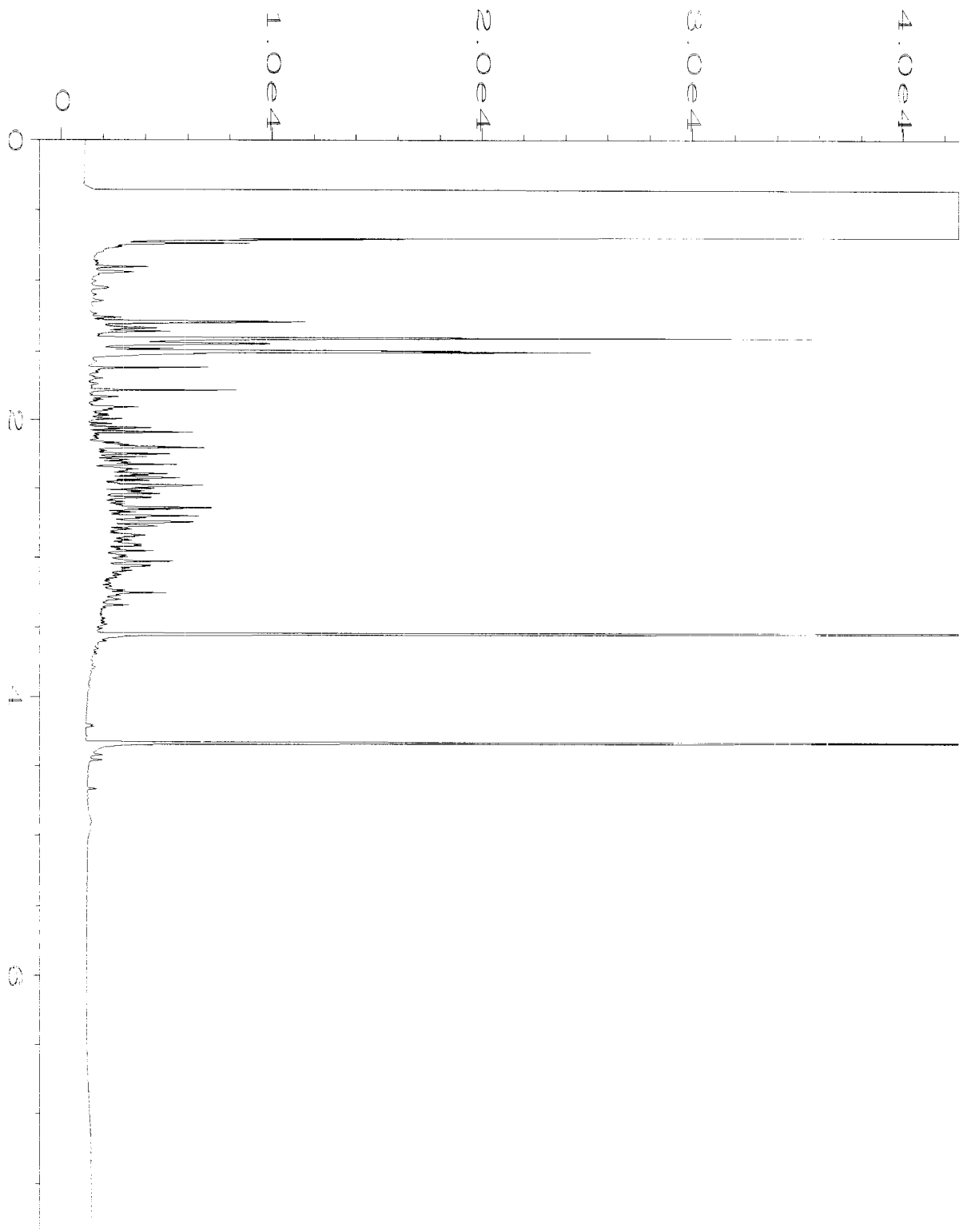
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



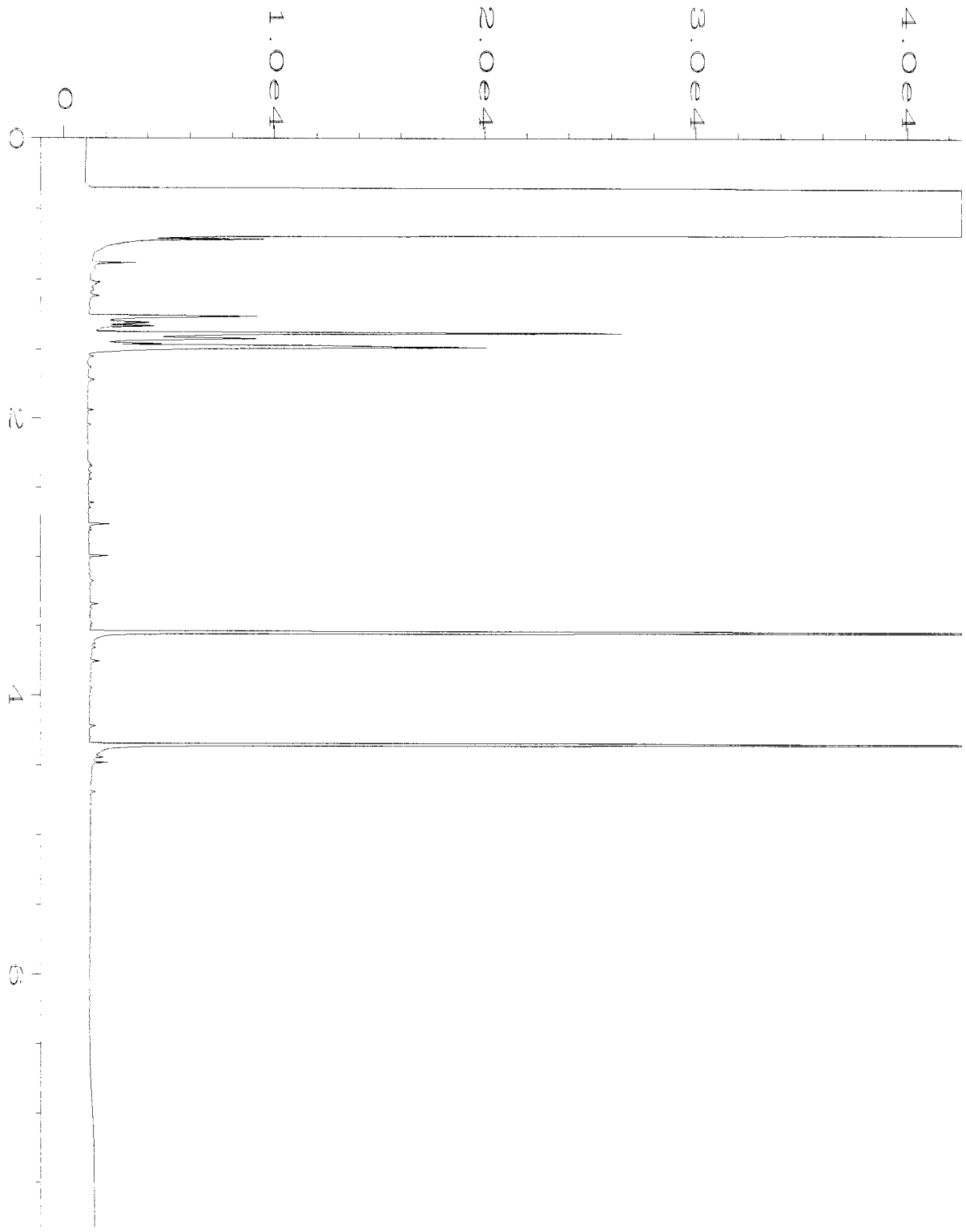
Data File Name	: C:\HPCHEM\6\DATA\04-05-19\033F0901.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 33
Sample Name	: 904129-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 9
Acquired on	: 05 Apr 19 05:30 PM	Instrument Method	: DX.MTH
Report Created on:	08 Apr 19 09:05 AM	Analysis Method	: DX.MTH



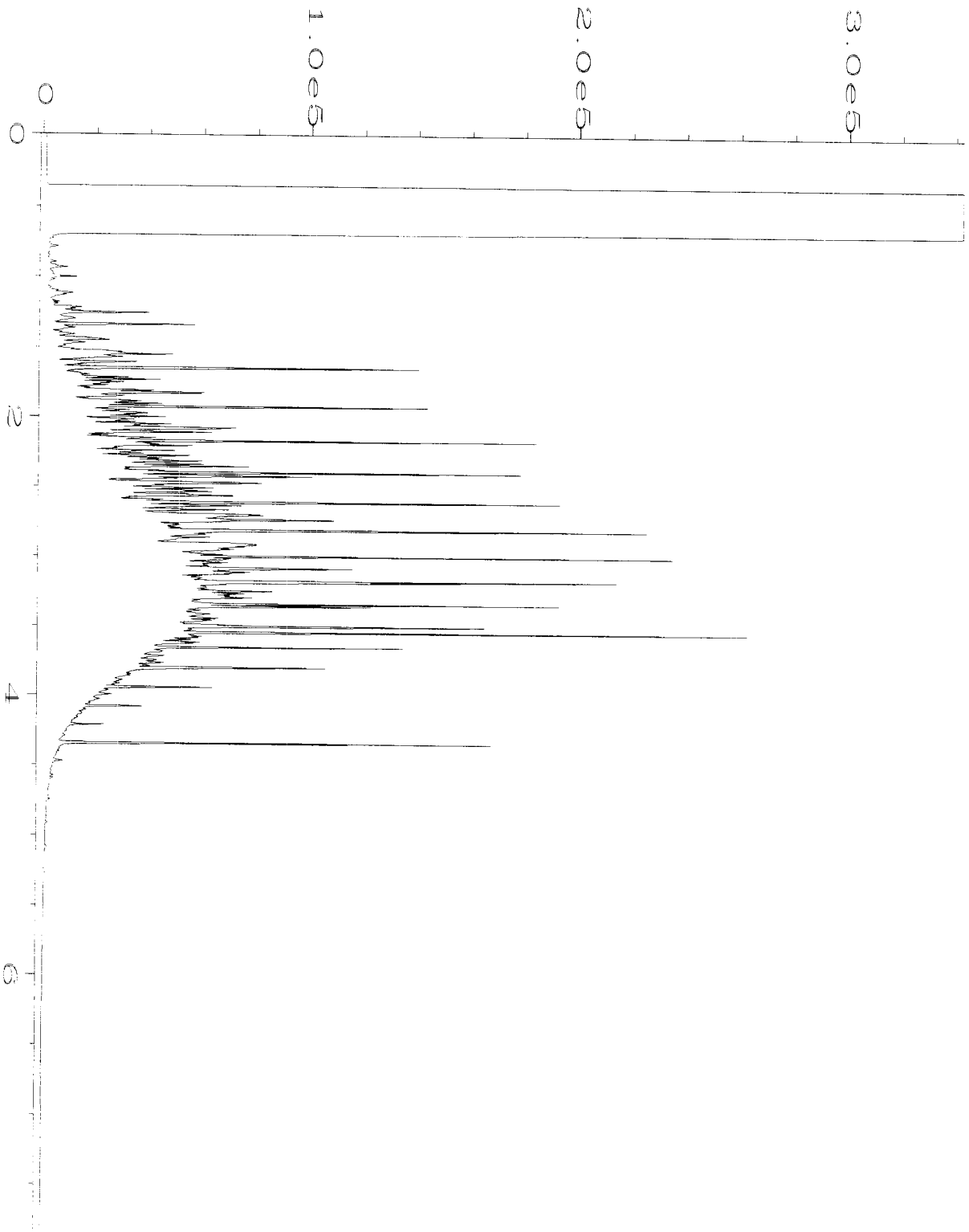
Data File Name	: C:\HPCHEM\6\DATA\04-05-19\034F0901.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 34
Sample Name	: 904129-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 9
Acquired on	: 05 Apr 19 05:41 PM	Instrument Method	: DX.MTH
Report Created on	: 08 Apr 19 09:05 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-05-19\027F0401.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 27
Sample Name	: 904129-01 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 05 Apr 19 02:46 PM	Instrument Method	: DX.MTH
Report Created on	: 08 Apr 19 07:51 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-05-19\024F0401.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 24
Sample Name	: 09-728 mb sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 05 Apr 19 02:12 PM	Instrument Method	: DX.MTH
Report Created on	: 08 Apr 19 07:50 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-05-19\005F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 56-131C	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 05 Apr 19 03:10 PM	Instrument Method	: DX.MTH
Report Created on	: 08 Apr 19 07:50 AM	Analysis Method	: DX.MTH

904129

SAMPLE CHAIN OF CUSTODY

ME 04/05/19

Page # 1 of 1 VW1/B02

Report To Kristin Anderson

Company Floyd Snider

Address 601 Union St, Ste 600

City, State, ZIP Seattle, WA 98101

Phone 206-292-2078 Email kristin.anderson@floydsnider.com

SAMPLERS (*signature*) [signature]

PROJECT NAME	PO #
Nelson - Granite Falls	
REMARKS	INVOICE TO

TURNAROUND TIME
- [X] Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [X] Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	TPH-D w/ silica gel cleanup			Notes
MW01-040419	01 A-E	4/4/19	1344	w	5		X	X	X				X			
MW02-040419	02 A-D	4/4/19	1400	w	4		X	X	X							

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

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: [signature]	Kristin Anderson	FS	4/5/19	0900
Received by: [signature]	Nhan Phan	FeBI	4/5/19	1122
Relinquished by:				
Received by:				

Samples received at 3 °C

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 9, 2019

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the results from the testing of material submitted on August 2, 2019 from the Nelson - Granite Falls, F&BI 908048 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
FDS0809R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 2, 2019 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson - Granite Falls, F&BI 908048 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
908048 -01	FS-05-4Ft
908048 -02	FS-06-4Ft
908048 -03	FS-09-5Ft

The 8021B benzene reporting limit in samples FS-06-4Ft and FS-09-5Ft were reported between the method detection limit and the reporting limit. The data were flagged accordingly.

All other quality control requirements were acceptable.

Date of Report: 08/09/19
Date Received: 08/02/19
Project: Nelson - Granite Falls, F&BI 908048
Date Extracted: 08/05/19
Date Analyzed: 08/05/19

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
FS-05-4Ft 908048-01	<0.02	0.098	0.56	1.2	170	128
FS-06-4Ft 908048-02 1/5	<0.02 j	<0.1	0.57	1.4	300	88
FS-09-5Ft 908048-03 1/5	<0.02 j	<0.1	1.8	3.0	640	91
Method Blank 09-1906 MB	<0.02	<0.02	<0.02	<0.06	<5	80

Date of Report: 08/09/19
Date Received: 08/02/19
Project: Nelson - Granite Falls, F&BI 908048
Date Extracted: 08/05/19
Date Analyzed: 08/05/19

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
FS-05-4Ft 908048-01	3,400	<250	110
FS-06-4Ft 908048-02	3,100	<250	96
FS-09-5Ft 908048-03	8,400	380 x	102
Method Blank 09-1918 MB	<50	<250	93

Date of Report: 08/09/19
Date Received: 08/02/19
Project: Nelson - Granite Falls, F&BI 908048

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: 908048-01 (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)	0.098	0.077	24 hr
Ethylbenzene	mg/kg (ppm)	0.56	0.49	14
Xylenes	mg/kg (ppm)	1.2	1.1	4
Gasoline	mg/kg (ppm)	170	180	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	101	69-120
Toluene	mg/kg (ppm)	0.5	107	70-117
Ethylbenzene	mg/kg (ppm)	0.5	110	65-123
Xylenes	mg/kg (ppm)	1.5	110	66-120
Gasoline	mg/kg (ppm)	20	115	71-131

Date of Report: 08/09/19
Date Received: 08/02/19
Project: Nelson - Granite Falls, F&BI 908048

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

Laboratory Code: 908062-01 (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	100	98	63-146	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	79-144

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 analyte 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 due to sample matrix effects.

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.

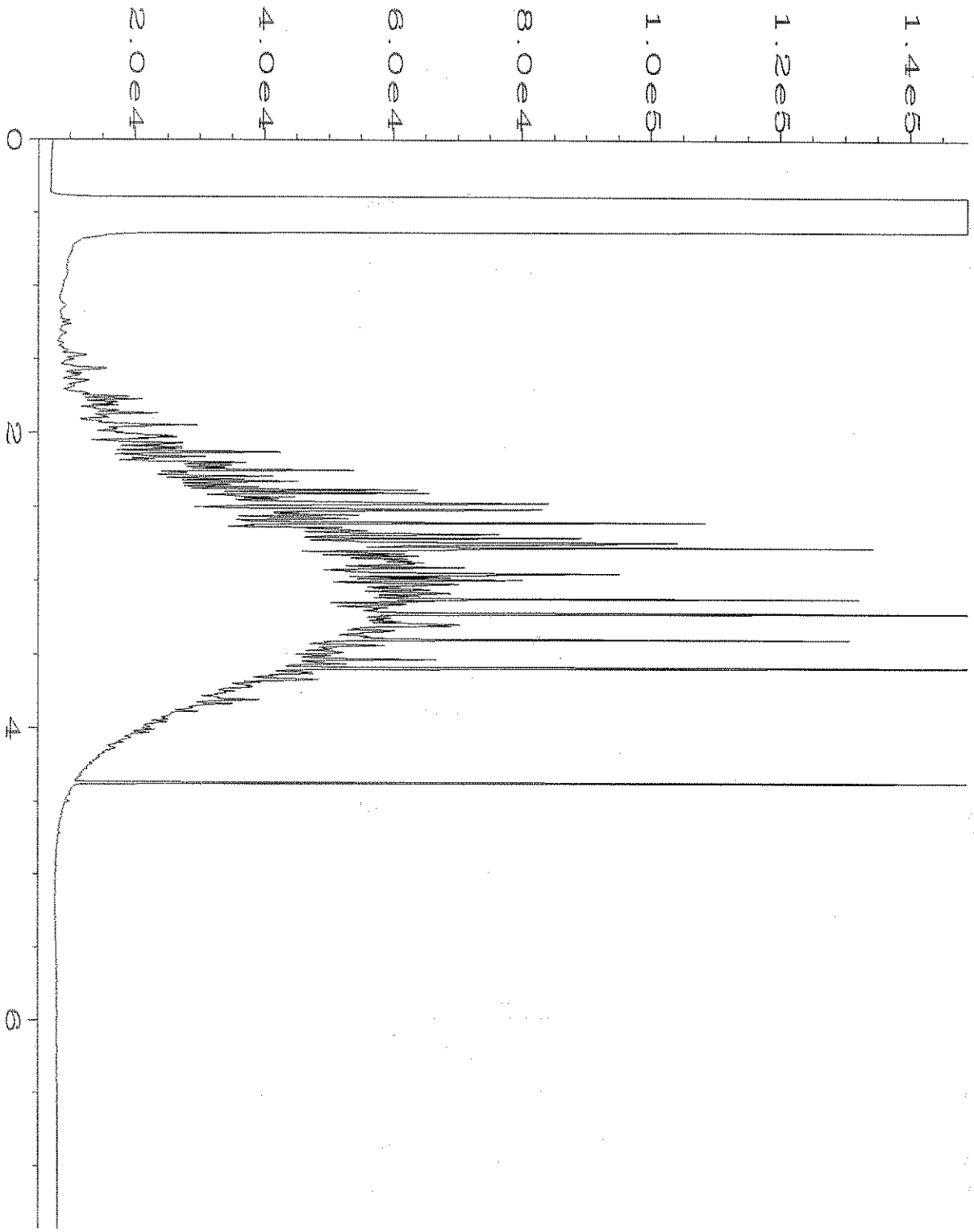
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

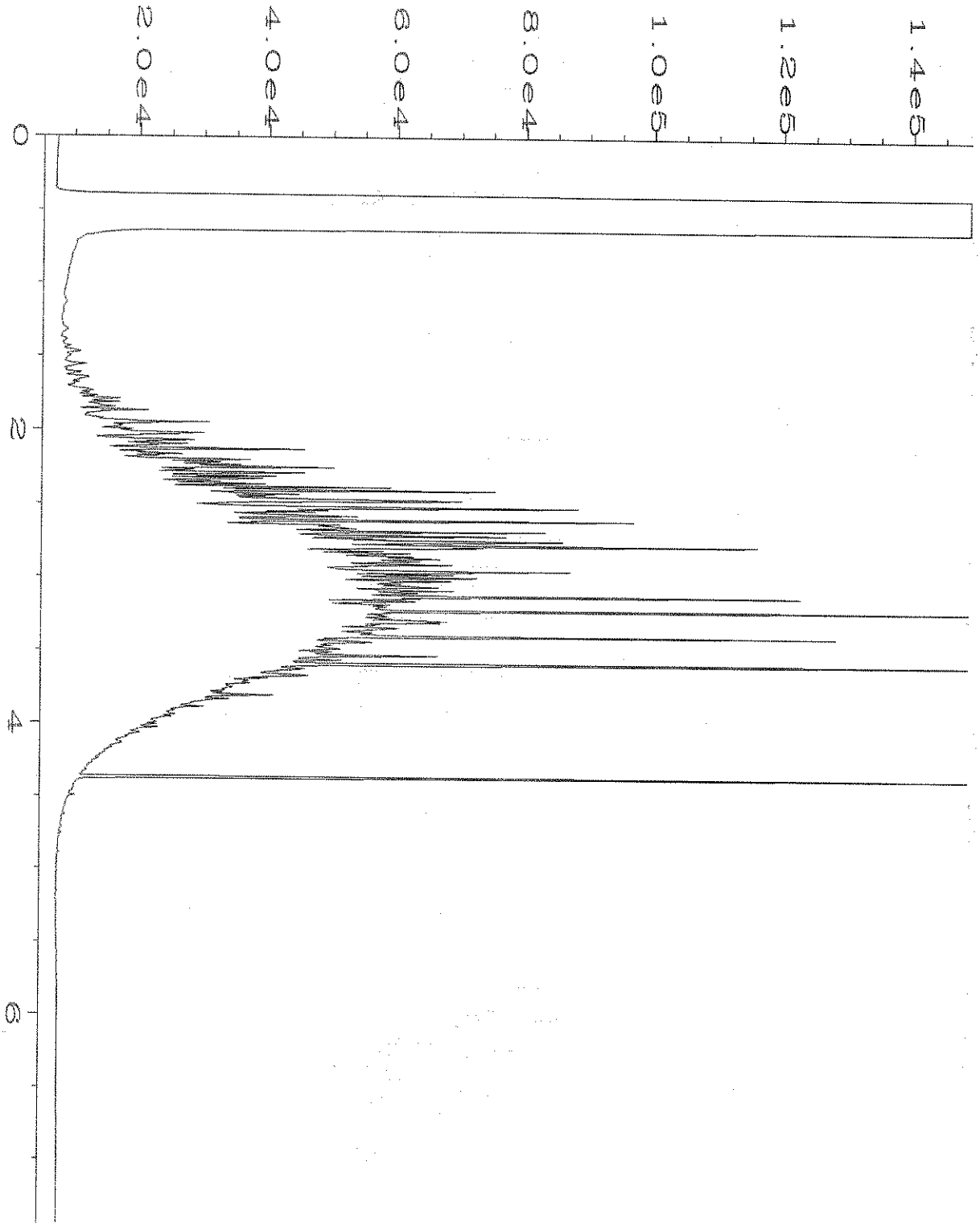
vo - The value reported fell outside the control limits established for this analyte.

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

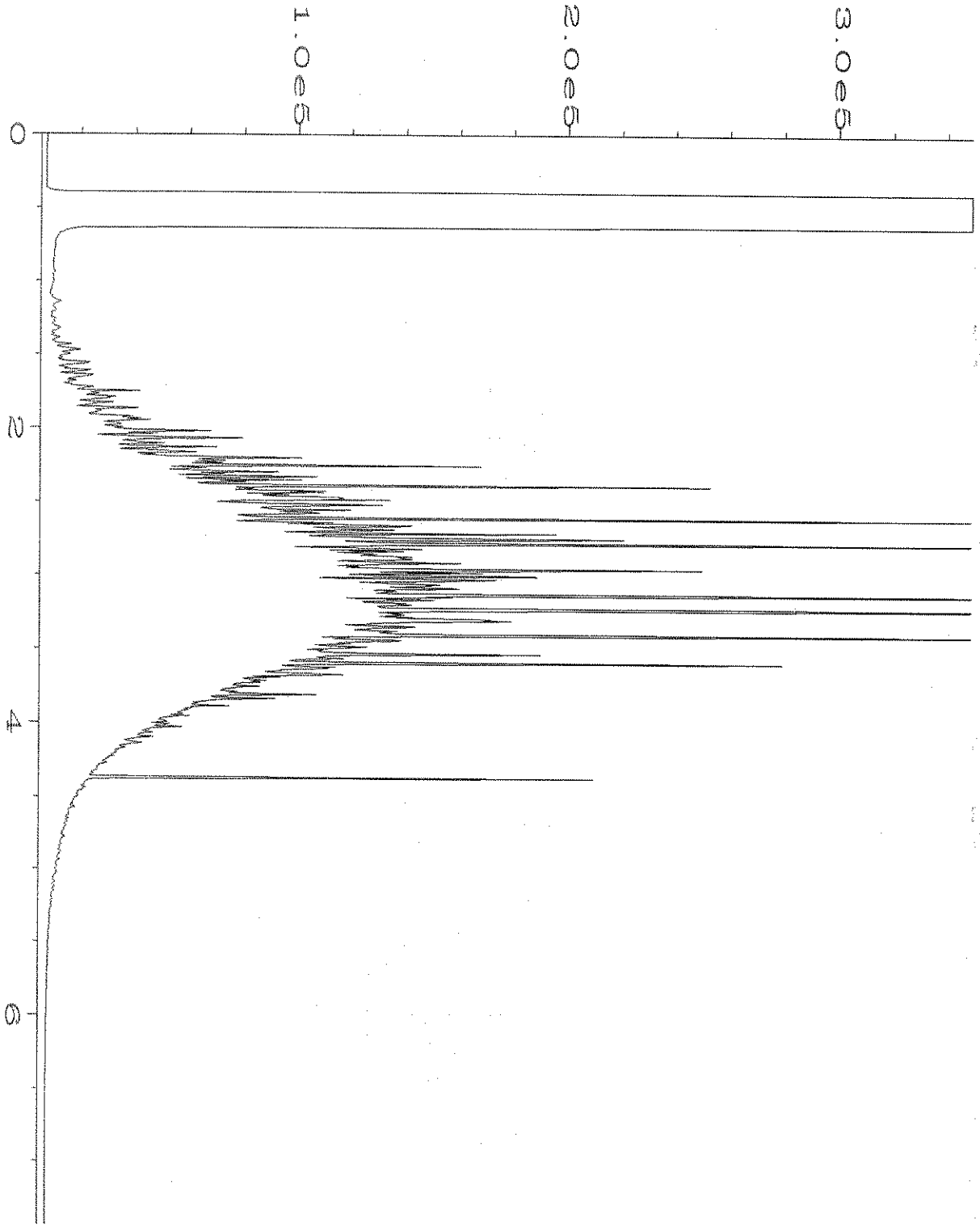


Data File Name : C:\HPCHEM\1\DATA\08-05-19\041F1101.D
Operator : TL
Instrument : GC1
Sample Name : 908048-01
Run Time Bar Code:
Acquired on : 05 Aug 19 08:19 PM
Report Created on: 06 Aug 19 08:22 AM

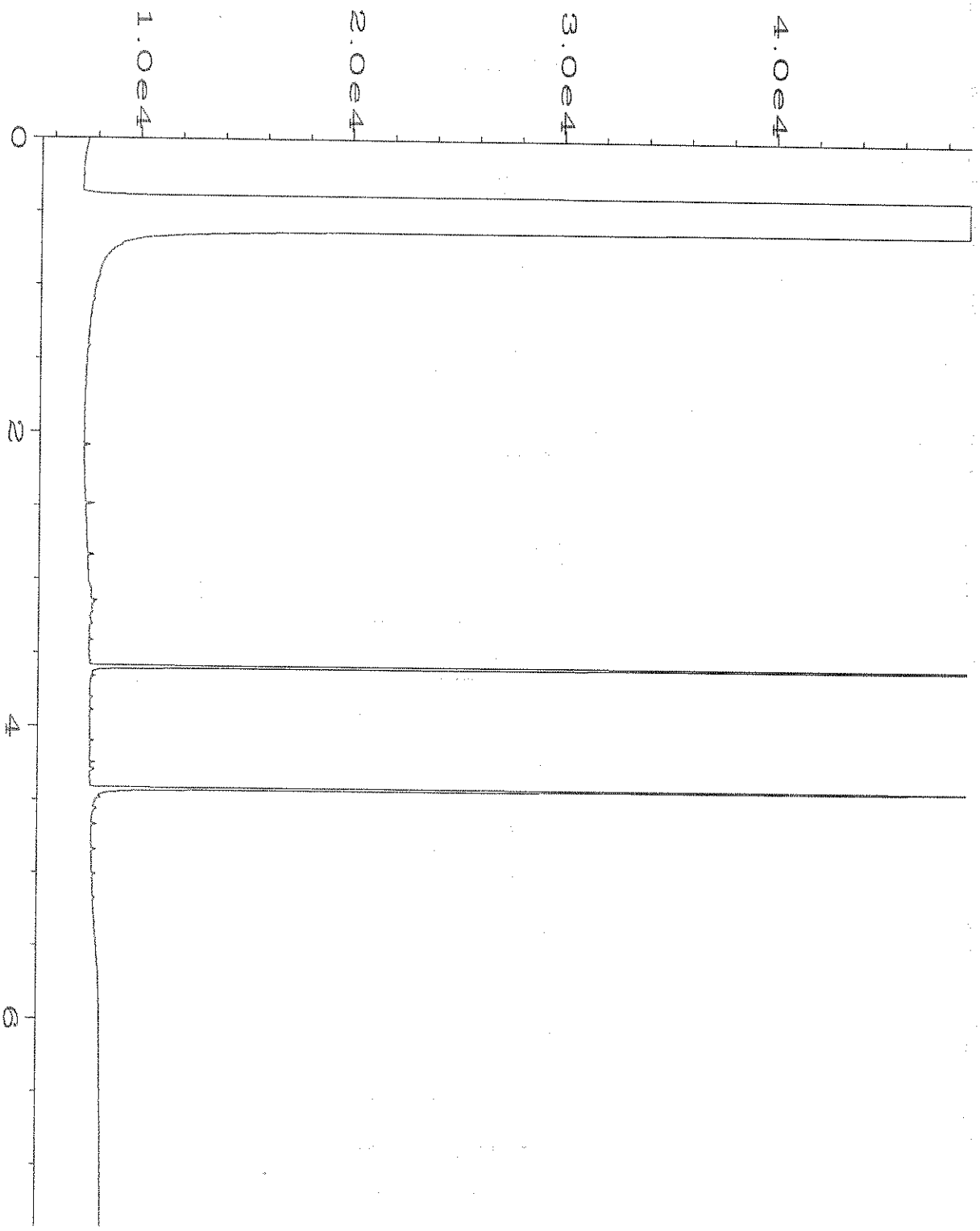
Page Number : 1
Vial Number : 41
Injection Number : 1
Sequence Line : 11
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



Data File Name	: C:\HPCHEM\1\DATA\08-05-19\042F1101.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 42
Sample Name	: 908048-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 05 Aug 19 08:31 PM	Instrument Method	: DX.MTH
Report Created on	: 06 Aug 19 08:22 AM	Analysis Method	: DEFAULT.MTH

