GROUNDWATER MONITORING REPORT

For:

Ryder Truck Rental #0904
19 W. Washington Avenue
Yakima, Washington
Ecology VCP Project No. CE0276
Ecology Cleanup Site ID: 5609

Prepared for:

Ms. Tarah Ownby
Environmental Engineer
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Prepared by:

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July 28, 2025

Apex Project # Ryder-006-25009086

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1.0 INTRODUCTION

Apex Companies, LLC, (Apex) was retained by Ryder Truck Rental (Ryder) to prepare this Interim Assessment Report (IAR) for the Ryder #0904 (Ryder) facility located at 19 West Washington Avenue in Yakima, Washington (Site or subject property). The objective of this IAR was to perform groundwater sampling of the RW-1 well and regulatory coordination regarding regulatory compliance of groundwater quality parameters.

All work was performed in conformance with Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Washington Administrative Code (WAC) 173-340. This IAR includes applicable figures, summary tables, analytical results, chain of custody records, sampling logs, field notes and recommendations for the project with respect to the data collected during this site assessment.

2.0 SITE SUMMARY

The Site occupies approximately 6.3 acres, has historically been used as a maintenance and fueling facility since the 1970's and owned by Ryder Truck Incorporated (Ryder) since 1983. The Site is currently developed with a truck rental, leasing, and sales facility. Improvements on the subject property includes four structures. The remainder of the Site is primarily covered with asphalt-paved parking areas and access roads, which are used for tractor-trailer storage, truck parking, and business-related parking. The site layout is depicted in Figure 1.

2.1 Background

The former UST system was installed sometime in the 1970's and was located at the southwest corner of the facility. The facility operated four (4), single walled underground storage tanks (USTs): three 10,000-gallon diesel tanks and one (1) 10,000-gallon gasoline tank.

In July 1999, under the direction of the Clearwater Group, the four (4) USTs were decommissioned by the removal of three (3) tanks and the in-place closure of one (1) UST. Diesel and gasoline impacted soils were encountered around the fill ports and diesel impacted soils were noted around the piping and dispensers.

A total of 665 tons of petroleum impacted soils were removed from the Site and transported and disposed of at the Anderson landfill in Yakima, Washington. Closure samples taken from the remedial excavation were analyzed. Analytical results indicated that all impacted soils exceeding the MTCA Method A Cleanup Levels for Soils had been removed. The excavation was then backfilled with clean import fill materials.

A new 12,000-gallon above ground storage tank (AST) was installed in late 1999.

In 2000, 3 Kings Environmental (3 Kings) was contracted to perform groundwater monitoring and sampling at six (6) of the nine (9) existing groundwater recovery/monitoring wells. In December 2000, 3 Kings began a groundwater monitoring and sampling program at the Site by collecting

groundwater samples from the following wells, (MW-1, MW-2, MW-4, MW-5, MW-7, RW-1 and MW-3). 3 Kings continued to perform groundwater sampling events from 2000 to 2011. In 2010, 3 Kings moved the groundwater sampling program to five wells approved by Ecology. These wells were MW-6, MW-9, RW-1, RW-2 and RW-3. 3 Kings then continued and completed four (4) consecutive groundwater sampling events from the 4th Quarter 2010 to the 3rd Quarter 2011 in accordance with the Department of Ecology's requirements for a 'No Further Action' determination for the Site.

2.2 Regulatory Status

The property is currently listed on Ecology's cleanup sites list for past release of gasoline and diesel fuel to soil and groundwater from a prior removed underground storage tank (UST) system. The Site is assigned as Ecology Cleanup Site ID 5609.

A report of findings and groundwater monitoring data was submitted to the Ecology Voluntary Cleanup Program (VCP) in March 2012, "Site Closure Report: Ryder Truck Facility, 19 West Washington Avenue, Yakima, Washington", 3Kings Environmental, Inc. 7 March 2012. An "Addendum Site Closure Report," correcting data of the groundwater sample results from RW-1 was issued by 3 Kings on 14 June 2012. The "Site Status & Closure Report: Ryder Truck Facility, 19 West Washington Avenue, Yakima, Washington", 3 Kings Environmental, Inc. 12 December 2012 was reportedly submitted to Ecology, but a record of that report was not available to Apex during this assessment activity.

Ecology reviewed the report and provided an opinion on regulatory compliance for the Site as summarized below. According to the Ecology VCP Opinion letter dated Jan. 14, 2013, "in order to receive a No Further Action Determination for this Site under the VCP, additional monitoring and a statistical demonstration in compliance with statistical compliance monitoring provisions of WAC 173-340-720(9)(c), or four consecutive quarters of groundwater samples below the MTCA Method A groundwater cleanup levels for diesel-range hydrocarbons will need to be provided to Ecology for monitoring well RW1 with additional wells monitored for groundwater elevation to determine gradient." The reason for closure denial was a single diesel range organic exceedance in RW-1 in Q3 2011 and there were only three quarters of compliant sample results in that well.

On May 20, 2025, Melissa Kelley with Weaver Consultants Group on behalf of Ryder corresponded with Frank Winslow, VCP Expedited Site Manager, to inquire on re-enrollment in the VCP program. Mr. Winslow indicated that since the time of the Ecology's 2013 opinion letter, the Pollution Liability Insurance Agency (PLIA) has been responsible for managing most sites that have petroleum contamination associated with tank systems. Hence, completion of Ecology's VCP eligibility form may result in the Site being managed by PLIA.

On May 29, 2025, Tavi Wise with Ecology Central Region Toxics Cleanup Program responded to Melissa Kelley's email request to verify groundwater sample analysis. Ms. Wise response was "…Yes, your understanding of the required groundwater analytes is correct. For regulatory

reference, please see Table 830-1 of the Model Toxics Control Act Cleanup Regulation, which identifies the Constituents of Concern that should be analyzed based on the current and anticipated future use of the site."

In June 2025, Apex conducted a groundwater sampling event at the Ryder Yakima facility in accordance with Ecology recommendations.

3.0 SCOPE OF WORK

The scope of work implemented during this water quality assessment is summarized below:

- A Health and Safety Plan was prepared to protect field personnel during implementation of this assignment, and Ryder safety forms were acknowledged and maintained on-site with field staff.
- A reconnaissance/inspection with Ryder (virtually via Microsoft Teams) was conducted on June 24, 2025.
- Existing monitoring and remediation wells/well boxes were inspected and water levels monitored. Water levels were collected from wells MW-6, MW-9, RW-1, RW-2 and RW-3.
- The well, RW-1 was redeveloped and then after 48 hours elapsed, the well was purged and sampled. Samples were submitted to Friedman & Bruya Analytical Laboratories in Seattle, Washington.

4.0 FINDINGS

4.1 Project Status

Apex prepared a site-specific health and safety plan to ensure safety of all site personnel and reviewed and acknowledged Ryder's Contractor Safety documentation.

4.2 Reconnaissance and Water Level Measurements

On June 24, 2025, Apex personnel, Taylor Gilmore, was on site to conduct a virtual site inspection of the facilities with Tarah Ownby of Ryder via Microsoft Teams. Pictures were provided to document the conditions of selected features.

The condition of the well monuments for RW-1, RW-2, RW-3, MW-6, and MW-9 were in decent shape. RW-1 through 3 were contained by a square metal plate, which provided good coverage for the plugs. The plug in MW-9 was in good condition and the well head had two bolts in it to prevent the monument from moving. For MW-6, there were no bolts in the monument head (see Appendix A: Photo Log).

During June 24, 2025, groundwater sampling event, water level measurements from each well (MW-6, MW-9, RW-1, RW-2 and RW-3) were gauged and converted into groundwater elevations to facilitate evaluation of groundwater flow across the property. On June 24, 2025, groundwater was encountered at depths ranging from 5.15 to 5.75 feet below top of well casing (TOC). The direction of groundwater flow across the property was to the south-southeast. Top of casing

elevations, water levels, and groundwater elevation data are summarized in Table 1. The water level measurement log presented in Appendix B.

