
Rutland Fuel Company Bulk Storage Facility 156 Granger Street Rutland, Vermont

VTDEC Site #2010-4081
KAS Job #408100392

PASSIVE PRODUCT RECOVERY, REPLACEMENT WELL INSTALLATION AND SPRING 2016 GROUNDWATER MONITORING REPORT

November 15, 2016

Prepared for:

Rutland Fuel Company
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1.0 Introduction and Background

This report summarizes the passive product recovery, replacement well (MW11-6) installation, and the Spring 2016 groundwater monitoring efforts at the Rutland Fuel Company Bulk Storage Facility property located at 156 Granger Street, Rutland, Vermont ("Site"). A Site Location Map is included in Appendix A. KAS, Inc. (KAS) conducted this work for the Rutland Fuel Company, property owner and responsible party. Groundwater monitoring and passive product recovery efforts were performed in accordance with the Work Plan and Cost Estimate dated March 14, 2016, which was approved by Ms. Linda Elliott of the Vermont Department of Environmental Conservation (VTDEC) on April 6, 2016. Replacement well installation was performed in accordance with the Work Plan and Cost Estimate approved by Ms. Linda Elliott of the Vermont Department of Environmental Conservation (VTDEC) on May 2, 2016.

Petroleum contamination was first discovered at this Site in August 2010 during construction activities conducted to upgrade the storage facility. Subsurface petroleum contamination that is present beneath the Site has been attributed to surface releases of petroleum over time as a result of the property being used as a bulk storage facility for many years. Subsequent site investigations and semi-annual groundwater monitoring activities indicate select volatile organic compounds (VOCs) are present in groundwater at the Site above Vermont Groundwater Enforcement Standards (VGES). Light non-aqueous phase liquid (LNAPL) was first detected at the Site in March 2012 and reappeared in October 2014. Both appearances corresponded to a seasonally depressed groundwater table. Quarterly passive product recovery efforts were initiated in March 2015 to monitor the LNAPL plume and remove any recoverable product from the subsurface.

Previous reports documenting the site history and previous investigative / monitoring work conducted at the Site are on file at the VTDEC in Montpelier, Vermont.

2.0 Passive Product Recovery Efforts

Since March 2015, KAS has manually recovered LNAPL from MW11-6, in general, on a quarterly basis. On March 22, 2016 KAS attempted to conduct passive recovery efforts at this well location. Upon arrival and inspection, KAS determined that MW11-6 had been destroyed at some point between the Fall 2015 groundwater monitoring event and March 2016 passive recovery event. KAS field staff discovered pieces of broken PVC pipe in the vicinity of MW11-6 but a magnetometer survey of the area failed to locate the wellhead. KAS attempted to dig out the well however the ground was frozen and impenetrable. It is presumed that MW11-6 was destroyed during snow plowing; however, KAS understands that the snow plowing subcontractor did not report hitting anything.

Monitoring wells in the vicinity of MW11-6 did not contain LNAPL; however, the nearest downgradient monitoring well, MW11-8, could not be located and therefore was not gauged. This well was presumed to be destroyed.

Destroyed monitoring wells MW11-6 and MW11-8 were replaced prior to the Spring 2016 groundwater monitoring event. Replacement well installation efforts are discussed in the following section; 3.0 Replacement Well Installation.



3.0 Replacement Well Installation

3.1 Pre-Drilling Activities

Prior to initiation of the subsurface activities at the Site, the Site's Health and Safety Plan (HASP) was updated in accordance with Vermont Occupational Safety and Health Administration (VOSHA) requirements. The Site was pre-marked for DigSafe on June 8, 2016. Dig Safe was then contacted prior to the drilling activities, and Dig Safe number 20162309923 was assigned.

3.2 Monitoring Well Installation

On June 15, 2016, KAS oversaw the advancement of two soil borings that were completed as replacement wells MW11-6R and MW11-8R in close proximity to their original locations, by T&K Drilling of Troy, New Hampshire. Both soil borings were advanced to a depth of 10 feet below ground surface (fbgs) using a truck mounted hollow stem auger drill rig. Monitoring wells MW11-6R and MW11-8R were set at a depth of 10 fbgs and were constructed of 2-in. PVC plastic with a 0.010-in. factory slotted screen. The screen was placed to span the water table from approximately 2 to 10 fbgs. Both wells were completed with flush-mount traffic rated well boxes, compression fittings, and a concrete curtain. Following installation, the wells were developed using a disposable bailer and the top-of-casing was surveyed in relative to a known datum (MW12-10 at 101.95 feet). The location of monitoring wells MW11-6R and MW11-8R are indicated on the Site Map presented in Appendix A. Monitoring well construction diagrams for MW11-6R and MW11-8R are presented in Appendix B.

3.3 Soil Screening

Continuous soil samples were collected for the entire length of both borings, logged and field screened for the presence of volatile organic compounds (VOCs) using a MiniRae™ Lite model photoionization detector (PID). Prior to screening, the PID was calibrated with isobutylene referenced to benzene. Soils were screened using the KAS Polyethylene Bag Headspace Screening Protocol. Soil characteristics and PID readings are included in the monitoring well construction diagrams presented in Appendix B.

Subsurface soils encountered consisted mostly of silt, silty clay at both locations. Groundwater was observed at approximately 5 fbgs at both locations. Bedrock was not encountered. Soils exhibiting a strong petroleum odor and elevated PID readings were observed within a fine sand layer at the soil water interface in MW11-6R. PID screening values up to 359.6 parts per million (ppm) were recorded within this layer in MW11-6R. Soil exhibiting a slight petroleum odor and relatively low PID readings were observed at the soil water interface in MW11-8R. PID screening values up to 4.0 parts per million (ppm) were recorded within this layer in MW11-8R.

3.4 Soil Disposal

Contaminated drill cuttings that were not used as backfill during the installation of the monitoring wells were containerized in a 55-gallon steel drum for off-Site disposal. On July 14, 2016, the drum was hauled off-Site for disposal by NRC (formerly ENPRO Services of Vermont) of Williston, Vermont. A copy of the hazardous waste manifest is presented in Appendix C.



4.0 Groundwater Monitoring

4.1 Determination of Groundwater Flow Direction and Gradient

Depth-to-liquid measurements were collected from 11 site-related monitoring wells on June 22, 2016 using a Keck™ interface probe (IP). LNAPL was not detected in any of the wells gauged during the June 2016 groundwater monitoring event. Depth to water ranged from 1.11 feet below top of casing (btoc) in MW11-9 to 5.04 feet btoc in MW12-11. Liquid level monitoring data are recorded in Appendix D and are within range of historic levels observed at the Site.

Water level measurements were subtracted from the top of casing elevations, which were determined relative to an arbitrary datum of 100 feet at the top of the casing for MW11-2, to determine the groundwater elevation at each of the wells. Groundwater elevations were plotted on the Site Map to generate the Groundwater Contour Map presented in Appendix A. Analysis of the groundwater elevations show that the groundwater appears to flow in a general northerly direction away from the bulk fuel tank storage area. The main components of flow are directed to the northwest and northeast at hydraulic gradients of 2.0% (between MW12-10 and MW11-5) and 2.1% (between MW11-6R and MW12-11), respectively. Historically, groundwater flow has varied overtime and the groundwater flow observed for the Spring 2016 monitoring event is generally similar to past observations.

4.2 Groundwater Sample Collection and Analysis

Groundwater samples were collected from eight monitoring wells on June 22, 2016 immediately following well gauging, including the replacement wells MW11-6R and MW11-8R. The groundwater samples were collected using low flow sampling techniques according to KAS' *Low Flow Purging & Sampling Protocol*. KAS attempted to collect pH and turbidity values for all purge and sample water; however, due to an equipment malfunction reliable pH and turbidity values could not be collected during this monitoring event. Because KAS could not collect accurate pH or turbidity readings in the field, the decision as to when to sample the wells was based on KAS' previous experience collecting samples at the Site and achieving stability for the water quality parameters that were measurable; temperature and conductivity.

The groundwater samples were stored on ice in the field and submitted to Endyne, Inc. of Williston, Vermont under proper chain-of-custody procedures. The samples were analyzed for the major petroleum VOCs using EPA 8021B. For Quality Assurance/ Quality Control (QA/QC) purposes, one trip blank and one duplicate sample were submitted along with the groundwater samples. These results along with the historical groundwater quality data are tabulated and graphed in Appendix E and compared with the applicable Vermont Groundwater Enforcement Standards (VGES). The laboratory report is presented in Appendix G.

Analytical Results

The laboratory analytical data indicated the presence of dissolved hydrocarbons at concentrations higher than the VGES in the samples collected from monitoring wells MW11-2, MW11-3, MW11-4 and MW11-7. Select VOCs were reported in groundwater samples collected from MW11-1, MW11-5, MW11-6R, MW11-8R and MW12-10 at levels below the VGES. Total targeted VOC concentrations ranged from non-detected (ND) in MW12-11 to 3,273 ug/L in MW11-4. Analytical results are summarized and presented in Appendix E.



Trend Analysis

Total VOC concentrations increased at MW11-3 and MW11-7 since the last time the wells were sampled (November 2015); however, the concentrations reported were within range of historic fluctuations. Concentrations at monitoring wells MW11-1, MW11-2, MW11-4, MW11-5, MW11-6R, MW11-8R, MW11-9, MW12-10 and MW12-11 decreased or remained at low to non-detectable levels.

Although dissolved VOC concentrations continue to fluctuate over time, an overall long-term declining concentration trend has been observed in the majority of site wells since sampling began in 2011. Based on data collected to date, the highest level of decline has been noted at monitoring wells MW11-5 (94%), MW11-6/MW11-6R (98%) MW11-7 (80%), MW11-8 (92%) and MW12-10 (99%). It should be noted that contaminant concentrations in MW11-6R and MW11-8R were compared to historical concentrations in the wells they replaced (MW11-6 and MW11-8).

A direct relationship between contaminant concentrations and groundwater table elevation has previously been noted at MW11-2, MW11-3 and MW11-8. Additionally, there appears to be a correlation between low groundwater levels and the appearance of LNAPL in MW11-6. The continued absence of LNAPL in downgradient wells suggests LNAPL has not migrated far from MW11-6 and is localized. Based on the current data and trends, it will likely take several years for the contaminant levels to decrease below the VGES.

Contaminant Distribution

The highest levels of VOCs have historically been noted in groundwater collected from MW11-2, which is located near the former loading rack area, and MW11-3 and MW11-4, which are located downgradient of the current and former bulk storage tank area. Additionally, a localized pocket of LNAPL is present in the vicinity of MW11-6, which is also located downgradient of the current and former bulk storage area. The total VOC concentrations in groundwater were plotted on the Site Map (Appendix A) to show the distribution of contaminants across the area.

Based on the Contaminant Distribution Map included in Appendix A and previous contaminant distribution maps for the Site, the contaminant plume has been adequately defined towards the east, west and south due to the low to non-detectable VOCs reported in monitoring wells MW11-1, MW12-11 and MW11-9, respectively. The full extent of the plume to the north was defined during the March 2013 drilling event; however, it has been determined the contamination detected on the neighboring property to the north is not from the Rutland Fuel Company property but rather associated with a separate contaminant plume originating on the Marble Valley Regional Transit Garage property (VTDEC Site #2013-4376). Current and historic analytical data suggests the contaminant plumes are periodically co-mingled.

QA/QC

The groundwater samples obtained during this study were collected in accordance with KAS' groundwater sampling protocol. VOCs were not detected in the Trip Blank sample prepared on June 22, 2016. A duplicate sample was obtained at monitoring well MW11-6R. Overall relative percent difference (RPD) values are moderate, and indicate that adequate quality and assurance and control were maintained during sampling, transporting, and analysis. The RPD is defined as 100 times the difference between the actual and duplicate sample, divided by the mean of the two samples. A low RPD indicates a good correlation between the two samples, while a high RPD indicates a poor correlation. The absolute RPD values ranged from a low of 8.0% to a high of 43.9% with an overall total VOC RPD of 31.8%. Although the percentages appear high, they are based on



relatively low contaminant concentrations just above laboratory reporting limits. This data is presented in Appendix E.