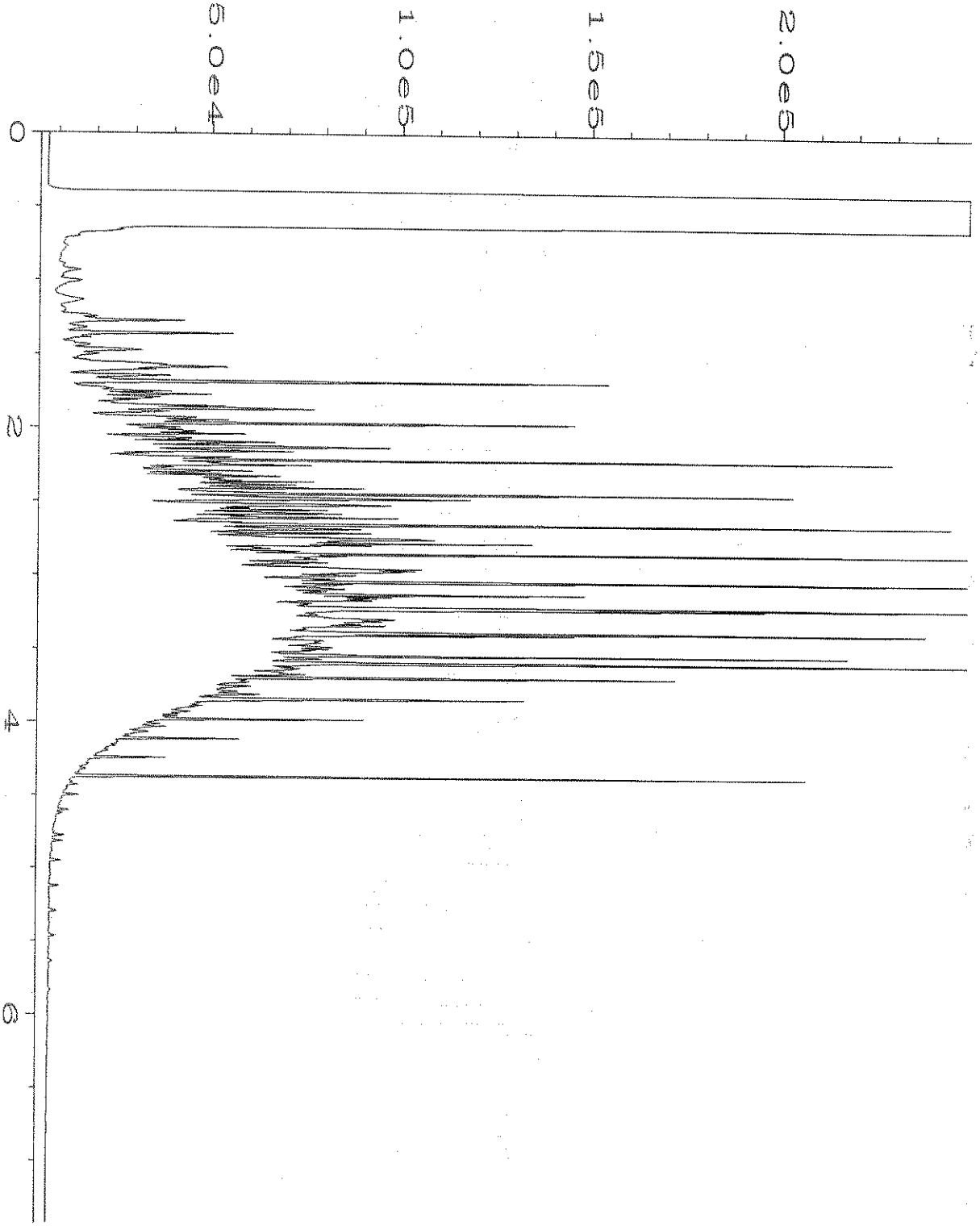


Data File Name	: C:\HPCHEM\1\DATA\08-05-19\043F1101.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 43
Sample Name	: 908048-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 11
Acquired on	: 05 Aug 19 08:43 PM	Instrument Method	: DX.MTH
Report Created on	: 06 Aug 19 08:22 AM	Analysis Method	: DEFAULT.MTH



Data File Name : C:\HPCHEM\1\DATA\08-05-19\006F0301.D
Operator : TL
Instrument : GC1
Sample Name : 09-1918 mb
Run Time Bar Code:
Acquired on : 05 Aug 19 10:05 AM
Report Created on: 06 Aug 19 08:21 AM

Page Number : 1
Vial Number : 6
Injection Number : 1
Sequence Line : 3
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH



Data File Name : C:\HPCHEM\1\DATA\08-05-19\005F1201.D
Operator : TL
Instrument : GC1
Sample Name : 1000 Dx 57-78B
Run Time Bar Code:
Acquired on : 05 Aug 19 09:06 PM
Report Created on: 06 Aug 19 08:22 AM

Page Number : 1
Vial Number : 5
Injection Number : 1
Sequence Line : 12
Instrument Method: DX.MTH
Analysis Method : DEFAULT.MTH

908048

SAMPLE CHAIN OF CUSTODY

ME 08-02-19

CO1 / KS1

Page # 1 of 1

Report To Kristin Anderson

Company Floyd Snider

Address 601 Union St, Ste 600

City, State, ZIP Seattle, WA 98101

Phone 206-292-2078 Email kristin.anderson@floydsnider.com

SAMPLERS (*signature*)

PROJECT NAME: Nelson - Granite Falls

PO #:

REMARKS: all samples likely to be hotl

INVOICE TO:

TURNAROUND TIME
- ☒ Standard Turnaround
- ☐ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☒ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM					Notes
						ANALYSES REQUESTED											
FS-05-4FT	01 A-E	8/2/19	1320	soil	5		X	X	X								
FS-06-4FT	02	↓	1330	↓	5		X	X	X								
FS-09-5 FT	03	↓	1340	↓	5		X	X	X								

Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	~~Floyd Snider~~ Kristin Anderson	Floyd Snider	8/2/19	1517
Received by:	Liz Webber-B	FTB1	8/2/19	1517
Relinquished by:				
Received by:				

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

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

April 29, 2020

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the results from the testing of material submitted on April 12, 2020 from the Nelson-Granite Falls, F&BI 004197 project. There are 27 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
FDS0429R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on April 12, 2020 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 004197 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
004197 -01	MW-10-4.5-5 FT
004197 -02	MW-08-1-2 FT
004197 -03	MW-08-4.5-5 FT
004197 -04	MW-07-4.5-5 FT
004197 -05	MW-06-3.5-5.5 FT
004197 -06	FS-08-4.5-5.5 FT
004197 -07	FS-09-7-8 FT
004197 -08	MW-09-4.5-5 FT
004197 -09	FS-04-2-3 FT
004197 -10	FS-04-4.5-5 FT
004197 -11	FS-05-5-6 FT
004197 -12	FS-05-7-8 FT
004197 -13	FS-06-4.5-5 FT
004197 -14	FS-06-7-8 FT
004197 -15	FS-07-4-5 FT
004197 -16	FS-07-6.5-7.5 FT
004197 -17	FS-10-5-6 FT
004197 -18	FS-10-6.5-7.5 FT
004197 -19	FS-11-4-5 FT
004197 -20	FS-11-6-7 FT
004197 -21	FS-12-4-5 FT
004197 -22	FS-01-5-6 FT
004197 -23	FS-01-6.5-7.5 FT
004197 -24	FS-02-4-5 FT
004197 -25	FS-03-4.5-5 FT
004197 -26	FS-13-4.5-5.5 FT
004197 -27	IDW-Soil

All quality control requirements were acceptable.

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20, 04/21/20, and 04/22/20

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-10-4.5-5 FT 004197-01	<0.02	<0.02	<0.02	<0.06	<5	95
MW-08-1-2 FT 004197-02	<0.02	<0.02	<0.02	<0.06	<5	94
MW-08-4.5-5 FT 004197-03	<0.04	<0.04	<0.04	<0.12	<10	95
MW-07-4.5-5 FT 004197-04	<0.02	<0.02	<0.02	<0.06	<5	95
MW-06-3.5-5.5 FT 004197-05	<0.02	<0.02	<0.02	<0.06	<5	96
FS-08-4.5-5.5 FT 004197-06	<0.02	<0.02	<0.02	<0.06	<5	96
FS-09-7-8 FT 004197-07	<0.02	<0.02	<0.02	<0.06	<5	89
MW-09-4.5-5 FT 004197-08	<0.02	<0.02	<0.02	<0.06	<5	89
FS-04-2-3 FT 004197-09 1/5	0.44	1.0	1.3	4.7	410	96
FS-04-4.5-5 FT 004197-10	<0.02	<0.02	<0.02	<0.06	<5	96

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20, 04/21/20, and 04/22/20

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
FS-05-5-6 FT 004197-11 1/10	<0.2	1.0	1.0	1.6	550	100
FS-05-7-8 FT 004197-12	0.16	0.086	0.045	<0.06	15	99
FS-06-4.5-5 FT 004197-13 1/5	<0.02 j	0.20	1.2	3.4	950	109
FS-06-7-8 FT 004197-14	<0.02	<0.02	<0.02	<0.06	11	98
FS-07-4-5 FT 004197-15 1/5	<0.02 j	<0.1	6.0	<0.3	1,900	135
FS-07-6.5-7.5 FT 004197-16	<0.02	<0.02	<0.02	<0.06	<5	90
FS-10-5-6 FT 004197-17 1/5	<0.02 j	<0.1	0.62	0.95	440	100
FS-10-6.5-7.5 FT 004197-18	<0.02	<0.02	<0.02	<0.06	<5	97
FS-11-4-5 FT 004197-19 1/5	<0.02 j	<0.1	1.4	3.3	1,200	101
FS-11-6-7 FT 004197-20	<0.02	<0.02	<0.02	<0.06	<5	97

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20, 04/21/20, and 04/22/20

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
FS-12-4-5 FT 004197-21	<0.02	<0.02	<0.02	<0.06	34	90
FS-01-5-6 FT 004197-22	<0.02	<0.02	0.20	0.33	110	104
FS-01-6.5-7.5 FT 004197-23	0.18	<0.02	<0.02	<0.06	<5	96
FS-02-4-5 FT 004197-24	<0.02	<0.02	<0.02	<0.06	<5	95
FS-03-4.5-5 FT 004197-25	<0.02	<0.02	<0.02	<0.06	<5	96
FS-13-4.5-5.5 FT 004197-26	<0.02	<0.02	<0.02	<0.06	14	89
Method Blank 00-853 MB	<0.02	<0.02	<0.02	<0.06	<5	89
Method Blank 00-854 MB	<0.02	<0.02	<0.02	<0.06	<5	96
Method Blank 00-856 MB2	<0.02	<0.02	<0.02	<0.06	<5	71

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20 and 04/22/20

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
MW-10-4.5-5 FT 004197-01	<50	<250	94
MW-08-1-2 FT 004197-02	<50	<250	101
MW-08-4.5-5 FT 004197-03	<100	<500	106
MW-07-4.5-5 FT 004197-04	<50	<250	94
MW-06-3.5-5.5 FT 004197-05	<50	<250	93
FS-08-4.5-5.5 FT 004197-06	<50	<250	104
FS-09-7-8 FT 004197-07	<50	<250	94
MW-09-4.5-5 FT 004197-08	<50	<250	103
FS-04-2-3 FT 004197-09	2,300	880 x	94
FS-04-4.5-5 FT 004197-10	<50	<250	93

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20 and 04/22/20

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
FS-05-5-6 FT 004197-11	1,500	<250	98
FS-05-7-8 FT 004197-12	<50	<250	101
FS-06-4.5-5 FT 004197-13	3,400	<250	91
FS-06-7-8 FT 004197-14	<50	<250	96
FS-07-4-5 FT 004197-15	12,000	<250	99
FS-07-6.5-7.5 FT 004197-16	<50	<250	95
FS-10-5-6 FT 004197-17	1,400	<250	93
FS-10-6.5-7.5 FT 004197-18	<50	<250	95
FS-11-4-5 FT 004197-19	4,200	<250	97
FS-11-6-7 FT 004197-20	<50	<250	104

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197
Date Extracted: 04/20/20 and 04/22/20
Date Analyzed: 04/20/20 and 04/22/20

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
FS-12-4-5 FT 004197-21	410	<250	92
FS-01-5-6 FT 004197-22	640	<250	101
FS-01-6.5-7.5 FT 004197-23	<50	<250	93
FS-02-4-5 FT 004197-24	<50	<250	95
FS-03-4.5-5 FT 004197-25	<50	<250	92
FS-13-4.5-5.5 FT 004197-26	170	<250	92
Method Blank 00-922 MB	<50	<250	87
Method Blank 00-923 MB	<50	<250	103
Method Blank 00-934 MB	<50	<250	94

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-08-1-2 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/23/20	Lab ID:	004197-02
Date Analyzed:	04/23/20	Data File:	004197-02.058
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.66
Cadmium	<1
Chromium	9.50
Lead	29.5
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-07-4.5-5 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/23/20	Lab ID:	004197-04
Date Analyzed:	04/23/20	Data File:	004197-04.059
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.06
Cadmium	<1
Chromium	39.8
Lead	6.74
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-06-3.5-5.5 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/23/20	Lab ID:	004197-05
Date Analyzed:	04/23/20	Data File:	004197-05.060
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.39
Cadmium	<1
Chromium	22.6
Lead	3.01
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	IDW-Soil	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/21/20	Lab ID:	004197-27
Date Analyzed:	04/21/20	Data File:	004197-27.110
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.85
Barium	68.9
Cadmium	<1
Chromium	19.9
Lead	10.7
Mercury	<1
Selenium	<1
Silver	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/23/20	Lab ID:	I0-230 mb2
Date Analyzed:	04/23/20	Data File:	I0-230 mb2.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/21/20	Lab ID:	I0-226 mb2
Date Analyzed:	04/21/20	Data File:	I0-226 mb2.058
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

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

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	MW-08-1-2 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/22/20	Lab ID:	004197-02 1/5
Date Analyzed:	04/23/20	Data File:	042308.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	70	31	163
Benzo(a)anthracene-d12	92	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.041
Acenaphthylene	<0.01
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.081
Anthracene	<0.01
Fluoranthene	0.025
Pyrene	0.036
Benz(a)anthracene	0.025
Chrysene	0.034
Benzo(a)pyrene	0.023
Benzo(b)fluoranthene	0.027
Benzo(k)fluoranthene	<0.01
Indeno(1,2,3-cd)pyrene	0.013
Dibenz(a,h)anthracene	<0.01
Benzo(g,h,i)perylene	0.014

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	MW-07-4.5-5 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/22/20	Lab ID:	004197-04 1/5
Date Analyzed:	04/23/20	Data File:	042311.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	90	31	163
Benzo(a)anthracene-d12	106	24	168

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

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	MW-06-3.5-5.5 FT	Client:	Floyd-Snider
Date Received:	04/12/20	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/22/20	Lab ID:	004197-05 1/5
Date Analyzed:	04/23/20	Data File:	042312.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	87	31	163
Benzo(a)anthracene-d12	102	24	168

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

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Nelson-Granite Falls, F&BI 004197
Date Extracted:	04/21/20	Lab ID:	00-926 mb 1/5
Date Analyzed:	04/22/20	Data File:	042211.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	84	31	163
Benzo(a)anthracene-d12	101	24	168

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

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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: 004197-01 (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)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	100	69-120
Toluene	mg/kg (ppm)	0.5	97	70-117
Ethylbenzene	mg/kg (ppm)	0.5	98	65-123
Xylenes	mg/kg (ppm)	1.5	102	66-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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: 004213-17 (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)	0.060	0.037	47 a
Ethylbenzene	mg/kg (ppm)	0.14	0.076	59 a
Xylenes	mg/kg (ppm)	0.19	0.10	63 a
Gasoline	mg/kg (ppm)	38	21	58 a

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	92	65-123
Xylenes	mg/kg (ppm)	1.5	100	66-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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: 004197-23 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	0.099	0.085	15
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)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	98	69-120
Toluene	mg/kg (ppm)	0.5	97	70-117
Ethylbenzene	mg/kg (ppm)	0.5	96	65-123
Xylenes	mg/kg (ppm)	1.5	101	66-120
Gasoline	mg/kg (ppm)	20	105	71-131

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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

Laboratory Code: 004200-01 (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	102	106	64-133	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	58-147

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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

Laboratory Code: 004197-14 (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	94	88	73-135	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	88	74-139

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

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

Laboratory Code: 004242-02 (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	90	90	73-135	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	90	74-139

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 004231-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	2.38	75 b	72 b	75-125	4 b
Cadmium	mg/kg (ppm)	10	<1	101	95	75-125	6
Chromium	mg/kg (ppm)	50	8.13	86	78	75-125	10
Lead	mg/kg (ppm)	50	4.94	89	82	75-125	8
Mercury	mg/kg (ppm	5	<1	87	84	75-125	4

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	82	80-120
Cadmium	mg/kg (ppm)	10	104	80-120
Chromium	mg/kg (ppm)	50	94	80-120
Lead	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	97	80-120

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 004174-42 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	77	78	75-125	1
Barium	mg/kg (ppm)	50	113	112	113	75-125	1
Cadmium	mg/kg (ppm)	10	<5	104	103	75-125	1
Chromium	mg/kg (ppm)	50	7.60	94	90	75-125	4
Lead	mg/kg (ppm)	50	5.30	95	95	75-125	0
Mercury	mg/kg (ppm	5	<5	97	102	75-125	5
Selenium	mg/kg (ppm)	5	<5	93	91	75-125	2
Silver	mg/kg (ppm)	10	<5	90	93	75-125	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	86	80-120
Barium	mg/kg (ppm)	50	108	80-120
Cadmium	mg/kg (ppm)	10	110	80-120
Chromium	mg/kg (ppm)	50	101	80-120
Lead	mg/kg (ppm)	50	107	80-120
Mercury	mg/kg (ppm)	5	110	80-120
Selenium	mg/kg (ppm)	5	106	80-120
Silver	mg/kg (ppm)	10	105	80-120

Date of Report: 04/29/20
Date Received: 04/12/20
Project: Nelson-Granite Falls, F&BI 004197

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270E SIM

Laboratory Code: 004208-02 1/5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	0.011	72	44-129
Acenaphthylene	mg/kg (ppm)	0.17	<0.01	79	52-121
Acenaphthene	mg/kg (ppm)	0.17	<0.01	77	51-123
Fluorene	mg/kg (ppm)	0.17	<0.01	82	37-137
Phenanthrene	mg/kg (ppm)	0.17	0.067	52 b	34-141
Anthracene	mg/kg (ppm)	0.17	<0.01	80	32-124
Fluoranthene	mg/kg (ppm)	0.17	0.093	57 b	16-160
Pyrene	mg/kg (ppm)	0.17	0.10	57 b	10-180
Benz(a)anthracene	mg/kg (ppm)	0.17	0.047	76 b	23-144
Chrysene	mg/kg (ppm)	0.17	0.053	70 b	32-149
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.052	69 b	23-176
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	0.016	75	42-139
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.049	72 b	21-163
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.034	67	23-170
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	<0.01	71	31-146
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.031	55	37-133

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	mg/kg (ppm)	0.17	80	80	58-121	0
Acenaphthylene	mg/kg (ppm)	0.17	82	88	54-121	7
Acenaphthene	mg/kg (ppm)	0.17	81	83	54-123	2
Fluorene	mg/kg (ppm)	0.17	87	89	56-127	2
Phenanthrene	mg/kg (ppm)	0.17	83	84	55-122	1
Anthracene	mg/kg (ppm)	0.17	82	84	50-120	2
Fluoranthene	mg/kg (ppm)	0.17	87	90	54-129	3
Pyrene	mg/kg (ppm)	0.17	93	96	53-127	3
Benz(a)anthracene	mg/kg (ppm)	0.17	89	89	51-115	0
Chrysene	mg/kg (ppm)	0.17	85	84	55-129	1
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	87	88	56-123	1
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	89	90	54-131	1
Benzo(a)pyrene	mg/kg (ppm)	0.17	76	78	51-118	3
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	64	68	49-148	6
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	64	68	50-141	6
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	59	64	52-131	8

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 analyte 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 due to sample matrix effects.

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.

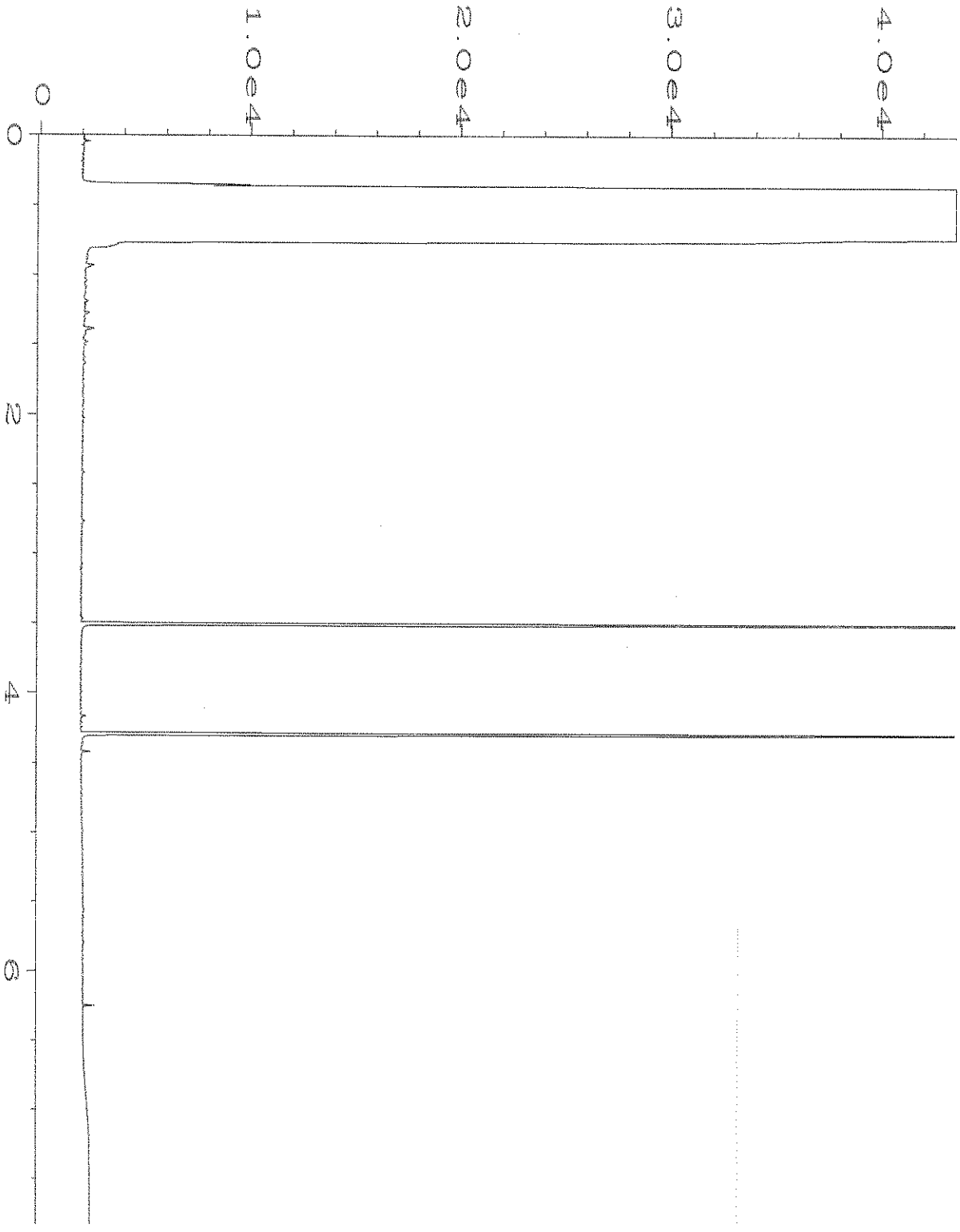
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

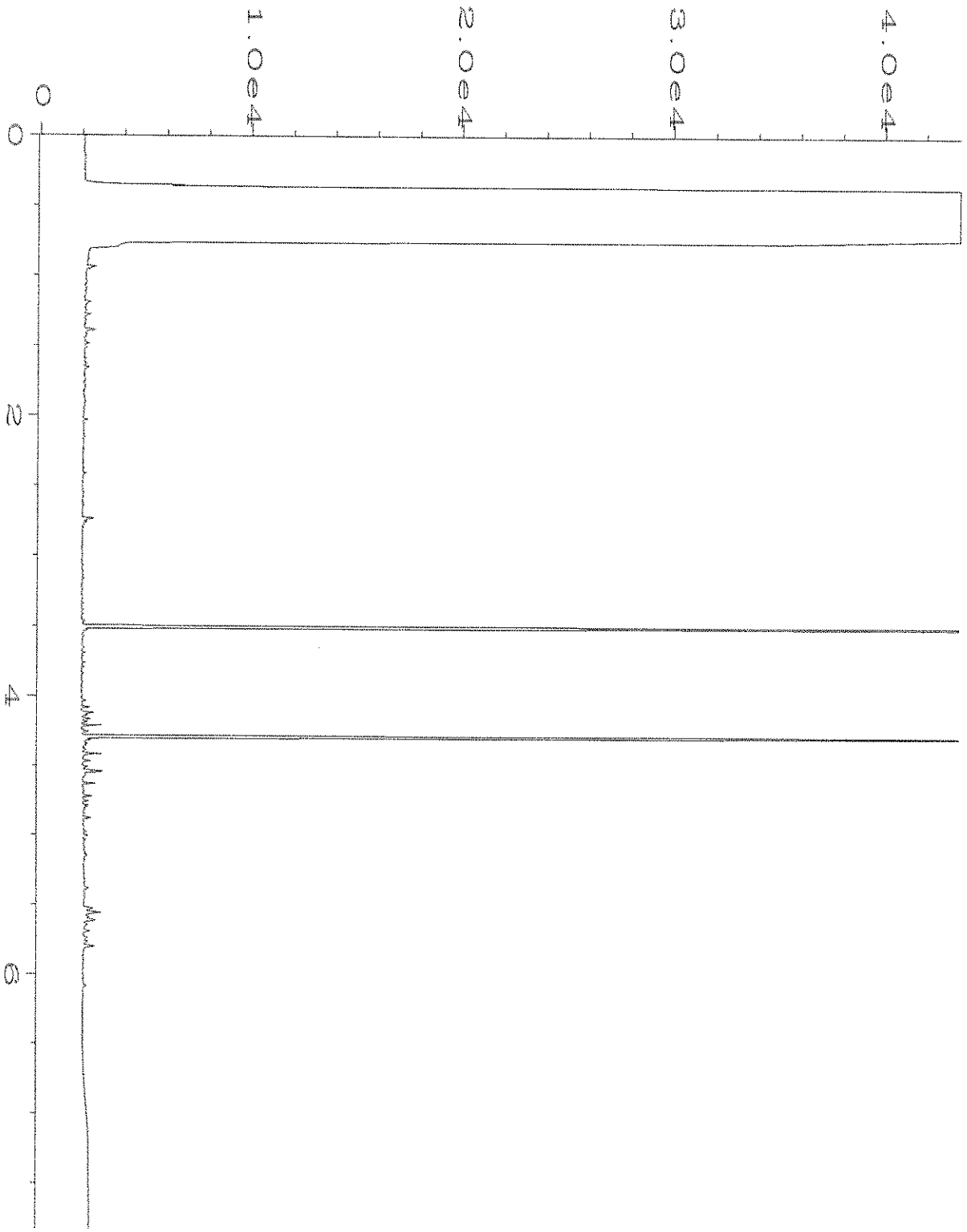
vo - The value reported fell outside the control limits established for this analyte.

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



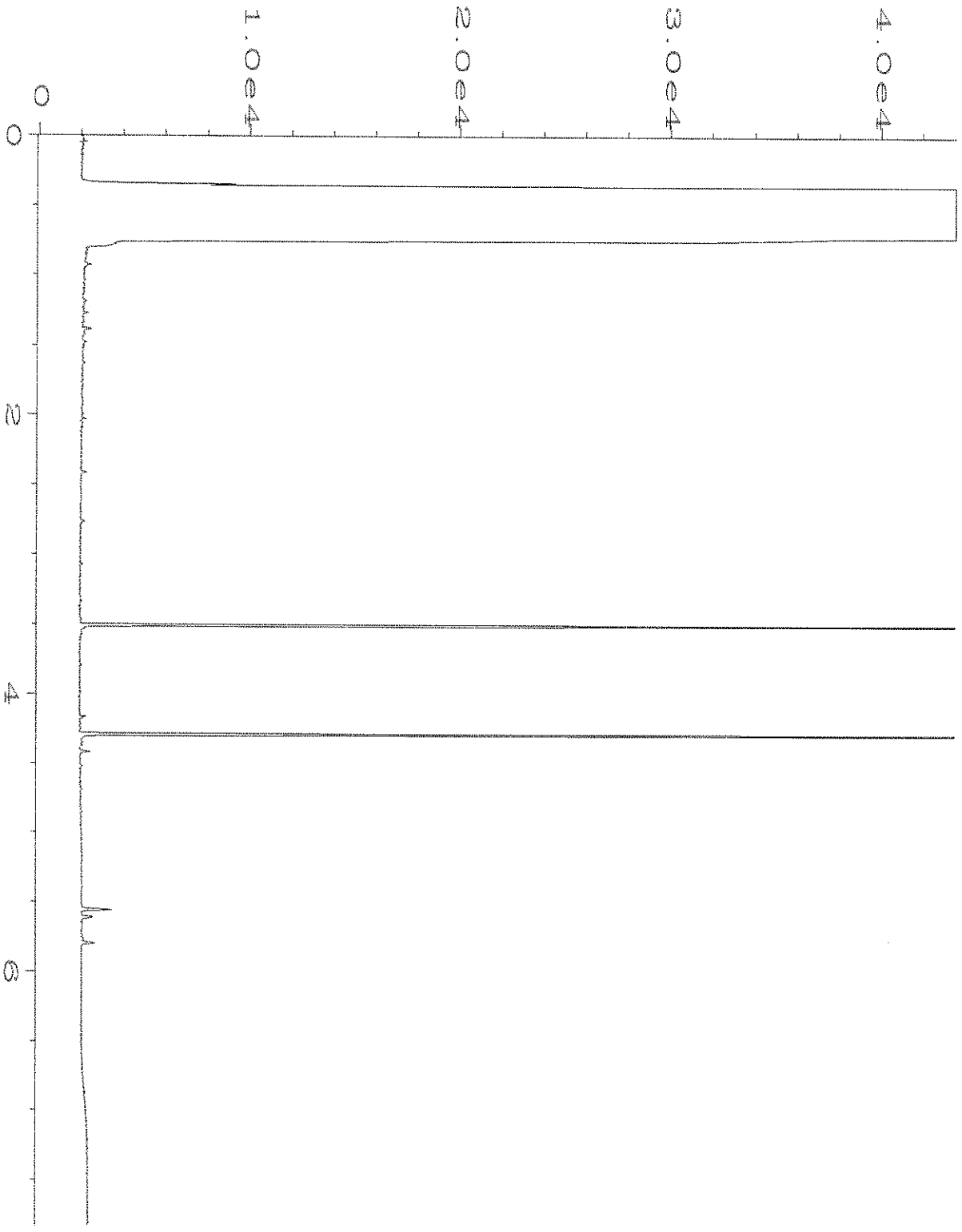
Data File Name : C:\HPCHEM\4\DATA\04-20-20\031F0701.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-01
Run Time Bar Code:
Acquired on : 20 Apr 20 12:43 PM
Report Created on: 21 Apr 20 08:30 AM

Page Number : 1
Vial Number : 31
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH

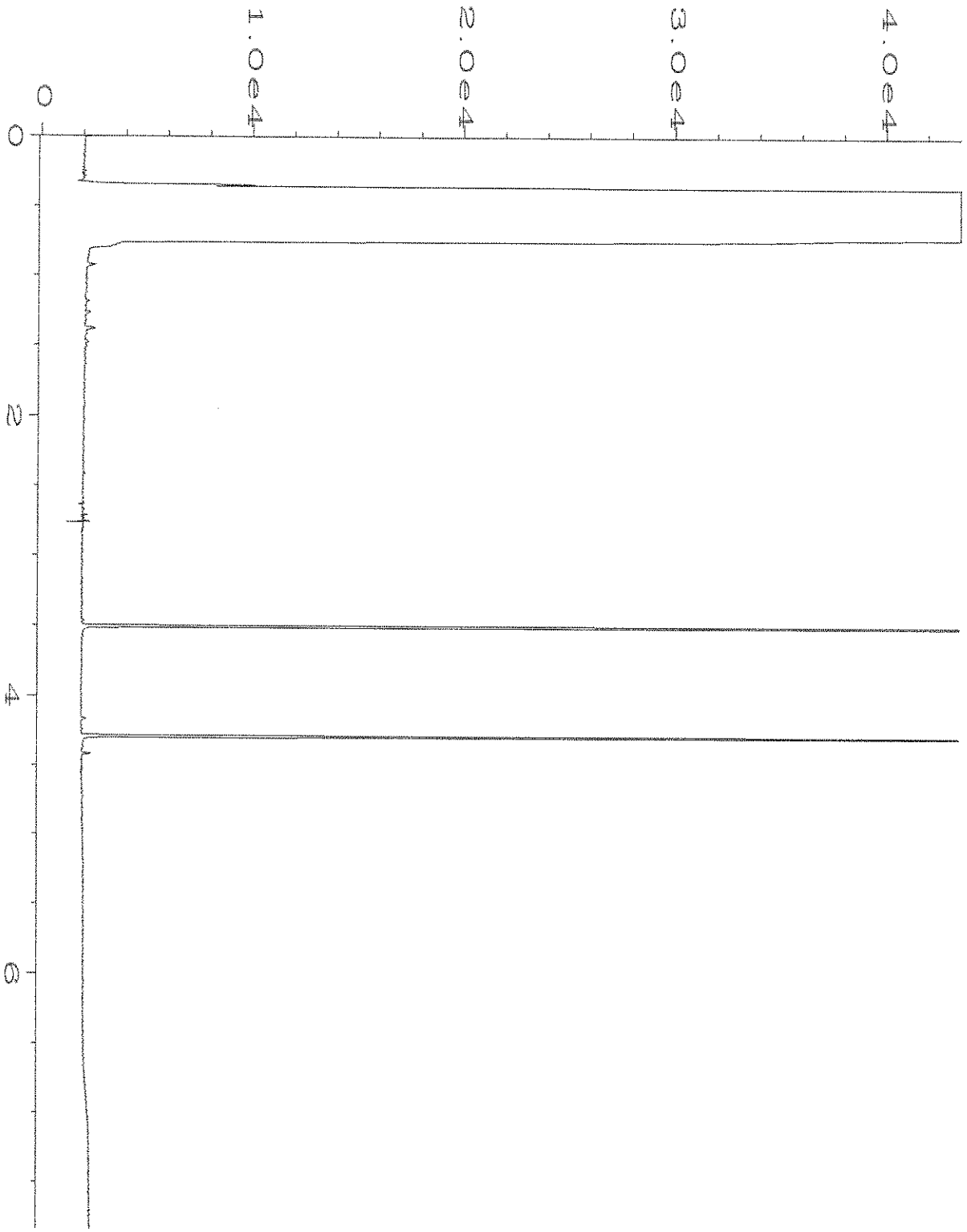


Data File Name : C:\HPCHEM\4\DATA\04-20-20\032F0701.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-03
Run Time Bar Code:
Acquired on : 20 Apr 20 12:55 PM
Report Created on: 21 Apr 20 08:30 AM

Page Number : 1
Vial Number : 32
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\033F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 33
Sample Name	: 004197-04	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 01:08 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:30 AM	Analysis Method	: DX.MTH



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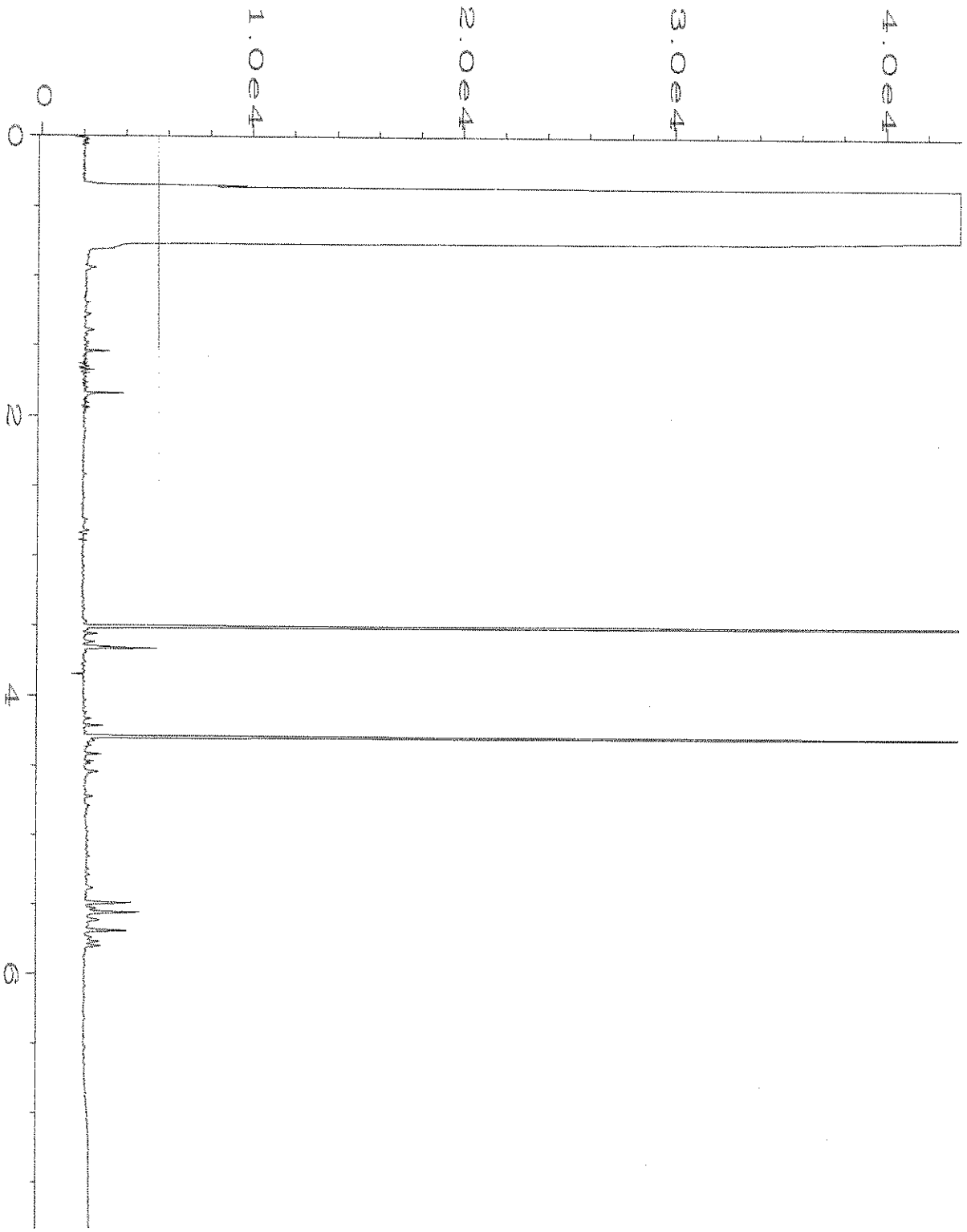
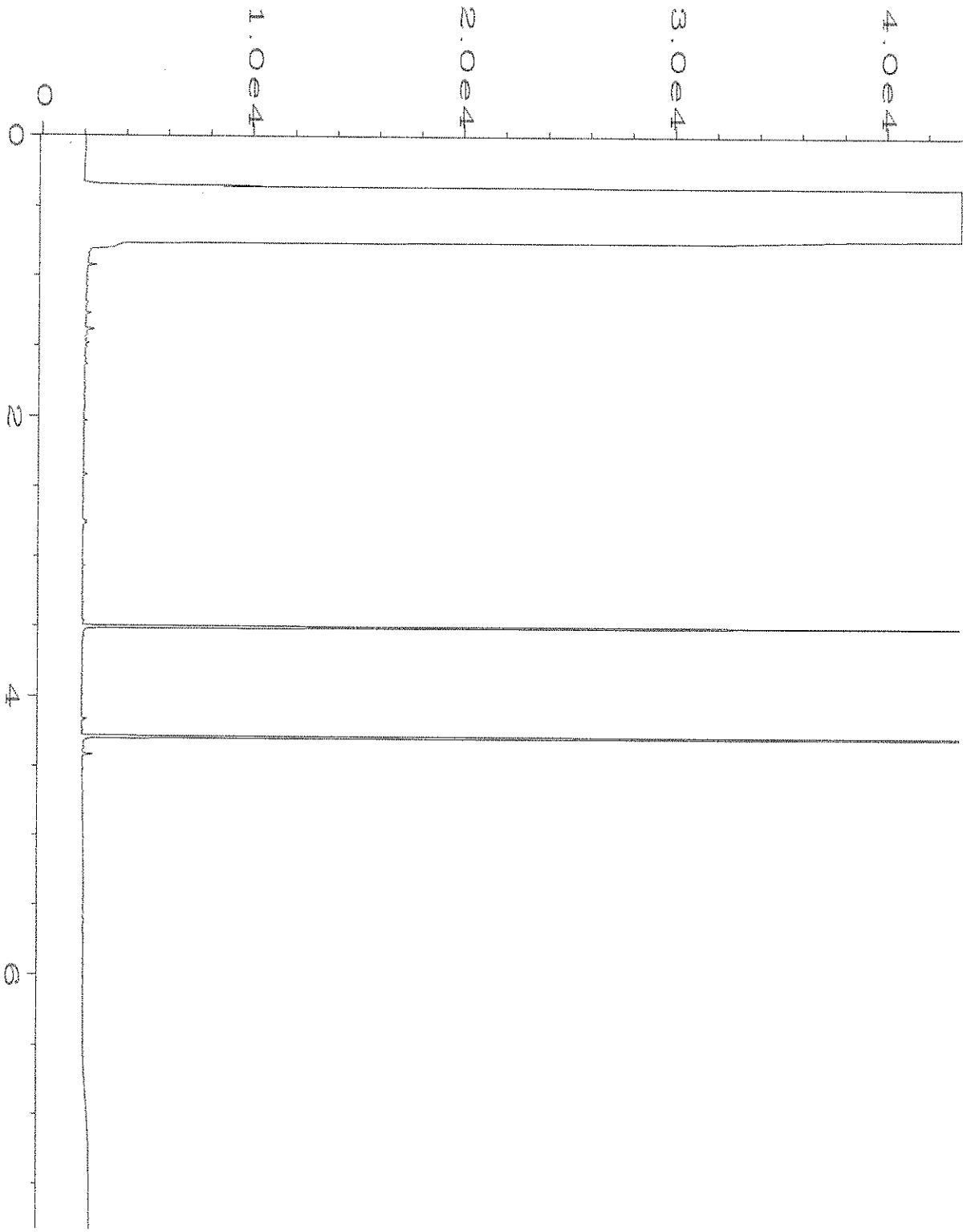
Operator : TL
Instrument : GC#4
Sample Name : 004197-05
Run Time Bar Code:
Acquired on : 20 Apr 20 01:20 PM
Report Created on: 21 Apr 20 08:30 AM

Page Number : 1
Vial Number : 34
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH

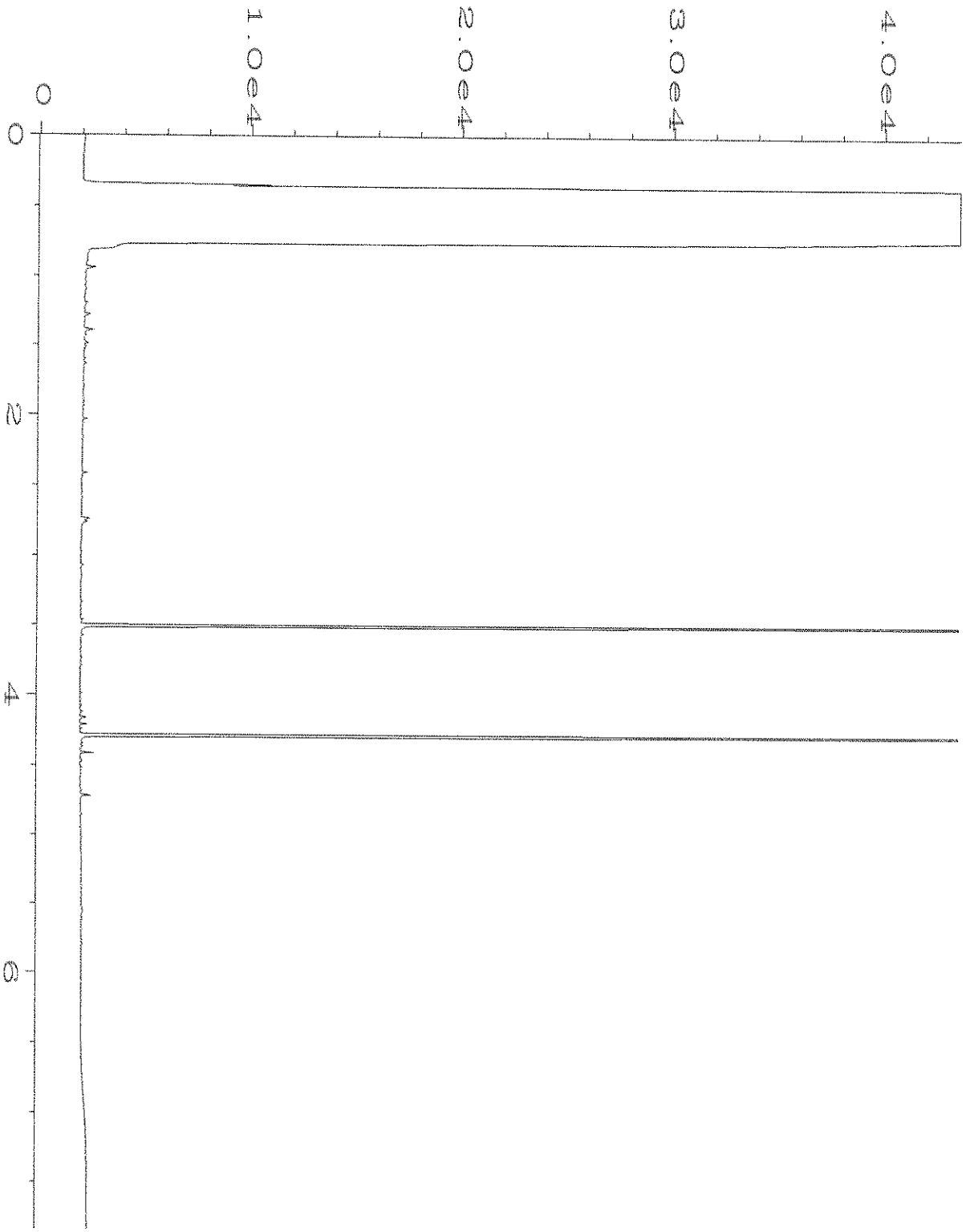


Data File Name	: C:\HPCHEM\4\DATA\04-20-20\035F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 35
Sample Name	: 004197-06	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 01:32 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:30 AM	Analysis Method	: DX.MTH

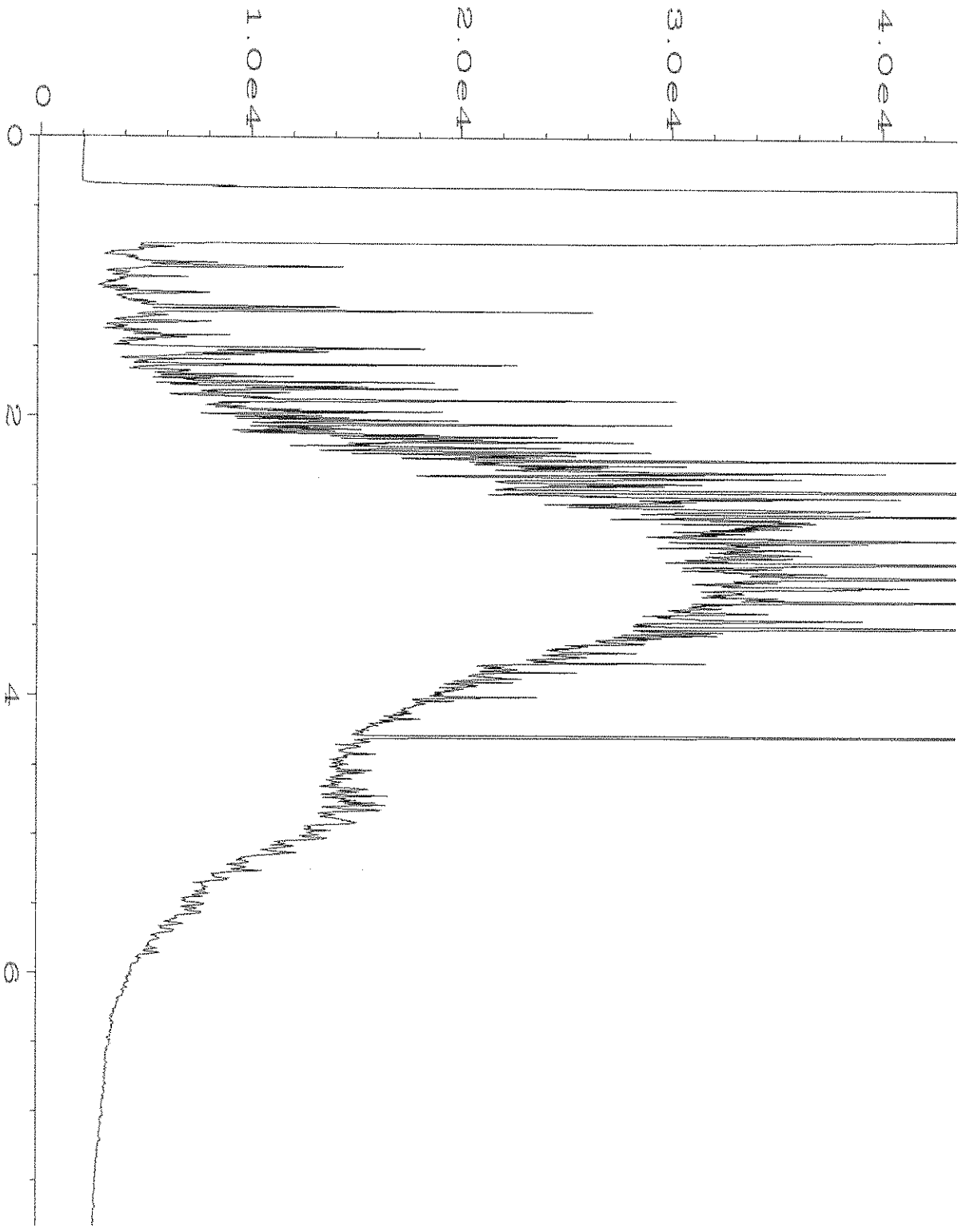


Data File Name : C:\HPCHEM\4\DATA\04-20-20\036F0701.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-07
Run Time Bar Code:
Acquired on : 20 Apr 20 01:44 PM
Report Created on: 21 Apr 20 08:30 AM

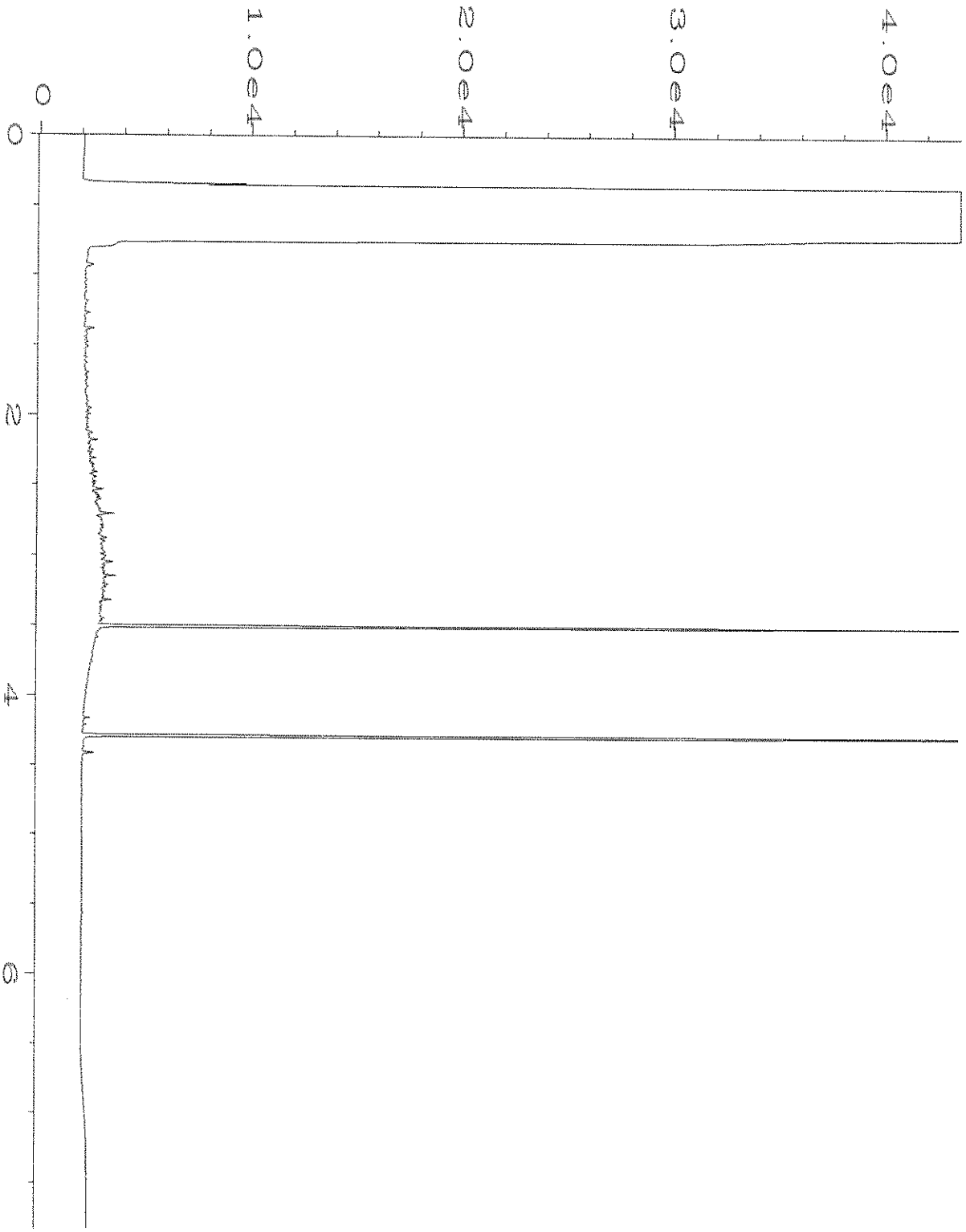
Page Number : 1
Vial Number : 36
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\037F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 37
Sample Name	: 004197-08	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 01:56 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:30 AM	Analysis Method	: DX.MTH

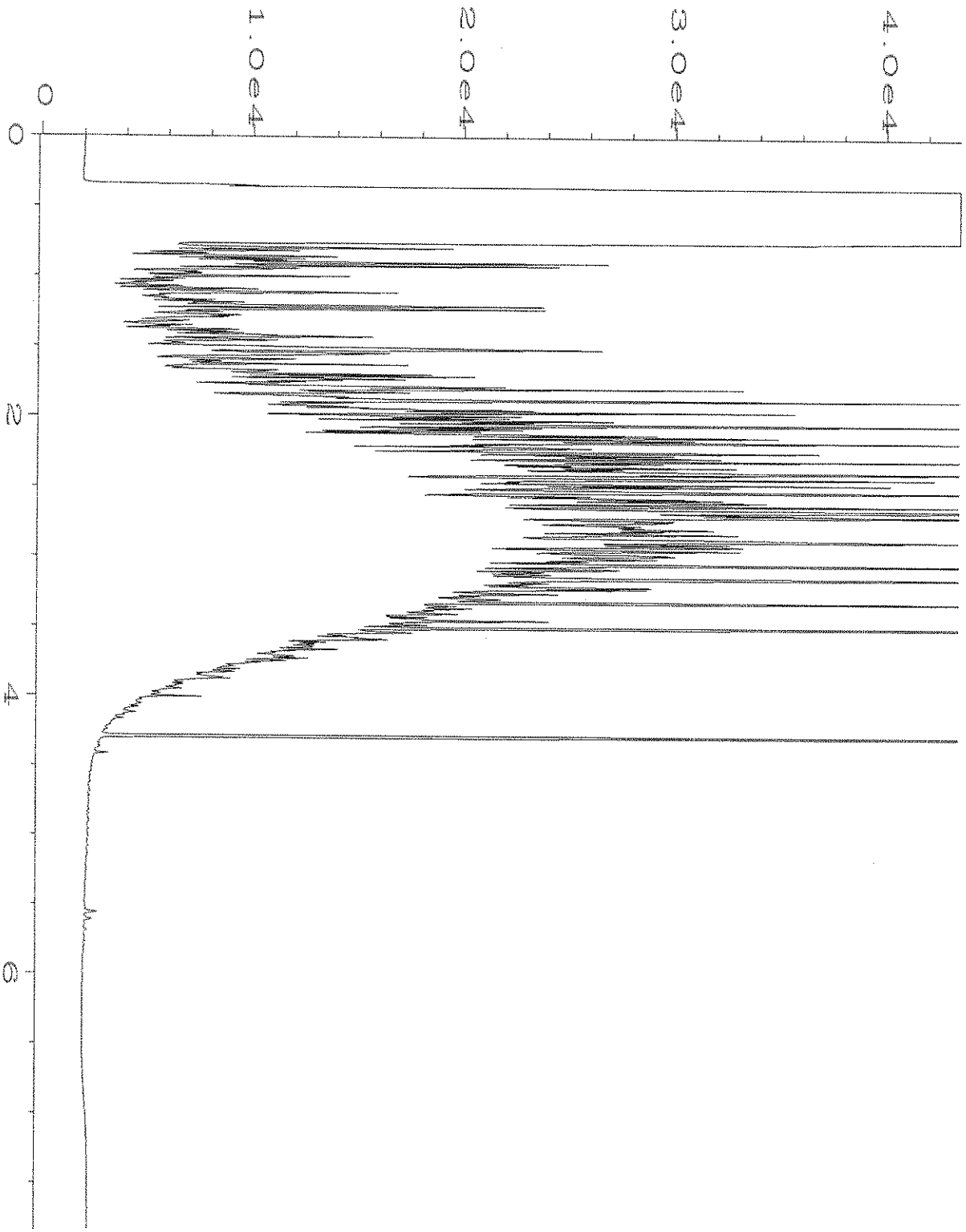


Data File Name	: C:\HPCHEM\4\DATA\04-20-20\038F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 38
Sample Name	: 004197-09	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 02:08 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:30 AM	Analysis Method	: DX.MTH



Data File Name : C:\HPCHEM\4\DATA\04-20-20\039F0701.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-10
Run Time Bar Code:
Acquired on : 20 Apr 20 02:20 PM
Report Created on: 21 Apr 20 08:31 AM

Page Number : 1
Vial Number : 39
Injection Number : 1
Sequence Line : 7
Instrument Method: DX.MTH
Analysis Method : DX.MTH



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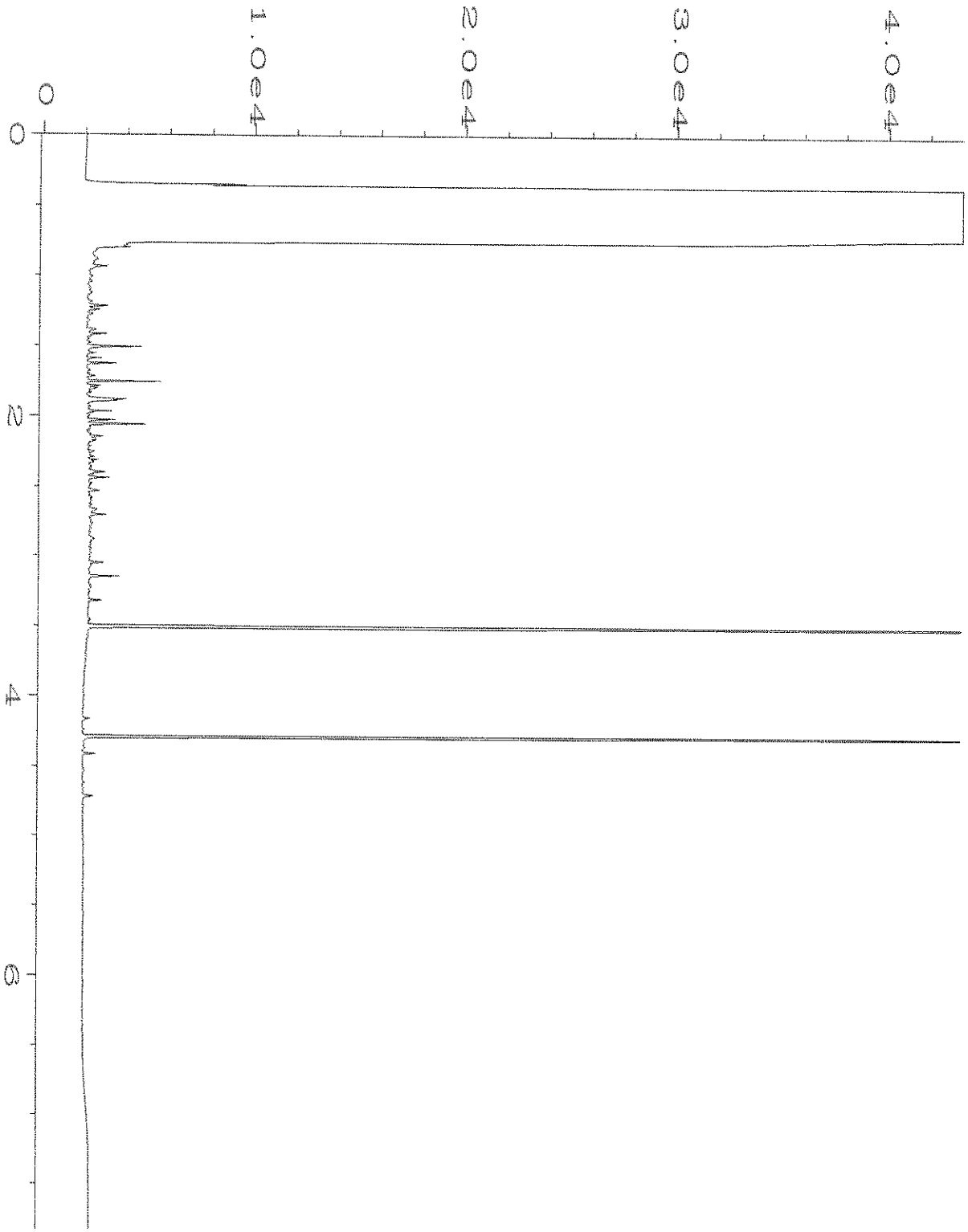
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 40
Sample Name	: 004197-11	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 02:32 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:31 AM	Analysis Method	: DX.MTH