Horizontal hydraulic gradient is defined as the difference in groundwater elevation divided by the horizontal distance between measured wells; or $(d_A - d_B)/ (L_A - L_B)$. The hydraulic gradient on June 24, 2025, was calculated at 0.0082 ft/ft between wells RW-1 and MW-6.

4.3 RW-1 Redevelopment and Groundwater Sampling

The RW-1 well has not been sampled since 2011, thus it was redeveloped using a handheld surge block and peristaltic pump. On June 24, 2025, the well was surged using a disposable bailer for approximately 10 minutes. A slight petroleum odor was noted during the surging period in the well water. The groundwater in the well was then purged using a peristaltic pump until the water quality became clear. Approximately ten gallons of water were pumped from the well and containerized into a 55-gallon drum that remained on-site. Development took about 55 minutes, resulting in ten gallons of purge water with a flow rate of approximately 0.2 gallons per minute. The well-development log is presented in Appendix B.

The investigation derived waste (IDW) from the purge water was containerized in a 55- gallon drum that was labeled and remains on site. The disposal of groundwater IDW in Washington state, under the Model Toxics Control Act (MTCA), requires careful consideration of the waste's characteristics and the potential risks it poses to human health and the environment. Non-hazardous monitoring well purge or development water may be poured onto the ground down gradient of the monitoring well when site conditions permit, or through a sanitary sewer with permission. Non-hazardous liquid and soil/sediment IDW may only be placed on the ground if doing so does not endanger human health or the environment or violate federal or state regulations. Under no circumstances, however, should monitoring well purge water be placed back into the well from which it came.

On June 26, 2025, APEX personnel collected groundwater samples from RW-1 for laboratory for analysis. The following analyses were conducted on groundwater samples from recovery well RW-1:

- Total petroleum hydrocarbons gasoline range (TPH-Gx)
- TPH-Dx (diesel range and motor oil range compounds) (TPH-Dx)
- Polynuclear aromatic hydrocarbons (PAHs) using EPA Method 8270E.
- Benzene, toluene, ethylbenzene, xylenes (BTEX), ethylene dibromide (EDB) and ethylene dichloride (EDC) using EPA Method 8260D.

Prior to sampling, the depth to water was measured in each well using an interface meter. Apex sampled the monitoring well following Apex's standard operating procedure for low-flow sampling, which is included as an attachment in Appendix B.

Groundwater samples were collected in laboratory-prepared sample containers and stored in a

cooler with ice. The collected samples were submitted to the Friedman and Bruya Laboratory in Seattle, Washington, within specified holding times. The samples were delivered to the laboratory under chain-of-custody. The laboratory analytical report is included with this report as an attachment.

The well was purged using low flow purging methods (less than 1.0 liter per minute) using a variable speed peristaltic pump. Following one well volume purge, stabilization parameters were measured for each monitoring well using a continuous monitoring flow through cell. Stabilization measurements included temperature, specific conductance, pH, turbidity, and dissolved oxygen. After groundwater stabilization, the samples were gently decanted into laboratory supplied containers, placed in an iced cooler, and transported to NELAP certified laboratory for analysis. The groundwater sampling log, and sampling procedures are attached in Appendix B.

4.4 Groundwater Analytical Results

Analytical results of the groundwater samples collected on June 26, 2025, revealed the following:

No analytes were detected at or above their respective Method Detection Limits (MDLs) in the RW-1 groundwater sample, except for acenaphthylene (0.65 µg/L), fluorene (0.35 µg/L), and anthracene (0.097 µg/L). A total of 18 specific polycyclic aromatic hydrocarbon (PAH) compounds are analyzed under EPA Method 8270. However, most individual PAH compounds do not have specific cleanup levels established under the Model Toxics Control Act (MTCA). Instead, MTCA Method A uses two indicator compounds—naphthalene and benzo(a)pyrene—to represent compliance for the PAH group in groundwater. Since neither naphthalene nor benzo(a)pyrene was detected above their respective MDLs, the low concentrations of acenaphthylene, fluorene, and anthracene are considered compliant with MTCA Method A groundwater cleanup levels.

Under the Washington State Model Toxics Control Act (MTCA), Method A cleanup levels for potable groundwater are established based on concentrations listed in MTCA Method A Table 720-1. These levels are designed to protect human health and the environment, and they are often equivalent to or more stringent than the concentrations established under applicable state and federal laws, including those set by the Safe Drinking Water Act.

Groundwater analytical results are summarized in Table 2 while the laboratory analytical report is presented in Appendix C.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The groundwater test results from well RW-1 in June 2025 confirm that petroleum constituents of concern comply with the MTCA Method A groundwater cleanup levels (WAC 173-340-740, Table 1). There were no detections above the laboratory method reporting limits for gasoline range, BTEX, EDC, EDB, diesel or heavy oil range hydrocarbons or carcinogenic PAHs in the sampled groundwater in 2025.

Apex recommends implementing the following work scope:

- In accordance with WAC 173-340-840(5) and Ecology Toxics Cleanup Program Policy 840 (Data Submittal Requirements), data generated for Independent or Voluntary Cleanup Actions shall be submitted simultaneously in both a written and electronic format. Submit the groundwater findings to Ecology under the VCP Agreement No. CE0276 and request review for No Further Action designation.
- Following Ecology's opinion of an NFA designation, the twelve wells located on the property would be decommissioned by a Washington licensed well driller per WAC 173-160-381, under licensed consultant supervision. A separate scope work proposal will be presented to Ryder for the well decommission work.
- The minimal volume of purge water from RW-1 will be spread on-site in the south portion of the concrete/asphalt surface for evaporation.

6.0 LIMITATIONS

Findings and conclusions must be considered not as scientific certainties, but as opinions based on professional judgment concerning the significance of the data gathered during monitoring. The site may have other contamination that was not characterized by this study. Apex cannot represent that the site or adjoining land contain no hazardous waste, oil, or other latent conditions beyond that detected or observed by Apex. Other than this, no warranty is implied or intended.

We appreciate the opportunity to provide this report. If you have any questions or need further services, please contact us at 206.233.9639.

Prepared and submitted by:

Taylor Gilmore

Taylor Gilmore
Project Scientist

Tom Mergy

Digitally signed by Tom Mergy
Date: 2025.07.28 14:51:30 -07'00'

Reviewed by:
Thomas Mergy, RG, LHG
Senior Consultant / Hydrogeologist

TABLE 1
GROUNDWATER ELEVATION MEASUREMENTS
Ryder Trucking #0904
19 W. Washington Avenue
Yakima, Washington
Apex Project No. 25009086

Monitoring Well Identification	Screened Interval (approximate: feet below ground surface)	Date	Install date	Top of Casing (TOC) elevation (feet)	Depth to water (feet)	Groundwater Elevation (feet)
MW-6	3 to 12	6/24/2025	10/7/1994	996.8	5.75	991.05
MW-9	3 to 12	6/24/2025	2/8/2000	998.2	5.38	992.82
RW-1	3 to 12	6/24/2025	2/8/2000	997.2	5.15	992.05
RW-2	3 to 12	6/24/2025	2/8/2000	997.41	5.50	991.91
RW-3	3 to 12	6/24/2025	2/8/2000	996.73	5.60	991.13

Elevation vertical datum is reference elevation set to 100-ft datum at the site.