Unidentified peaks were reported in all groundwater samples except the samples collected from MW11-9 and MW12-11.

5.0 Sensitive Receptor Risk Assessment

A sensitive receptor risk assessment of the area surrounding the Site is provided below, and a determination of the potential risk to identified receptors has been made based on proximity to the contaminant plume, groundwater flow direction, contaminant mobility and volatility, and contaminant concentration levels in subsurface soils and groundwater. To date only two sensitive receptors (soil and groundwater beneath the Site) have been identified as being impacted from the subsurface petroleum contamination originating from the Site.

The Site and surrounding buildings in the area are serviced by municipal water. According to the Agency of Natural Resources website (<http://anrmaps.vermont.gov/websites/anra/>) there is one private and no public water supply wells within a half mile radius. The nearest well is approximately 760 feet away from the source area. Based on the data gathered to date, water supplies are not considered to be at risk of contamination at this time.

The nearest surface water is Moon Brook, located approximately 850 feet southwest of the Site. There does not appear to be risk to the Brook given the distance between the Site and the surface water. No other surface water bodies have been identified in close proximity of the Site. Cattails, which are indicative of wet subsurface conditions, are present along the northern edge of the property just behind the chain link fence and along the railroad tracks. However, no classified wetlands are identified as being present in the immediate vicinity of the Site according to information available online via the Vermont Department of Environmental Conservation, Water Supply Division.

The closest buried utilities are municipal water and sewer lines located to the west of the on-site building. These municipal utility corridors are not considered to be at risk of acting as a conduit for the migration of contaminated groundwater from the Site given their location in relation to the documented groundwater flow. A storm water catch basin was noted to be present on the adjacent parcel of land to the east (See Site Map, Appendix A). This catch basin has been screened for VOCs using a PID on multiple occasions and no readings have been recorded. In the past it appeared the catch basin was plugged and was not able to drain surface water.

The Site is occupied by two buildings, an office building on the northwestern portion of the property and a garage on the southwestern portion of the property. The office building contains a basement. The indoor air within the basement of the building was previously screened for VOCs with a photoionization detector (PID) and no PID readings above background were recorded. Additionally, no odors were noted. Given its location relative to the source area, the immediate and future risk to the building from the migration of petroleum vapors is considered to be low at this time. The sump located in the office building was sampled in April 2011 and March 2012 and no VOCs were reported above laboratory detection limits. A low concentration of total petroleum hydrocarbons (TPH) was reported in the sample in April 2011. Overall, petroleum impacts to the sump water appear to be minimal at this time.



6.0 Conclusions

Based on the passive product recovery event, replacement well installation and Spring 2016 groundwater monitoring event at the Rutland Fuel Company Bulk Storage Facility, the following conclusions are offered:

- 1) On March 22, 2016 KAS attempted to conduct passive recovery efforts at MW11-6. Upon arrival and inspection, KAS determined that MW11-6 had been destroyed at some point between the Fall 2015 groundwater monitoring event and March 2016 passive recovery event. Monitoring wells in the vicinity of MW11-6 did not contain LNAPL; however, the nearest downgradient monitoring well, MW11-8, could not be located and was also presumed to be destroyed;
- 2) On June 15, 2016, KAS oversaw the advancement of two soil borings that were completed as replacement wells MW11-6R and MW11-8R in close proximity to their original locations, prior to the Spring 2016 groundwater monitoring event;
- 3) On June 22, 2016, water levels beneath the Site ranged from 1.11 feet btoc to 5.04 feet btoc. Groundwater flows in a general northerly direction with a hydraulic gradient ranging from 2.0% to 2.1% which is consistent with the flow observed during the previous sampling round;
- 4) LNAPL was not detected in any of the wells gauged during the June 2016 groundwater monitoring event. Due to the absence of LNAPL in any of the wells during gauging, soakease™ absorbent socks were not installed in June 2016;
- 5) Dissolved hydrocarbons were detected at concentrations higher than the VGES in the samples collected from monitoring wells MW11-2, MW11-3, MW11-4 and MW11-7. Total detectable VOC concentrations ranged from ND in wells MW11-9 and MW12-11 to 3,273 ug/L in MW11-4;
- 6) Although fluctuations continue to occur, an overall decreasing trend of VOC contamination has been noted in the majority of site wells since sampling began;
- 7) The full extent of the contaminant plume away from the Rutland Fuel property has generally been defined in all directions;
- 8) No sensitive receptors, other than soil and groundwater, have been identified as being at potential risk from the subsurface petroleum contamination observed on Site at this time; and,
- 9) As the source(s) of the petroleum release has been eliminated (historic spills over time), it is expected that the residual petroleum in soil and groundwater at the Site will eventually dissipate by the natural processes of dilution, dispersion, and biodegradation. However, natural attenuation is occurring very slowly and based on the current data and trends, it will likely take several years for the contaminant levels to decrease below the VGES.



7.0 Recommendations

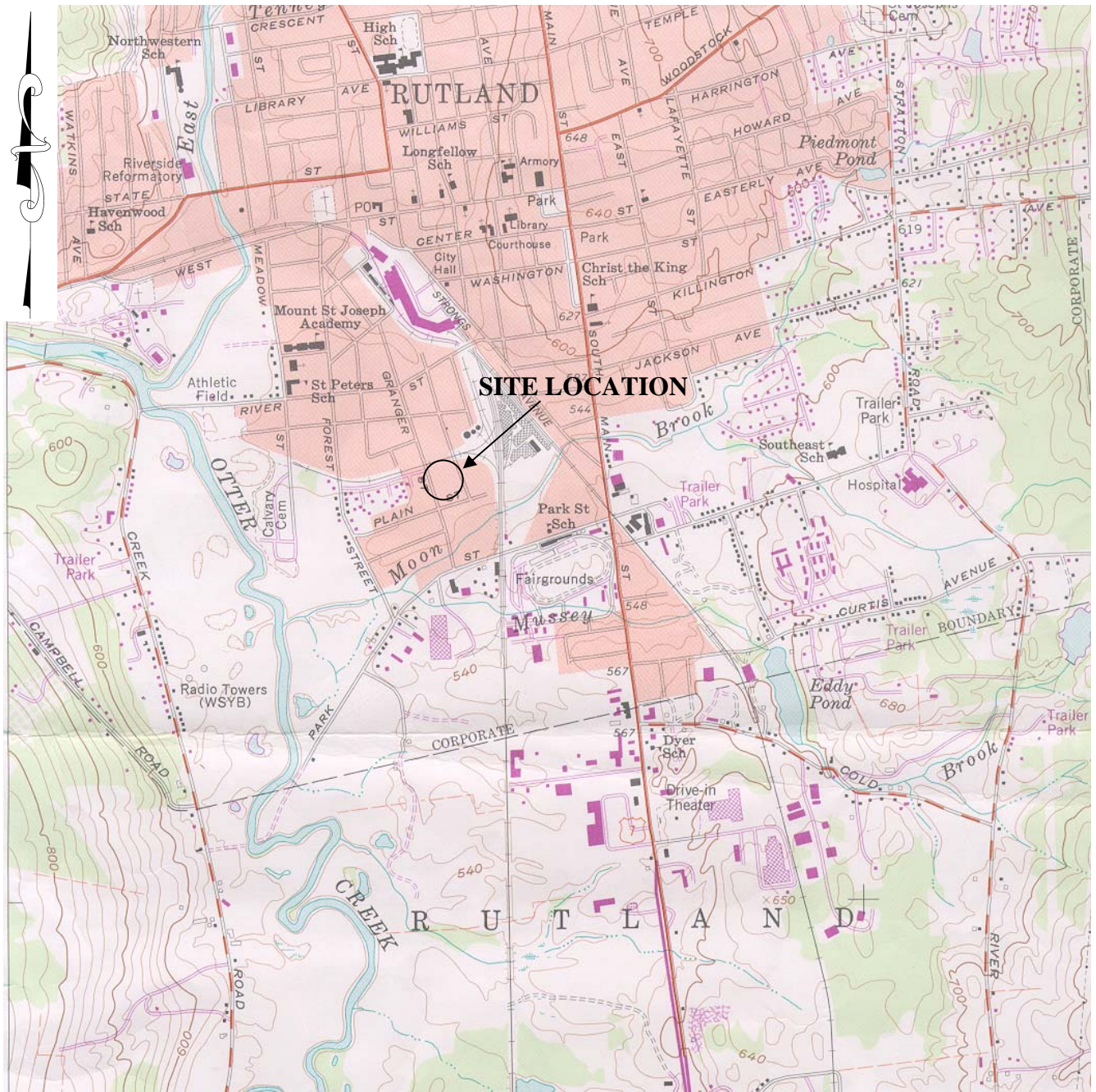
Based on the results of the Spring 2016 groundwater monitoring and sensitive receptor assessment conducted at the Rutland Fuel Company Bulk Storage Facility property, KAS recommends the following:

1. Groundwater monitoring should continue on a semi-annual basis to track contaminant concentrations over time as well as seasonal fluctuations. All site related monitoring wells should be sampled in the spring and fall for VOCs via EPA Method 8021B using low flow sampling techniques with the next sampling event occurring in Fall 2016; and,
2. Quarterly passive product recovery efforts should continue at the Site with the next event occurring in late Fall 2016. Monitoring wells MW11-6, MW11-7, MW11-8 and MW12-10 should be monitored for the presence of LNAPL during each passive-product recovery event.



Appendix A

- 1) Site Location Map**
- 2) Site Map**
- 3) Groundwater Contour Map**
- 4) Contaminant Distribution Map**



Job Number: 408100392
 VTDEC Site Number 2010-4081

Source: USGS 7.5 minute quadrangle, Rutland, VT, dated 1961, photorevised 1988.
 Scale 1:24,000 Contour interval 20 Feet



Site Location Map

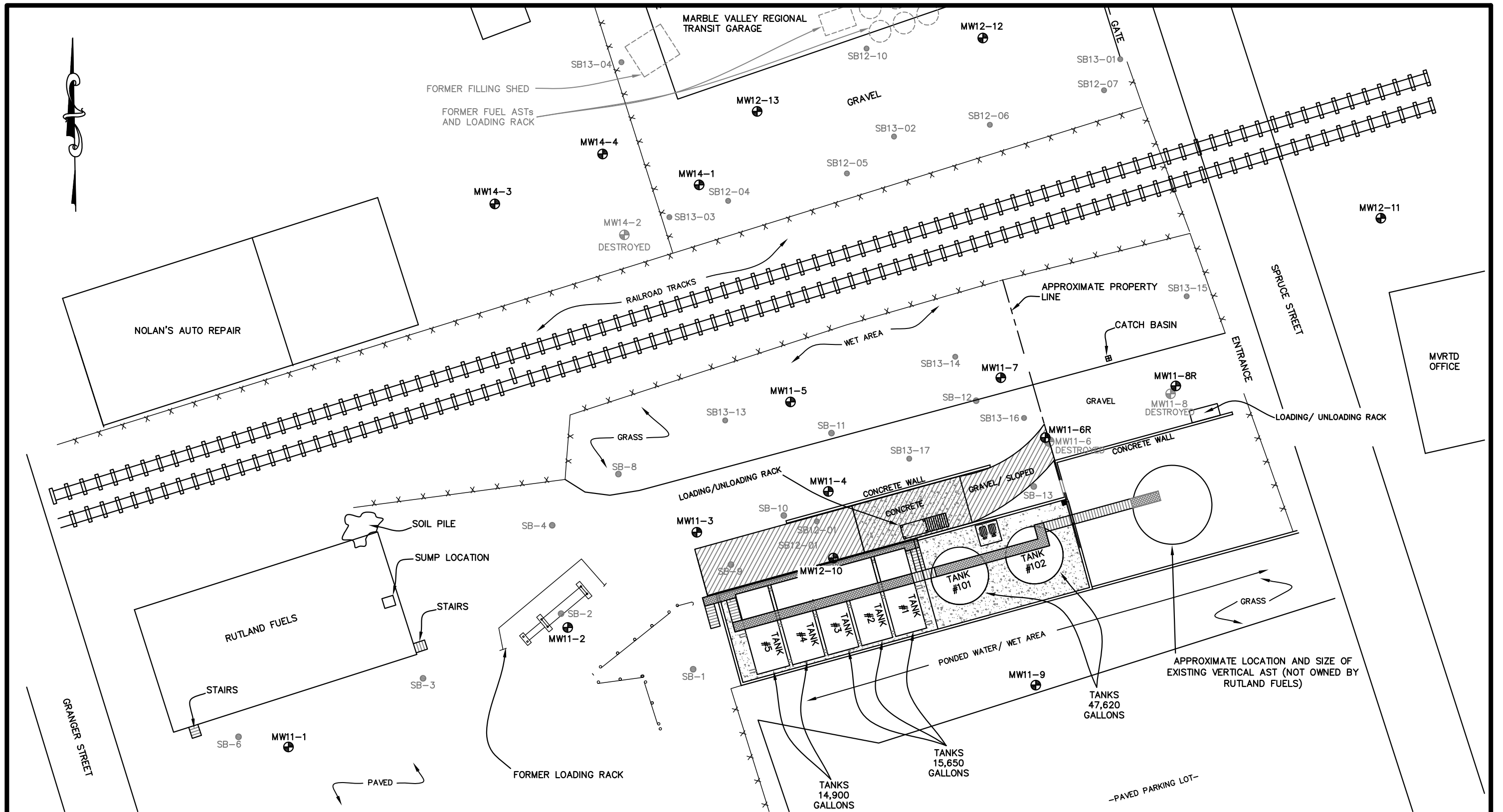
**Rutland Fuel Company
 156 Granger Street
 Rutland, VT**