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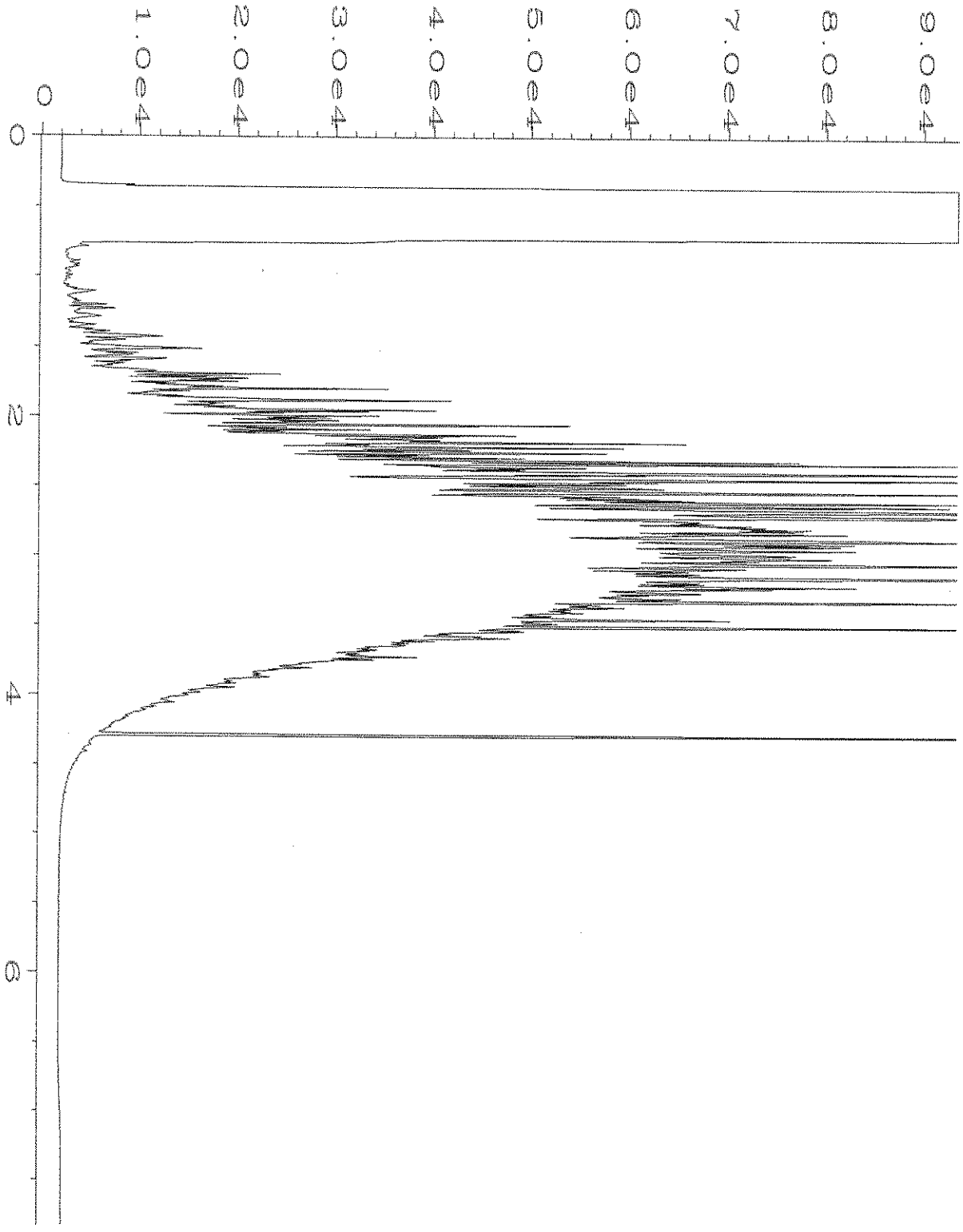
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 41
Sample Name	: 004197-12	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 02:45 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:31 AM	Analysis Method	: DX.MTH



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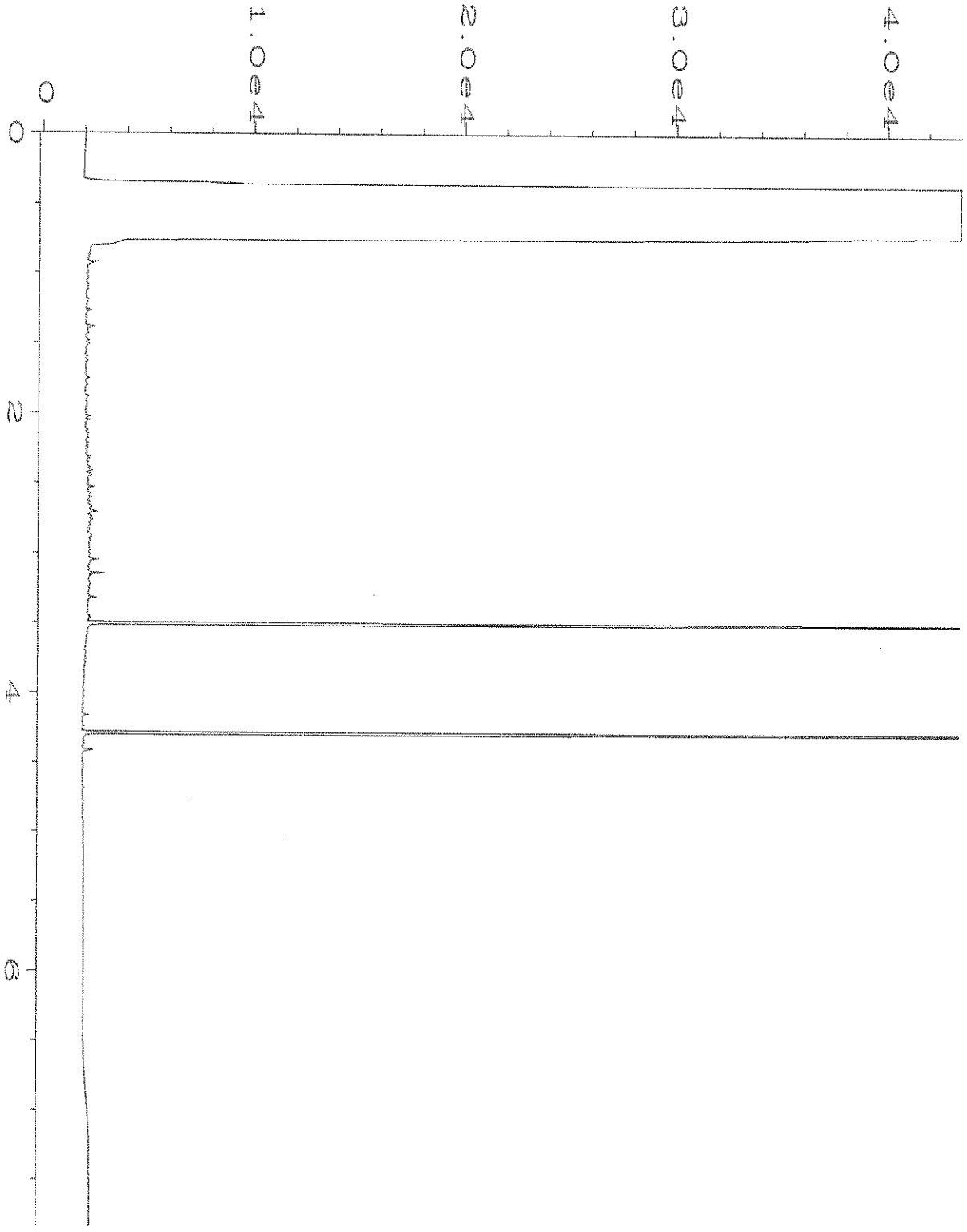
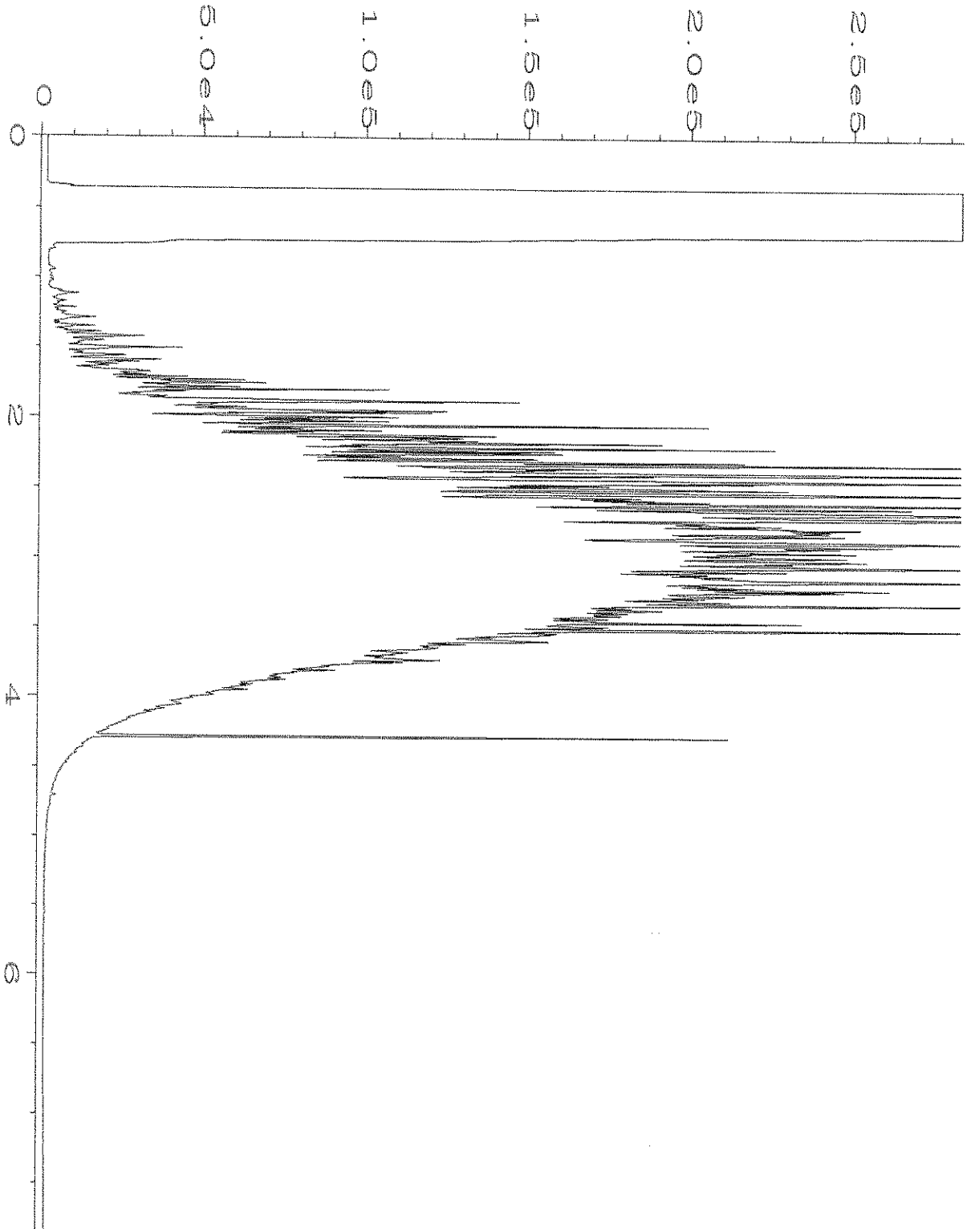
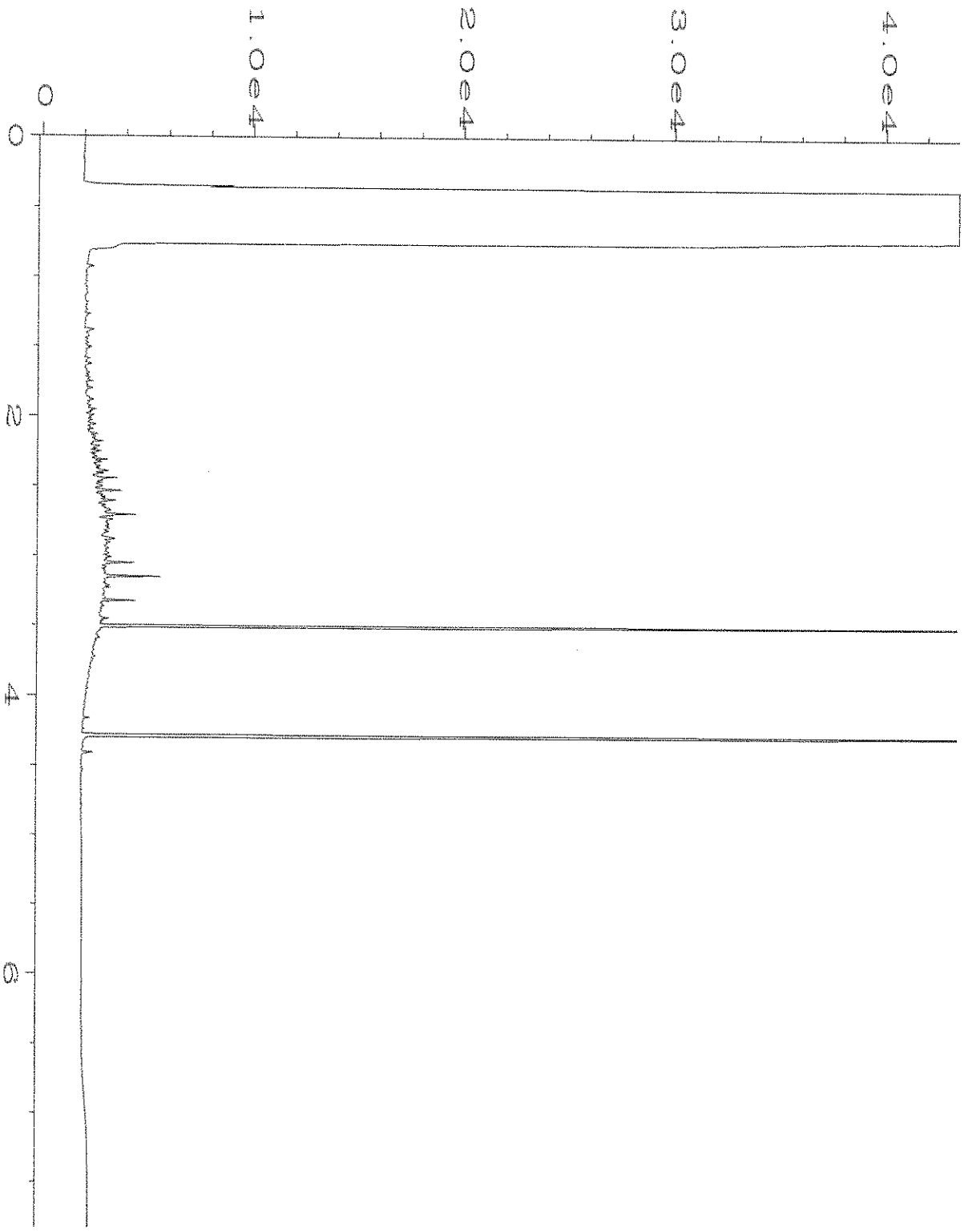
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 42
Sample Name	: 004197-13	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 Apr 20 02:57 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:31 AM	Analysis Method	: DX.MTH



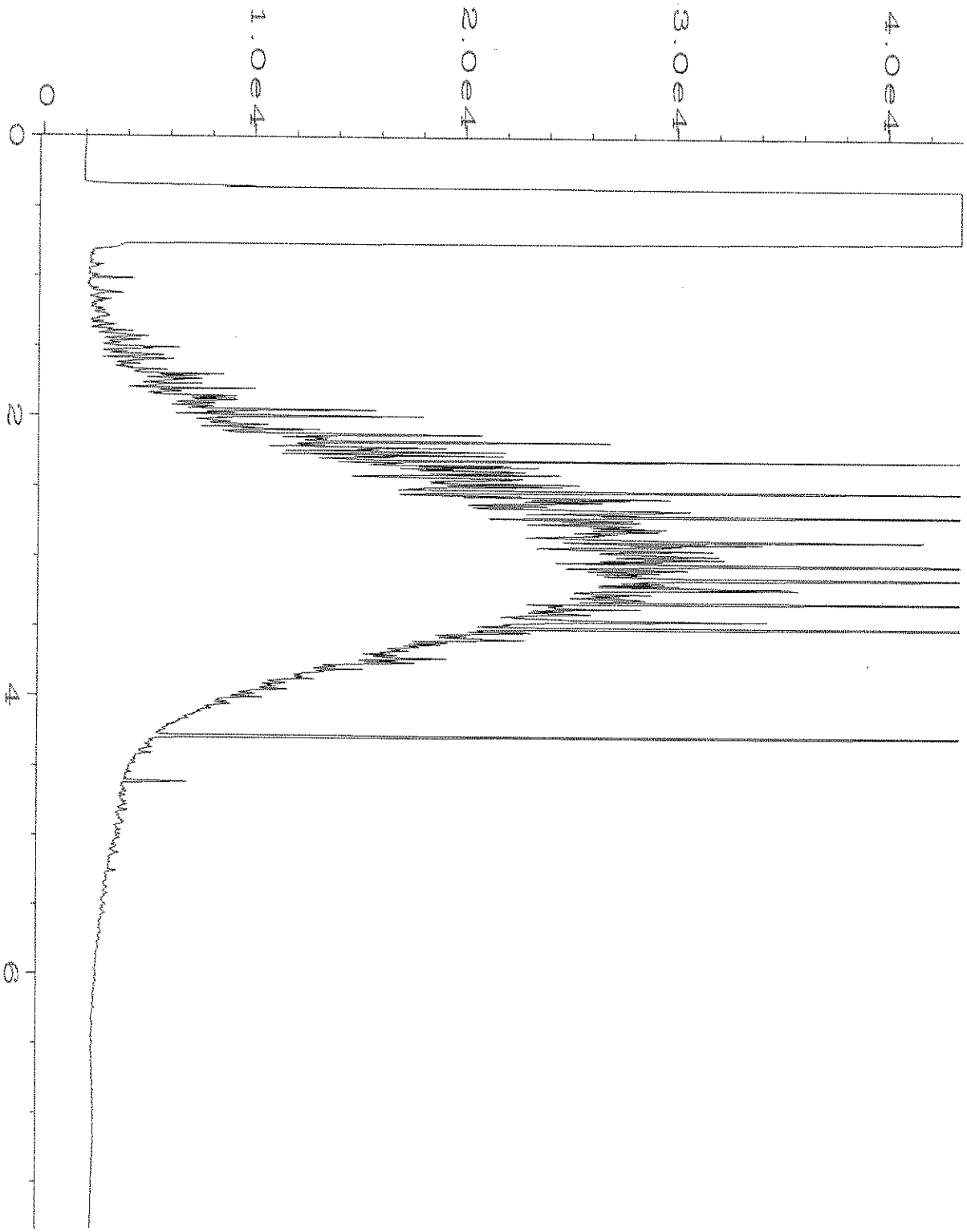
Data File Name	: C:\HPCHEM\4\DATA\04-20-20\047F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 47
Sample Name	: 004197-14	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 04:33 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:32 AM	Analysis Method	: DX.MTH



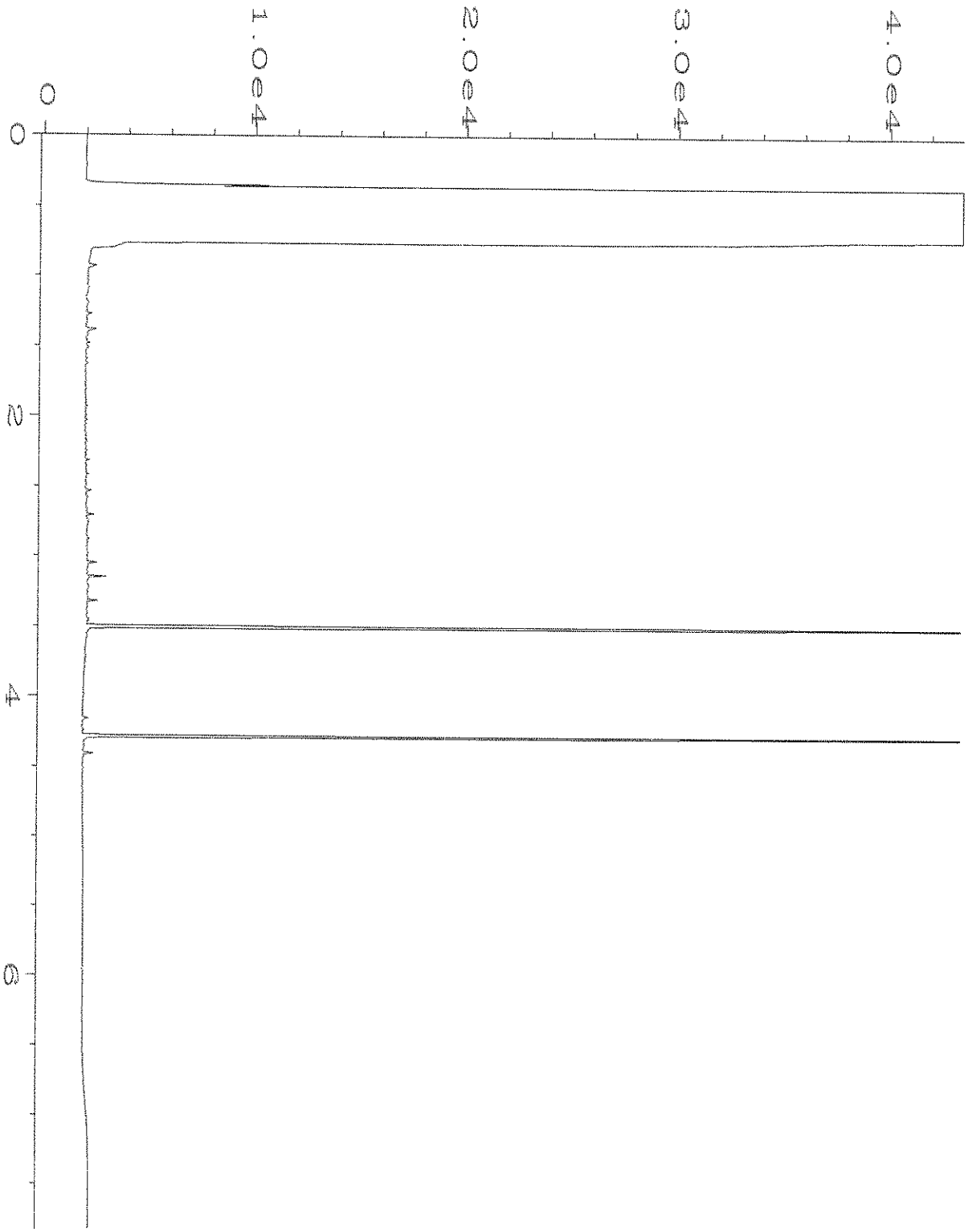
Data File Name	: C:\HPCHEM\4\DATA\04-20-20\048F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 48
Sample Name	: 004197-15	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 04:45 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:32 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\049F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 49
Sample Name	: 004197-16	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 04:57 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:33 AM	Analysis Method	: DX.MTH

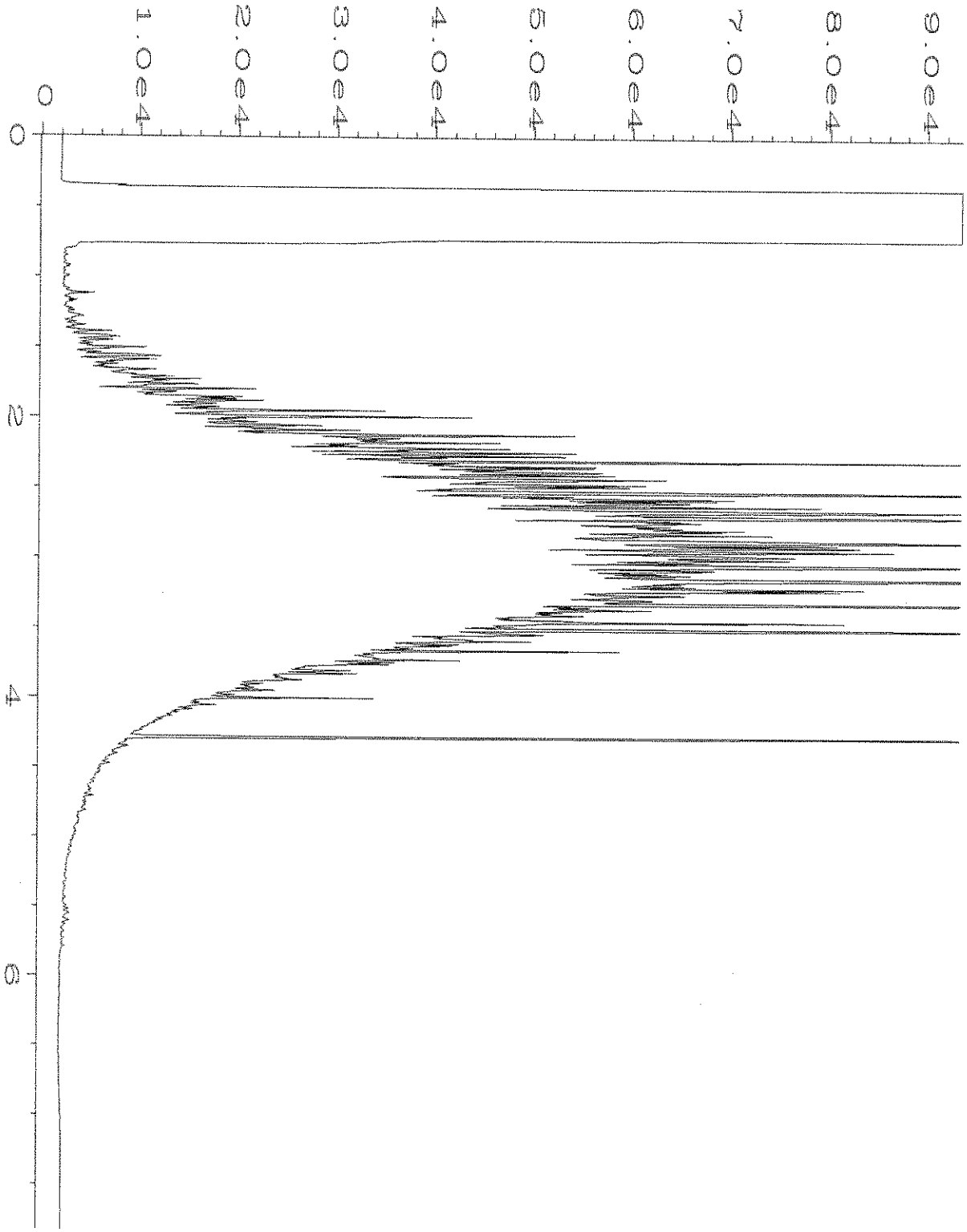


Data File Name	: C:\HPCHEM\4\DATA\04-20-20\050F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 50
Sample Name	: 004197-17	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 05:09 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:33 AM	Analysis Method	: DX.MTH

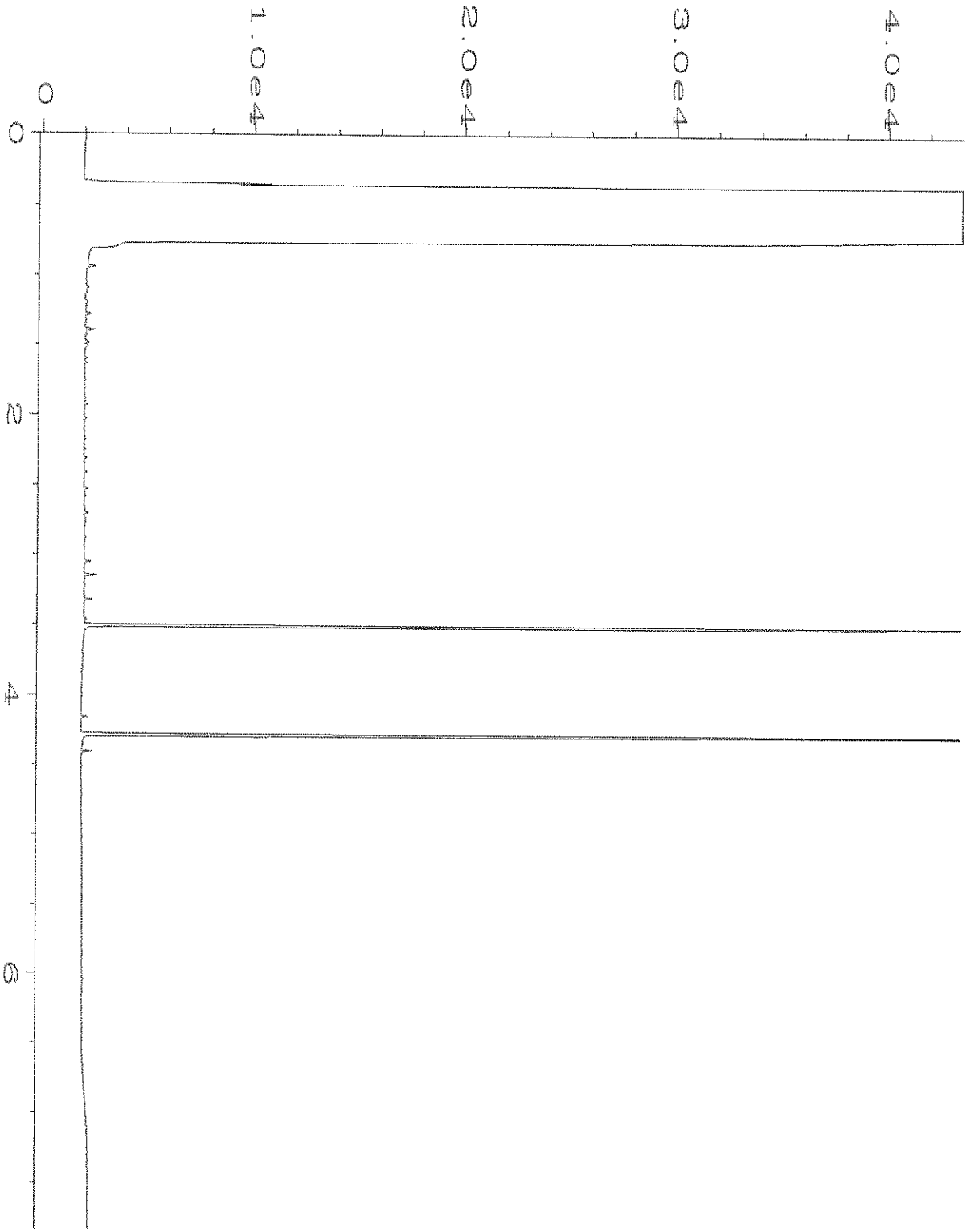


Data File Name : C:\HPCHEM\4\DATA\04-20-20\051F1001.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-18
Run Time Bar Code:
Acquired on : 20 Apr 20 05:21 PM
Report Created on: 21 Apr 20 08:33 AM

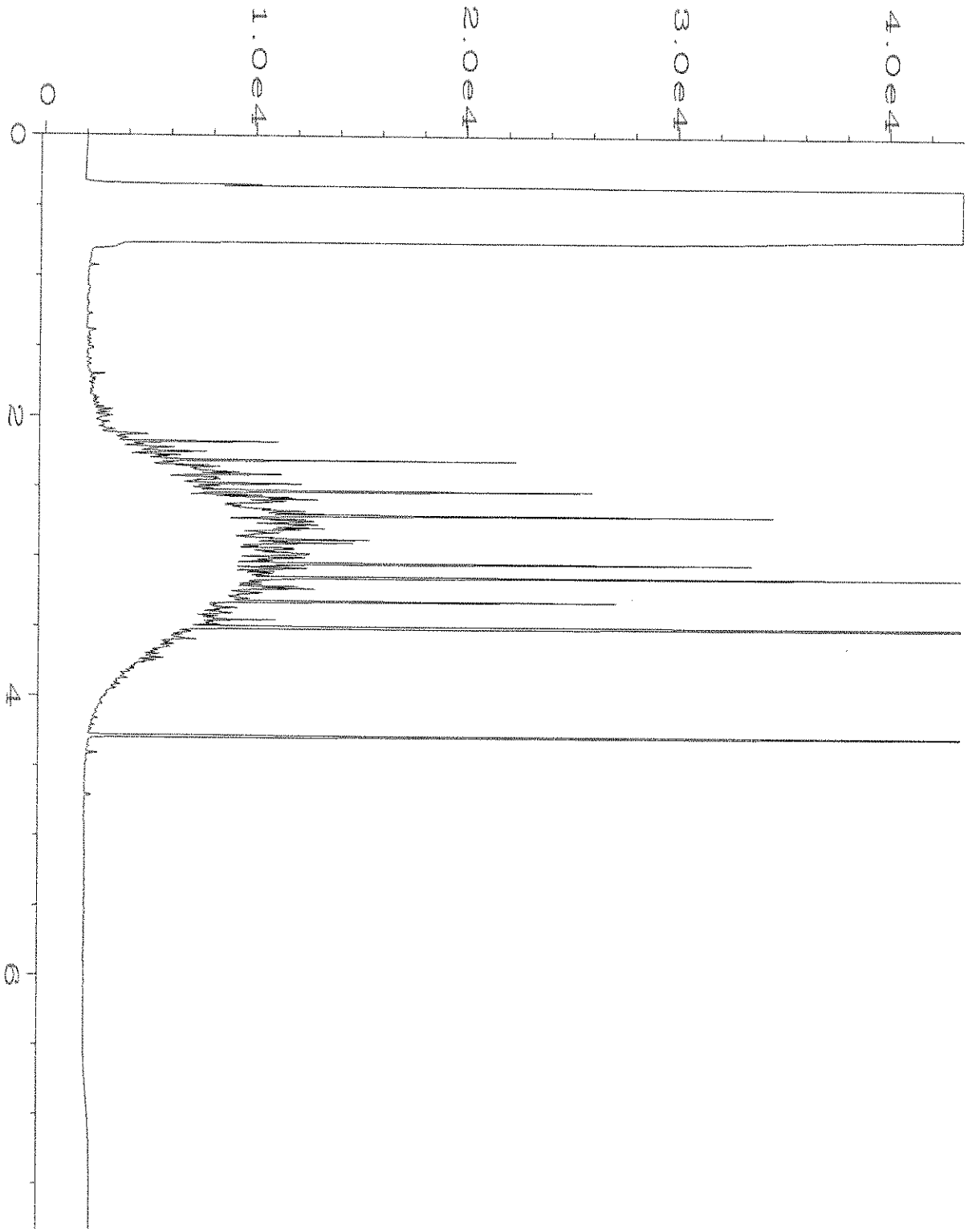
Page Number : 1
Vial Number : 51
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\052F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 52
Sample Name	: 004197-19	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 05:33 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:33 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\053F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 53
Sample Name	: 004197-20	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 05:45 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:33 AM	Analysis Method	: DX.MTH