Date of Depth to Water Measurement	Groundwater Flow Direction	Hydraulic Gradient (feet/feet)
June 24, 2025	14° east of south (South)	0.0082

Groundwater flow direction was determined numerically by calculating a planar regression on tabulated groundwater elevations (RW-1 to MW-6) over lateral distance of 122 feet

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
Ryder #0904
19 W. Washington Avenue,
Yakima, Washington
Apex Project No.: 25009086

Location/ Sample ID	Sample Date	TPHs			VOCs[c]							PAHs[d]					
		Gx[a]	Dx[b]	Heavy Oil[b]	Benzene	Toluene	Ethyl Benzene	Xylenes	EDB	EDC	MTBE	B(a)P	Naph	Acenaphthalene	Flourene	Anthracene	carcinogenic PAHs[e]
MTCA Method A Cleanup Levels For Groundwater[g]		**1,000**	**500**	**500**	**5**	**1000**	**700**	**1000**	**0.1**	**5**	**20**	**0.1**	**160**	**ne**	**ne**	**ne**	**0.1**
<----------Results in micrograms per liter (µg/L)---------->																	
Samples collected via low-flow sampling approach using a peristaltic pump and disposal tubing																	
RW-1	6/26/2025	<100	250X	<200	<0.35	<1	<1	<2	<0.01	<0.2	<1	<0.02	<0.2	0.65	0.35	0..097	<0.02
Trip Blank	6/26/2025	<100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Footnotes:

[a] Analyzed by Northwest Total Petroleum Hydrocarbon Method - Volatile Petroleum Products (Extended) (NWTPH-Gx)

[b] Analyzed by Northwest Total Petroleum Hydrocarbon Method - Semi-volatile Petroleum Products (Extended) (NWTPH-Dx)

[c] Analyzed by Environmental Protection Agency Method 8021B (BTEX only) and 8260D

[d] Analyzed by Environmental Protection Agency Method 8270E

[g] Washington State Department of Ecology Model Toxics Control Act Method A Cleanup Level for Unrestricted Land Use as established in WAC 173-340-900

[e] Value for total cPAHs by toxicity equivalency methodology in WAC 173-340-708(8) and table 708.2

X The sample chromatographic pattern does not resemble the fuel standard used for quantitation (see Laboratory Report - Data Qualifiers & Definitions)

Abbreviations & Acronyms:

µg/L - micrograms per liter
TPH - total petroleum hydrocarbons
Gx - gasoline range hydrocarbons
Dx - diesel range hydrocarbons
VOC - volatile organic compound
EDB - ethylene dibromide
EDC - dichloroethane
MTBE - methyl t-butyl ether
cPAHs - carcinogenic polycyclic aromatic hydrocarbons
Naph - naphthalenes (naphthalene + 1-methyl naphthalene + 2-methyl naphthalene)
B(a)P - benzo(a)pyrene
ne - no MTCA A CUL established

APPENDIX A

Site Photographs

RW-1

RW-2

RW-3

MW-6

MW-9

APPENDIX B

Groundwater Field Forms
Standard Operating Procedure

APEX

DEPTH TO GROUNDWATER FORM

PROJECT: Ryder

PROJECT NO: 25009086

Date: 6/24/25

Field Personnel: TG

Start Time: 950

Weather Conditions: Sunny, 70s

End Time: 1105

INITIAL DEPTH TO WATER MEASUREMENTS

Monitoring Well ID	Depth to Water Measurement (ft)	Measurment Taken from (TOC/Metal Casing)	Time	Well Condition Notes
RW-1	5.15	TOC	1042	Good Condition
RW-2	5.50	"	1015	"
RW-3	5.60	"	1050	"
MW-6	5.75	"	1101	No bolts - Slightly bent inside
MW-9	5.38	"	957	Good Condition

Equipment Used: DTW Meter

Additional Notes/Observations:

per site map - it appears that MW-2, MW-4, & MW-6 are shifted to the right more than it needs to be.

MW-6 appears to be located (in the field) where MW-4 appears on the map

Signature of Field Personnel:

Date: 6/24/25

APEX	Apex Companies, LLC **GROUNDWATER SAMPLING FORM (YSI Pro)**	**Project No:** 250090860 **Project Name/ Location:** Ryder 19 W. Washington Ave Yakima, WA **Date:** 6/26/25	
		Monitoring Well ID	RW-1
Initial DTW (feet bgs)	5.15 ft	**Sample ID (if not well ID)**	———
Screen Interval (feet bgs)	3-12 ft	**Sample Time**	945
Well depth (feet bgs)	13.3 ft	**QC Sample type:** ———	☐ Not collected ID RW-1 Time 945
Depth of pump/tubing inlet (feet bgs)	10 ft		
Sampling method (describe pump or sampler)	P-Pump	**Field Personnel**	TG
Purge Rate ~~(L/min)~~	0.2 gal/min	**Weather Conditions**	Sunny, 70s

WELL PURGING INFORMATION

Time ☐ elapsed ☒ actual	DTW (feet)	Temp. (C)	Dissolved oxygen (mg/L)	Specific conductivity ☒ mS/cm ☐ µS/cm	pH	ORP (mV)	Turbidity (NTU)	Observations	Volume purged ☐ ltr ☒ gal
925	5.15	17.0	5.48	0.47	7.21	299.6	6.28	clear, slight petrol. odor	———
928	5.65	16.1	4.54	0.46	7.15	308.9	6.01	clear, no odor	0.55
931	6.23	16.1	4.50	0.45	7.10	315.7	5.48		0.58
934	6.78	16.2	6.13	0.44	7.06	317.2	5.45		0.55
937	7.17	16.3	5.83	0.44	7.06	316.9	4.00		0.39
940	7.59	16.4	5.56	0.43	7.05	316.7	1.12		0.42
943	7.91	16.5	5.41	0.43	7.04	316.5	0.93		0.32
								Total Volume Purged	2.81

FIELD OBSERVATIONS / NOTES (such as well head condition, groundwater color, sediment load, recovery, sheen, odor, equipment)

Signature of Field Personnel:

Revised 05/27/2025

WELL DEVELOPMENT/PURGE SUMMARY

Project Name: Ryder Well ID: RW-1 Personnel: TG

Project No.: 25009086 Location: 19 W. Washington Ave, Yakima, WA Equipment: Bailer, P-pump

Date	Time	Purge method	Depth to water (ft bgs)	Depth to bottom (ft bgs)	Vol purged (gal)	Appearance of purge water Color / Odor / Clarity	Temp (C)	Cond (umhos/cm)	pH	Comments
6/24/25	1215	bailer/ P-pump	5.15	12.70	10	Brown, Petroleum, murky				*

*purged/pumped until clear. Approx. 10 gallons over the span of 55 minutes.
Surged the well for approx. 15 minutes.
Flow rate is approx. 0.2 gal/min

SITE/LOCATION	BEGUN	BORING DIAMETER	ANGLE/BEARING	BORING NO
RYDER/YAKIMA	2/8/00	10 Inches	90 Degrees	RW-1

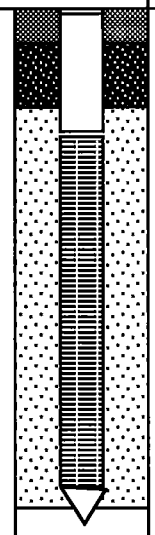
DRILLING CONTRACTOR	COMPLETED	FIRST ENCOUNTERED WATER DEPTH
Geotech	2/8/00	5.0 Feet

OPERATOR	LOGGED BY	STATIC WATER DEPTH/DATE
Armando et al	SDT	5.0 Feet

DRILL MAKE & MODEL	SAMPLING METHOD	BOTTOM OF BORING
	HSA	12 Feet

WELL MATERIAL	SLOT SIZE	FILTER PACK	WELL SEAL	WELL NO.
4" SCH 40 PVC	0.010	sil. sand	Concrete	RW-1

BLOWS/FOOT	FIELD HEAD-SPACE *	DEPTH	SAMPLE	WATER LEVEL	WELL CONSTR.	GRAPHIC LOG	MATERIAL CLASSIFICATION & PHYSICAL DESCRIPTION
		1–30		▽			GRAVEL, silty sand aggregate. Backfill from excavation.
							TD @ 12 ft bls.



CLEARWATER GROUP, INC.

SOIL BORING LOG RW-1
AND
WELL CONSTRUCTION RW-1

Ryder-Yakima

DATE: March 2000

APPROVED BY: SDT

JOB NO.