Date: 11/2/10

Drawing: 1/1

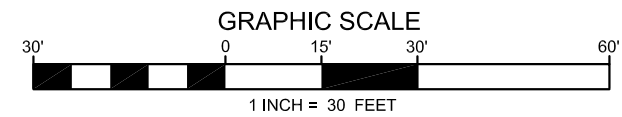
Scale: 1" = approx. 2,000'

By: JR



LEGEND

- MW11-9 MONITORING WELL
- CHAIN LINK FENCE
- GUARDRAIL
- SB12-01 FORMER SOIL BORING



NOTE:
TOPOGRAPHICAL SURVEY PROVIDED BY TINKER SURVEYS DATED
APRIL 2009, ADDITIONAL SURVEY BY KAS, INC. 8/25/09

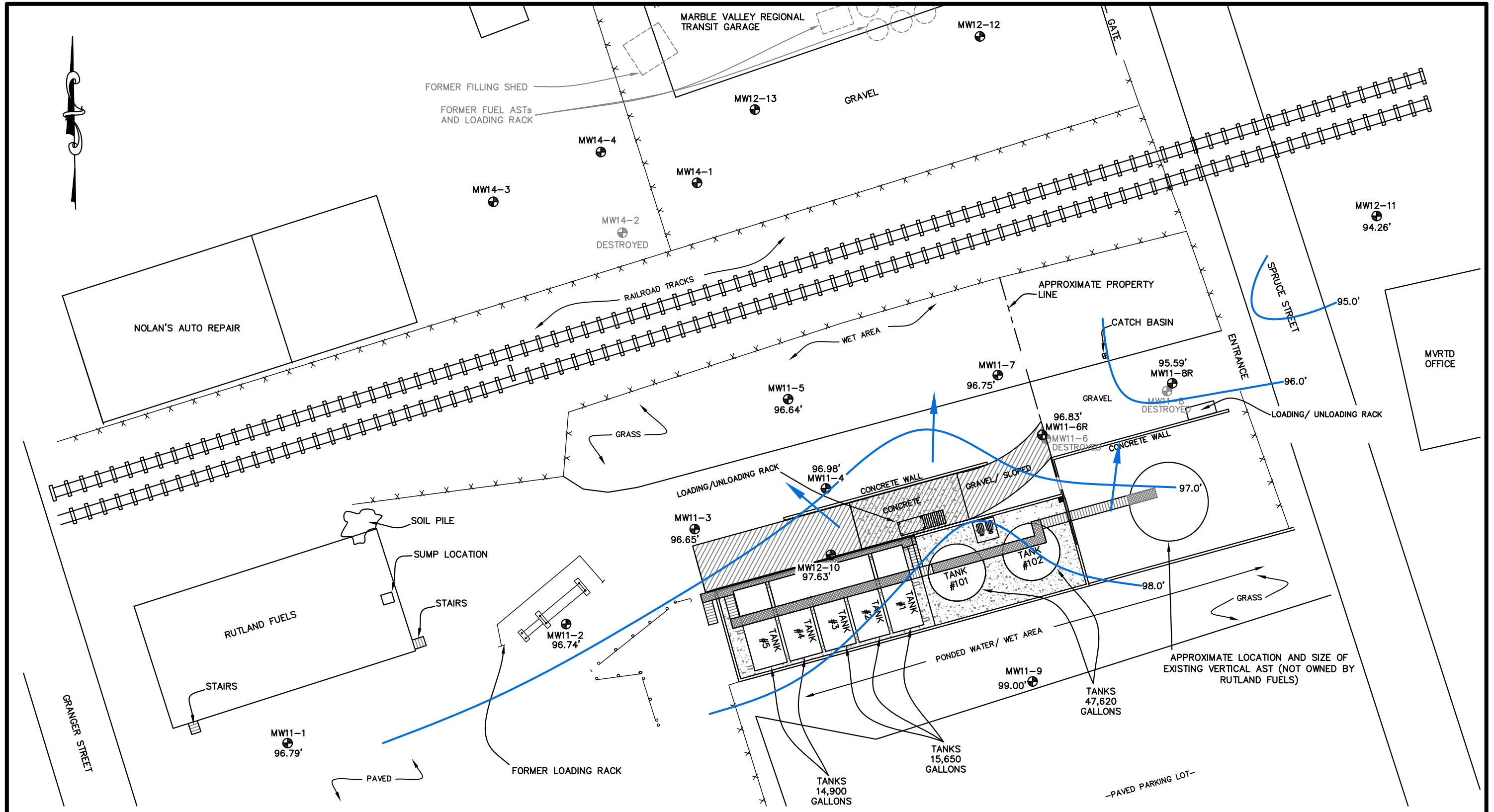
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**BULK OIL FACILITY
RUTLAND FUEL COMPANY**
156 GRANGER STREET
RUTLAND, VERMONT

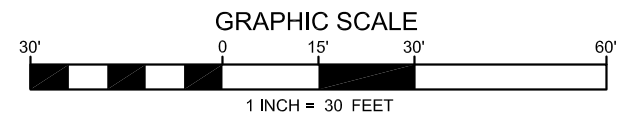
SITE MAP

DATE: 10/5/16	DWG #: 1	SCALE: 1"=30'	DRN.: TB	APP.: RT
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LEGEND

- MW11-8R 95.59'
- MONITORING WELL WITH GROUNDWATER ELEVATION (FT)
- CHAIN LINK FENCE
- GUARDRAIL
- GROUNDWATER ELEVATION CONTOUR (FT; DASHED WHERE INFERRED)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- NM NOT MEASURED



NOTE:
TOPOGRAPHICAL SURVEY PROVIDED BY TINKER SURVEYS DATED
APRIL 2009, ADDITIONAL SURVEY BY KAS, INC. 8/25/09

KAS #: 408100392
VTDEC #: 2010-4081

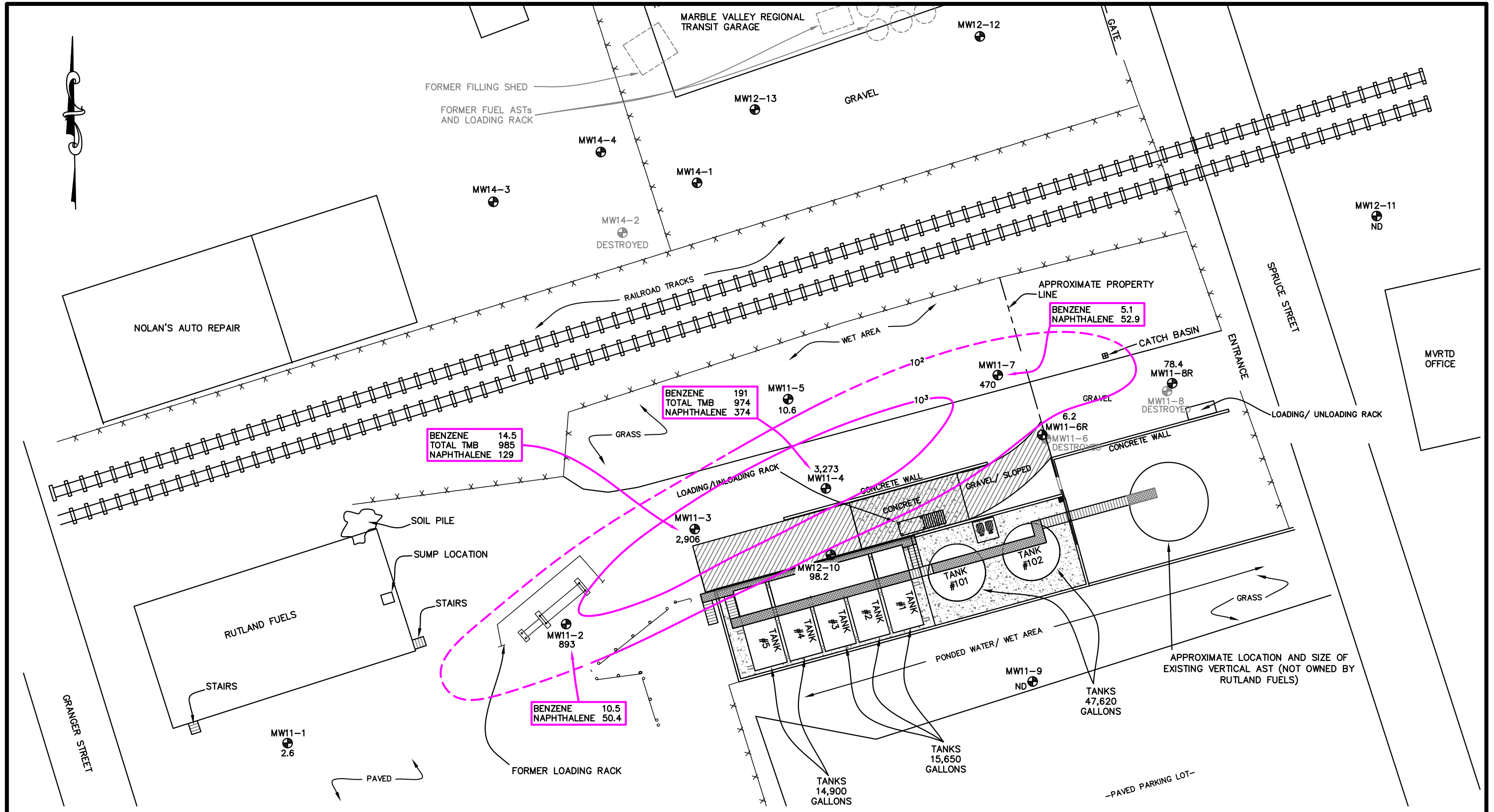
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GROUNDWATER CONTOUR MAP
MEASURED: 6/22/16

DATE: 10/5/16	DWG #: 2	SCALE: 1"=30'	DRN.: TB	APP.: RT
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LEGEND

MW11-8R
78.4

MONITORING WELL WITH TOTAL TARGETED VOC CONTAMINANT CONCENTRATION (ppb; M=8021B)

CHAIN LINK FENCE

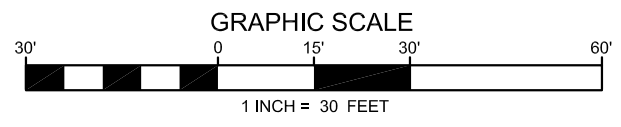
GUARDRAIL

10² CONTAMINANT CONCENTRATION CONTOUR (ppb; DASHED WHERE INFERRED)