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Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 54
Sample Name	: 004197-21	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
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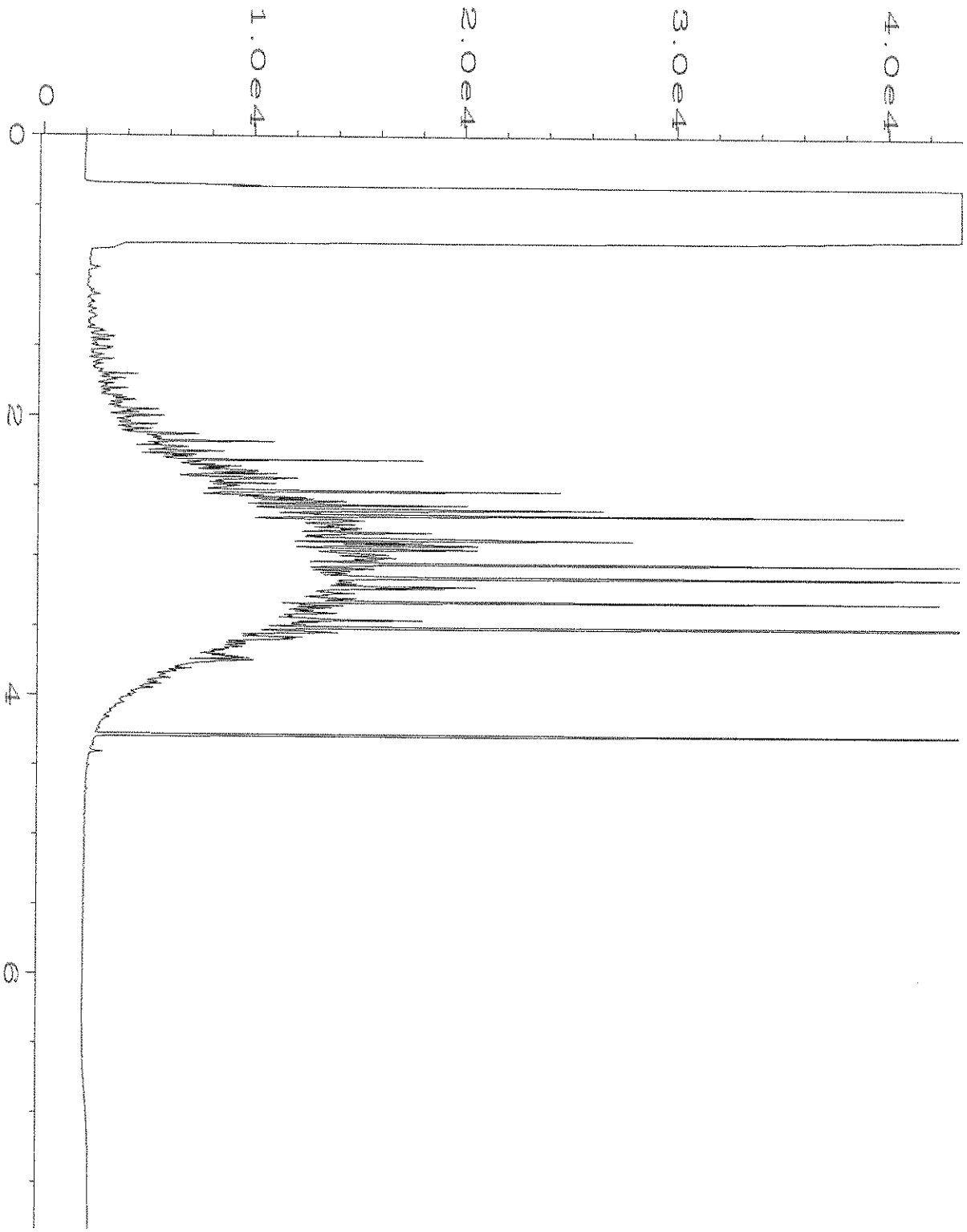
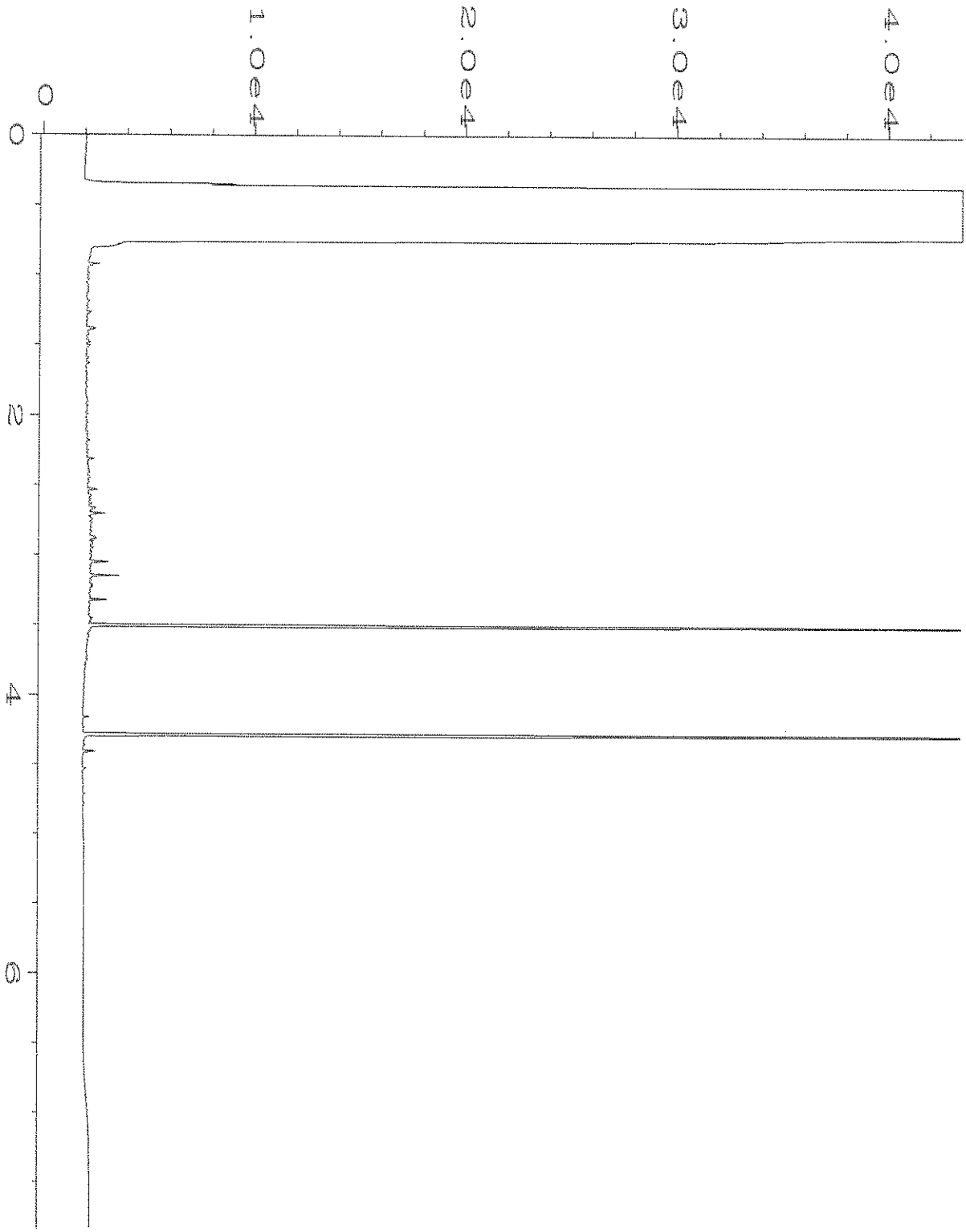
Report Created on	: 21 Apr 20 08:34 AM	Analysis Method	: DX.MTH

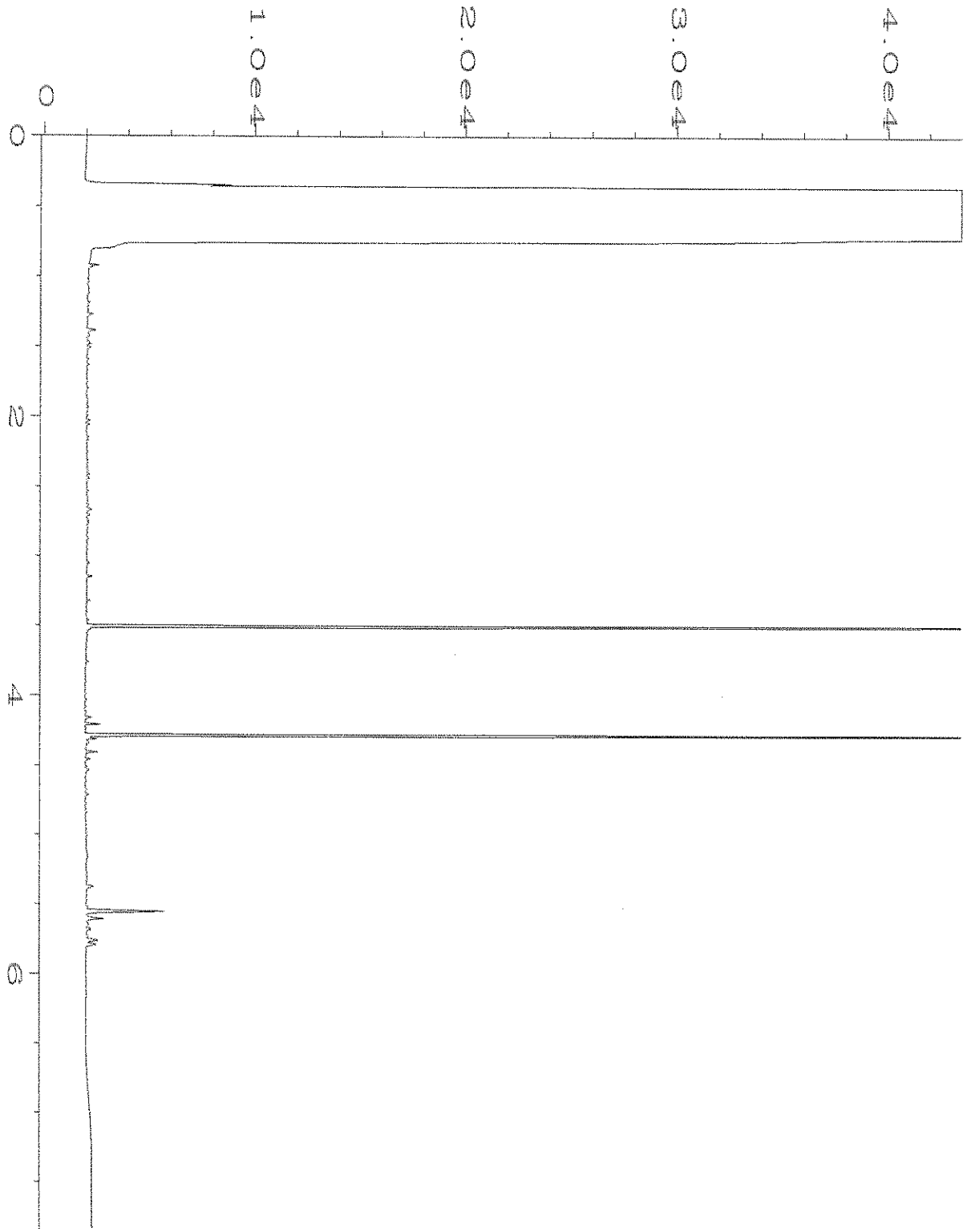


Data File Name	: C:\HPCHEM\4\DATA\04-20-20\055F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 55
Sample Name	: 004197-22	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 06:09 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:34 AM	Analysis Method	: DX.MTH



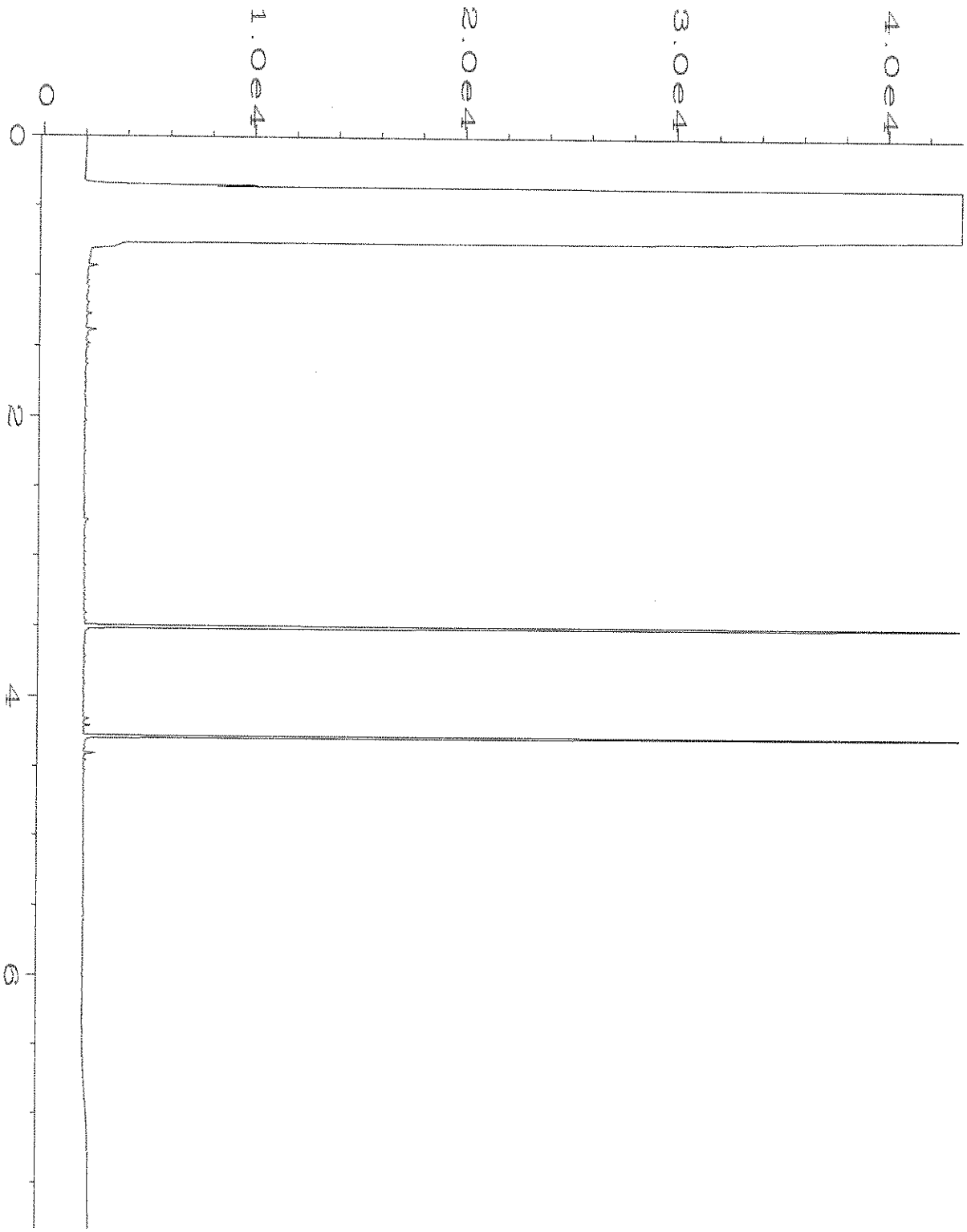
Data File Name : C:\HPCHEM\4\DATA\04-20-20\056F1001.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-23
Run Time Bar Code:
Acquired on : 20 Apr 20 06:21 PM
Report Created on: 21 Apr 20 08:34 AM

Page Number : 1
Vial Number : 56
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



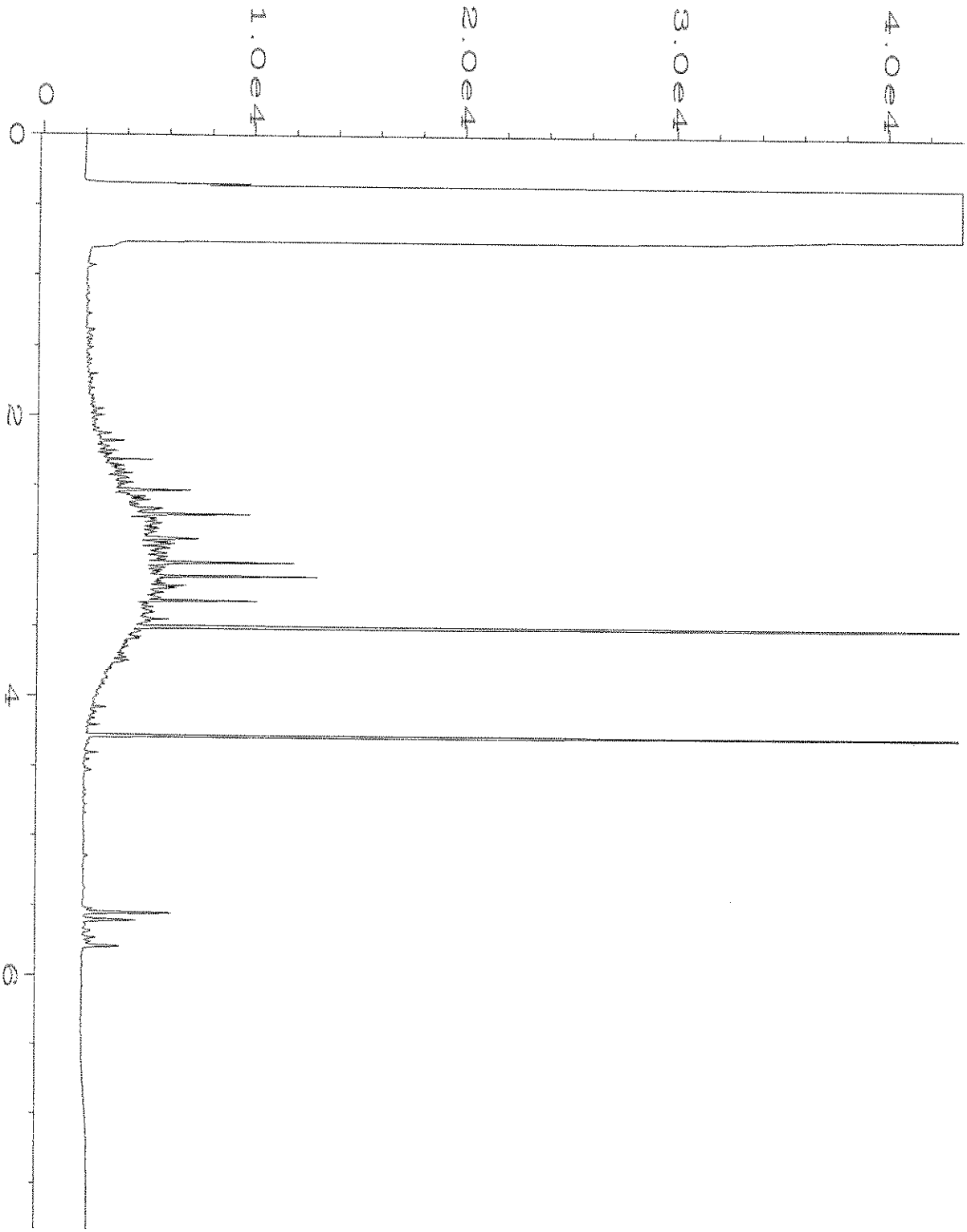
Data File Name : C:\HPCHEM\4\DATA\04-20-20\057F1001.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-24
Run Time Bar Code:
Acquired on : 20 Apr 20 06:33 PM
Report Created on: 21 Apr 20 08:34 AM

Page Number : 1
Vial Number : 57
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH

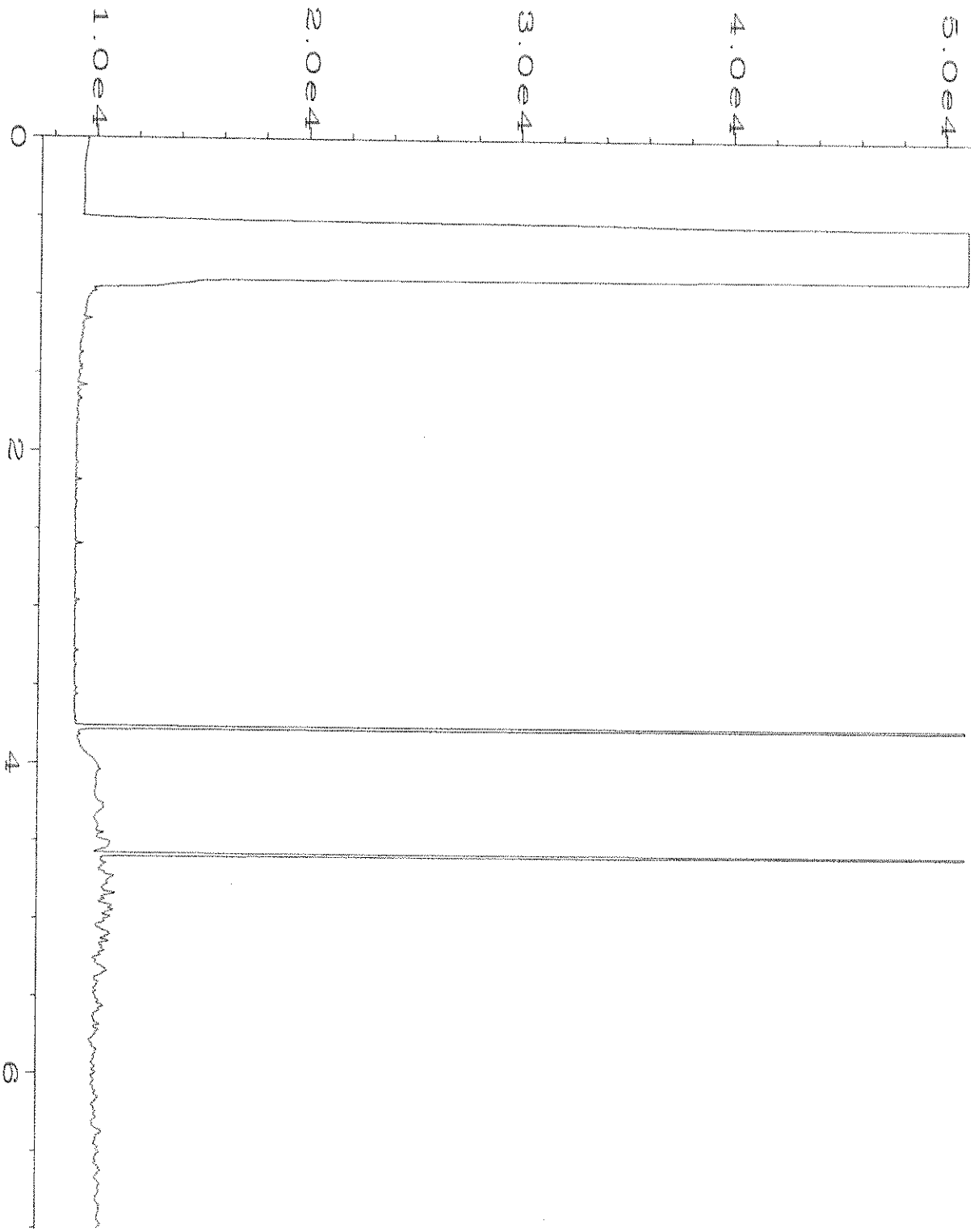


Data File Name : C:\HPCHEM\4\DATA\04-20-20\058F1001.D
Operator : TL
Instrument : GC#4
Sample Name : 004197-25
Run Time Bar Code:
Acquired on : 20 Apr 20 06:45 PM
Report Created on: 21 Apr 20 08:34 AM

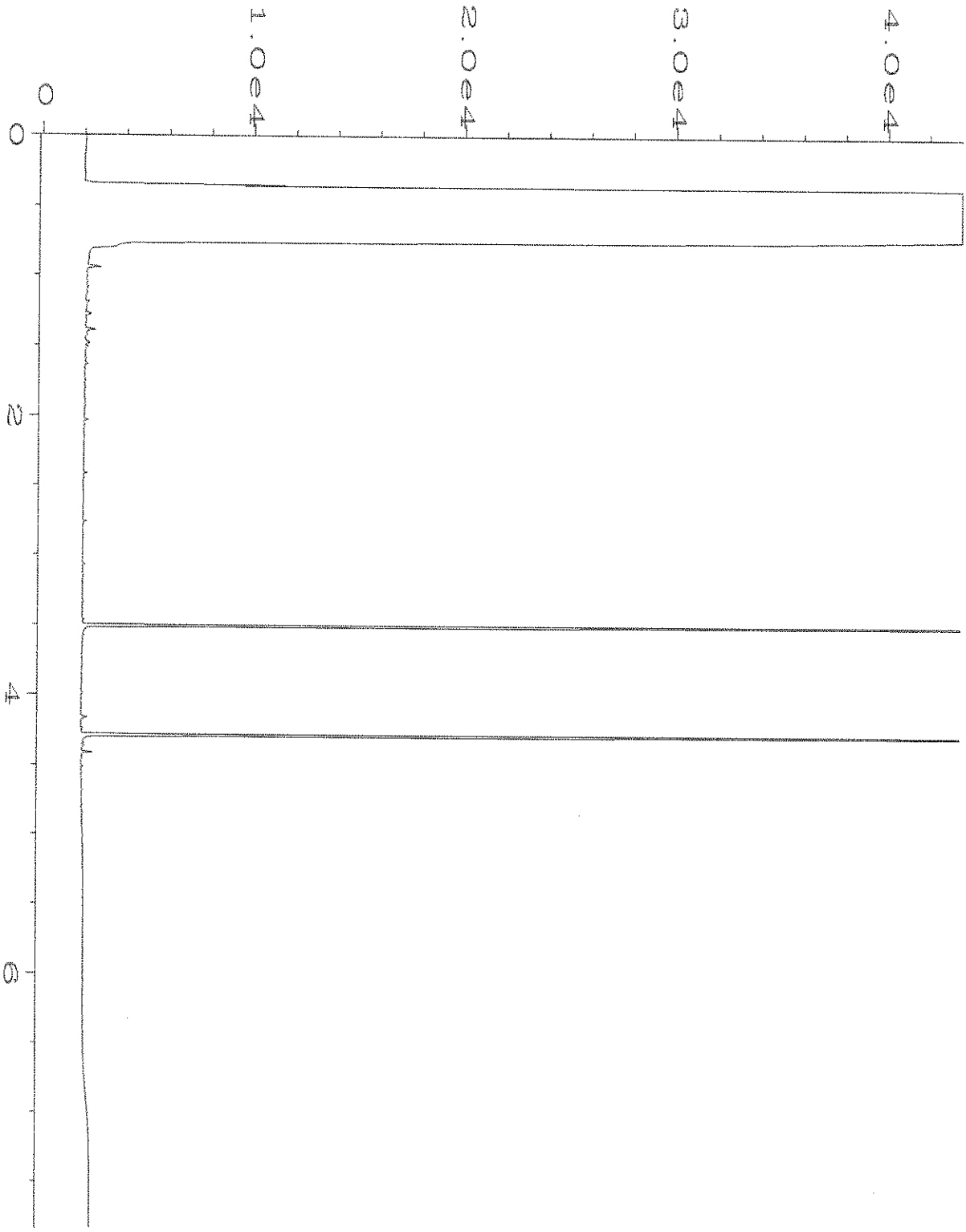
Page Number : 1
Vial Number : 58
Injection Number : 1
Sequence Line : 10
Instrument Method: DX.MTH
Analysis Method : DX.MTH



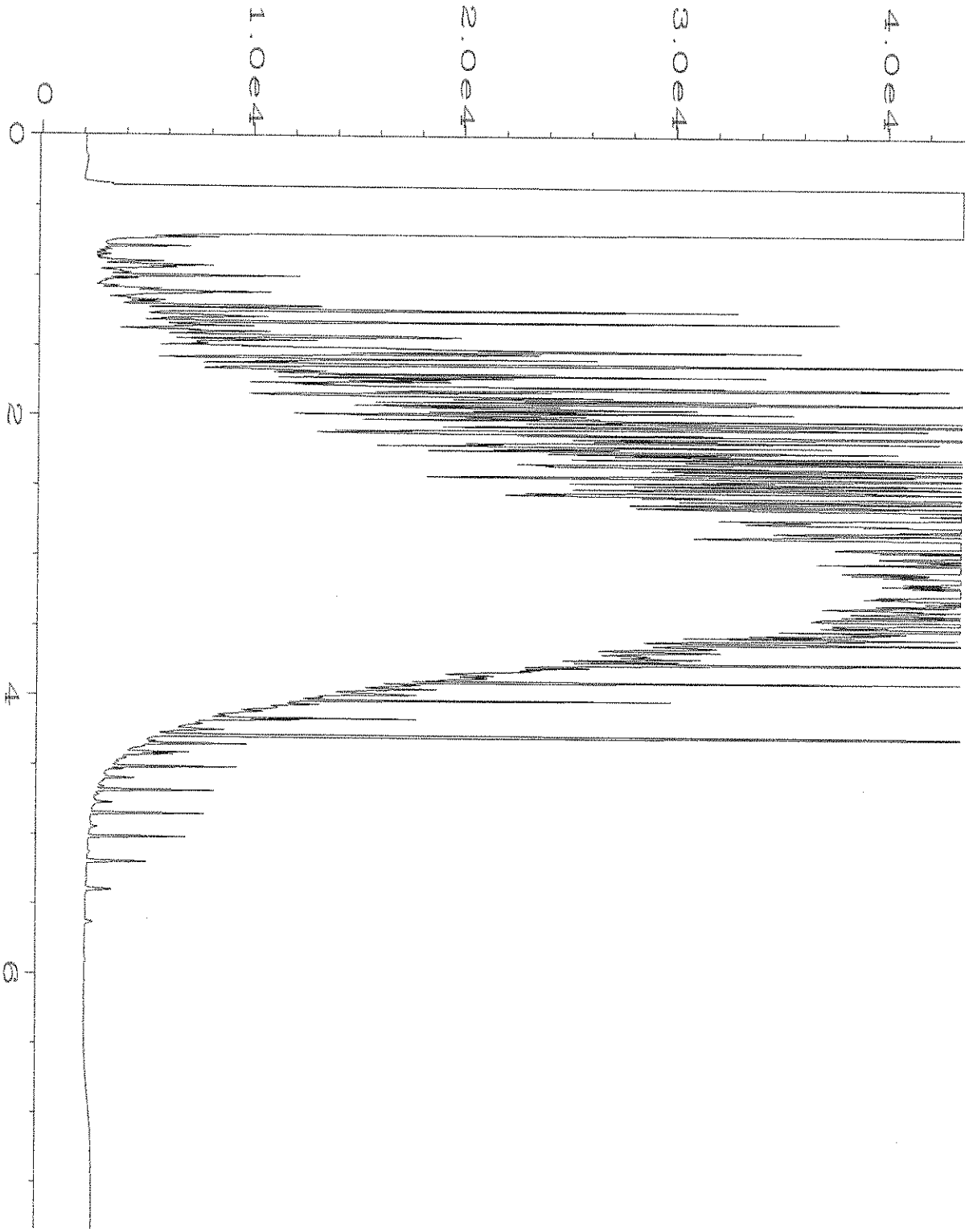
Data File Name	: C:\HPCHEM\4\DATA\04-20-20\059F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 59
Sample Name	: 004197-26	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 06:57 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:35 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\6\DATA\04-20-20\006F0401.D		
Operator	: TL	Page Number	: 1
Instrument	: GC6	Vial Number	: 6
Sample Name	: 00-922 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 4
Acquired on	: 20 Apr 20 09:30 AM	Instrument Method	: DX.MTH
Report Created on:	21 Apr 20 11:42 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\043F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 43
Sample Name	: 00-923 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 20 Apr 20 03:45 PM	Instrument Method	: DX.MTH
Report Created on	: 21 Apr 20 08:32 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\4\DATA\04-20-20\003F0201.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 3
Sample Name	: 500 Dx 58-146H	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 2
Acquired on	: 20 Apr 20 05:45 AM	Instrument Method	: DX.MTH
Report Created on:	21 Apr 20 08:36 AM	Analysis Method	: DX.MTH