OC-130

STANDARD OPERATING PROCEDURE
Development of a Groundwater Monitoring Well

1 PURPOSE

The purpose of monitoring well development is to remove drilling fluids or other fluids introduced during drilling or well installation, stabilize the filter pack, and remove fine-grained sediment entering the well. This is typically done following groundwater monitoring well construction, no sooner than 24 hours following setting of a bentonite seal. If a dry granular bentonite seal is placed, you may begin development as soon as 12 hours (OAR 690-240-0485) following completion. US EPA recommends waiting at least 48 hours, especially if vigorous surging methods are to be used during well construction.

2 EQUIPMENT LIST

- Well lock keys
- Field book
- Electronic water level probe
- Interface probe (if dense or light non-aqueous phase liquids are [DNAPL or LNAPL] is present)
- Knife or scissors
- Decontamination equipment
- Site map and health and safety plan
- Personal Protection Equipment (PPE) appropriate for the site
- Submersible pump, air lift pump or other appropriate pump and associated equipment
- Surge block
- Polyvinyl Chloride (PVC) or stainless steel bailer (close in size to inside diameter of well)
- Disposable tubing, if necessary
- Field water quality monitoring equipment
- Turbidity meter
- Containers for purge water

3 PROCEDURE

The diameter of the well, the total depth of the well, and depth to water will determine the type of pump and equipment used for well development. Surging of the well can be done with a surge block tool or with a submersible pump if it is close in size to the inside diameter of the well. A PVC or stainless steel bailer may work if it is close in size to the inside diameter of the well. The purpose of surging is to suspend as much sediment as possible in the water column so it can be pumped out of the well. It also helps to get the filter pack and aquifer settled and cleaned of fine-grained sediment. The filter pack should have been surged during well construction, prior to placing the overlying seal in the well.

1. Note the general condition of the well. Check the well for damage or evidence of tampering and record pertinent observations. Note any maintenance tasks that should be completed, such as well cap or padlock replacement.
2. Open the well and wait a sufficient period of time for the atmospheric pressure to equalize, allowing the water levels to approach an equilibrium state before taking any measurements.
3. Measure the depth to water (DTW), (and DNAPL or LNAPL if present) relative to the marking on the well casing. If there is no mark, use the north side of the casing. Record the water level in the field book.

4. Measure and record the total depth of the well, making note if the bottom of the well is "soft" and compare it to the finished depth of the well from the well log. Also note the total screen length from the well log.
5. Subtract DTW from total depth for length of water column (WC).
6. Calculate one casing volume as follows:

CF x WC = Number of gallons in one casing volume

CF = conversion factor (dependent on well diameter listed in table below)
WC = length of water column in feet.

Well Diameter (inches)	Conversion Factor (gallons/foot)
1	0.04
2	0.17
4	0.65

Annular space is calculated as follows:

[(Borehole diameter-casing diameter/2)2] H *N = Number of gallons in annular space
H = length of wetted filter pack in feet
N = porosity of filter pack (0.3 to 0.5)

7. Start by surging the well, moving a surge block tool or bailer up and down the length of the screened interval. Following surging (5 to 10 minutes), remove the surge block and install the pump. Place the pump in the bottom half of the screen and pump at a fairly high rate.
8. After the pump has been pumping for a while, measure turbidity and record it. If water begins to clear, measure turbidity, again. Also, surge the well using the pump. If the water becomes more turbid, continue to pump. Record the time, amount pumped and turbidity in the field book.
9. The amount of water required to be pumped from the well is equal the amount of water put into the boring during well drilling and/or construction plus a minimum of 5 to 10 well bore volumes.

Bore hole volume = Number of gallons in annular space + casing volume

At least five well bore volumes need to be removed for monitoring wells set in silty, clayey sands, or silts. If there are coarse-grained soils in the screened interval such as sands and gravels, then 10 well bore volumes should be removed from the boring.

10. After the bottom portion of the water column clears, move the pump up in the well screen and continue to pump. As the water clears, surge using the pump.
11. An alternative to surge and pump would be to use a PVC or stainless steel bailer, close in size to the inside diameter of the well. The bailer could be used as a surge block, catching both sediment and removal of turbid water. It is particularly effective to bounce the bailer off the bottom of the well casing when there is sediment on the bottom of the well, in order to stir up the sediment and get it re-suspended so it can be removed. Sometimes a combination of both pumping and a bailer may be used.

12. Following development, record total depth of well and compare it to initial measurement and total depth at construction. Any sediment in the bottom of the well should be removed during well development, as much as possible. Also record the final water level and turbidity.
13. Decontaminate all pumps and equipment prior to moving to the next well.
14. All water should be stored in drums, tanks or other container, as appropriate.
15. Wells should be allowed to rest and recover at least 24 to 48 hours prior to sampling.

References

Oregon Department of Environmental Quality. (1992). Groundwater Monitoring Well Drilling, Construction, and Decommissioning. DEQ Guidance Document. August 24, 1992.

OAR 690-240 Construction, Maintenance, Alteration, Conversion and Abandonment of Monitoring Wells, Geotechnical holes and Other Holes in Oregon, (as of October 15, 2007).

US Environmental Protection Agency. (2001). Standard Operating Procedure 2044, Revision 0.1, Monitor Well Development. October 23, 2001.

STANDARD OPERATING PROCEDURE
Sampling Groundwater Monitoring Wells

1 BACKGROUND AND PURPOSE

Groundwater samples are collected from monitoring wells for analysis of physical and chemical parameters, either by using field observations and portable equipment and/or using established laboratory analytical methods. The goal of this process is to obtain groundwater samples that are representative of the aquifer (i.e., avoiding a sample that has been impacted by surface or atmospheric conditions).

Low-flow or zero volume purging and sampling methods were developed to produce samples with the least amount of interference resulting from the collection method. Low-flow purging techniques became the industry standard for collecting a groundwater sample because the methods slow groundwater velocity to the well, minimize turbidity and agitation in the water column, and reduce the volume of purged groundwater requiring disposal. These techniques include the use of pumps dedicated to specific wells or the use of a portable pump system. A zero volume/no purging method requires installation of a collection vessel within the well prior to the sample collection event, allowing the water column within the well to equilibrate with the aquifer prior to retrieving the sample. The appropriate technique is dependent on project-specific goals and data quality requirements. Sampling methodology should be confirmed with the PBS project manager (PM) prior to preparing for groundwater monitoring.

The procedures in this Standard Operating Procedure (SOP) are specific to standard monitoring wells with a single-slotted interval. It is assumed that low-flow purging and sampling protocols are used, although these protocols can be easily adjusted for other sampling methods. Temporary borings advanced for a single field event may be sampled using the techniques presented in this SOP.

2 EQUIPMENT AND SUPPLY LIST

- Well lock keys
- Groundwater Sampling Field Form and Depth to Groundwater Field Form
- Copies of field forms and data tables from previous groundwater monitoring event
- Electronic water level probe or interface probe (if dense or light non-aqueous phase liquids [DNAPL or LNAPL] are potentially present)
- Tubing cutters, knife or scissors (note: some sites do not allow the use of a knife on-site)
- Decontamination equipment
- Measuring cup
- Safety cones
- Bolt cutters
- Replacement well caps, bolts, and padlocks
- Small cup, turkey baster, or large sponge to purge standing water inside well monument
- Fish hooks, stainless steel weight, and fishing line to retrieve objects in the well
- Site map and health and safety plan

- Personal protection equipment (PPE) required for the site, including nitrile gloves (confirm with site-specific health and safety plan)
- Submersible pump or peristaltic pump and associated equipment
- Compressed gas source (nitrogen or air compressor), battery source, or generator and fuel
- Control box
- Disposable tubing, if necessary
- Flow-through cell and water quality parameter meter (e.g. YSI model)
- Buckets or containers for purge water and drum labels
- Sample containers, labels, packaging material
- Coolers and ice for samples

3 PROCEDURE

This section outlines standard procedures used for collecting groundwater samples from a monitoring well. Project Managers may modify or remove tasks as dictated by project needs; for example, turbidity or depth-to-bottom measurements may not be warranted at a site with sufficiently developed wells.