ND NONE DETECTED

TMB 1,2,4 & 1,3,5-TRIMETHYLBENZENE

BENZENE 5.1 VOC EXCEEDANCE OF VGES



NOTE:
TOPOGRAPHICAL SURVEY PROVIDED BY TINKER SURVEYS DATED APRIL 2009, ADDITIONAL SURVEY BY KAS, INC. 8/25/09

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156 GRANGER STREET
RUTLAND, VERMONT

**TOTAL TARGETED VOC CONTAMINANT
DISTRIBUTION MAP** SAMPLED: 6/22/16

DATE: 10/5/16	DWG #: 3	SCALE: 1"=30'	DRN.: TB	APP.: RT
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Appendix B

Monitoring Well Construction Diagrams



BORING LOG AND WELL CONSTRUCTION DIAGRAM

Well No: MW11-6R

Rutland Fuel Company Bulk Storage
Rutland, VT

KAS Project #: 408100392	Date Installed: 06/15/16	Letter Symbol	Graphic Symbol
Drilled by: T&K Drilling	Drilling Method: HSA		
Driller: Sean McGarry	Boring Diameter.: 8.25"		
Supervised by: Rebecca Treat	Development Method: Disposable Bailer		
	Screened Length: 8 Feet		

Grade = 0	Well Construction	Pen/Rec (")	Interval (')	Soil Characteristics	Letter Symbol	Graphic Symbol	
		Blow Count	PID (ppm)				
0.5				Gravel			
1.0							
1.5							
2.0					Augered to 2.0 feet before sampling		
2.5			24/18	2-3	Dry, Brown, fine to course SAND AND GRAVEL	SW	
3.0		11-5-3-4	1.8				
3.5				3-4	Dry, Olive/Black, fine SAND AND SILT creosote/petroleum oder noted	SM	
4.0				2.4			
4.5							
5.0							
5.5		24/18	5-6	Wet, Olive/Black, fine SAND AND SILT petroleum odor/sheen noted	SM		
6.0	6-5-6-6	359.6					
6.5			6-7	Wet, Olive, SILTY CLAY 1" fine gray sand lense @6.5'	CL		
7.0			28.8				
7.5							
8.0							
8.5		24/18	8-10	Wet, Olive, SILTY CLAY 2" fine sand lense @9.75' - PID = 0.6	CL		
9.0	2-2-5-3	1.0					
9.5							
10.0							
10.5			10'	End of Exploration			
11.0							
11.5							
12.0							
12.5							
13.0							
13.5							
14.0							
14.5							
15.0							
15.5							
16.0							
16.5							
17.0							
17.5							
18.0							
18.5							
19.0							

Legend

<ul style="list-style-type: none"> Road Box with Bolt Down Cover, Set in Cement. Existing Surface. Bentonite Seal Placed in Annulus. Drill Cuttings Placed in Annulus. Grade #1 Silica Sand Pack Placed in Annulus. 	<ul style="list-style-type: none"> Locking Plug. 2" ID, Schedule 40 PVC Riser. 2" ID, Schedule 40 PVC, 0.010"-Slotted Well Screen Plug Point Approximate Water Level During Drilling, below grade
---	---

NM - Not Measured N/A - Not Applicable WOH - Weight of Hammer



Appendix C

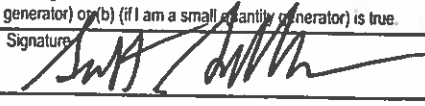
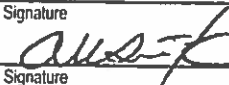
Hazardous Waste Manifest

www.enpro.com

www.tsdf.com

www.hazardouswaste.com

www.hazardouswaste.com

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator ID Number VTR000515536	2. Page 1 of 1	3. Emergency Response Phone 800 966-1102	4. Manifest Tracking Number 002903435 GBF				
5. Generator's Name and Mailing Address Rutland Gas and Oil, Inc. PO Box 701 Rutland VT 05701		Att: Scott Sullivan		Generator's Site Address (if different than mailing address) Rutland Gas and Oil, Inc. 156 Granger Street Rutland VT 05701					
Generator's Phone: 802 773-7400		6. Transporter 1 Company Name ENPRO SERVICES, INC.			U.S. EPA ID Number MAC300098399				
7. Transporter 2 Company Name					U.S. EPA ID Number				
8. Designated Facility Name and Site Address ENPRO SERVICES OF VERMONT, INC. 54 AVENUE D WILLISTON VT 05495		Facility's Phone: 802 860-1200		U.S. EPA ID Number VTR000517052					
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))			10. Containers		11. Total Quantity	12. Unit WL/Vol.	13. Waste Codes	
	STATE REGULATED OIL WASTE 1XSS			No.	Type	700	P	VT02	
				01 DM					
14. Special Handling Instructions and Additional Information 1(X)S Fuel Oil Soils ; WIP# RG&O-001 ; Approval# VT-0716- ENPROPO#30564-61 ENPRO JOB# 61107-0977									
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent. I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.									
Generator's/Offeror's Printed/Typed Name Scott Sullivan				Signature 			Month Day Year 7 14 16		
16. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S. Port of entry/exit: _____ Date leaving U.S.: _____									
17. Transporter Acknowledgment of Receipt of Materials									
Transporter 1 Printed/Typed Name Austin J. Kuh				Signature 			Month Day Year 7 14 16		
Transporter 2 Printed/Typed Name				Signature			Month Day Year		
18. Discrepancy									
18a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection									
18b. Alternate Facility (or Generator)				Manifest Reference Number			U.S. EPA ID Number		
Facility's Phone: _____									
18c. Signature of Alternate Facility (or Generator)							Month Day Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)									
1. H141		2.		3.		4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a									
Printed/Typed Name				Signature			Month Day Year		

www.hazardouswaste.com



Appendix D

Liquid Level Monitoring Data



LIQUID LEVEL MONITORING DATA
Rutland Fuel Company Bulk Storage Facility
Rutland, Vermont

Measurement Date: June 22, 2016

Well I.D.	Well Depth btoc	Top of Casing Elevation	Depth To Product btoc	Depth To Water btoc	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW11-1	10.00	100.03	-	3.24	-	-	-	-	96.79
MW11-2	10.00	100.00	-	3.26	-	-	-	-	96.74
MW11-3	10.00	99.66	-	3.01	-	-	-	-	96.65
MW11-4	10.00	99.67	-	2.69	-	-	-	-	96.98
MW11-5	10.00	98.34	-	1.70	-	-	-	-	96.64
MW11-6R	10.00	100.23	-	3.40	-	-	-	-	96.83
MW11-7	9.00	98.17	-	1.42	-	-	-	-	96.75
MW11-8R	10.00	99.87	-	4.28	-	-	-	-	95.59
MW11-9	10.00	100.11	-	1.11	-	-	-	-	99.00
MW12-10	9.00	101.87	-	4.24	-	-	-	-	97.63
MW12-11	9.00	99.30	-	5.04	-	-	-	-	94.26

HISTORIC GROUNDWATER ELEVATION

Well I.D.	4/26/2011	3/8/2012	3/27/2013	4/29/2014	10/15/2014	11/11/2014	3/11/2015	6/2/2015	9/8/2015
MW11-1	98.79	96.74	97.14	98.22	96.02	96.79	NM	98.77	NM
MW11-2	98.51	97.08	97.35	97.79	96.37	97.01	NM	98.29	NM
MW11-3	98.16	96.41	97.05	97.56	96.15	NM	NM	NM	NM
MW11-4	97.83	96.62	97.26	97.84	96.69	NM	NM	98.04	NM
MW11-5	98.34	97.25	96.91	97.02	96.38	NM	NM	97.21	NM
MW11-6	98.94	96.71	97.50	98.50	96.26	NM	94.90	98.35	94.78
MW11-7	97.52	96.55	97.27	97.75	95.94	NM	94.58	98.17	94.46
MW11-8	98.42	95.54	96.74	97.18	95.11	NM	NM	97.36	NM
MW11-9	100.11	96.77	98.33	98.80	97.19	NM	NM	100.11	NM
MW12-10	-	97.37	98.11	99.03	96.94	NM	94.99	99.65	96.12
MW12-11	-	95.45	Dry	97.15	Dry	NM	NM	96.67	NM

Well I.D.	11/24/2015	3/22/2016	6/22/2016						
MW11-1	96.67	NM	96.79						
MW11-2	96.74	NM	96.74						
MW11-3	NM	NM	96.65						
MW11-4	NM	NM	96.98						
MW11-5	97.29	NM	96.64						
MW11-6	96.75	WELL DESTROYED							
MW11-6R	-	-	96.83						
MW11-7	96.29	96.43	96.75						
MW11-8	NM	WELL DESTROYED							
MW11-8R	-	-	95.59						
MW11-9	98.19	NM	99.00						
MW12-10	99.39	99.44	97.63						
MW12-11	94.99	NM	94.26						

NM- Not measured

All Values Reported in Feet

btoc - Below Top of Casing

Elevations determined relative to top of casing of MW11-2, which was arbitrarily set at 100'

Site surveyed by KAS, Inc. on April 18, 2011 and March 2, 2012

Replacement wells MW11-6R and MW11-8R installed on June 15, 2016; wells surveyed into existing datum by KAS, Inc. on same day.

LNAPL DETECTED



Appendix E

Groundwater Quality Summary



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont

June 22, 2016 Groundwater Quality Summary Table

Monitoring Well	MW11-1 8021B	MW11-2 8021B	MW11-3 8021B	MW11-4 8021B	MW11-5 8021B	MW11-6R 8021B	MW11-7 8021B	MW11-8R 8021B	MW11-9 8021B	MW12-10 8021B	MW12-11 8021B	VGES
PARAMETER												
Benzene	ND<1.0	10.5	14.5	191.	1.8	ND<1.0	5.1	ND<1.0	ND<1.0	4.9	ND<1.0	5
Toluene	ND<1.0	5.9	ND<10.0	ND<50.0	ND<1.0	ND<1.0	ND<5.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1000
Ethylbenzene	ND<1.0	102.	367.	782.	ND<1.0	1.2	128.	ND<1.0	ND<1.0	21.7	ND<1.0	700
Xylenes	ND<2.0	448.	1,410.	952.	2.9	ND<2.0	112.	12.5	ND<2.0	25.7	ND<2.0	10000
Total BTEX	ND	566.	1,792.	1,925.	4.7	1.2	245.	12.5	ND	52.3	ND	-
MTBE	ND<2.0	10.2	ND<20.0	ND<100	ND<2.0	ND<2.0	ND<10.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	40
1,3,5-Trimethylbenzene	ND<1.0	54.5	243.	63.0	ND<1.0	ND<1.0	7.6	ND<1.0	ND<1.0	1.0	ND<1.0	
1,2,4-Trimethylbenzene	ND<1.0	211.	742.	911.	5.9	ND<1.0	164.	63.2	ND<1.0	39.6	ND<1.0	350
Naphthalene	2.6	50.4	129.	374.	ND<2.0	5.0	52.9	2.7	ND<2.0	5.3	ND<2.0	20
Total Targeted VOCs	2.6	893.	2,906.	3,273.	10.6	6.2	470.	78.4	ND	98.2	ND	-

All Values Reported in ug/L (ppb)

All results are from EPA Method 8021B

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

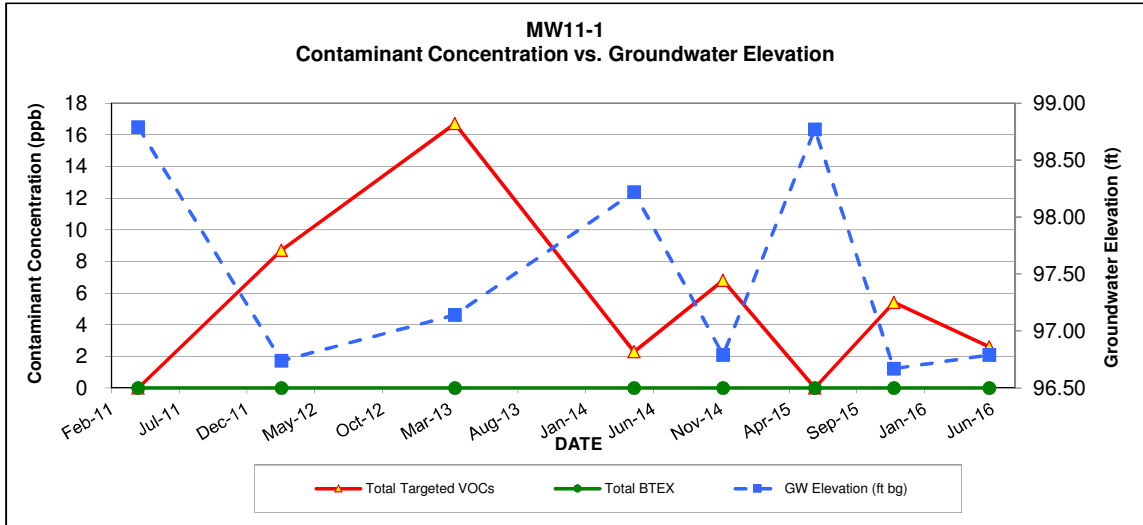
Bold font indicates a detected concentration.