SAMPLE CHAIN OF CUSTODY

ME 04-17-20 Page # 1 of 3 VS3

004197

Report To Kristin Anderson

Company Floyd Snider

Address 601 Union St, Ste 600

City, State, ZIP Seattle, WA 98101

Phone 253-292-2078 Email kristin-anderson@floydsnider.com

SAMPLERS (*signature*)

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS

Project specific RLs? - Yes / (No)

INVOICE TO

TURNAROUND TIME: D04
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Analyze if HOLD ~~HOLD~~ 4/22	MTCA-5			Notes
MW-10-4.5-5 FT	01A-E	4/16/20	0940	Soil	5	X	X	X									✓-analyze per KA 4/22
MW-08-1-2FT	02		1135		5	✓	✓	✓			✓		X	✓			
MW-08-4.5-5FT	03		1125		5	X	X	X									
MW-07-4.5-5 FT	04		1255		5	X	X	X			✓			✓			
MW-06-3.5-5.5FT	05		1410		5	X	X	X			✓			✓			
FS-08-4.5-5.5FT	06		1515		5	X	X	X									
FS-09-7-8 FT	07		1540		5	X	X	X									
MW-09-4.5-5FT	08	↓	1605	↓	5	X	X	X									
FS-04-2-3FT	09	4/17/20	0900		5	X	X	X									
FS-04-4.5-5 FT	10	↓	0910	↓	5	X	X	X									

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Kristin Anderson	FS	4/17/20	1517
Received by:		HONG NGUYEN	FBA	✓	✓
Relinquished by:					
Received by:					

Samples received at 4 °C

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

SAMPLE CHAIN OF CUSTODY

00 4197 [redacted]

ME 04-17-20 [redacted]

Page # 2 of 3 Dosa D04

Report To [redacted] Kristin Anderson

Company Floyd Snider

Address (See p. 1

City, State, ZIP

Phone ____ Email ____

SAMPLERS (*signature*) [signature]

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS

INVOICE TO

Project specific RLs? - Yes / No (No circled)

TURNAROUND TIME
- [X] Standard turnaround
- ☐ RUSH ____

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other ____

Default: Dispose after 30 days

ANALYSES REQUESTED

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
FS-05-5-6 FT	11 A-E	4/17/20	0930	soil	5	X	X	X									
FS-05-7-8 FT	12		0940		5	X	X	X									
FS-06-4.5-5 FT	13		1010		5	X	X	X									
FS-06-7-8 FT	14		1020		5	X	X	X									
FS-07-4-5 FT	15		1040		5	X	X	X									
FS-07-6.5-7.5 FT	16		1050		5	X	X	X									
FS-10-5-6 FT	17		1115		5	X	X	X									
FS-10-6.5-7.5 FT	18		1135		5	X	X	X									
FS-11-4-5 FT	19		1140		5	X	X	X									
FS-11-6-7 FT	20		1150		5	X	X	X									

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	[signature]	Kristin Anderson	FS	4/17/20	1517
Received by:	[signature]	HONG NGUYEN	FBI	✓	✓
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.

3012 16th Avenue West

Seattle, WA 98119-2029

Ph. (206) 285-8282

SAMPLE CHAIN OF CUSTODY

ME 04-17-20 Page # 3 of 3 VSS

004197 Kristin Anderson

Report To

Company Floyd Snider (see p1)

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS

Project specific RLs? - Yes / (No)

INVOICE TO

TURNAROUND TIME
- [x] Standard turnaround
- [ ] RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- [ ] Archive samples
- [ ] Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	RCRA Metals				Notes
FS-12-4-5 FT	21 A-E	4/17/20	1205	Soil	5	X	X	X									
FS-01-5-6 FT	22		1220		5	X	X	X									
FS-01-6.5-7.5FT	23		1225		5	X	X	X									
FS-02-4-5 FT	24		1240		5	X	X	X									
FS-03-4.5-5 FT	25		1310		5	X	X	X									
~~FS~~ FS-13-4.5-5.5 FT	26		1325		5	X	X	X									
IDW - SOIL	27		1315		1								X				RCRA-8 Pb 4/22

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Kristin Anderson	FS	4/17/20	1517
Received by:	HONG NGUYEN	FPSI		
Relinquished by:				
Received by:				

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

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

May 29, 2020

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the results from the testing of material submitted on May 20, 2020 from the Nelson-Granite Falls, F&BI 005255 project. There are 17 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. 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
FDS0529R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 20, 2020 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 005255 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
005255 -01	MW-06-0.5-1.5FT
005255 -02	MW-09-051920
005255 -03	MW-10-051920
005255 -04	MW-08-051920
005255 -05	MW-06-051920
005255 -06	MW-07-051920
005255 -07	MW-01-051920
005255 -08	MW-02-051920
005255 -09	MW-03-051920
005255 -10	MW-04-051920
005255 -11	MW-05-051920

An 8270E internal standard failed the acceptance criteria for sample MW-06-0.5-1.5FT. The sample was diluted and reanalyzed with acceptable results. Both data sets were reported.

All other quality control requirements were acceptable.

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255
Date Extracted: 05/21/20
Date Analyzed: 05/21/20

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
MW-06-0.5-1.5FT 005255-01	<0.02	<0.02	<0.02	<0.06	<5	89
Method Blank 00-1097 MB2	<0.02	<0.02	<0.02	<0.06	<5	92

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255
Date Extracted: 05/26/20
Date Analyzed: 05/26/20

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)

Sample ID Laboratory ID	Benzene	Toluene	Ethyl Benzene	Total Xylenes	Gasoline Range	Surrogate (% Recovery) (Limit 52-124)
MW-09-051920 005255-02	<1	<1	<1	<3	<100	94
MW-10-051920 005255-03	<1	<1	<1	<3	<100	86
MW-08-051920 005255-04	<1	<1	<1	<3	<100	93
MW-06-051920 005255-05	<1	<1	<1	<3	<100	93
MW-07-051920 005255-06	<1	<1	<1	<3	<100	91
MW-01-051920 005255-07	<1	<1	<1	<3	<100	93
MW-02-051920 005255-08	<1	<1	<1	<3	<100	90
MW-03-051920 005255-09	<1	<1	<1	<3	<100	91
MW-04-051920 005255-10	<1	<1	<1	<3	<100	89
MW-05-051920 005255-11	<1	<1	<1	<3	<100	93
Method Blank 00-1103 MB	<1	<1	<1	<3	<100	89

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255
Date Extracted: 05/20/20
Date Analyzed: 05/20/20

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
MW-06-0.5-1.5FT 005255-01	<50	<250	95
Method Blank 00-1147 MB	<50	<250	100

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255
Date Extracted: 05/21/20
Date Analyzed: 05/21/20

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)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 41-152)
MW-09-051920 005255-02	<50	<250	100
MW-10-051920 005255-03	60 x	<250	107
MW-08-051920 005255-04	<50	<250	104
MW-06-051920 005255-05	<50	<250	75
MW-07-051920 005255-06	<50	<250	99
MW-01-051920 005255-07	<50	<250	94
MW-02-051920 005255-08	<50	<250	91
MW-03-051920 005255-09	69 x	<250	99
MW-04-051920 005255-10	170	<250	104
MW-05-051920 005255-11	530 x	380 x	68
Method Blank 00-1148 MB	<50	<250	96

Analysis For Total Metals By EPA Method 6020B

Client ID:	MW-06-0.5-1.5FT	Client:	Floyd-Snider
Date Received:	05/20/20	Project:	Nelson-Granite Falls, F&BI 005255
Date Extracted:	05/21/20 11:26	Lab ID:	005255-01
Date Analyzed:	05/21/20	Data File:	005255-01.098
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	21.5
Cadmium	<1
Chromium	15.1
Lead	66.3
Mercury	<1

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Floyd-Snider
Date Received:	NA	Project:	Nelson-Granite Falls, F&BI 005255
Date Extracted:	05/21/20 11:26	Lab ID:	I0-295 mb
Date Analyzed:	05/21/20	Data File:	I0-295 mb.089
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1
Cadmium	<1
Chromium	<1
Lead	<1
Mercury	<1

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	MW-06-0.5-1.5FT	Client:	Floyd-Snider
Date Received:	05/20/20	Project:	Nelson-Granite Falls, F&BI 005255
Date Extracted:	05/21/20	Lab ID:	005255-01 1/5
Date Analyzed:	05/22/20	Data File:	052212.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	64	31	163
Benzo(a)anthracene-d12	80	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	0.032
Acenaphthylene	0.018
Acenaphthene	<0.01
Fluorene	<0.01
Phenanthrene	0.062
Anthracene	0.016
Fluoranthene	0.12
Pyrene	0.17
Benz(a)anthracene	0.10
Chrysene	0.12
Benzo(a)pyrene	0.16 J
Benzo(b)fluoranthene	0.24 J
Benzo(k)fluoranthene	0.082 J
Indeno(1,2,3-cd)pyrene	0.075 J
Dibenz(a,h)anthracene	0.014 J
Benzo(g,h,i)perylene	0.072 J

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	MW-06-0.5-1.5FT	Client:	Floyd-Snider
Date Received:	05/20/20	Project:	Nelson-Granite Falls, F&BI 005255
Date Extracted:	05/21/20	Lab ID:	005255-01 1/25
Date Analyzed:	05/22/20	Data File:	052210.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	81 d	31	163
Benzo(a)anthracene-d12	83 d	24	168

Compounds:	Concentration mg/kg (ppm)
Naphthalene	<0.05
Acenaphthylene	<0.05
Acenaphthene	<0.05
Fluorene	<0.05
Phenanthrene	0.065
Anthracene	<0.05
Fluoranthene	0.13
Pyrene	0.16
Benz(a)anthracene	0.11
Chrysene	0.13
Benzo(a)pyrene	0.15
Benzo(b)fluoranthene	0.20
Benzo(k)fluoranthene	0.063
Indeno(1,2,3-cd)pyrene	0.081
Dibenz(a,h)anthracene	<0.05
Benzo(g,h,i)perylene	0.074

Analysis For Semivolatile Compounds By EPA Method 8270E SIM

Client Sample ID:	Method Blank	Client:	Floyd-Snider
Date Received:	Not Applicable	Project:	Nelson-Granite Falls, F&BI 005255
Date Extracted:	05/21/20	Lab ID:	00-1177 mb 1/5
Date Analyzed:	05/22/20	Data File:	052206.D
Matrix:	Soil	Instrument:	GCMS6
Units:	mg/kg (ppm) Dry Weight	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Anthracene-d10	75	31	163
Benzo(a)anthracene-d12	104	24	168

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

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

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: 005236-03 (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)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	93	66-121
Toluene	mg/kg (ppm)	0.5	92	72-128
Ethylbenzene	mg/kg (ppm)	0.5	90	69-132
Xylenes	mg/kg (ppm)	1.5	95	69-131
Gasoline	mg/kg (ppm)	20	95	61-153

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

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: 005255-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Benzene	ug/L (ppb)	50	<1	89	95	50-150	7
Toluene	ug/L (ppb)	50	<1	87	90	50-150	3
Ethylbenzene	ug/L (ppb)	50	<1	91	95	50-150	4
Xylenes	ug/L (ppb)	150	<3	89	93	50-150	4
Gasoline	ug/L (ppb)	1,000	<100	90	90	53-117	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	ug/L (ppb)	50	93	65-118
Toluene	ug/L (ppb)	50	97	72-122
Ethylbenzene	ug/L (ppb)	50	103	73-126
Xylenes	ug/L (ppb)	150	102	74-118
Gasoline	ug/L (ppb)	1,000	99	69-134

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

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

Laboratory Code: 005257-01 (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	110	88	97	73-135	10

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

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

Laboratory Code: 005255-09 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	5,000	<50	92	84	50-150	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	92	63-142

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 005245-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	1.45	85	90	75-125	6
Cadmium	mg/kg (ppm)	10	<1	97	98	75-125	1
Chromium	mg/kg (ppm)	50	18.8	89	87	75-125	2
Lead	mg/kg (ppm)	50	1.76	92	94	75-125	2
Mercury	mg/kg (ppm	5	<1	93	99	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	89	80-120
Cadmium	mg/kg (ppm)	10	100	80-120
Chromium	mg/kg (ppm)	50	99	80-120
Lead	mg/kg (ppm)	50	101	80-120
Mercury	mg/kg (ppm)	5	104	80-120

Date of Report: 05/29/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR PAHS BY EPA METHOD 8270E SIM

Laboratory Code: 005255-01 1/5 (Matrix Spike)

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	0.022	62	65	44-129	5
Acenaphthylene	mg/kg (ppm)	0.17	0.013	62	68	52-121	9
Acenaphthene	mg/kg (ppm)	0.17	<0.01	61	64	51-123	5
Fluorene	mg/kg (ppm)	0.17	<0.01	61	63	37-137	3
Phenanthrene	mg/kg (ppm)	0.17	0.042	57 b	63 b	34-141	10 b
Anthracene	mg/kg (ppm)	0.17	0.011	61	65	32-124	6
Fluoranthene	mg/kg (ppm)	0.17	0.080	46 b	61 b	16-160	28 b
Pyrene	mg/kg (ppm)	0.17	0.12	69 b	122 b	10-180	55 b
Benz(a)anthracene	mg/kg (ppm)	0.17	0.068	63 b	84 b	23-144	29 b
Chrysene	mg/kg (ppm)	0.17	0.082	55 b	73 b	32-149	28 b
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	0.17 J	66 b J	89 b J	23-176	30 b
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	0.056 J	59 b J	77 b J	42-139	26 b
Benzo(a)pyrene	mg/kg (ppm)	0.17	0.11 J	44 b J	72 b J	21-163	48 b
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	0.051 J	44 b J	60 b J	23-170	31 b
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	0.0094 J	47 J	52 J	31-146	10
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	0.049 J	44 b J	63 b J	37-133	36 b

Laboratory Code: Laboratory Control Sample 1/5

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Naphthalene	mg/kg (ppm)	0.17	77	58-121
Acenaphthylene	mg/kg (ppm)	0.17	70	54-121
Acenaphthene	mg/kg (ppm)	0.17	75	54-123
Fluorene	mg/kg (ppm)	0.17	73	56-127
Phenanthrene	mg/kg (ppm)	0.17	82	55-122
Anthracene	mg/kg (ppm)	0.17	78	50-120
Fluoranthene	mg/kg (ppm)	0.17	79	54-129
Pyrene	mg/kg (ppm)	0.17	82	53-127
Benz(a)anthracene	mg/kg (ppm)	0.17	84	51-115
Chrysene	mg/kg (ppm)	0.17	87	55-129
Benzo(b)fluoranthene	mg/kg (ppm)	0.17	75	56-123
Benzo(k)fluoranthene	mg/kg (ppm)	0.17	77	54-131
Benzo(a)pyrene	mg/kg (ppm)	0.17	67	51-118
Indeno(1,2,3-cd)pyrene	mg/kg (ppm)	0.17	71	49-148
Dibenz(a,h)anthracene	mg/kg (ppm)	0.17	78	50-141
Benzo(g,h,i)perylene	mg/kg (ppm)	0.17	74	52-131

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 analyte 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 due to sample matrix effects.

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.

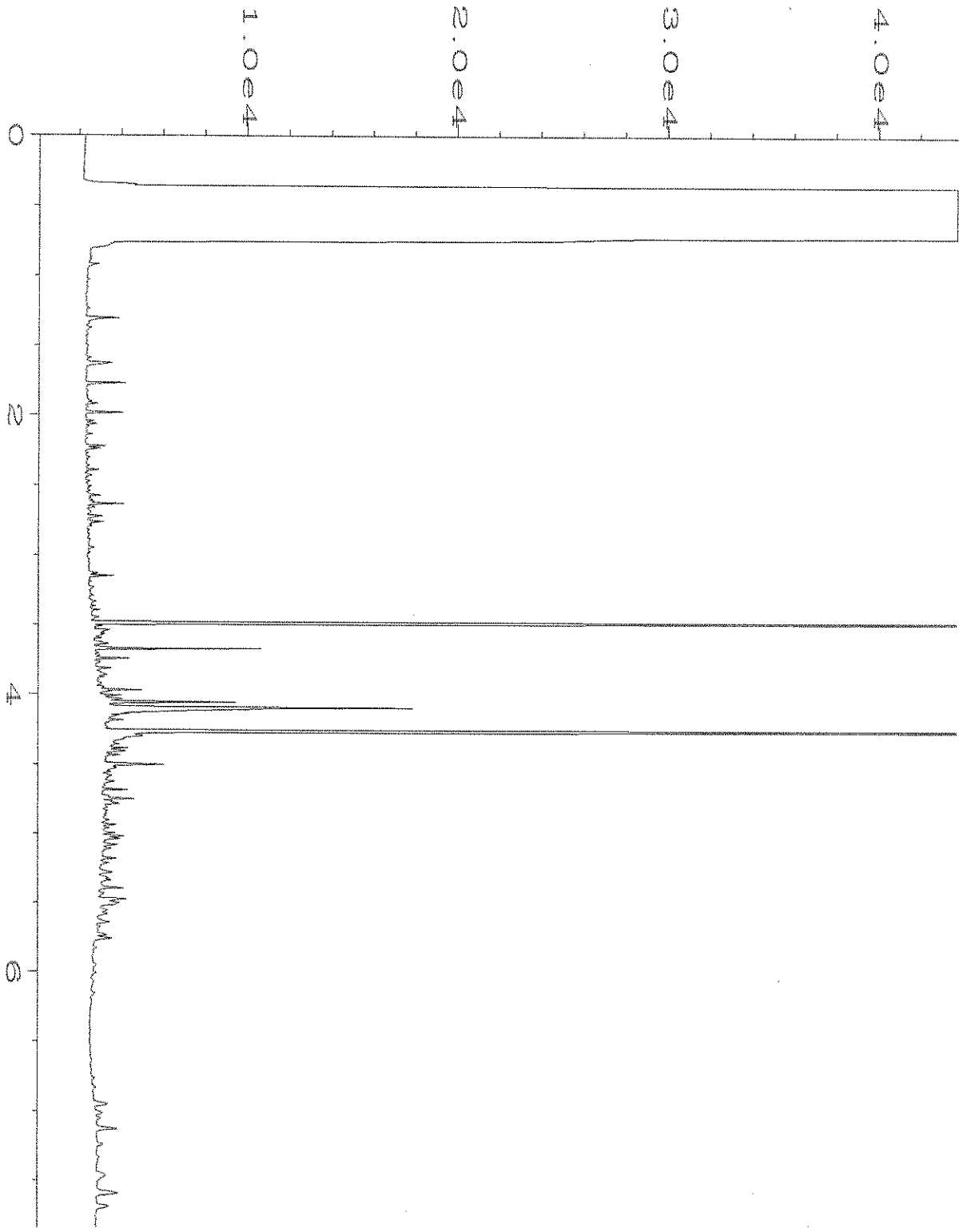
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

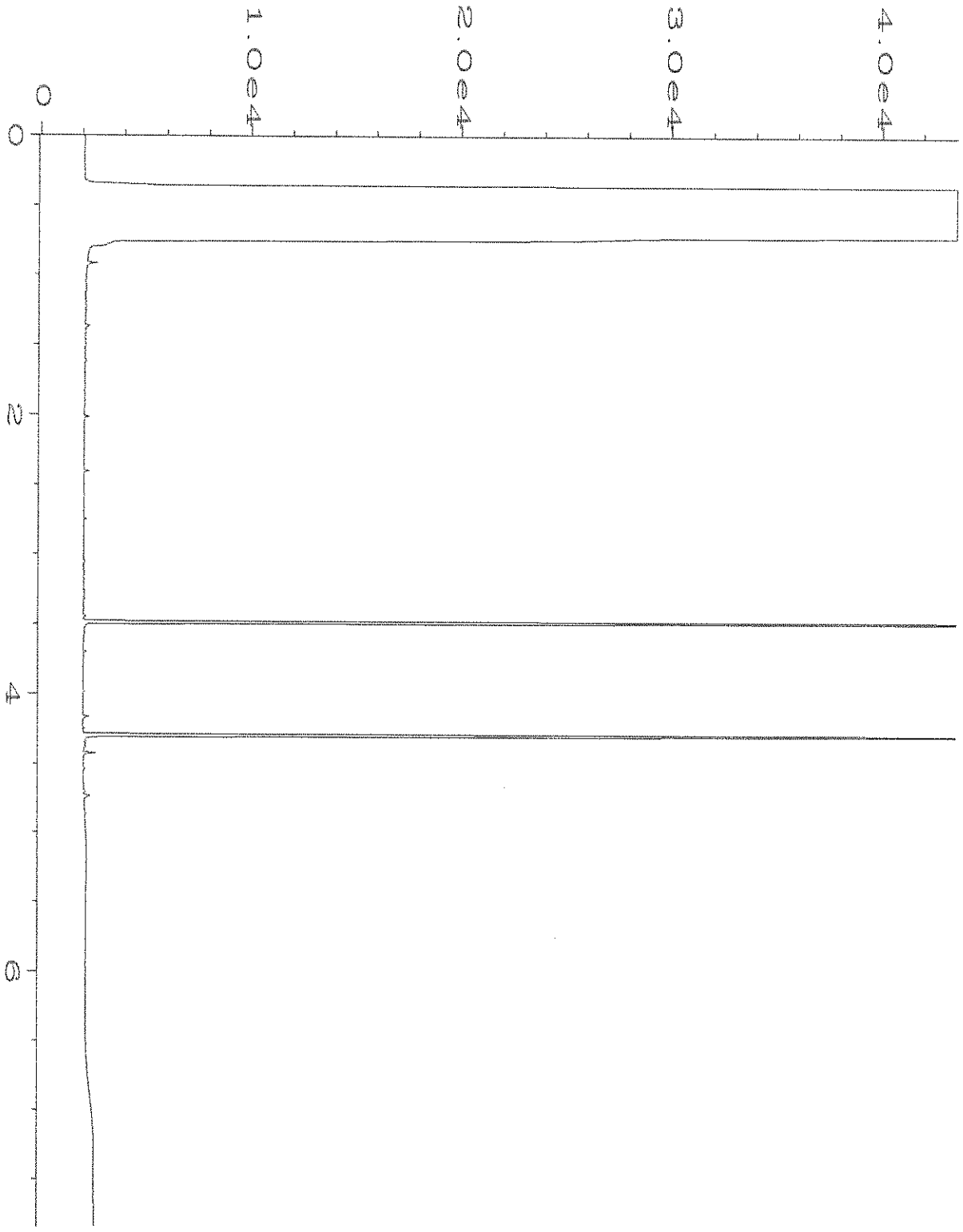
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

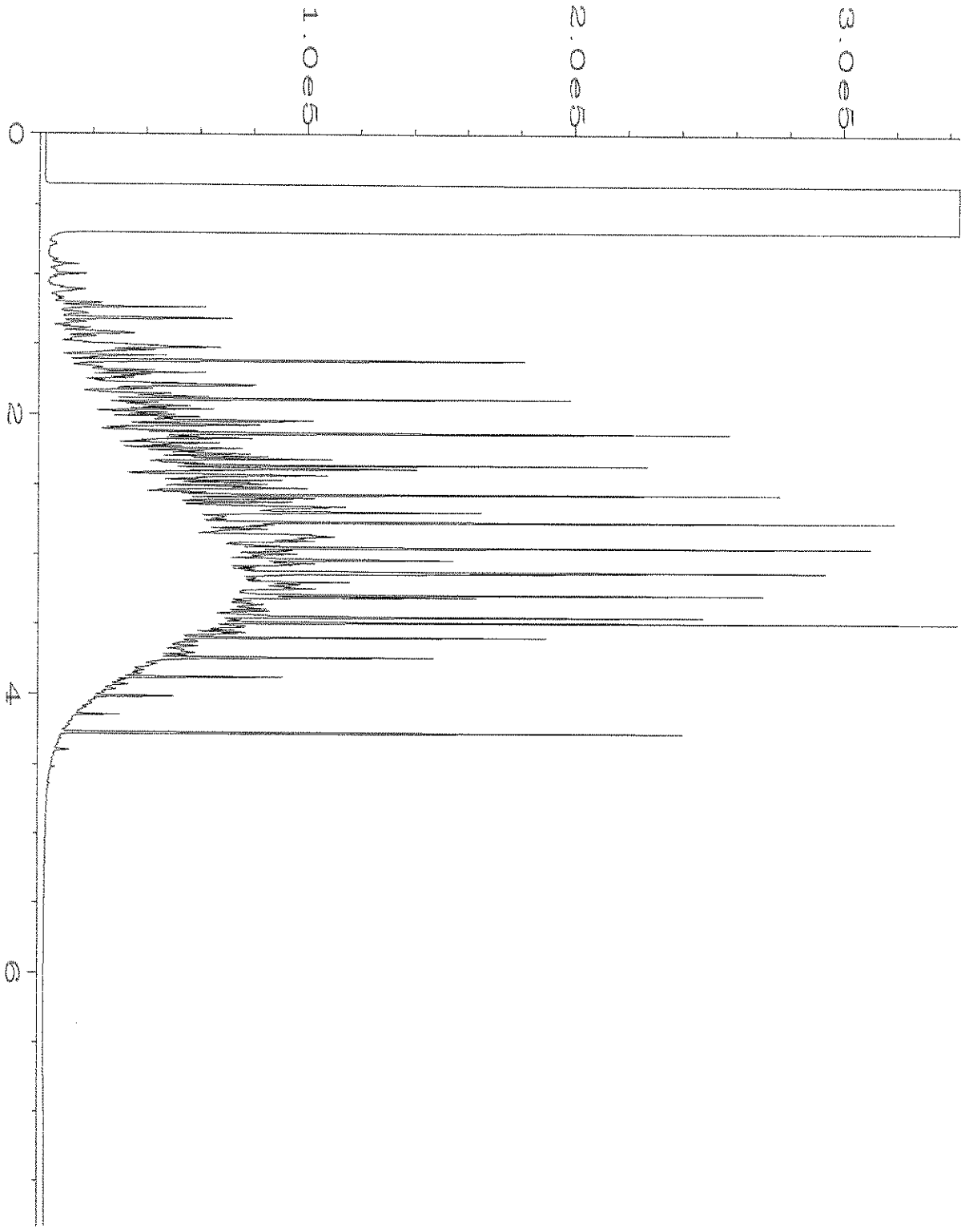
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



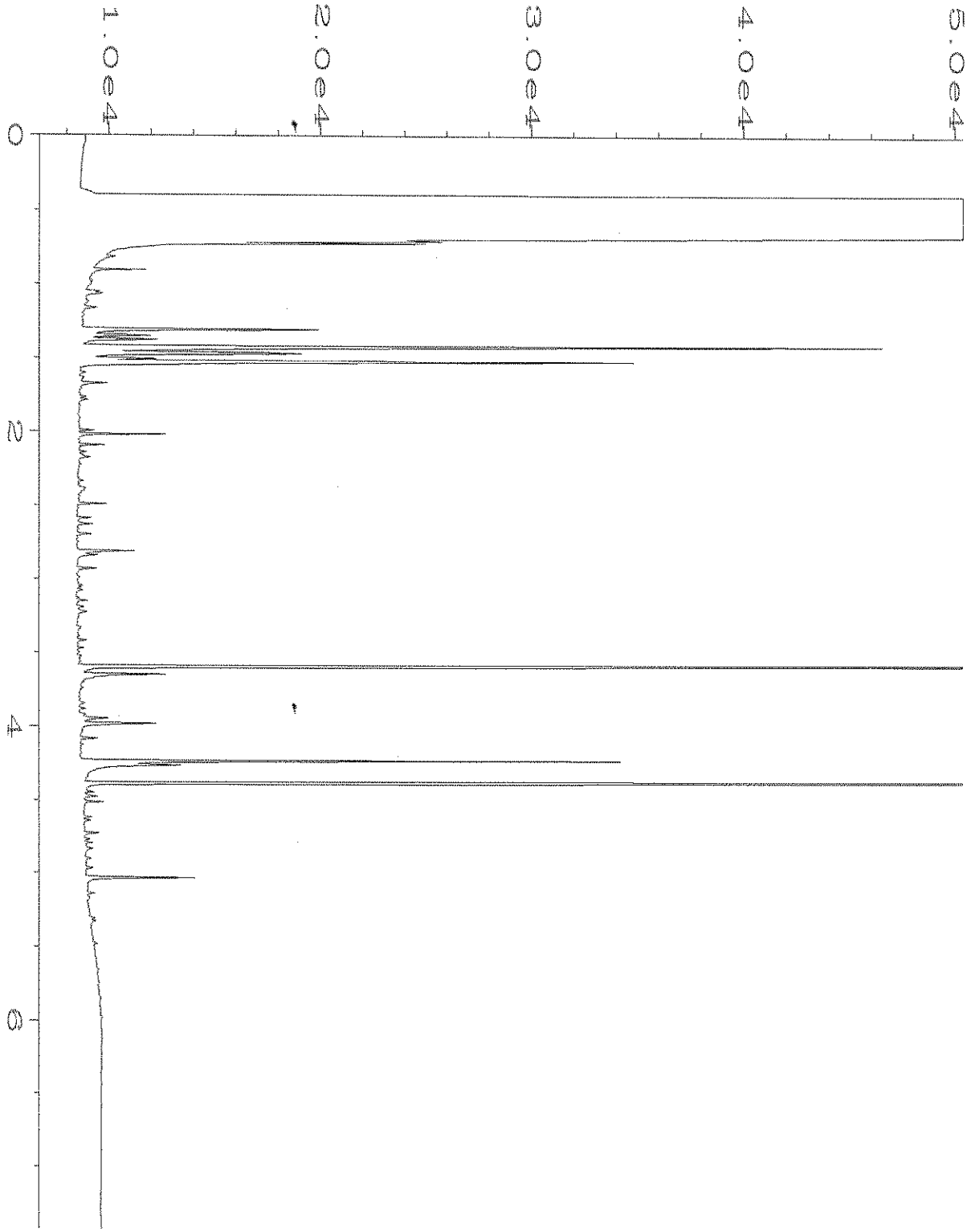
Data File Name	: C:\HPCHEM\4\DATA\05-20-20\026F0701.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 26
Sample Name	: 005255-01	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 7
Acquired on	: 20 May 20 03:44 PM	Instrument Method	: DX.MTH
Report Created on	: 21 May 20 08:02 AM	Analysis Method	: DEFAULT.MTH