Preparation for a monitoring event begins in the office. The first step is to read the scope of work (e.g., proposal, sampling and analysis plan (SAP), work plan) to determine the number and location of monitoring wells to be sampled, health and safety considerations, quality control (QC) samples needed, sample containers required, and equipment needed for the site (peristaltic pump, bladder pump, both, etc.). Recommended preplanning procedures are as follows:

- Prepare, review, or update Health and Safety Plan (HASP) for the site.
- Obtain appropriate PPE for the site (e.g., hard hat, safety vest, gloves, safety glasses, life vest, flame retardant [FR] shirt or other client-required PPE).
- Determine number and type of samples to be collected.
- Determine which laboratory can meet analytical requirements (required analysis, screening levels).
- Order sample containers from laboratory, making sure to order QC sample containers and at least one extra set of containers. Ensure that a Safety Data Sheet (SDS) is provided for any sample preservative supplied by the laboratory.
- Print all forms needed for sampling event (work plan, HASP, depth to water forms, groundwater sampling forms, labels, chain of custody, etc.).
- Schedule PBS vehicle and equipment use on PBS calendars, as warranted.
- Order rental equipment for sampling event, if not available internally.

After arriving at the site, the following procedures should be followed:

- Don appropriate PPE and place safety cones around the work zone, if required by the HASP or deemed necessary by site conditions.
- Open all of the monitoring wells on-site and wait a minimum of 15 minutes for water levels to approach an equilibrium state with atmospheric pressure before taking any measurements.

- Note the general condition of the well on the depth to groundwater field form. Check well for damage or evidence of tampering, and record pertinent observations. Note any maintenance tasks that should be completed, such as well cap or padlock replacement.
- Collect depth to water measurements from each monitoring well, decontaminating the probe between locations. If possible, gauging should be conducted in order from the least to the most contaminated well. The measurements should be collected from all wells prior to beginning sample collection, unless project scope or site conditions indicate otherwise.
- Measure the depth to water relative to the marking on the well casings. If there is no mark, use the north side of the casing. Record the water level on the depth to groundwater field form. Note if DNAPL or LNAPL is present (this typically requires a meter capable of detecting NAPL-water interfaces). If NAPL is present, additional decontamination procedures will be warranted.
- Measure depth to bottom of well to record if sedimentation in the well has occurred.
- Make sure all information is completed on the depth to groundwater field form and sign and date it.

Sampling a groundwater monitoring well utilizing low-flow techniques relies on stabilization of field water quality parameters to determine when groundwater is representative of aquifer conditions. Measurement of groundwater quality parameters with a water quality parameter meter occurs in a closed system in which groundwater does not come in contact with open air; this is important for valid measurements because dissolved oxygen (DO), oxidation-reduction potential (ORP), and pH measurements can be sensitive to reactions with the atmosphere. A flow-through cell (flow cell) connected to the water quality parameter meter provides this closed system and is used to measure field parameters prior to collecting groundwater samples. Stabilization of selected parameters indicates that collected groundwater is representative of the aquifer and conditions are suitable for sampling to begin. See protocol below for stabilization parameters.

Low-flow purge and sample methods require care when placing a portable pump and/or tubing in the well to minimize disturbance to the water column. Pumping rates must be maintained at 0.1 to 0.5 liter per minute to reduce drawdown; the pump should never be run higher than 0.5 liters per minute prior to sampling.

For monitoring wells, sampling should proceed as follows:

- If using a portable pump setup, slowly lower the pump or tubing to the midpoint of the screen or sample interval. Secure the pump or tubing at the surface to prevent it from moving (not applicable if using dedicated pumps).
- Connect the bladder pump (attaching control box, compressor or nitrogen tank with regulator) or peristaltic pump to flow cell containing water quality parameter probes. Place the water level probe in the well so water levels can be measured as you are pumping. Start the pump and adjust the pumping rate to between 0.1 and 0.5 liters per minute (using a measuring cup to calculate the flow rate). Begin recording readings on the groundwater sampling field form. Be sure to purge the initial volume of water in the tubing before taking a reading.
- During purging, record readings of groundwater parameters (listed below) and water level every 3 to 5 minutes on the groundwater sampling field form. A drawdown of less than 0.3 feet in the water column, once the pumping rate has stabilized, is desirable; however, less permeable aquifer material or a clogged well filter pack may result in a deeper drawdown. At a minimum, the depth-to-water should be stabilized for three consecutive readings taken between 3 to 5 minutes apart (in conjunction with the stabilization of the other parameters). Visually describe and record turbidity. Purging is considered complete when the groundwater parameters have stabilized for three consecutive readings.

Field Parameter	Stabilization Goal
Temperature	+/-3%
Specific Conductance	+/- 3% mS/cm
pH	+/- 0.1 pH units
DO	+/- 10% or +/- 0.3 mg/L
ORP	+/- 10 millivolts
Depth to Water	+/- 0.3 feet

Please note that multi-parameter meters may have a resolution greater than the stabilization goal. Note the meter capabilities. If the field parameters do not stabilize within the stabilization goal, but are within the resolution of the meter, it may be acceptable to collect a sample in this scenario. This MUST be noted on the field form.

- Measure turbidity of the sample water using field instruments prior to sample collection and upon any obvious visual changes in turbidity during sample collection.
- Prior to collecting the water sample, the tubing originating in the well must be disconnected from the influent (inflow) side of the flow cell.
- Directly fill the sample containers from the tubing originating in the well. If you are collecting samples for volatile organic compound (VOC) analysis, you may need to decrease the pump rate to minimize volatilization of compounds from the sample; if this is the case, other samples should be collected first. You may restore the flow rate upon completion of filling sample containers for VOC analysis. Fill unpreserved bottles first. Filtered samples should be collected after all other samples have been collected.
- Groundwater samples collected for VOC analysis must be collected with zero headspace in the sample vial. This can be confirmed by gently tapping the sealed vial against a gloved hand to ensure that air bubbles are not present.
- If a duplicate sample is required for the well, it should be filled concurrently with the regular sample. This is accomplished by alternating bottles of the same type during sample collection (e.g., filling one bottle from each sample, then the second bottle from each sample.)
- Groundwater samples for dissolved metals analysis must be field filtered with a 0.45 micron filter directly connected to the tubing. Mark “field filtered” or “FF” on the bottle label, field form, and chain of custody.
- Prior to filling or just after filling, label each bottle with the project name, sample name, and sample date and time, and make sure it is properly sealed. The sample containers may also be labeled with what analysis will be performed (confirm with Project Manager). Place in a cooler with ice and pack for transportation.
- As necessary, pull pump and discard tubing. Decontaminate the pump based on the decontamination procedures established for the site.
- Make sure all information is completed on the groundwater field form and sign and date it.
- Close and lock the well.
- Contain purge and decontamination water in the appropriate containers as established for the project.
- Dispose of used sampling supplies and other waste in appropriate container as established for the project.

If low-flow sampling is not used at the site, these procedures should be modified as appropriate. The objective is to provide high-quality groundwater samples representative of the aquifer. Modifications to this SOP should keep this objective in mind at all times.

After fieldwork is completed:

- Ensure that chain-of-custody form has necessary information including site name, project manager, sample names, date and time collected, requested analysis, special notes (field filtered, MS/MSD, etc.).
- Scan and save field sheets to project folder on server. Retain original field copies in project folder; these are legal documents and should be retained as per PBS guidelines for document retention.
- Report any sampling or well maintenance issues to the project manager for evaluation and remedy.
- Clean and store PBS equipment for use on next project. Report any equipment damage or malfunctions or missing/depleted calibration solutions to the office equipment manager.
- Ship rental equipment back to vendor immediately to minimize project costs. Borrowed PBS equipment should be returned promptly to the lending office.