Shaded values meet or exceed VGES



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-1

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/28/2014 8021B	11/11/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
Benzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
Toluene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1000
Ethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	700
Xylenes		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	10000
Total BTEX		ND	ND	ND	ND	ND	ND	ND	-
MTBE		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	40
1,3,5-Trimethylbenzene		ND<1.0	ND<1.0	1.5	ND<1.0	ND<1.0	ND<1.0	ND<1.0	
1,2,4-Trimethylbenzene		ND<1.0	2.1	4.0	ND<1.0	2.2	ND<1.0	1.4	350
Naphthalene		ND<2.0	6.6	11.2	2.3	4.6	ND<2.0	4.0	20
Total Targeted VOCs		ND	8.7	16.7	2.3	6.8	ND	5.4	-
Total Petroleum Hydrocarbons		ND<0.40	NT	NT	NT	NT	NT	NT	-
GW Elevation (ft bg)		98.79	96.74	97.14	98.22	96.79	98.77	96.67	-

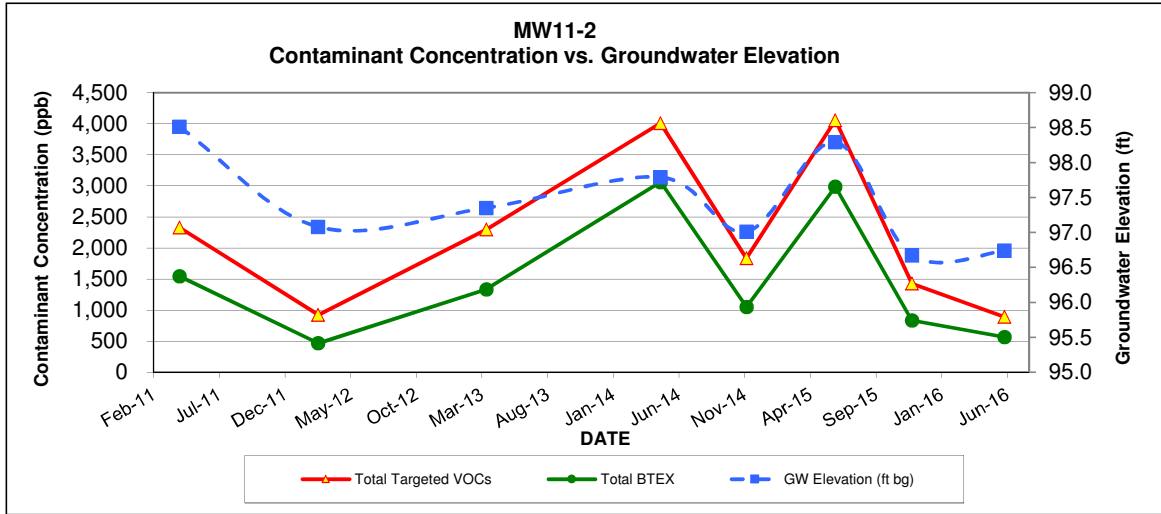
PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		ND<1.0							5
Toluene		ND<1.0							1000
Ethylbenzene		ND<1.0							700
Xylenes		ND<2.0							10000
Total BTEX		ND							-
MTBE		ND<2.0							40
1,3,5-Trimethylbenzene		ND<1.0							
1,2,4-Trimethylbenzene		ND<1.0							350
Naphthalene		2.6							20
Total Targeted VOCs		2.6							-
GW Elevation (ft bg)		96.79							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)
 TPH values are from EPA Method 8015
 VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)
 ND - None detected above sample-specific compound detection limit
Bold font indicates a detected concentration.
 Shaded values meet or exceed VGES
 NT = Not Tested



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-2

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	11/11/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
Benzene		ND<5.0	ND<5.0	13.7	42.0	19.7	53.4	6.9	5
Toluene		7.7	ND<5.0	ND<10.0	21.0	ND<10.0	ND<50.0	ND<5.0	1000
Ethylbenzene		255.	76.	270.	456.	181.	395.	110.	700
Xylenes		1,280.	390.	1,050.	2,540.	849.	2,540.	715.	10000
Total BTEX		1,543.	466.	1,334.	3,059.	1,050.	2,988.	832.	-
MTBE		ND<10.0	ND<10.0	ND<20.0	ND<20.0	38.4	ND<100	10.6	40
1,3,5-Trimethylbenzene		176.	98.4	206.	209.	190.	246.	150.	-
1,2,4-Trimethylbenzene		510.	316.	585.	561.	467.	572.	352.	350
Naphthalene		101.	42.0	171.	177.	88.8	249.	82.9	20
Total Targeted VOCs		2,330.	922.	2,296.	4,006.	1,834.	4,055.	1,427.	-
Total Petroleum Hydrocarbons		7.69	NT	NT	NT	NT	NT	NT	-
GW Elevation (ft bg)		98.51	97.08	97.35	97.79	97.01	98.29	96.67	-

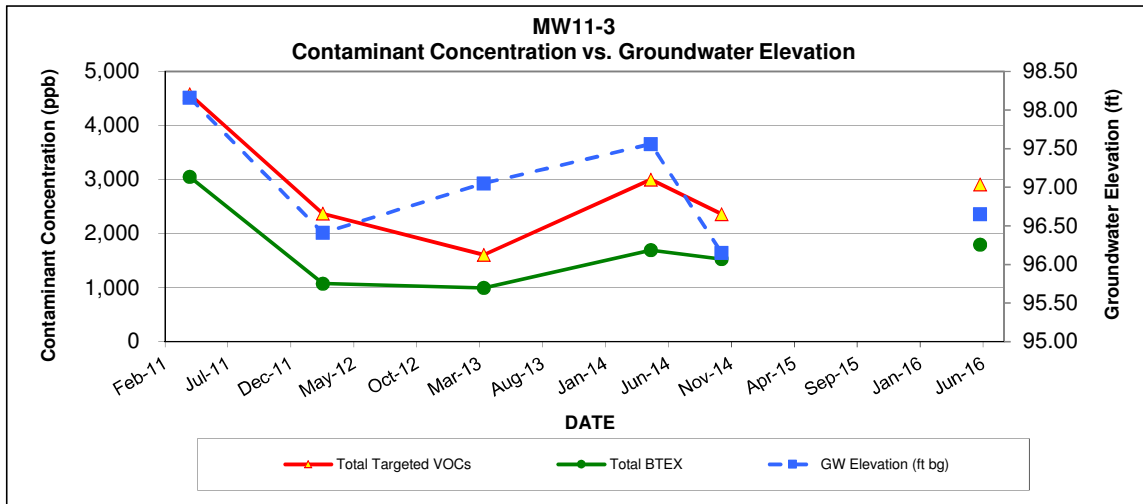
PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		10.5							5
Toluene		5.9							1000
Ethylbenzene		102.							700
Xylenes		448.							10000
Total BTEX		566.							-
MTBE		10.2							40
1,3,5-Trimethylbenzene		54.5							-
1,2,4-Trimethylbenzene		211.							350
Naphthalene		50.4							20
Total Targeted VOCs		893.							-
GW Elevation (ft bg)		96.74							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)
 TPH values are from EPA Method 8015
 VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)
 ND - None detected above sample-specific compound detection limit
Bold font indicates a detected concentration.
 Shaded values meet or exceed VGES
 NT = Not Tested



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-3

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014 8021B	6/2/2015	11/24/2015	VGES
Benzene		25.8	ND<20.0	ND<20.0	14.5	13.0			5
Toluene		ND<20.0	ND<20.0	ND<20.0	ND<10.0	ND<10.0	Well	Well	1000
Ethylbenzene		506.	391.	183.	367.	282.	Not	Not	700
Xylenes		2,520.	683.	811.	1,310.	1,230.	Sampled	Sampled	10000
Total BTEX		3,052.	1,074.	994.	1,692.	1,525.			-
MTBE		ND<40.0	ND<40.0	ND<40.0	ND<20.0	ND<20.0	Unable	Unable	40
1,3,5-Trimethylbenzene		262.	242.	132.	236.	226.	To	To	
1,2,4-Trimethylbenzene		872.	819.	404.	690.	504.	Locate	Locate	350
Naphthalene		393.	236.	77.	382.	105.			20
Total Targeted VOCs		4,579.	2,371.	1,607.	3,000.	2,360.			-
Total Petroleum Hydrocarbons		21.0	NT	NT	NT	NT			-
GW Elevation (ft bg)		98.16	96.41	97.05	97.56	96.15			-

PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		14.5							5
Toluene		ND<10.0							1000
Ethylbenzene		367.							700
Xylenes		1,410.							10000
Total BTEX		1,792.							-
MTBE		ND<20.0							40
1,3,5-Trimethylbenzene		243.							
1,2,4-Trimethylbenzene		742.							350
Naphthalene		129.							20
Total Targeted VOCs		2,906.							-
GW Elevation (ft bg)		96.65							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

Bold font indicates a detected concentration.