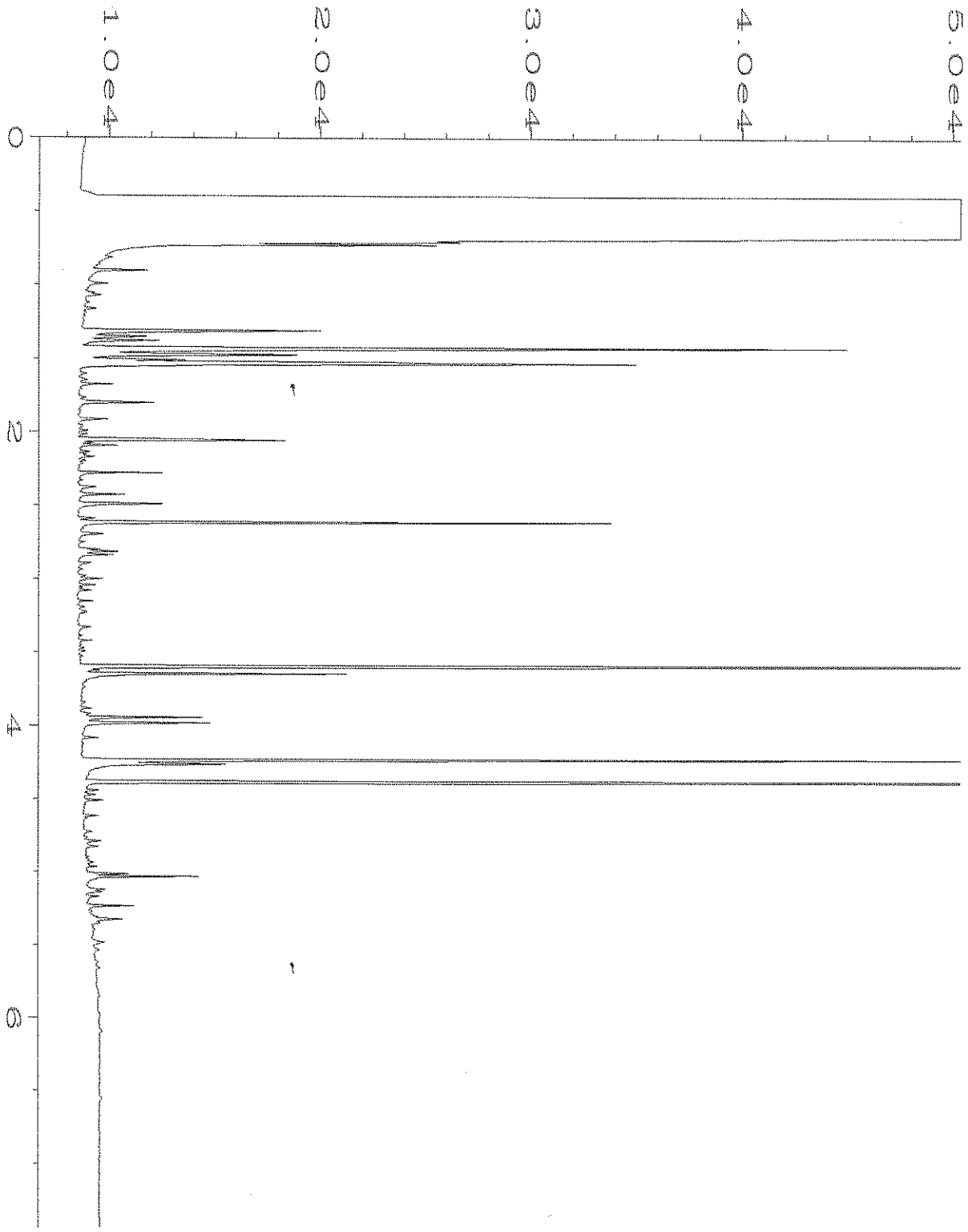
Data File Name	: C:\HPCHEM\4\DATA\05-20-20\019F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 19
Sample Name	: 00-1147 mb	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 20 May 20 01:51 PM	Instrument Method	: DX.MTH
Report Created on:	21 May 20 08:03 AM	Analysis Method	: DEFAULT.MTH



Data File Name	: C:\HPCHEM\4\DATA\05-20-20\005F0601.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 59-162B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 20 May 20 03:02 PM	Instrument Method	: DX.MTH
Report Created on	: 21 May 20 08:03 AM	Analysis Method	: DEFAULT.MTH



Data File Name	: C:\HPCHEM\1\DATA\05-21-20\019F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 19
Sample Name	: 005255-02	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 21 May 20 02:34 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:41 AM	Analysis Method	: DX.MTH



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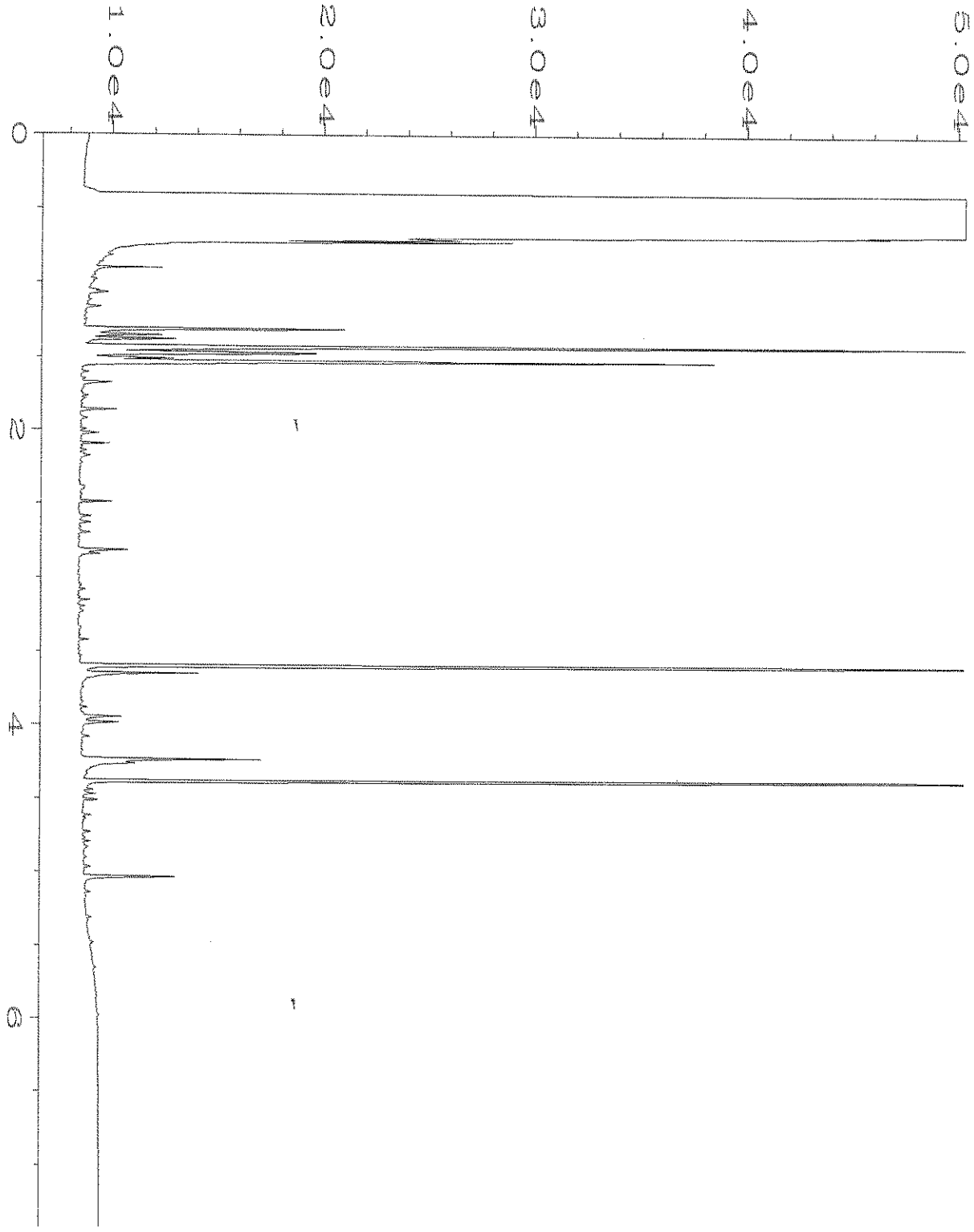
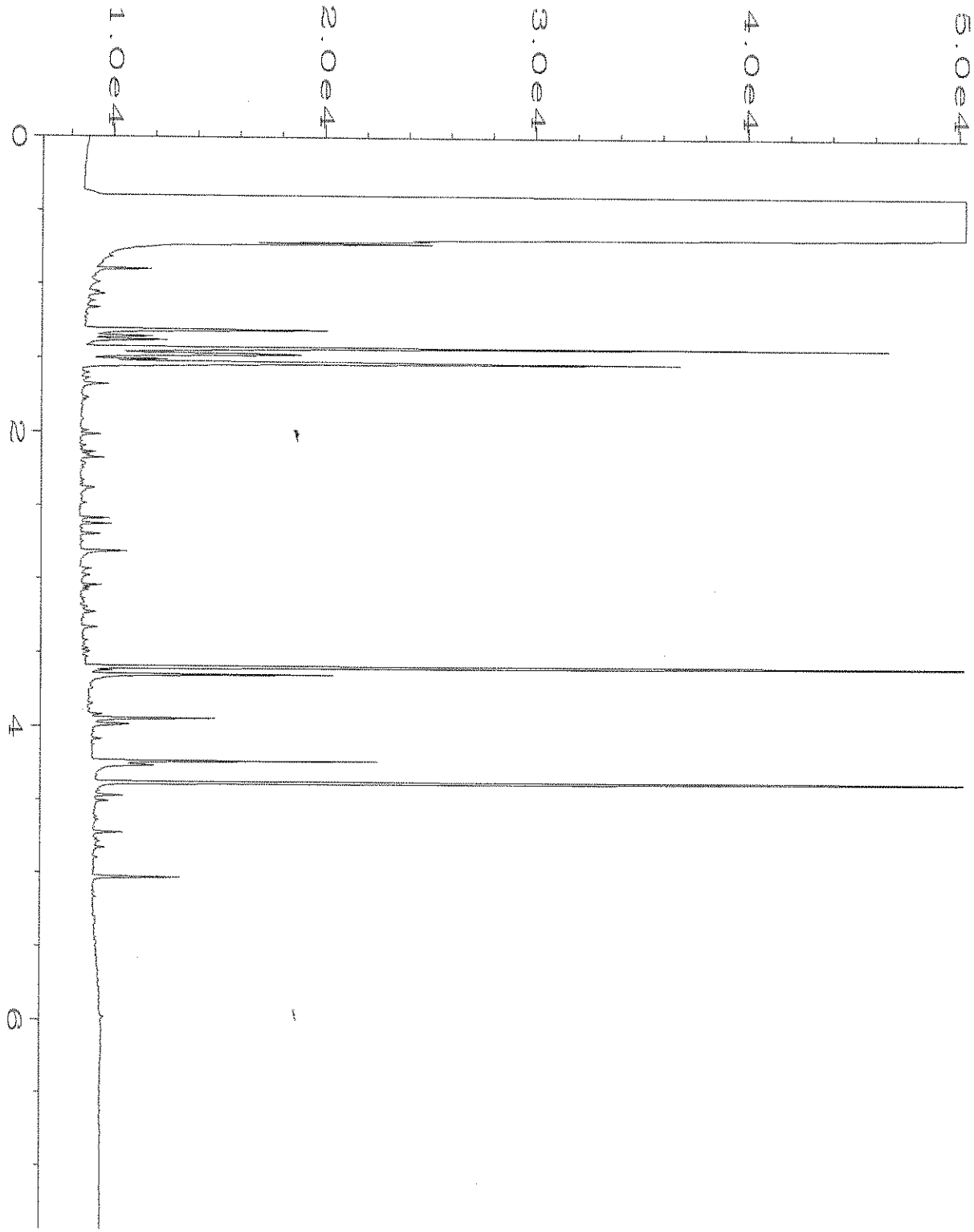
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 20
Sample Name	: 005255-03	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 21 May 20 02:44 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:41 AM	Analysis Method	: DX.MTH



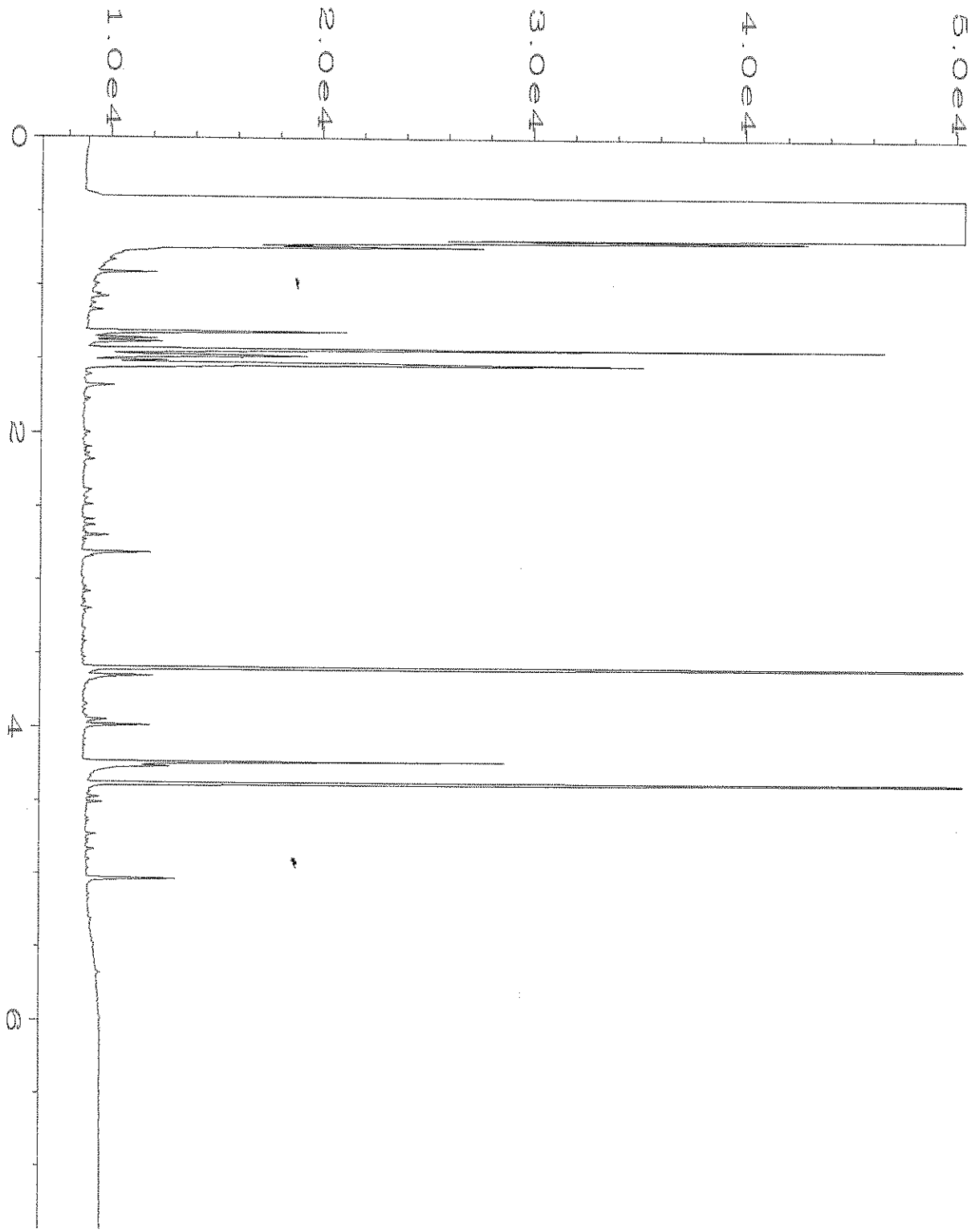
Data File Name : C:\HPCHEM\1\DATA\05-21-20\021F0801.D
Operator : TL
Instrument : GC1
Sample Name : 005255-04
Run Time Bar Code:
Acquired on : 21 May 20 02:56 PM
Report Created on: 22 May 20 10:41 AM

Page Number : 1
Vial Number : 21
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



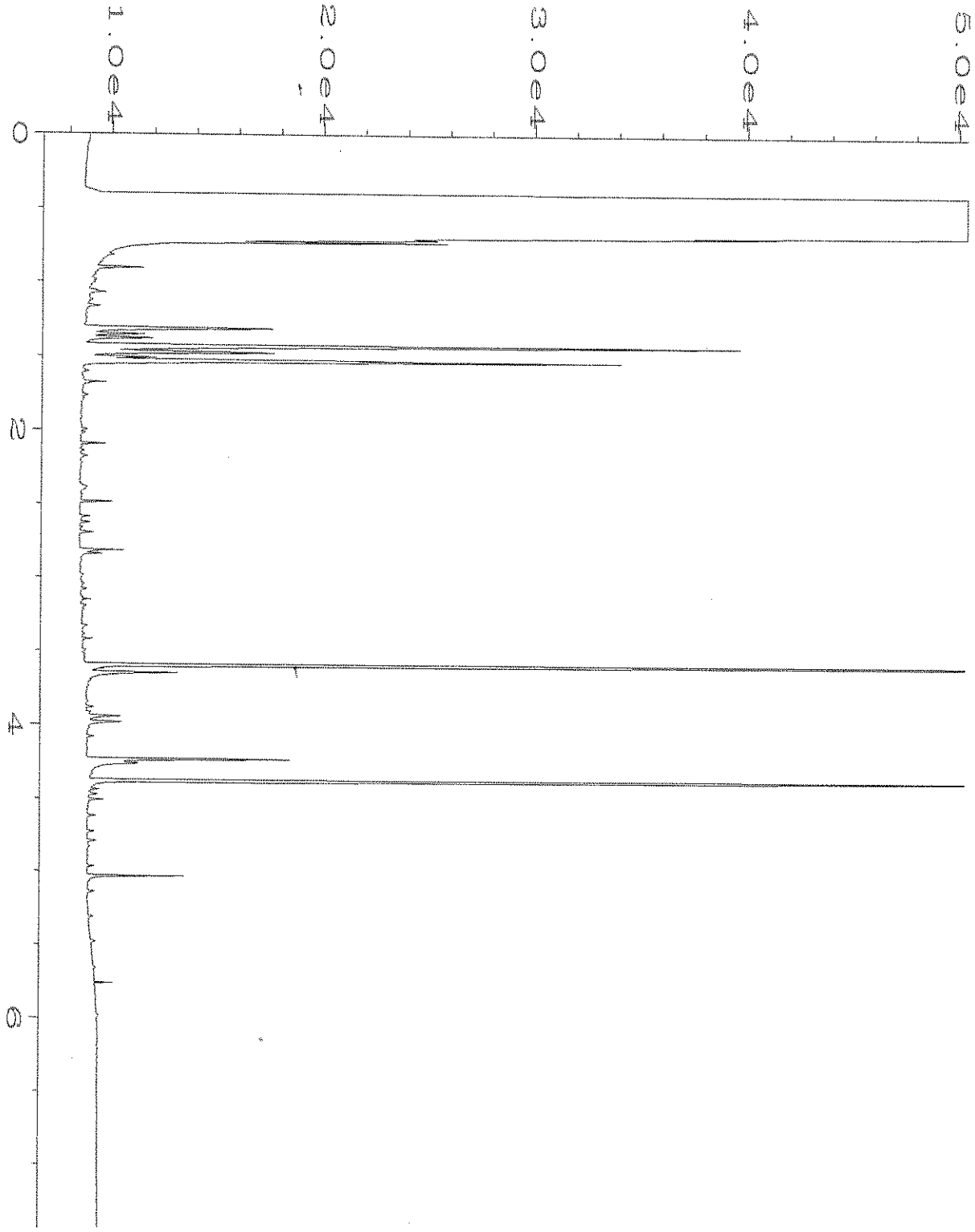
Data File Name : C:\HPCHEM\1\DATA\05-21-20\022F0801.D
Operator : TL
Instrument : GC1
Sample Name : 005255-05
Run Time Bar Code:
Acquired on : 21 May 20 03:07 PM
Report Created on: 22 May 20 10:46 AM

Page Number : 1
Vial Number : 22
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



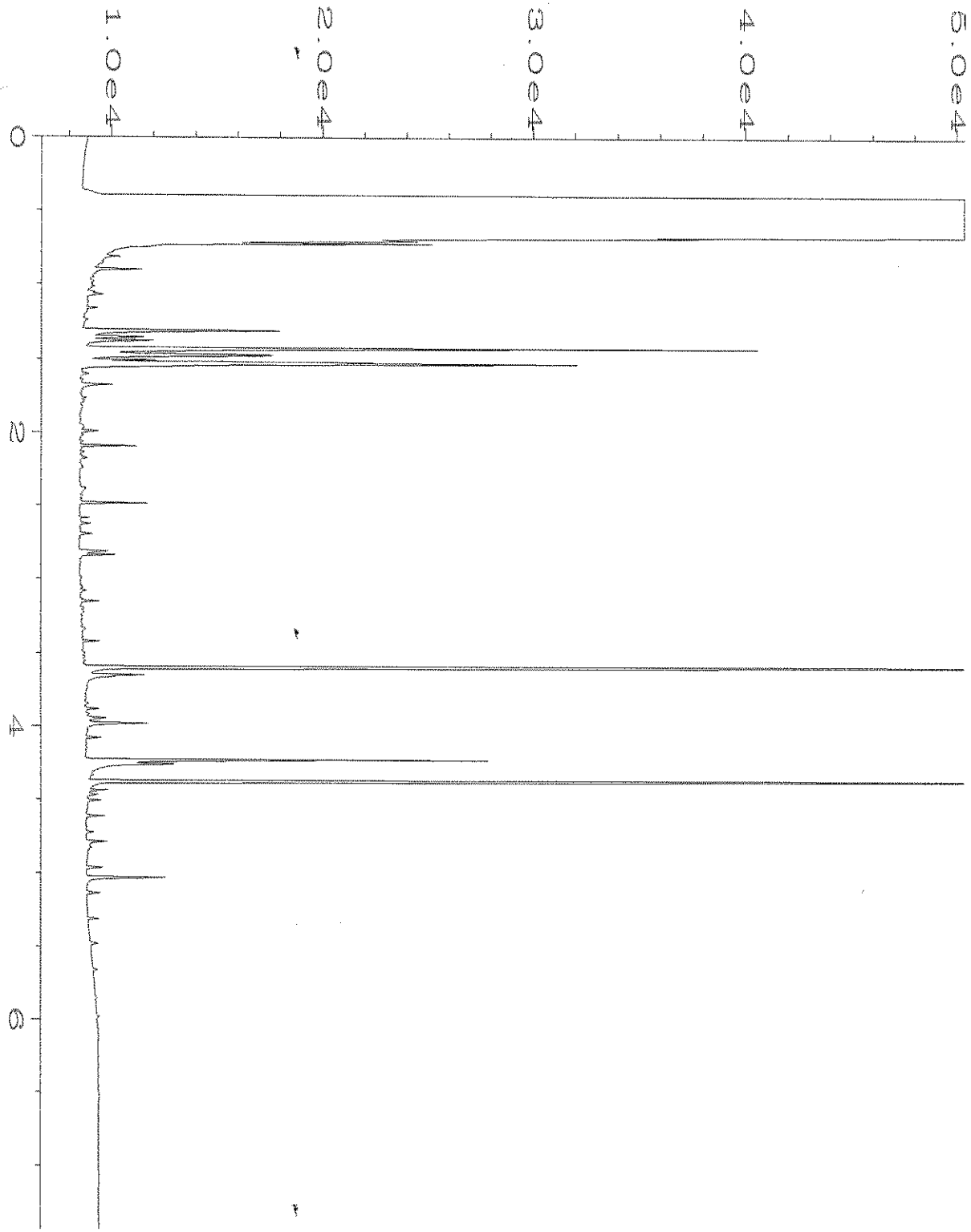
Data File Name : C:\HPCHEM\1\DATA\05-21-20\023F0801.D
Operator : TL
Instrument : GC1
Sample Name : 005255-06
Run Time Bar Code:
Acquired on : 21 May 20 03:18 PM
Report Created on: 22 May 20 10:46 AM

Page Number : 1
Vial Number : 23
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH

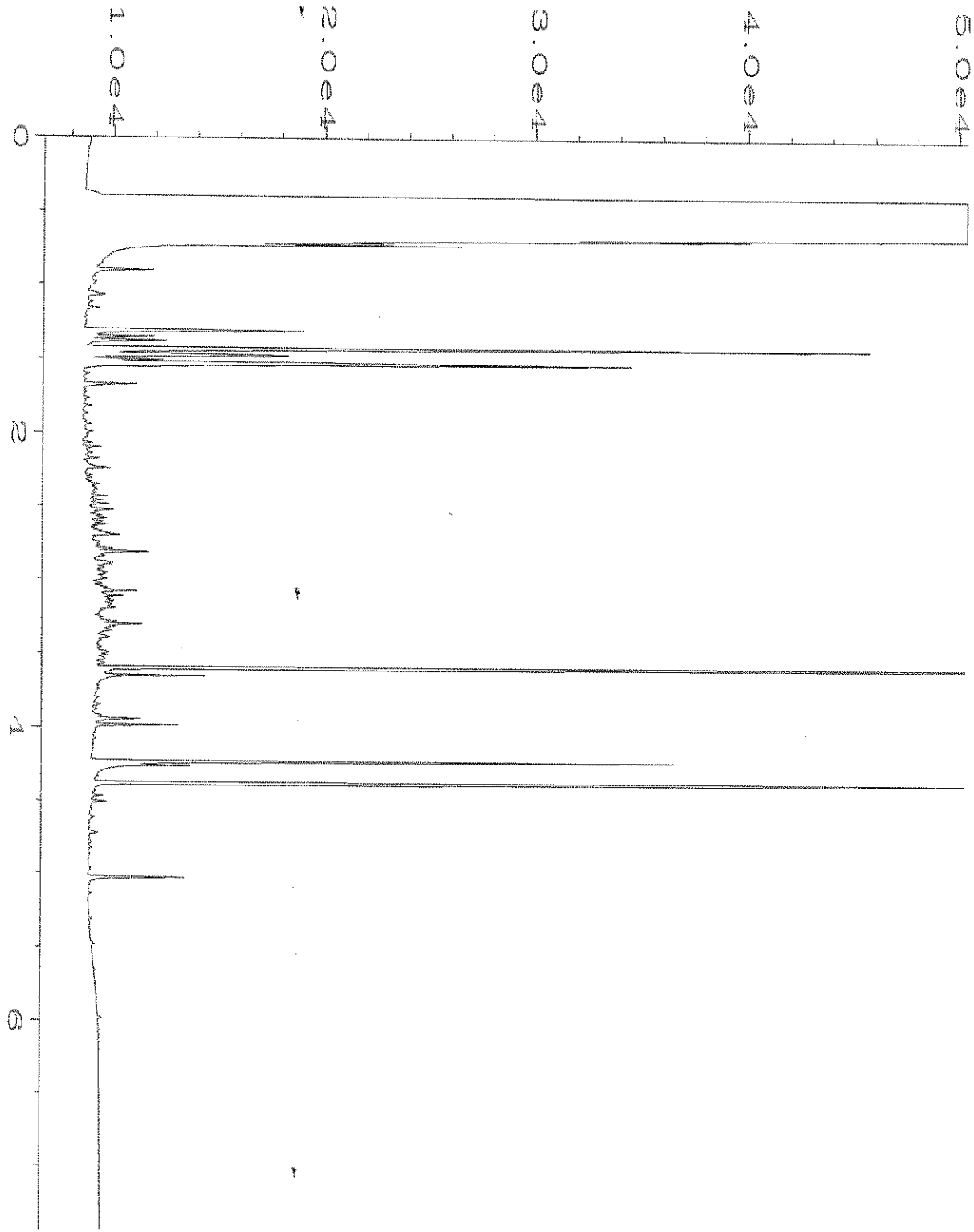


Data File Name : C:\HPCHEM\1\DATA\05-21-20\024F0801.D
Operator : TL
Instrument : GC1
Sample Name : 005255-07
Run Time Bar Code:
Acquired on : 21 May 20 03:30 PM
Report Created on: 22 May 20 10:46 AM

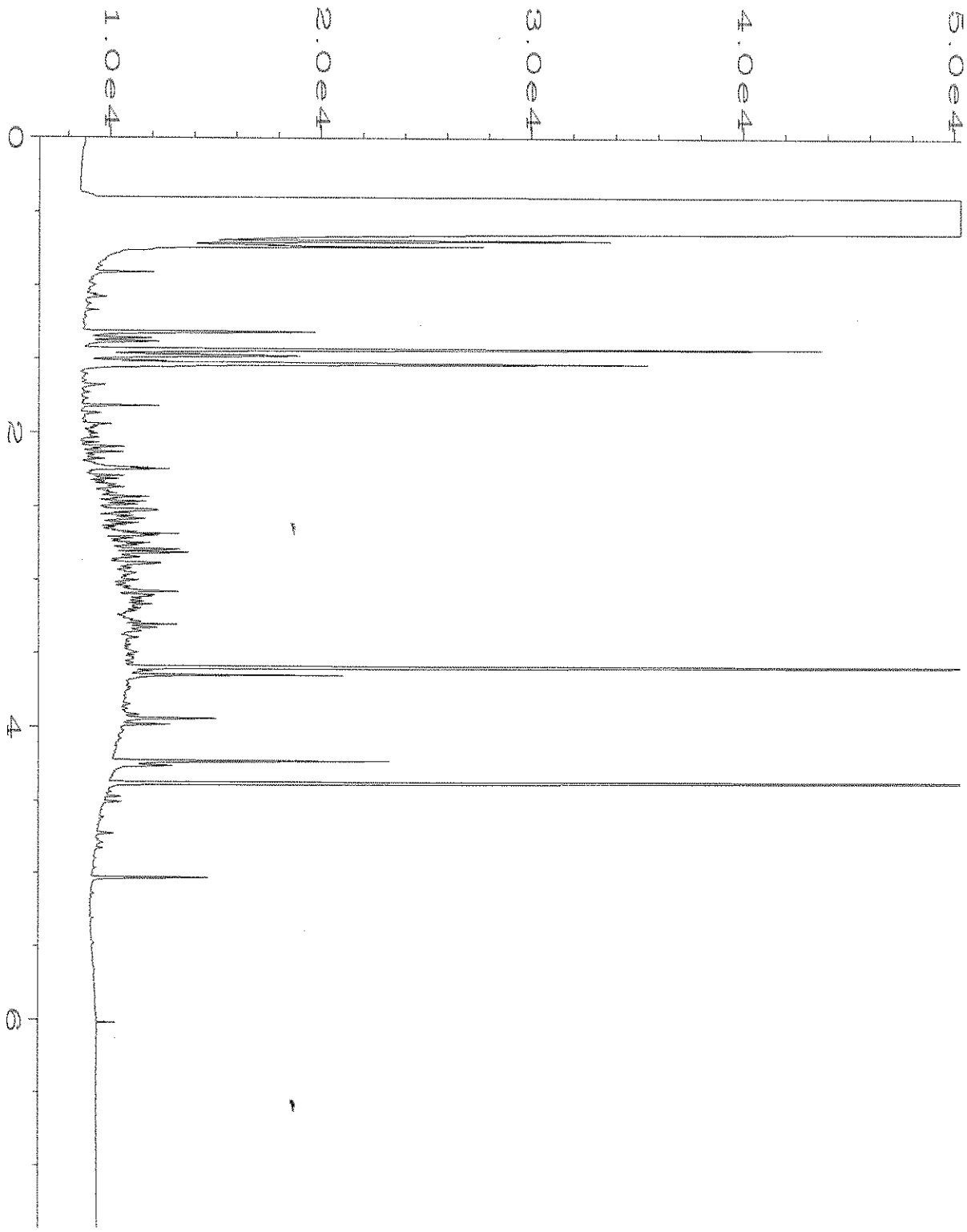
Page Number : 1
Vial Number : 24
Injection Number : 1
Sequence Line : 8
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name	: C:\HPCHEM\1\DATA\05-21-20\025F0801.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 25
Sample Name	: 005255-08	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 21 May 20 03:41 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:46 AM	Analysis Method	: DX.MTH