References

Puls, R.W. and M.J. Barcelona. *Groundwater Issue Paper: Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures*. US Environmental Protection Agency, EPA 540-S-95-504 (1996).

Yeskis, D. and Bernard Zavala. *Groundwater Issue Paper: Ground-Water Sampling Guidelines for Superfund and RCRA Project Managers*. US Environmental Protection Agency, EPA 542-S-02-001 (May 2002).

APPENDIX C

Laboratory Report / Chain of Custody

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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June 30, 2025

Karl Bowers, Project Manager
Apex Companies, LLC
299 W Hillcrest Dr, Ste 220
Thousand Oaks, CA 91360

Dear Mr Bowers:

Included are the results from the testing of material submitted on June 27, 2025 from the Ryder 25009086, F&BI 506527 project. There are 13 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
c: taylor.gilmore@apexcos.com
APX0630R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on June 27, 2025 by Friedman & Bruya, Inc. from the Apex Companies, LLC Ryder 25009086, F&BI 506527 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Apex Companies, LLC
506527 -01	RW-1
506527 -02	Trip Blank

The 8260D calibration standard exceeded the acceptance criteria for acetone and 2-butanone. The compounds were not detected, therefore this did not represent an out of control condition, and were qualified with a "k" qualifier. The results are not considered estimates.

The 8270E laboratory control sample and laboratory control sample duplicate did not meet the relative percent difference for several compounds. The analytes were not detected therefore the data were acceptable.

All other quality control requirements were acceptable.

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527
Date Extracted: 06/27/25
Date Analyzed: 06/27/25

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 50-150)
RW-1 506527-01	<100	107
Trip Blank 506527-02	<100	100
Method Blank 05-1514 MB	<100	103

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527
Date Extracted: 06/27/25
Date Analyzed: 06/27/25

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 50-150)
RW-1 506527-01	250 x	<200	115
Method Blank 05-1615 MB	<50	<200	128

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	RW-1	Client:	Apex Companies, LLC
Date Received:	06/27/25	Project:	Ryder 25009086
Date Extracted:	06/27/25	Lab ID:	506527-01
Date Analyzed:	06/27/25	Data File:	062709.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	103	78	126
Toluene-d8	102	84	115
4-Bromofluorobenzene	103	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<0.5
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	1.1
Trichloroethene	<0.05	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

Analysis For Volatile Compounds By EPA Method 8260D Dual Acquisition

Client Sample ID:	Method Blank	Client:	Apex Companies, LLC
Date Received:	Not Applicable	Project:	Ryder 25009086
Date Extracted:	06/27/25	Lab ID:	05-1568 mb
Date Analyzed:	06/27/25	Data File:	062708.D
Matrix:	Water	Instrument:	GCMS11
Units:	ug/L (ppb)	Operator:	IJL

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
1,2-Dichloroethane-d4	85	78	126
Toluene-d8	98	84	115
4-Bromofluorobenzene	102	72	130

Compounds:	Concentration ug/L (ppb)	Compounds:	Concentration ug/L (ppb)
Dichlorodifluoromethane	<1	1,3-Dichloropropane	<1
Chloromethane	<10	Tetrachloroethene	<0.5
Vinyl chloride	<0.02	Dibromochloromethane	<0.5
Bromomethane	<5	1,2-Dibromoethane (EDB)	<0.01
Chloroethane	<1	Chlorobenzene	<1
Trichlorofluoromethane	<1	Ethylbenzene	<1
Acetone	<50 k	1,1,1,2-Tetrachloroethane	<1
1,1-Dichloroethene	<1	m,p-Xylene	<2
Hexane	<5	o-Xylene	<1
Methylene chloride	<5	Styrene	<1
Methyl t-butyl ether (MTBE)	<1	Isopropylbenzene	<1
trans-1,2-Dichloroethene	<1	Bromoform	<5
1,1-Dichloroethane	<1	n-Propylbenzene	<1
2,2-Dichloropropane	<1	Bromobenzene	<1
cis-1,2-Dichloroethene	<1	1,3,5-Trimethylbenzene	<1
Chloroform	<1	1,1,2,2-Tetrachloroethane	<0.2
2-Butanone (MEK)	<20 k	1,2,3-Trichloropropane	<1
1,2-Dichloroethane (EDC)	<0.2	2-Chlorotoluene	<1
1,1,1-Trichloroethane	<1	4-Chlorotoluene	<1
1,1-Dichloropropene	<1	tert-Butylbenzene	<1
Carbon tetrachloride	<0.5	1,2,4-Trimethylbenzene	<1
Benzene	<0.35	sec-Butylbenzene	<1
Trichloroethene	<0.05	p-Isopropyltoluene	<1
1,2-Dichloropropane	<1	1,3-Dichlorobenzene	<1
Bromodichloromethane	<0.5	1,4-Dichlorobenzene	<1
Dibromomethane	<1	1,2-Dichlorobenzene	<1
4-Methyl-2-pentanone	<10	1,2-Dibromo-3-chloropropane	<10
cis-1,3-Dichloropropene	<0.4	1,2,4-Trichlorobenzene	<1
Toluene	<1	Hexachlorobutadiene	<0.5
trans-1,3-Dichloropropene	<0.4	Naphthalene	<1
1,1,2-Trichloroethane	<0.5	1,2,3-Trichlorobenzene	<1
2-Hexanone	<10 k		

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	RW-1	Client:	Apex Companies, LLC
Date Received:	06/27/25	Project:	Ryder 25009086
Date Extracted:	06/30/25	Lab ID:	506527-01
Date Analyzed:	06/30/25	Data File:	063006.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	84	11	173
2-Fluorobiphenyl	82	25	128
2,4,6-Tribromophenol	90	10	140
Terphenyl-d14	90	47	142

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.02
Acenaphthene	0.65
Fluorene	0.35
Phenanthrene	<0.05
Anthracene	0.097
Fluoranthene	<0.02
Pyrene	<0.04
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

Analysis For Semivolatile Compounds By EPA Method 8270E

Client Sample ID:	Method Blank	Client:	Apex Companies, LLC
Date Received:	Not Applicable	Project:	Ryder 25009086
Date Extracted:	06/30/25	Lab ID:	05-1620 mb
Date Analyzed:	06/30/25	Data File:	063005.D
Matrix:	Water	Instrument:	GCMS12
Units:	ug/L (ppb)	Operator:	VM

Surrogates:	% Recovery:	Lower Limit:	Upper Limit:
Nitrobenzene-d5	82	11	173
2-Fluorobiphenyl	80	25	128
2,4,6-Tribromophenol	73	10	140
Terphenyl-d14	79	47	142

Compounds:	Concentration ug/L (ppb)
Naphthalene	<0.2
2-Methylnaphthalene	<0.1
1-Methylnaphthalene	<0.1
Acenaphthylene	<0.02
Acenaphthene	<0.02
Fluorene	<0.02
Phenanthrene	<0.05
Anthracene	<0.02
Fluoranthene	<0.02
Pyrene	<0.04
Benz(a)anthracene	<0.02
Chrysene	<0.02
Benzo(a)pyrene	<0.02
Benzo(b)fluoranthene	<0.02
Benzo(k)fluoranthene	<0.02
Indeno(1,2,3-cd)pyrene	<0.02
Dibenz(a,h)anthracene	<0.02
Benzo(g,h,i)perylene	<0.02

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527

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

Laboratory Code: 506499-01 (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	110	70-130