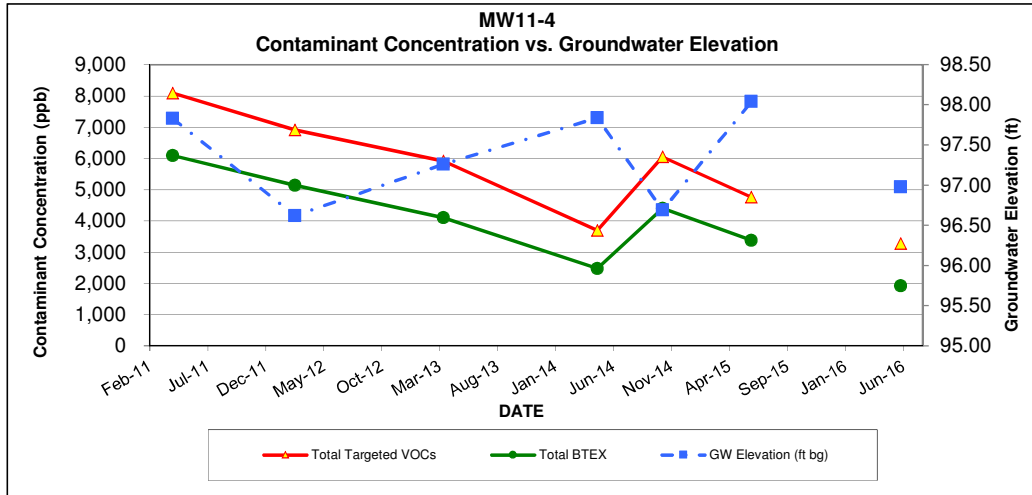
Shaded values meet or exceed VGES

NT = Not Tested



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-4

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8260B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014 8021B	6/2/2015 8021B	11/24/2015	VGES
Benzene		448.	427.	313.	359.	142.	313.		5
Toluene		55.5	53.4	48.2	ND<50.0	ND<50.0	ND<50.0	Well	1000
Ethylbenzene		1,100.	1,000.	902.	277.	806.	621.	Not	700
Xylenes		4,490.	3,660.	2,840.	1,840.	3,450.	2,440.	Sampled	10000
Total BTEX		6,094.	5,140.	4,103.	2,476.	4,398.	3,374.		-
MTBE		ND<100	ND<40.0	ND<40.0	ND<100	ND<100	ND<100	Unable	40
1,3,5-Trimethylbenzene		310.	233.	278.	189.	353.	221.	To	
1,2,4-Trimethylbenzene		1,110.	903.	953.	657.	785.	669.	Locate	350
Naphthalene		576.	479.	584.	374.	515.	499.		20
n-Propylbenzene		NT	106.	NT	NT	NT	NT		-
Isopropylbenzene		NT	44.8	NT	NT	NT	NT		-
Total Targeted VOCs		8,090.	6,906.	5,918.	3,696.	6,051.	4,763.		-
GW Elevation (ft bg)		97.83	96.62	97.26	97.84	96.69	98.04		-

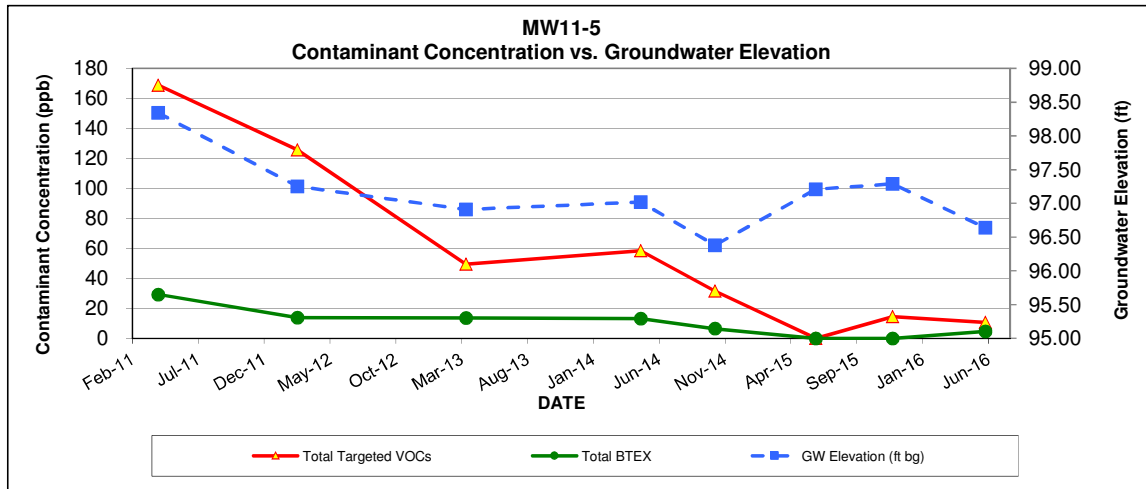
PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		191.							5
Toluene		ND<50.0							1000
Ethylbenzene		782.							700
Xylenes		952.							10000
Total BTEX		1,925.							-
MTBE		ND<100							40
1,3,5-Trimethylbenzene		63.0							
1,2,4-Trimethylbenzene		911.							350
Naphthalene		374.							20
Total Targeted VOCs		3,273.							-
GW Elevation (ft bg)		96.98							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)
 TPH values are from EPA Method 8015
 VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)
 ND - None detected above sample-specific compound detection limit
Bold font indicates a detected concentration.
 Shaded values meet or exceed VGES
 NT = Not Tested



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-5

Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
PARAMETER								
Benzene	2.6	1.6	1.6	1.6	2.0	ND<1.0	ND<5.0	5
Toluene	1.5	ND<1.0	ND<1.0	1.6	ND<1.0	ND<1.0	ND<5.0	1000
Ethylbenzene	ND<1.0	ND<1.0	1.6	ND<1.0	ND<1.0	ND<1.0	ND<5.0	700
Xylenes	25.2	12.2	10.4	10.1	4.5	ND<2.0	ND<10.0	10000
Total BTEX	29.3	13.8	13.6	13.3	6.5	ND	ND	-
MTBE	2.4	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<10.0	40
1,3,5-Trimethylbenzene	63.1	22.6	3.0	1.7	5.6	ND<1.0	ND<5.0	
1,2,4-Trimethylbenzene	74	89.2	32.9	41.1	19.4	ND<1.0	14.4	350
Naphthalene	ND<2.0	ND<2.0	ND<2.0	2.4	ND<2.0	ND<2.0	ND<10.0	20
Total Targeted VOCs	168.8	125.6	49.5	58.5	31.5	ND	14.4	-
Total Petroleum Hydrocarbons	4.85	NT	NT	NT	NT	NT	NT	
GW Elevation (ft bg)	98.34	97.25	96.91	97.02	96.38	97.21	97.29	

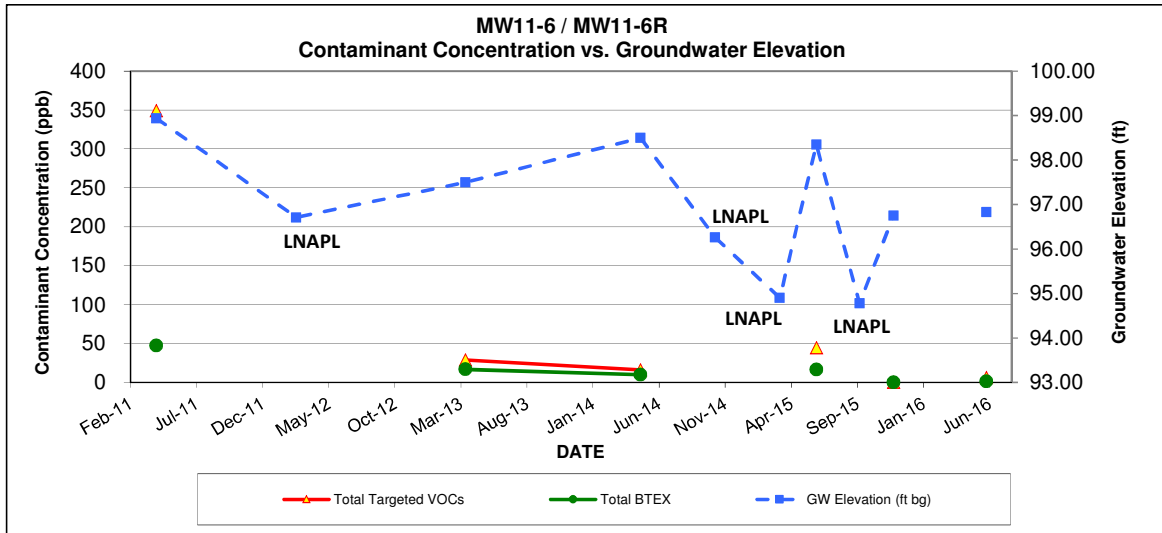
Sample Date Method	6/22/2016 8021B							VGES
PARAMETER								
Benzene	1.8							5
Toluene	ND<1.0							1000
Ethylbenzene	ND<1.0							700
Xylenes	2.9							10000
Total BTEX	4.7							-
MTBE	ND<2.0							40
1,3,5-Trimethylbenzene	ND<1.0							
1,2,4-Trimethylbenzene	5.9							350
Naphthalene	ND<2.0							20
Total Targeted VOCs	10.6							
GW Elevation (ft bg)	96.64							

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)
 TPH values are from EPA Method 8015
 VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)
 ND - None detected above sample-specific compound detection limit
Bold font indicates a detected concentration.
 Shaded values meet or exceed VGES
 NT = Not Tested



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-6

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012	3/27/2013 8021B	4/29/2014 8021B	10/15/2014	3/11/2015	6/2/2015 8021B	VGES
Benzene		ND<5.0		ND<5.0	ND<1.0			ND<2.5	5
Toluene		ND<5.0	Well	ND<10.0	ND<1.0	Well	Product	ND<5.0	1000
Ethylbenzene		20.7	Not	16.7	9.9	Not	Recovery	16.4	700
Xylenes		26.5	Sampled	ND<20.0	ND<2.0	Sampled	Event	ND<10.0	10000
Total BTEX		47.2		16.7	9.9			16.4	-
MTBE		ND<10.0		ND<20.0	ND<2.0			ND<10.0	40
1,3,5-Trimethylbenzene		34.8	LNAPL	ND<10.0	ND<1.0	LNAPL	LNAPL	ND<5.0	
1,2,4-Trimethylbenzene		137	Present	12.2	3.2	Present	Present	10.4	350
Naphthalene		130		ND<20.0	2.8			17.5	20
Total Targeted VOCs		349		28.9	15.9			44.3	-
Total Petroleum Hydrocarbons		5.86		NT	NT			NT	
GW Elevation (ft bg)		98.94	96.71	97.50	98.50	96.26	94.90	98.35	-

MW11-6R

PARAMETER	Sample Date Method	9/8/2015	11/24/2015 8021B	3/22/2016	6/22/2016 8021B				VGES
Benzene			ND<5.0		ND<1.0				5
Toluene		Product	ND<5.0	Product	ND<1.0				1000
Ethylbenzene		Recovery	ND<5.0	Recovery	1.2				700
Xylenes		Event	ND<10.0	Event	ND<2.0				10000
Total BTEX			ND		1.2				-
MTBE			ND<10.0	No Gauge	ND<2.0				40
1,3,5-Trimethylbenzene		LNAPL	ND<5.0	Well	ND<1.0				
1,2,4-Trimethylbenzene		Present	ND<5.0	Destroyed	ND<1.0				350
Naphthalene			ND<10.0		5.0				20
Total Targeted VOCs			ND		6.2				-
GW Elevation (ft bg)		94.78	96.75		96.83				-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

Bold font indicates a detected concentration.

Shaded values meet or exceed VGES

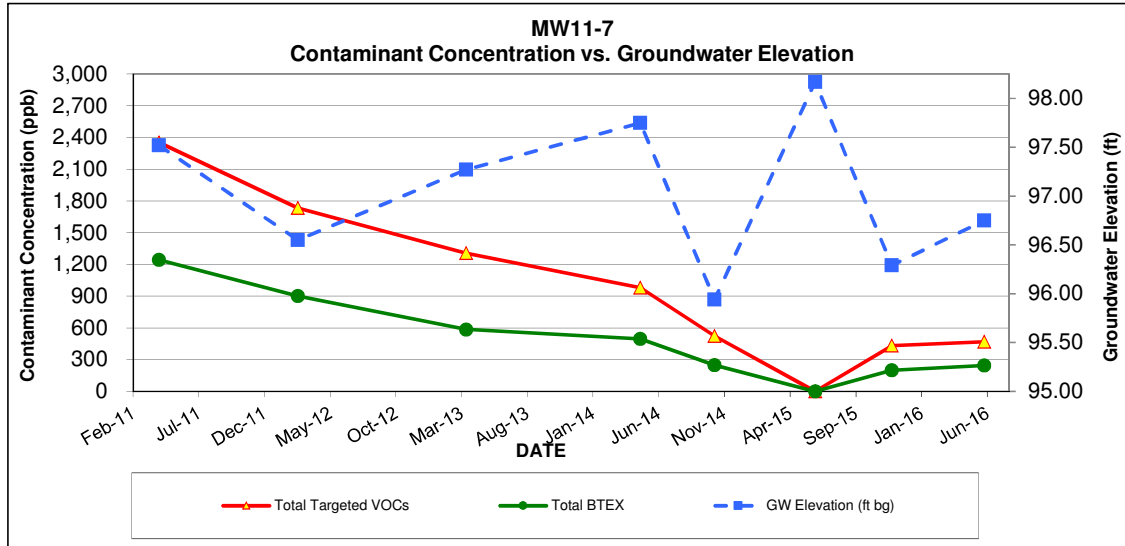
NT = Not Tested

Replacement well MW11-6R installed on June 15, 2016 and surveyed into existing datum.