Data File Name	: C:\HPCHEM\1\DATA\05-21-20\016F0501.D		
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 16
Sample Name	: 005255-09	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 5
Acquired on	: 21 May 20 01:24 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:46 AM	Analysis Method	: DX.MTH



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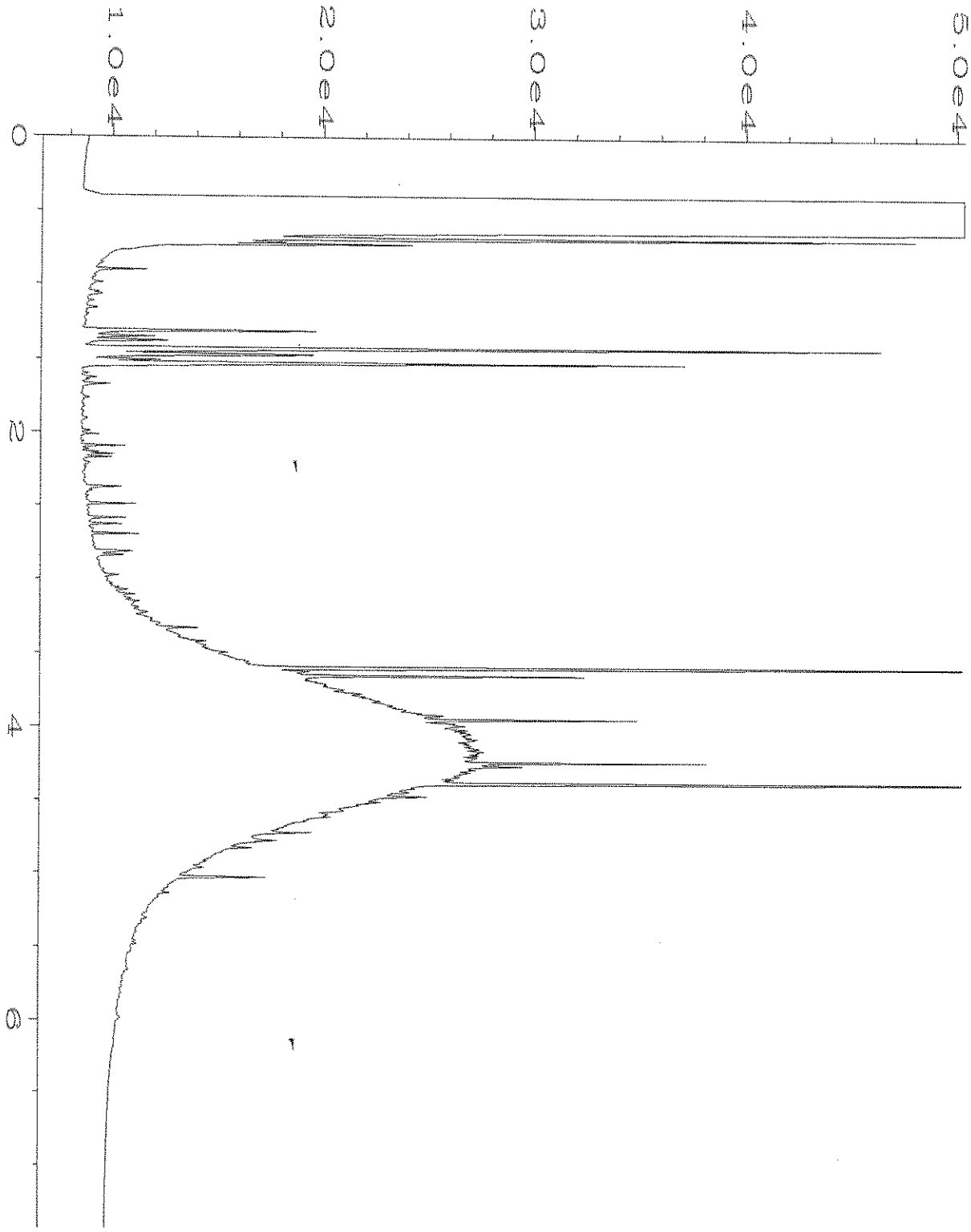
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 26
Sample Name	: 005255-10	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 21 May 20 03:53 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:46 AM	Analysis Method	: DX.MTH



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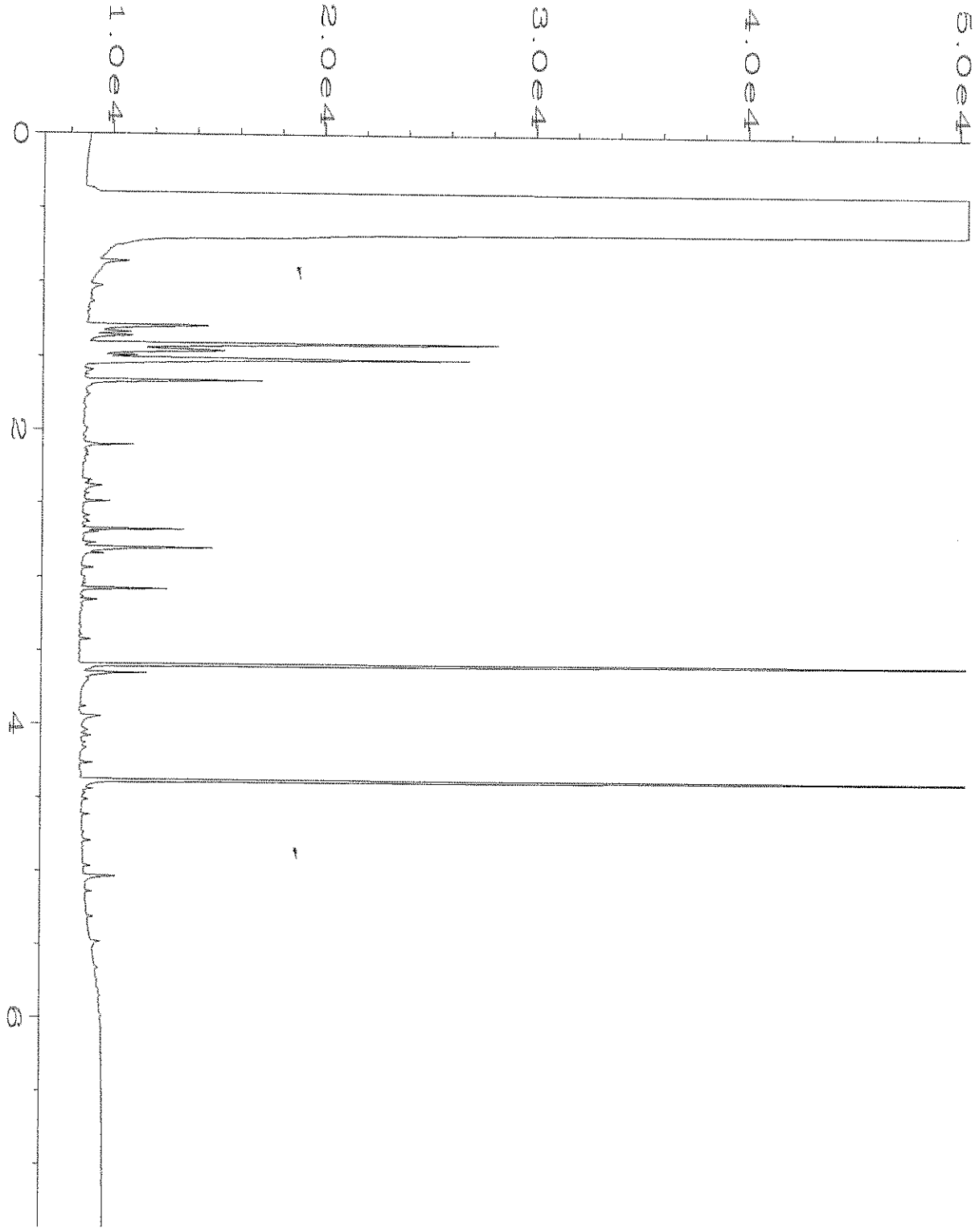
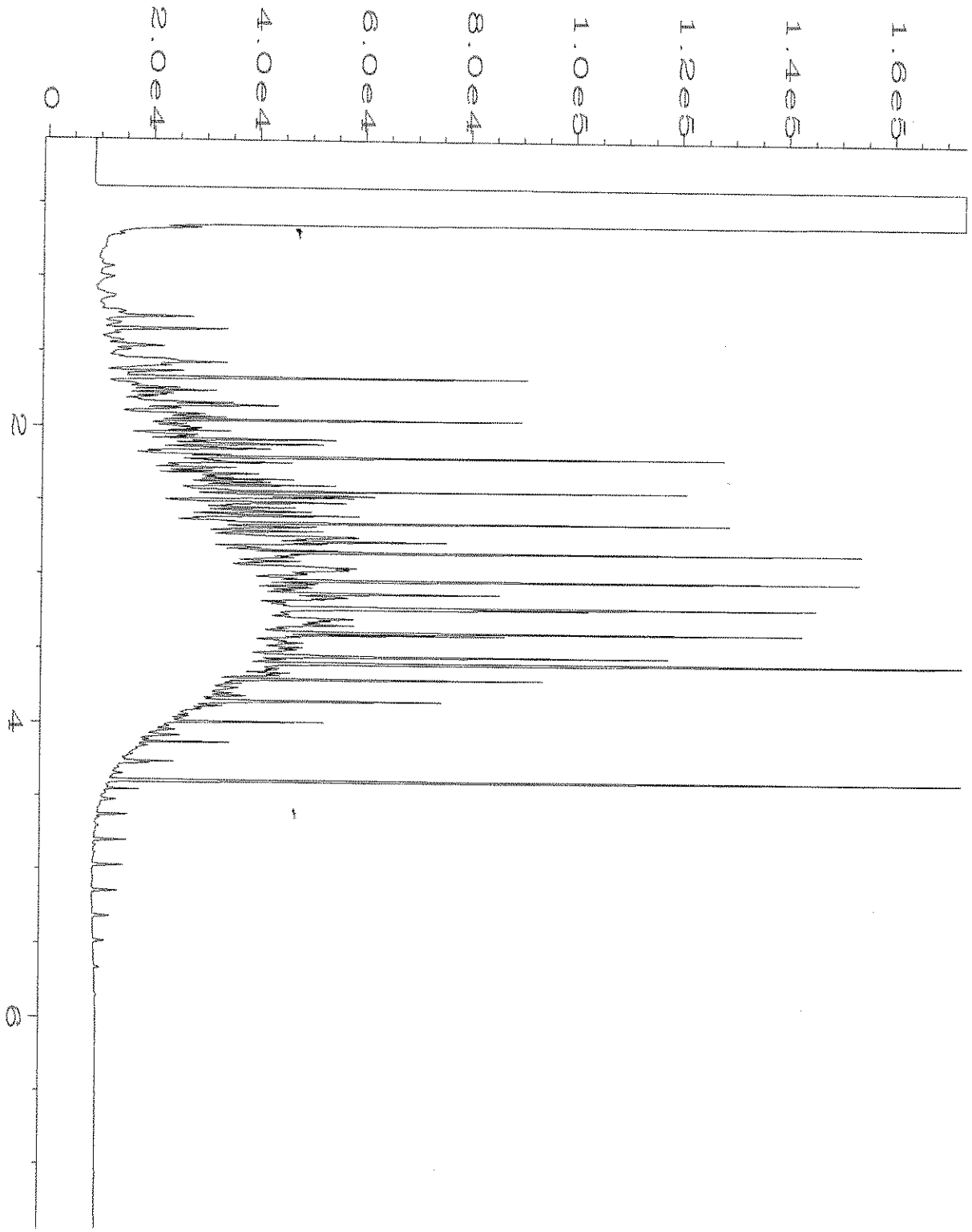
Operator	: TL	Page Number	: 1
Instrument	: GC1	Vial Number	: 27
Sample Name	: 005255-11	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 8
Acquired on	: 21 May 20 04:04 PM	Instrument Method	: DX.MTH
Report Created on	: 22 May 20 10:46 AM	Analysis Method	: DX.MTH



Data File Name : C:\HPCHEM\1\DATA\05-21-20\014F0501.D
Operator : TL
Instrument : GC1
Sample Name : 00-1148 mb
Run Time Bar Code:
Acquired on : 21 May 20 01:01 PM
Report Created on: 22 May 20 10:46 AM

Page Number : 1
Vial Number : 14
Injection Number : 1
Sequence Line : 5
Instrument Method: DX.MTH
Analysis Method : DX.MTH



Data File Name : C:\HPCHEM\1\DATA\05-21-20\003F0201.D
Operator : TL
Instrument : GC1
Sample Name : 500 Dx 58-146H
Run Time Bar Code:
Acquired on : 21 May 20 05:57 AM
Report Created on: 22 May 20 10:47 AM

Page Number : 1
Vial Number : 3
Injection Number : 1
Sequence Line : 2
Instrument Method: DX.MTH
Analysis Method : DX.MTH

SAMPLE CHAIN OF CUSTODY

005255 — ME 05-20-20 — Page # 1 of 2 — BI

Report To Kristin Andersen
Company Floyd | Snider
Address 601 Union St, Ste 600
City, State, ZIP Seattle, WA 98101
Phone 206-292-2078 Email kristin-andersen@floydsnider.com

SAMPLERS (signature)
PROJECT NAME: Nelson - Granite Falls
PO #
REMARKS
Project specific RLs? - Yes / (No)
INVOICE TO

TURNAROUND TIME — VS1
[ ] Standard turnaround — VW3
[X] RUSH
Rush charges authorized by: B04

SAMPLE DISPOSAL
[ ] Archive samples
[ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA 5 metals				Notes
MW-06-0.5-1.5FT	01 A-E	5/19/20	0945	S	5	X	X	X			X		X				
MW-09-051920	02 A-D	5/19/20	1145	W	4	X	X	X									
MW-10-051920	03	5/19/20	1300	W	4	X	X	X									
MW-08-051920	04	5/19/20	1430	W	4	X	X	X									
MW-06-051920	05	5/19/20	1535	W	4	X	X	X									
MW-07-051920	06	5/19/20	1640	W	4	X	X	X									
MW-01-051920	07	5/19/20	1658	W	4	X	X	X									
MW-02-051920	08	5/19/20	1151	W	4	X	X	X									
MW-03-051920	09 A-H	5/19/20	1533	W	8	X	X	X									
MW-04-051920	10 A-D	5/19/20	1256	W	4	X	X	X									

ANALYSES REQUESTED

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		Tyler Scott	FLS	5/20/20	10:47
Received by:	D. M. B	Liz Webber-Bruya	FBI	5/20/20	1047
Relinquished by:					
Received by:			Samples received at	3	°C

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

SAMPLE CHAIN OF CUSTODY

005255

ME 05-20-20 Page # 2 of 2 BI!

Report To Kristin Anderson

Company (See page 1)

Address

City, State, ZIP

Phone Email

SAMPLERS (signature)

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME JS 1

☒ Standard turnaround

☐ RUSH VW 3

Rush charges authorized by: BG4

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
						ANALYSES REQUESTED											
MW-05-051920	11A-D	5/19/20	14:07	W	4	X	X	X									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Tyler Scott	F/S	5/20/20	10:47
Received by:	Liz Webber-Bruya	F:B	5/20/20	1047
Relinquished by:				
Received by:				

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

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

June 5, 2020

Kristin Anderson, Project Manager
Floyd-Snider
Two Union Square, Suite 600
601 Union St
Seattle, WA 98101

Dear Ms Anderson:

Included are the additional results from the testing of material submitted on May 20, 2020 from the Nelson-Granite Falls, F&BI 005255 project. There are 4 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
FDS0605R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on May 20, 2020 by Friedman & Bruya, Inc. from the Floyd-Snider Nelson-Granite Falls, F&BI 005255 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Floyd-Snider
005255 -01	MW-06-0.5-1.5FT
005255 -02	MW-09-051920
005255 -03	MW-10-051920
005255 -04	MW-08-051920
005255 -05	MW-06-051920
005255 -06	MW-07-051920
005255 -07	MW-01-051920
005255 -08	MW-02-051920
005255 -09	MW-03-051920
005255 -10	MW-04-051920
005255 -11	MW-05-051920

All quality control requirements were acceptable.

Date of Report: 06/05/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255
Date Extracted: 05/21/20
Date Analyzed: 06/02/20

RESULTS FROM THE ANALYSIS OF WATER SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx
Sample Extracts Passed Through a Silica Gel Column Prior to Analysis
Results Reported as ug/L (ppb)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 47-140)
MW-05-051920 005255-11	<50	<250	81
Method Blank 00-1148 MB	<50	<250	109

Date of Report: 06/05/20
Date Received: 05/20/20
Project: Nelson-Granite Falls, F&BI 005255

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

Laboratory Code: 005255-09 (Matrix Spike) Silica Gel

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	ug/L (ppb)	2,500	<50	92	86	64-141	7

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	ug/L (ppb)	2,500	96	61-133

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 analyte 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 due to sample matrix effects.

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.

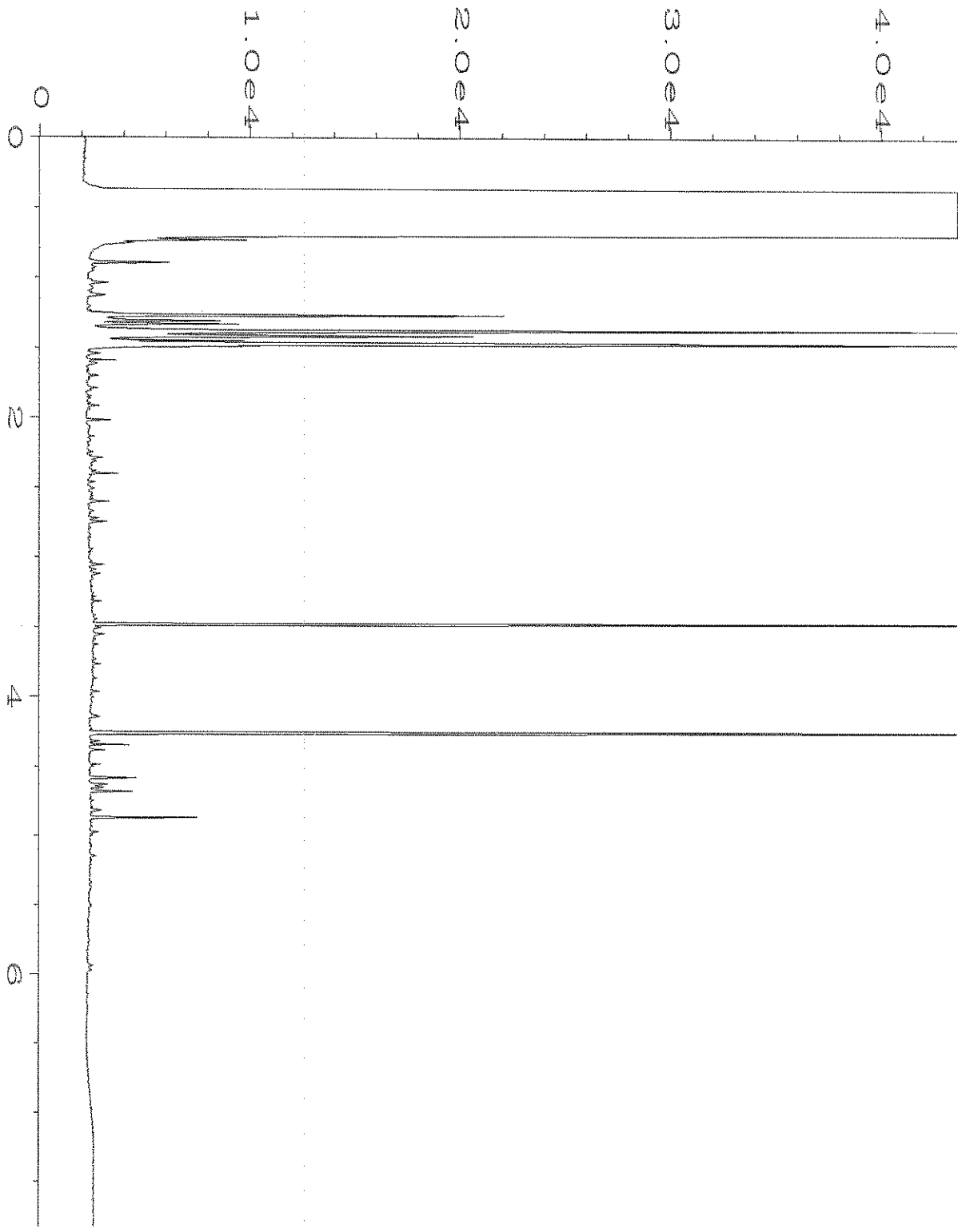
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

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.

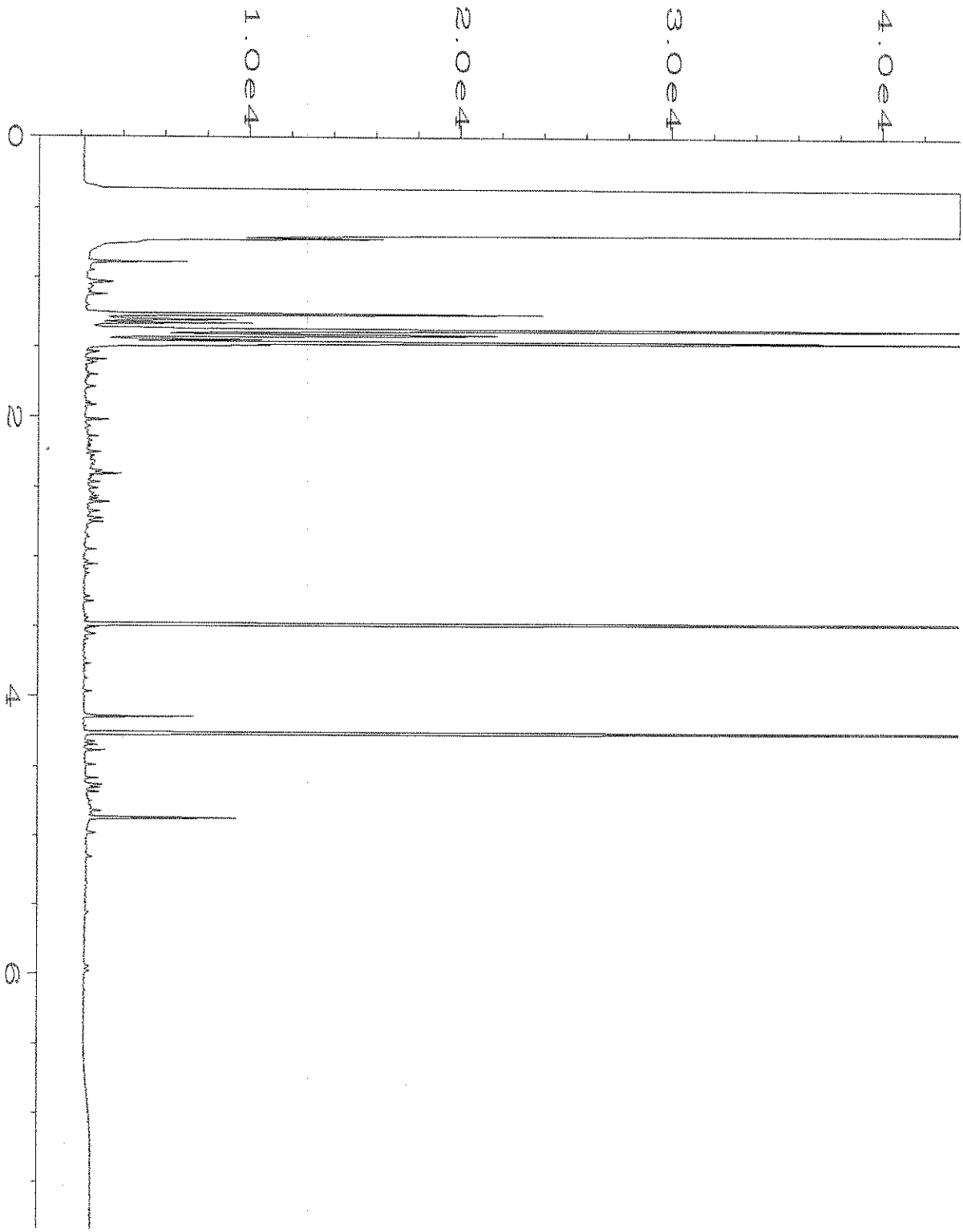
ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

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

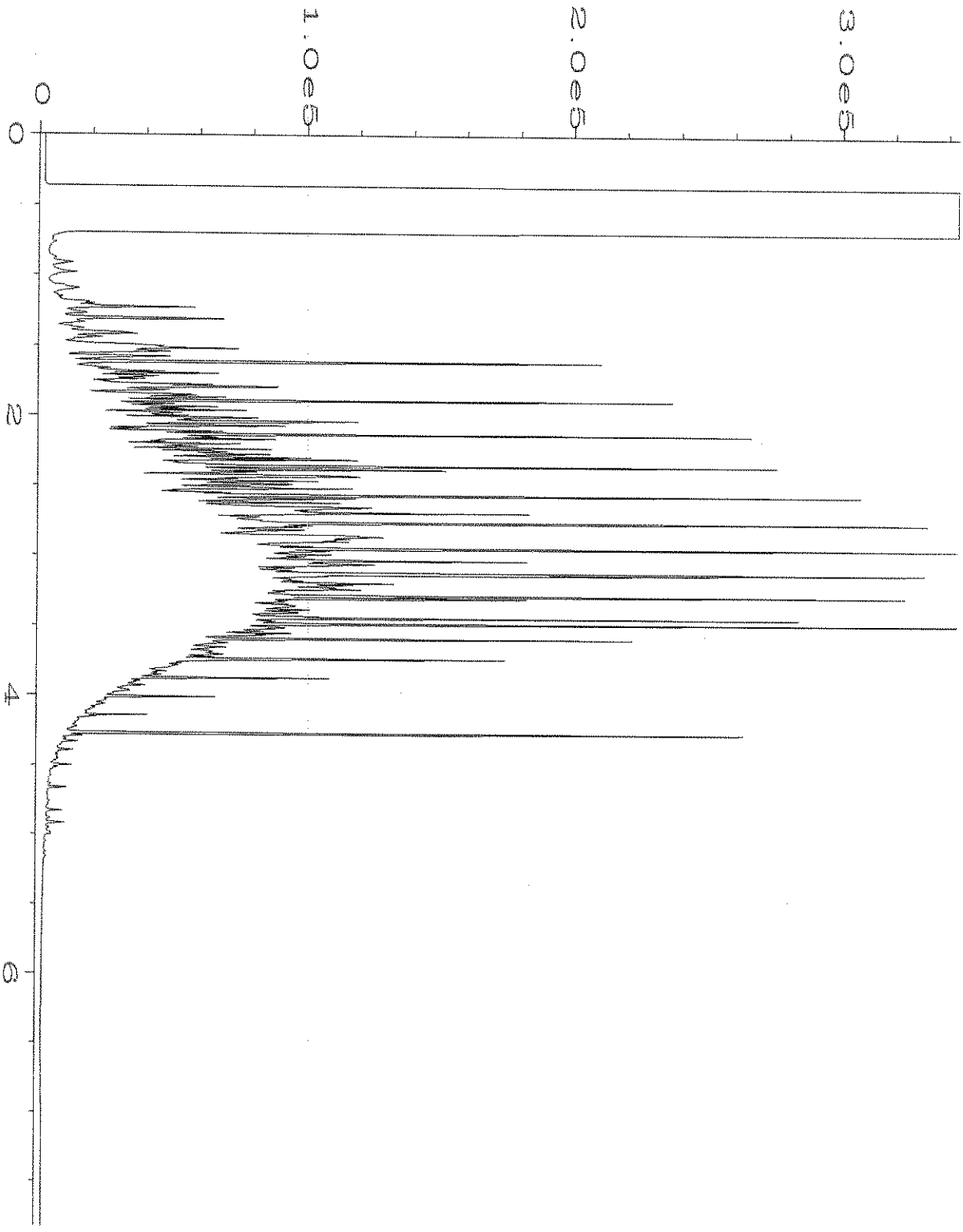
x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.



Data File Name	: C:\HPCHEM\4\DATA\06-02-20\052F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 52
Sample Name	: 005255-11 sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 02 Jun 20 07:13 PM	Instrument Method	: DX.MTH
Report Created on	: 03 Jun 20 09:12 AM	Analysis Method	: DEFAULT.MTH



Data File Name	: C:\HPCHEM\4\DATA\06-02-20\047F1001.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 47
Sample Name	: 00-1148 mb sg	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 10
Acquired on	: 02 Jun 20 06:13 PM	Instrument Method	: DX.MTH
Report Created on	: 03 Jun 20 09:12 AM	Analysis Method	: DEFAULT.MTH



Data File Name	: C:\HPCHEM\4\DATA\06-02-20\005F0601.D		
Operator	: TL	Page Number	: 1
Instrument	: GC#4	Vial Number	: 5
Sample Name	: 1000 Dx 59-162B	Injection Number	: 1
Run Time Bar Code:		Sequence Line	: 6
Acquired on	: 02 Jun 20 01:45 PM	Instrument Method	: DX.MTH
Report Created on	: 03 Jun 20 09:11 AM	Analysis Method	: DEFAULT.MTH

005255

SAMPLE CHAIN OF CUSTODY

ME 05-20-20 Page # 1 of 2 BI1

Report To Kristin Andersen
Company Floyd | Snider
Address 601 Union St, Ste 600
City, State, ZIP Seattle, WA 98101
Phone 206-292-2078 Email kristin.andersen@floydsnider.com

SAMPLERS (signature)

PROJECT NAME: Nelson - Granite Falls
PO #:

REMARKS
Project specific RLs? - Yes / (No)

INVOICE TO

TURNAROUND TIME VS1
[X] Standard turnaround VW3
[ ] RUSH
Rush charges authorized by: B04

SAMPLE DISPOSAL
[ ] Archive samples
[ ] Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	MTCA 5 metals				Notes
MW-06-0.5-15 FT	01 A-E	5/19/20	0945	S	5	X	X	X			X		X				
MW-09-051920	02 A-D	5/19/20	1145	W	4	X	X	X									
MW-10-051920	03	5/19/20	1300	W	4	X	X	X									
MW-08-051920	04	5/19/20	1430	W	4	X	X	X									
MW-06-051920	05	5/19/20	1535	W	4	X	X	X									
MW-07-051920	06	5/19/20	1640	W	4	X	X	X									
MW-01-051920	07	5/19/20	1658	W	4	X	X	X									
MW-02-051920	08	5/19/20	1151	W	4	X	X	X									
MW-03-051920	09 A-H	5/19/20	1533	W	8	X	X	X									
MW-04-051920	10 A-D	5/19/20	1256	W	4	X	X	X									

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Tyler Scott	FLS	5/20/20	10:47
Received by: D. M. Bruya	Liz Webber - Bruya	FSBI	5/20/20	1047
Relinquished by:				
Received by:		Samples received at 3 °C		

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

SAMPLE CHAIN OF CUSTODY

005255

ME 05-20-20 Page # 2 of 2 BI

Report To Kristin Anderson

Company (See page 1)

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME: Nelson - Granite Falls

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME JS

☒ Standard turnaround

☐ RUSH VW B

Rush charges authorized by: BOY

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	SILICA GEL				Notes
																	√ - per KA
MW-05-051920	11A-D	5/19/20	14:07	W	4	X	X	X					✓				ef 5/11/20

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Tyler Scott	F/S	5/20/20	10:47
Received by:	Liz Webber-Bruya	F:B	5/20/20	10 47
Relinquished by:				
Received by:				

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