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527

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	104	100	65-151	4

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527

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

Laboratory Code: 506524-08 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result	Percent Recovery MS	Acceptance Criteria
Dichlorodifluoromethane	ug/L (ppb)	10	<1	115	30-221
Chloromethane	ug/L (ppb)	10	<10	95	50-150
Vinyl chloride	ug/L (ppb)	10	0.13	105	50-150
Bromomethane	ug/L (ppb)	10	<5	78	50-150
Chloroethane	ug/L (ppb)	10	<1	97	50-150
Trichlorofluoromethane	ug/L (ppb)	10	<1	99	50-150
Acetone	ug/L (ppb)	50	<50	84	18-161
1,1-Dichloroethene	ug/L (ppb)	10	<1	96	50-150
Hexane	ug/L (ppb)	10	<5	102	50-150
Methylene chloride	ug/L (ppb)	10	<5	97	50-150
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	<1	97	50-150
trans-1,2-Dichloroethene	ug/L (ppb)	10	<1	99	50-150
1,1-Dichloroethane	ug/L (ppb)	10	<1	103	50-150
2,2-Dichloropropane	ug/L (ppb)	10	<1	102	43-171
cis-1,2-Dichloroethene	ug/L (ppb)	10	<1	103	10-211
Chloroform	ug/L (ppb)	10	<1	96	50-150
2-Butanone (MEK)	ug/L (ppb)	50	<20	90	10-192
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	<0.2	100	50-150
1,1,1-Trichloroethane	ug/L (ppb)	10	<1	100	50-150
1,1-Dichloropropene	ug/L (ppb)	10	<1	94	50-150
Carbon tetrachloride	ug/L (ppb)	10	<0.5	100	50-150
Benzene	ug/L (ppb)	10	<0.35	103	50-150
Trichloroethene	ug/L (ppb)	10	0.46	99	35-149
1,2-Dichloropropane	ug/L (ppb)	10	<1	104	50-150
Bromodichloromethane	ug/L (ppb)	10	<0.5	102	50-150
Dibromomethane	ug/L (ppb)	10	<1	99	50-150
4-Methyl-2-pentanone	ug/L (ppb)	50	<10	99	50-150
cis-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	100	50-150
Toluene	ug/L (ppb)	10	<1	103	50-150
trans-1,3-Dichloropropene	ug/L (ppb)	10	<0.4	95	50-150
1,1,2-Trichloroethane	ug/L (ppb)	10	<0.5	100	50-150
2-Hexanone	ug/L (ppb)	50	<10	103	50-150
1,3-Dichloropropane	ug/L (ppb)	10	<1	97	50-150
Tetrachloroethene	ug/L (ppb)	10	<0.5	105	50-150
Dibromochloromethane	ug/L (ppb)	10	<0.5	98	50-150
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	<0.01	101	50-150
Chlorobenzene	ug/L (ppb)	10	<1	102	50-150
Ethylbenzene	ug/L (ppb)	10	<1	105	50-150
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	<1	103	50-150
m,p-Xylene	ug/L (ppb)	20	<2	105	50-150
o-Xylene	ug/L (ppb)	10	<1	104	50-150
Styrene	ug/L (ppb)	10	<1	101	50-150
Isopropylbenzene	ug/L (ppb)	10	<1	101	50-150
Bromoform	ug/L (ppb)	10	<5	106	50-150
n-Propylbenzene	ug/L (ppb)	10	<1	103	50-150
Bromobenzene	ug/L (ppb)	10	<1	106	50-150
1,3,5-Trimethylbenzene	ug/L (ppb)	10	<1	102	50-150
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	<0.2	113	50-150
1,2,3-Trichloropropane	ug/L (ppb)	10	<1	103	50-150
2-Chlorotoluene	ug/L (ppb)	10	<1	103	50-150
4-Chlorotoluene	ug/L (ppb)	10	<1	104	50-150
tert-Butylbenzene	ug/L (ppb)	10	<1	101	50-150
1,2,4-Trimethylbenzene	ug/L (ppb)	10	<1	103	50-150
sec-Butylbenzene	ug/L (ppb)	10	<1	104	50-150
p-Isopropyltoluene	ug/L (ppb)	10	<1	104	50-150
1,3-Dichlorobenzene	ug/L (ppb)	10	<1	101	50-150
1,4-Dichlorobenzene	ug/L (ppb)	10	<1	103	50-150
1,2-Dichlorobenzene	ug/L (ppb)	10	<1	103	50-150
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	<10	96	50-150
1,2,4-Trichlorobenzene	ug/L (ppb)	10	<1	101	50-150
Hexachlorobutadiene	ug/L (ppb)	10	<0.5	110	50-150
Naphthalene	ug/L (ppb)	10	<1	99	50-150
1,2,3-Trichlorobenzene	ug/L (ppb)	10	<1	100	50-150

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527

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

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Dichlorodifluoromethane	ug/L (ppb)	10	97	99	46-206	2
Chloromethane	ug/L (ppb)	10	98	100	59-132	2
Vinyl chloride	ug/L (ppb)	10	103	105	64-142	2
Bromomethane	ug/L (ppb)	10	96	109	50-197	13
Chloroethane	ug/L (ppb)	10	98	99	70-130	1
Trichlorofluoromethane	ug/L (ppb)	10	111	110	51-159	1
Acetone	ug/L (ppb)	50	89	98	10-140	10
1,1-Dichloroethene	ug/L (ppb)	10	90	91	64-140	1
Hexane	ug/L (ppb)	10	91	92	54-136	1
Methylene chloride	ug/L (ppb)	10	94	96	43-134	2
Methyl t-butyl ether (MTBE)	ug/L (ppb)	10	95	97	70-130	2
trans-1,2-Dichloroethene	ug/L (ppb)	10	94	95	70-130	1
1,1-Dichloroethane	ug/L (ppb)	10	97	99	70-130	2
2,2-Dichloropropane	ug/L (ppb)	10	98	97	64-148	1
cis-1,2-Dichloroethene	ug/L (ppb)	10	98	99	70-130	1
Chloroform	ug/L (ppb)	10	90	94	70-130	4
2-Butanone (MEK)	ug/L (ppb)	50	90	103	47-112	13
1,2-Dichloroethane (EDC)	ug/L (ppb)	10	96	97	70-130	1
1,1,1-Trichloroethane	ug/L (ppb)	10	95	97	70-130	2
1,1-Dichloropropene	ug/L (ppb)	10	93	93	70-130	0
Carbon tetrachloride	ug/L (ppb)	10	93	101	70-130	8
Benzene	ug/L (ppb)	10	98	100	70-130	2
Trichloroethene	ug/L (ppb)	10	94	94	70-130	0
1,2-Dichloropropane	ug/L (ppb)	10	98	102	70-130	4
Bromodichloromethane	ug/L (ppb)	10	99	99	70-130	0
Dibromomethane	ug/L (ppb)	10	94	97	70-130	3
4-Methyl-2-pentanone	ug/L (ppb)	50	100	101	68-130	1
cis-1,3-Dichloropropene	ug/L (ppb)	10	94	98	69-131	4
Toluene	ug/L (ppb)	10	101	103	70-130	2
trans-1,3-Dichloropropene	ug/L (ppb)	10	92	94	70-130	2
1,1,2-Trichloroethane	ug/L (ppb)	10	97	99	70-130	2
2-Hexanone	ug/L (ppb)	50	104	104	45-138	0
1,3-Dichloropropane	ug/L (ppb)	10	97	95	70-130	2
Tetrachloroethene	ug/L (ppb)	10	99	101	70-130	2
Dibromochloromethane	ug/L (ppb)	10	100	99	60-148	1
1,2-Dibromoethane (EDB)	ug/L (ppb)	10	99	100	70-130	1
Chlorobenzene	ug/L (ppb)	10	95	99	70-130	4
Ethylbenzene	ug/L (ppb)	10	101	101	70-130	0
1,1,1,2-Tetrachloroethane	ug/L (ppb)	10	102	100	70-130	2
m,p-Xylene	ug/L (ppb)	20	100	102	70-130	2
o-Xylene	ug/L (ppb)	10	99	101	70-130	2
Styrene	ug/L (ppb)	10	96	98	70-130	2
Isopropylbenzene	ug/L (ppb)	10	95	98	70-130	3
Bromoform	ug/L (ppb)	10	101	104	69-138	3
n-Propylbenzene	ug/L (ppb)	10	99	101	70-130	2
Bromobenzene	ug/L (ppb)	10	101	103	70-130	2
1,3,5-Trimethylbenzene	ug/L (ppb)	10	98	100	70-130	2
1,1,2,2-Tetrachloroethane	ug/L (ppb)	10	108	108	70-130	0
1,2,3-Trichloropropane	ug/L (ppb)	10	103	105	70-130	2
2-Chlorotoluene	ug/L (ppb)	10	98	99	70-130	1
4-Chlorotoluene	ug/L (ppb)	10	100	99	70-130	1
tert-Butylbenzene	ug/L (ppb)	10	99	100	70-130	1
1,2,4-Trimethylbenzene	ug/L (ppb)	10	99	102	70-130	3
sec-Butylbenzene	ug/L (ppb)	10	100	100	70-130	0
p-Isopropyltoluene	ug/L (ppb)	10	99	98	70-130	1
1,3-Dichlorobenzene	ug/L (ppb)	10	99	101	70-130	2
1,4-Dichlorobenzene	ug/L (ppb)	10	98	99	70-130	1
1,2-Dichlorobenzene	ug/L (ppb)	10	97	102	70-130	5
1,2-Dibromo-3-chloropropane	ug/L (ppb)	10	94	97	70-130	3
1,2,4-Trichlorobenzene	ug/L (ppb)	10	97	96	70-130	1
Hexachlorobutadiene	ug/L (ppb)	10	104	101	70-130	3
Naphthalene	ug/L (ppb)	10	93	95	70-130	2
1,2,3-Trichlorobenzene	ug/L (ppb)	10	93	92	70-130	1