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-7

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
Benzene		ND<5.0	9.1	ND<5.0	ND<5.0	5.2	ND<1.0	ND<5.0	5
Toluene		ND<5.0	6.0	ND<5.0	ND<5.0	ND<5.0	ND<1.0	ND<5.0	1000
Ethylbenzene		132.	198.	142.	119.	116.	ND<1.0	85.5	700
Xylenes		1,110.	688.	443.	376.	126.	ND<2.0	114.	10000
Total BTEX		1,242.	901.	585.	495.	247.	ND	200.	-
MTBE		ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<10.0	ND<2.0	ND<10.0	40
1,3,5-Trimethylbenzene		284.	185.	99.2	102.	18.7	ND<1.0	10.1	
1,2,4-Trimethylbenzene		589.	383.	328.	239.	171.	ND<1.0	168.	350
Naphthalene		238.	263.	295.	145.	85.6	ND<2.0	54.2	20
Total Targeted VOCs		2,353.	1,732.	1,307.	981.	523.	ND	432.	-
Total Petroleum Hydrocarbons		32.6	NT	NT	NT	NT	NT	NT	
GW Elevation (ft bg)		97.52	96.55	97.27	97.75	95.94	98.17	96.29	-

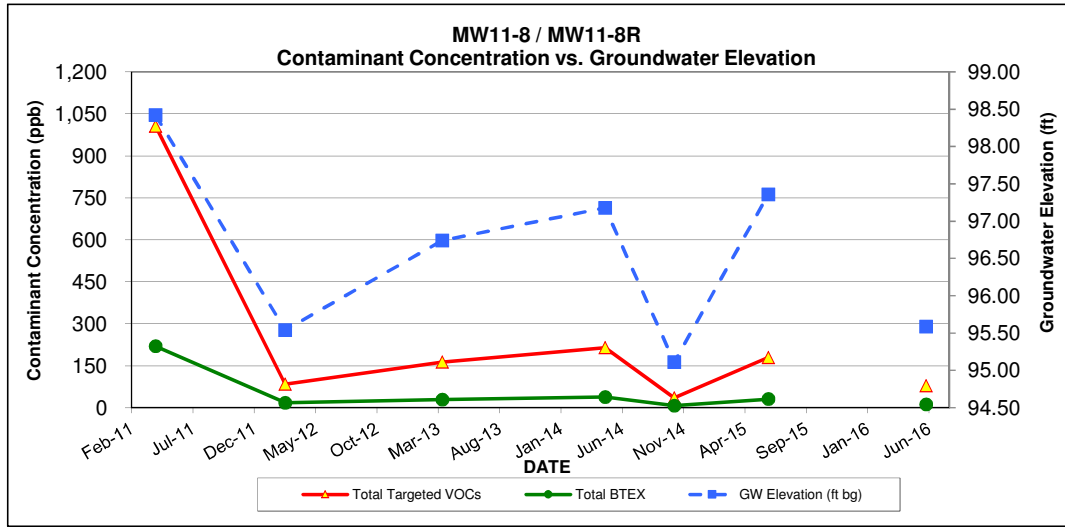
PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		5.1							5
Toluene		ND<5.0							1000
Ethylbenzene		128.							700
Xylenes		112.							10000
Total BTEX		245.							-
MTBE		ND<10.0							40
1,3,5-Trimethylbenzene		7.6							
1,2,4-Trimethylbenzene		164.							350
Naphthalene		52.9							20
Total Targeted VOCs		470.							-
GW Elevation (ft bg)		96.75							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)
 TPH values are from EPA Method 8015
 VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)
 ND - None detected above sample-specific compound detection limit
Bold font indicates a detected concentration.
 Shaded values meet or exceed VGES



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW11-8

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
Benzene		21.7	ND<1.0	1.2	2.4	1.0	ND<2.5		5
Toluene		ND<5.0	ND<1.0	ND<1.0	ND<2.0	ND<1.0	ND<5.0	Well	1000
Ethylbenzene		12.5	2.5	2.0	ND<2.0	ND<1.0	ND<5.0	Not	700
Xylenes		186	15.7	26.2	36	6.9	31.2	Sampled	10000
Total BTEX		220	18.2	29.4	38.4	7.9	31.2		-
MTBE		ND<10.0	ND<2.0	ND<2.0	ND<4.0	ND<2.0	ND<10.0	Unable	40
1,3,5-Trimethylbenzene		95.2	3.7	ND<1.0	ND<2.0	ND<1.0	ND<5.0	To	
1,2,4-Trimethylbenzene		506	62.0	134	166	27.5	129	Locate	350
Naphthalene		184	ND<2.0	ND<2.0	10.6	ND<2.0	19.1		20
Total Targeted VOCs		1,005	83.9	163	215	35.4	179		-
Total Petroleum Hydrocarbons		3.95	NT	NT	NT	NT	NT		-
GW Elevation (ft bg)		98.42	95.54	96.74	97.18	95.11	97.36		-

MW11-8R

PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		ND<1.0							5
Toluene		ND<1.0							1000
Ethylbenzene		ND<1.0							700
Xylenes		12.5							10000
Total BTEX		12.5							-
MTBE		ND<2.0							40
1,3,5-Trimethylbenzene		ND<1.0							
1,2,4-Trimethylbenzene		63.2							350
Naphthalene		2.7							20
Total Targeted VOCs		78.4							-
GW Elevation (ft bg)		95.59							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

Bold font indicates a detected concentration.

Shaded values meet or exceed VGES

Replacement well MW11-8R installed on June 15, 2016 and surveyed into existing datum.



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont

MW11-9

PARAMETER	Sample Date Method	4/26/2011 8021B	3/8/2012 8021B	3/27/2013 8021B	4/28/2014 8021B	10/15/2014 8021B	6/2/2015 8021B	11/24/2015 8021B	VGES
Benzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	5
Toluene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	1000
Ethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	700
Xylenes		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	10000
Total BTEX		ND	ND	ND	ND	ND	ND	ND	-
MTBE		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	40
1,3,5-Trimethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	
1,2,4-Trimethylbenzene		ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	350
Naphthalene		ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	ND<2.0	20
Total Targeted VOCs		ND	ND	ND	ND	ND	ND	ND	-
Total Petroleum Hydrocarbons		ND<0.40	NT	NT	NT	NT	NT	NT	
GW Elevation (ft bg)		100.11	96.77	98.33	98.80	97.19	100.11	98.19	-

PARAMETER	Sample Date Method	6/22/2016 8021B							VGES
Benzene		ND<1.0							5
Toluene		ND<1.0							1000
Ethylbenzene		ND<1.0							700
Xylenes		ND<2.0							10000
Total BTEX		ND							-
MTBE		ND<2.0							40
1,3,5-Trimethylbenzene		ND<1.0							
1,2,4-Trimethylbenzene		ND<1.0							350
Naphthalene		ND<2.0							20
Total Targeted VOCs		ND							-
GW Elevation (ft bg)		99.10							-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

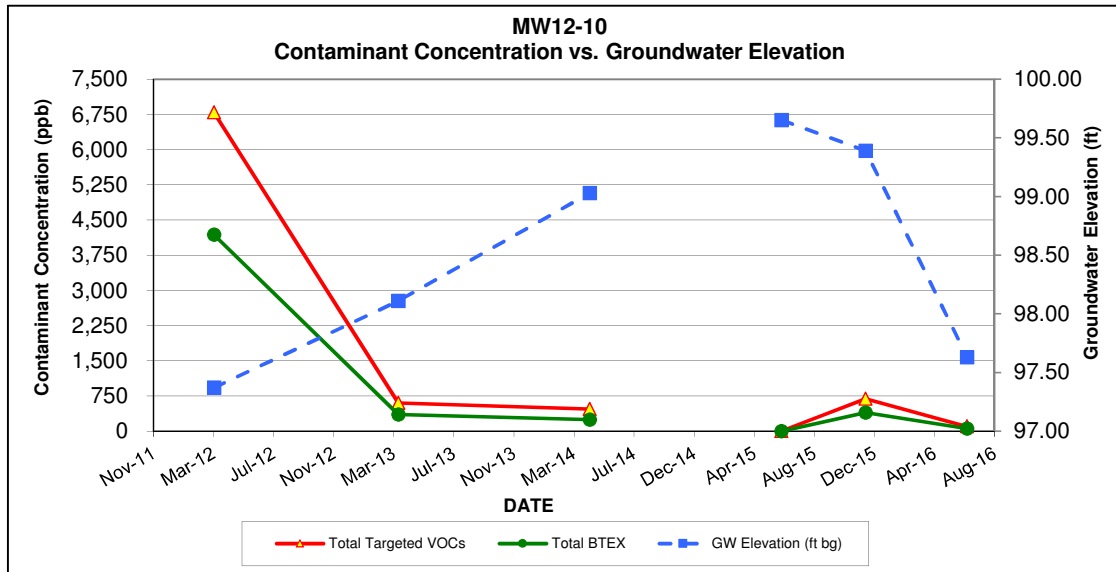
Bold font indicates a detected concentration.

Shaded values meet or exceed VGES



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont



MW12-10

PARAMETER	Sample Date Method	3/8/2012 8021B	3/27/2013 8021B	4/29/2014 8021B	10/15/2014	6/2/2015 8021B	11/24/2015 8021B	6/22/2016 8021B	VGES
Benzene		162.	13.3	7.4		ND<1.0	ND<10.0	4.9	5
Toluene		34.5	ND<5.0	2.9	No	ND<1.0	ND<10.0	ND<1.0	1000
Ethylbenzene		628.	15.5	46.8	Sample	ND<1.0	30.5	21.7	700
Xylenes		3,360.	324.	186.	Collected	ND<2.0	366.	25.7	10000
Total BTEX		4,185.	353.	243.		ND	397.	52.3	-
MTBE		ND<40.0	ND<10.0	ND<4.0		ND<2.0	ND<20.0	ND<2.0	40
1,3,5-Trimethylbenzene		462.	108	67.3	Schedule/	2.5	53.1	1.0	
1,2,4-Trimethylbenzene		1,250.	95.4	116	Planning	ND<1.0	193	39.6	350
Naphthalene		894.	46.1	45.6	Error	ND<2.0	46.8	5.3	20
Total Targeted VOCs		6,791.	602.	472.		2.5	689.	98.2	-
GW Elevation (ft bg)		97.37	98.11	99.03		99.65	99.39	97.63	-

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

Bold font indicates a detected concentration.

Shaded values meet or exceed VGES



Groundwater Quality Summary

Rutland Fuels
Rutland, Vermont

MW12-11

PARAMETER	Sample Date Method	3/8/2012 8021B	3/27/2013 8021B	4/28/2014 8021B	10/15/2014	6/2/2015 8021B	11/24/2015 8021B	6/22/2016 8021B	VGES
Benzene		ND<1.0		ND<1.0		ND<1.0	ND<1.0	ND<1.0	5
Toluene		ND<1.0	No	ND<1.0	No	ND<1.0	ND<1.0	ND<1.0	1000
Ethylbenzene		ND<1.0	Sample	ND<1.0	Sample	ND<1.0	ND<1.0	ND<1.0	700
Xylenes		ND<2.0	Collected	ND<2.0	Collected	ND<2.0	ND<2.0	ND<2.0	10000
Total BTEX		ND		ND		ND	ND	ND	-
MTBE		ND<2.0	Well	ND<2.0	Well	ND<2.0	2.8	ND<2.0	40
1,3,5-Trimethylbenzene		ND<1.0	Dry	ND<1.0	Dry	ND<1.0	ND<1.0	ND<1.0	
1,2,4-Trimethylbenzene		ND<1.0		ND<1.0		1.3	ND<1.0	ND<1.0	350
Naphthalene		ND<2.0		ND<2.0		ND<2.0	ND<2.0	ND<2.0	20
Total Targeted VOCs		ND		ND		1.3	2.8	ND	-
GW Elevation (ft bg)		95.45		97.15		96.67	94.99	94.26	-

All Values Reported in ug/L (ppb), except TPH which is reported in mg/L (ppm)

All results are from EPA Method 8260B

TPH values are from EPA Method 8015

VGES - Vermont Groundwater Enforcement Standard (February 14, 2005)

ND - None detected above sample-specific compound detection limit

Bold font indicates a detected concentration.