Date of Report: 06/30/25
Date Received: 06/27/25
Project: Ryder 25009086, F&BI 506527

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF WATER SAMPLES FOR SEMIVOLATILES BY EPA METHOD 8270E

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Naphthalene	ug/L (ppb)	10	77	79	50-105	3
2-Methylnaphthalene	ug/L (ppb)	10	81	85	52-113	5
1-Methylnaphthalene	ug/L (ppb)	10	82	85	51-115	4
Acenaphthylene	ug/L (ppb)	10	87	90	60-114	3
Acenaphthene	ug/L (ppb)	10	84	88	57-110	5
Fluorene	ug/L (ppb)	10	89	94	61-115	5
Phenanthrene	ug/L (ppb)	10	86	92	69-115	7
Anthracene	ug/L (ppb)	10	89	92	65-121	3
Fluoranthene	ug/L (ppb)	10	94	91	71-127	3
Pyrene	ug/L (ppb)	10	83	123	62-133	39 vo
Benz(a)anthracene	ug/L (ppb)	10	92	93	66-131	1
Chrysene	ug/L (ppb)	10	84	90	66-129	7
Benzo(a)pyrene	ug/L (ppb)	10	89	93	66-129	4
Benzo(b)fluoranthene	ug/L (ppb)	10	87	92	55-144	6
Benzo(k)fluoranthene	ug/L (ppb)	10	88	92	58-139	4
Indeno(1,2,3-cd)pyrene	ug/L (ppb)	10	97	96	62-136	1
Dibenz(a,h)anthracene	ug/L (ppb)	10	99	100	55-146	1
Benzo(g,h,i)perylene	ug/L (ppb)	10	95	123	58-137	26 vo

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, biased low; or, the calibration results for the analyte were outside of acceptance criteria, biased high, with a detection for the analyte in the sample. 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 between the method detection limit and the lowest calibration point. 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.

k – The calibration results for the analyte were outside of acceptance criteria, biased high, and the analyte was not detected in the sample.

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.

506527

SAMPLE CHAIN OF CUSTODY

06/27/25 I2/VW1

Page # 1 of 1

Report To Karl Bowers

Company Apex

Address 299 W. Hillcrest Dr. Ste 220

City, State, ZIP Thousand Oaks, CA 91360

Phone 805-444-4683 Email Karl.Bowers@apexcos.com Taylor.Gilmore@apexcos.com

SAMPLERS (*signature*)

PROJECT NAME: Ryder

PO #: 25009086

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

~~X~~ Standard turnaround

X RUSH by MON 06/30

Rush charges authorized by: per email ef 6/27

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										
RW-1	01 A-F	6/26/25	945	Water	6	X	X	X		X	X					
TRIP BLANK	02 A-B	N/A	N/A	WATER	2		✓									ADDED AT LAB ✓ ef 6/27
								Samples received at 3 °C								

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	Taylor Gilmore	Apex	6/26/25	1630
Received by:	Anh Pham	FBT	6/27/25	09:52
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
5500 4th Ave S.
Seattle WA 98108
(206) 285-8282
office@friedmanandbruya.com

SAMPLE CONDITION UPON RECEIPT CHECKLIST

PROJECT # 506527 CLIENT Apex INITIALS/ AP DATE: 6/27/25

If custody seals are present on cooler, are they intact? ☑ NA ☐ YES ☐ NO

Cooler/Sample temperature 3 °C
Thermometer ID: Fluke 96312917

Were samples received on ice/cold packs? ☑ YES ☐ NO

How did samples arrive?
☐ Over the Counter ☐ Picked up by F&BI ☑ FedEx/UPS/GSO

Is there a Chain-of-Custody* (COC)? ☑ YES ☐ NO Initials/ AP Date: 6/27/25
*or other representative documents, letters, and/or shipping memos

Number of days samples have been sitting prior to receipt at laboratory 1 days

Are the samples clearly identified? (explain "no" answer below) ☑ YES ☐ NO

Were all sample containers received intact (i.e. not broken, leaking etc.)? (explain "no" answer below) ☑ YES ☐ NO

Were appropriate sample containers used? ☑ YES ☐ NO ☐ Unknown

If custody seals are present on samples, are they intact? ☑ NA ☐ YES ☐ NO

Are samples requiring no headspace, headspace free? ☐ NA ☑ YES ☐ NO

Is the following information provided on the COC, and does it match the sample label?
(explain "no" answer below)

Sample ID's	☑ Yes	☐ No	☐ Not on COC/label
Date Sampled	☑ Yes	☐ No	☐ Not on COC/label
Time Sampled	☑ Yes	☐ No	☐ Not on COC/label
# of Containers	☐ Yes	☑ No	Added Trip blank at lab.
Relinquished	☑ Yes	☐ No	
Requested analysis	☑ Yes	☐ On Hold	

Other comments (use a separate page if needed)

Air Samples: Were any additional canisters/tubes received? ☑ NA ☐ YES ☐ NO

Number of unused TO15 canisters** _____ **Number of unused TO17 tubes** _____
**Fill out Green manifolds billing sheet

Project Number: 25009086 (Ryder)

Well ID	Analysis	No. Samples
RW-1	Diesel range and motor oil range compounds (TPH-Dx)	2
	Total Petroleum Hydrocarbons gasoline range (TPH-Gx)	1
	Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), ethylene-dibromide (EDB) and Ethylene dichloride (EDC) using EPA Method 8260D	1
	Polynuclear Aromatic Hydrocarbons (PAHs) using EPA Method 8270E	1
	Trip Blank - analyzed for Gx	1
	Total # of containers:	**6**


Do not lift using this tag.
ORIGIN ID:YKMA (000) 000-0000
PBS ENVIRONMENTAL
SUITE 106
400 BRADLEY BLVD STE 106
RICHLAND, WA 99352
UNITED STATES US
SHIP DATE: 26JUN25
ACTWGT: 19.20 LB
CAD: 6995175/SSFE2600
DIMS: 13x11x11 IN
BILL THIRD PARTY
TO
FRIEDMAN & BRUYA, NC
5500 4TH AVE S
SEATTLE WA 98108
(206) 285-8282
REF:
DEPT:
INV:
PO:
FedEx
Express
FRI - 27 JUN 10:30A
PRIORITY OVERNIGHT
TRK# 0201 3904 1493 3776
AHS
98108
WA-US SEA
85 BFIA
Part # 156297-435 RRDB2 EXP 03/26