Shaded values meet or exceed VGES



Appendix F

Passive Product Recovery Log



LNAPL PASSIVE PRODUCT RECOVERY LOG
Rutland Fuel Company Bulk Storage Facility
Rutland, Vermont

MW11-6 (MW11-6R as of 6/15/2016)

DATE	Groundwater Elevation (feet btoc)	Approximate Product Thickness (feet)	Approximate Liquid Recovery Volume (ounces)
3/8/2012	96.71	thin layer observed	NA
10/15/2014	96.26	0.45	NA
3/11/2015	94.90	0.27	2.0
6/2/2015	98.35	0.00	0.0
9/8/2015*	94.78	0.82	4.0
11/24/2015	96.75	0.00	27.0**
6/22/2016	96.83	0.00	0.0
TOTAL:			33.0

Notes:

btoc - below top of casing

NA - Not Applicable; prior to recovery efforts

Recovery efforts accomplished via manual bailing unless otherwise noted.

* Soakasee absorbent sock installed

**Recovery based on 30" of 36" absorbent sock spent. Absorbent calculation (0.95L/sock) based on manufacturer estimate.



Appendix G

Analytical Laboratory Report



Laboratory Report

KAS, Inc.	100306
PO Box 787	
Williston, VT 05495	
Atten: Rebecca Treat	

PROJECT: 408100392 Rutland Fuels
WORK ORDER: **1606-13309**
DATE RECEIVED: June 24, 2016
DATE REPORTED: July 07, 2016
SAMPLER: Monica Beers

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. All required method quality control elements including instrument calibration were performed in accordance with method requirements and determined to be acceptable unless otherwise noted.

The column labeled Lab/Tech in the accompanying report denotes the laboratory facility where the testing was performed and the technician who conducted the assay. A "W" designates the Williston, VT lab under NELAC certification ELAP 11263; "R" designates the Lebanon, NH facility under certification NH 2037 and "N" the Plattsburgh, NY lab under certification ELAP 11892. "Sub" indicates the testing was performed by a subcontracted laboratory. The accreditation status of the subcontracted lab is referenced in the corresponding NELAC and Qual fields.

The NELAC column also denotes the accreditation status of each laboratory for each reported parameter. "A" indicates the referenced laboratory is NELAC accredited for the parameter reported. "N" indicates the laboratory is not accredited. "U" indicates that NELAC does not offer accreditation for that parameter in that specific matrix. Test results denoted with an "A" meet all National Environmental Laboratory Accreditation Program requirements except where denoted by pertinent data qualifiers. Test results are representative of the samples as they were received at the laboratory

Endyne, Inc. warrants, to the best of its knowledge and belief, the accuracy of the analytical test results contained in this report, but makes no other warranty, expressed or implied, especially no warranties of merchantability or fitness for a particular purpose.

Reviewed by:

Harry B. Locker, Ph.D.
Laboratory Director

www.endynelabs.com



160 James Brown Dr., Williston, VT 05495
Ph 802-879-4333 Fax 802-879-7103

56 Etna Road, Lebanon, NH 03766
Ph 603-678-4891 Fax 603-678-4893



CLIENT: KAS, Inc.
 PROJECT: 408100392 Rutland Fuels
 REPORT DATE: 7/7/2016

WORK ORDER: 1606-13309
 DATE RECEIVED: 06/24/2016

TEST METHOD: EPA 8021B

001 Site: MW11-1 Date Sampled: 6/22/16 09:10 Analysis Date: 6/29/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	2.6	ug/L	N	
Surr. 1 (Bromobenzene)	97	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

002 Site: MW11-2 Date Sampled: 6/22/16 10:00 Analysis Date: 7/1/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	10.2	ug/L	N		Benzene	10.5	ug/L	N	
Toluene	5.9	ug/L	N		Ethylbenzene	102	ug/L	N	
Xylenes, Total	448	ug/L	N		1,3,5-Trimethylbenzene	54.5	ug/L	N	
1,2,4-Trimethylbenzene	211	ug/L	N		Naphthalene	50.4	ug/L	N	
Surr. 1 (Bromobenzene)	96	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

003 Site: MW11-3 Date Sampled: 6/22/16 10:50 Analysis Date: 6/29/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 20.0	ug/L	N		Benzene	14.5	ug/L	N	
Toluene	< 10.0	ug/L	N		Ethylbenzene	367	ug/L	N	
Xylenes, Total	1,410	ug/L	N		1,3,5-Trimethylbenzene	243	ug/L	N	
1,2,4-Trimethylbenzene	742	ug/L	N		Naphthalene	129	ug/L	N	
Surr. 1 (Bromobenzene)	94	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

004 Site: MW11-4 Date Sampled: 6/22/16 12:20 Analysis Date: 6/29/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 100	ug/L	N		Benzene	191	ug/L	N	
Toluene	< 50.0	ug/L	N		Ethylbenzene	782	ug/L	N	
Xylenes, Total	952	ug/L	N		1,3,5-Trimethylbenzene	63.0	ug/L	N	
1,2,4-Trimethylbenzene	911	ug/L	N		Naphthalene	374	ug/L	N	
Surr. 1 (Bromobenzene)	96	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

005 Site: MW11-5 Date Sampled: 6/22/16 13:10 Analysis Date: 7/1/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	1.8	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	2.9	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	5.9	ug/L	N		Naphthalene	< 2.0	ug/L	N	
Surr. 1 (Bromobenzene)	96	%	N		Unidentified Peaks	> 10		N	

CLIENT: KAS, Inc.
 PROJECT: 408100392 Rutland Fuels
 REPORT DATE: 7/7/2016

WORK ORDER: 1606-13309
 DATE RECEIVED: 06/24/2016

TEST METHOD: EPA 8021B

006 Site: MW11-6R Date Sampled: 6/22/16 14:10 Analysis Date: 7/1/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	1.2	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	5.0	ug/L	N	
Surr. 1 (Bromobenzene)	97	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

007 Site: MW11-7 Date Sampled: 6/22/16 14:50 Analysis Date: 7/1/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 10.0	ug/L	N		Benzene	5.1	ug/L	N	
Toluene	< 5.0	ug/L	N		Ethylbenzene	128	ug/L	N	
Xylenes, Total	112	ug/L	N		1,3,5-Trimethylbenzene	7.6	ug/L	N	
1,2,4-Trimethylbenzene	164	ug/L	N		Naphthalene	52.9	ug/L	N	
Surr. 1 (Bromobenzene)	95	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

008 Site: MW11-8R Date Sampled: 6/22/16 15:40 Analysis Date: 7/1/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	12.5	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	63.2	ug/L	N		Naphthalene	2.7	ug/L	N	
Surr. 1 (Bromobenzene)	101	%	N		Unidentified Peaks	> 10		N	

TEST METHOD: EPA 8021B

009 Site: MW11-9 Date Sampled: 6/22/16 17:10 Analysis Date: 6/29/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	< 2.0	ug/L	N	
Surr. 1 (Bromobenzene)	97	%	N		Unidentified Peaks	0		N	

TEST METHOD: EPA 8021B

010 Site: MW12-10 Date Sampled: 6/22/16 13:24 Analysis Date: 7/6/16 W MHM

Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	4.9	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	21.7	ug/L	N	
Xylenes, Total	25.7	ug/L	N		1,3,5-Trimethylbenzene	1.0	ug/L	N	
1,2,4-Trimethylbenzene	39.6	ug/L	N		Naphthalene	5.3	ug/L	N	
Surr. 1 (Bromobenzene)	105	%	N		Unidentified Peaks	> 10		N	

CLIENT: KAS, Inc.
 PROJECT: 408100392 Rutland Fuels
 REPORT DATE: 7/7/2016

WORK ORDER: **1606-13309**
 DATE RECEIVED: 06/24/2016

TEST METHOD: EPA 8021B

011	Site: MW12-11	Date Sampled: 6/22/16	16:20	Analysis Date: 7/1/16	W	MHM
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Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	< 2.0	ug/L	N	
Surr. 1 (Bromobenzene)	103	%	N		Unidentified Peaks	0		N	

TEST METHOD: EPA 8021B

012	Site: Duplicate	Date Sampled: 6/22/16	14:10	Analysis Date: 7/1/16	W	MHM
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Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	1.3	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	3.2	ug/L	N	
Surr. 1 (Bromobenzene)	99	%	N		Unidentified Peaks	> 10		N	

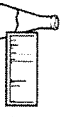
TEST METHOD: EPA 8021B

013	Site: Trip Blank	Date Sampled: 6/21/16	15:26	Analysis Date: 7/1/16	W	MHM
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Parameter	Result	Unit	Nelac	Qual	Parameter	Result	Unit	Nelac	Qual
Methyl-t-butyl ether (MTBE)	< 2.0	ug/L	N		Benzene	< 1.0	ug/L	N	
Toluene	< 1.0	ug/L	N		Ethylbenzene	< 1.0	ug/L	N	
Xylenes, Total	< 2.0	ug/L	N		1,3,5-Trimethylbenzene	< 1.0	ug/L	N	
1,2,4-Trimethylbenzene	< 1.0	ug/L	N		Naphthalene	< 5.0	ug/L	N	PLE
Surr. 1 (Bromobenzene)	104	%	N		Unidentified Peaks	0		N	

Report Summary of Qualifiers and Notes

PLE: The reporting limit was increased due to contaminant present in the laboratory environment.



ENDYNE, INC.

160 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

CHAIN-OF-CUSTODY-RECORD

Special Reporting Instructions/PO#: 408100392

75566

Project Name: Rutland Fuels		Client/Contact Name: Rebecca Treat		Sampler Name: Monica Beers	
State of Origin: VT <input checked="" type="checkbox"/> NY <input type="checkbox"/> NH <input type="checkbox"/> Other <input type="checkbox"/>		Phone #: 802-383-0480		Phone #: 802-383-0480	
Endyne WO #		Mailing Address: P.O. Box 787 Williston, VT 05495		Billing Address: P.O. Box 787 Williston, VT 05495	

Sample Location	Matrix	g A	g B	g M	Date/Time Sampled	Sample Containers		Sample Preservation	Analysis Required	Field Results/Remarks	Due Date
						No.	Type/Size				
MW11-1	H2O	X			910	2	40ml	HCl	19		
MW11-2					1600						
MW11-3					1050						
MW11-4					1220						
MW11-5					1310						
MW11-6R					1410						
MW11-7					1450						
MW11-8R					1540						
MW11-9					1710						
MW12-1D					1324						

1606-13309

 1606-13309
 K95, Inc.
 408100392 Rutland Fuels

Relinquished by: <i>Monica Beers</i>	Date/Time: <i>6/23/10 10:32</i>	Received by: <i>John M. [Signature]</i>	Date/Time: <i>6/24/10 10:02</i>	Received by: <i>Clear Jeremy</i>	Date/Time: <i>6/24/10 10:45</i>
1 pH	6 TKN	11 Total Solids	16 Sulfate	21 1664 TPH/FOG	26 8270 PAH Only
2 Chloride	7 Total P	12 TSS	17 Coliform (Specify)	22 8015 GRO	27 8081 Pest
3 Ammonia N	8 Total Diss. P	13 TDS	18 COD	23 8015 DRO	28 8082 PCB
4 Nitric N	9 BOD	14 Turbidity	19 VT PCF	24 8260B	29 PP13 Metals
5 Nitrate N	10 Alkalinity	15 Conductivity	20 VOC Halocarbons	25 8270 B/N or Acid	30 Total RCRA8
31 Metals (Total, Diss.) Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, Pb, Sb, Se, Sn, Tl, U, V, Zn					
32 TCLP (volatiles, semi-volatiles, metals, pesticides, herbicides)					
34 Corrosivity	35 Ignitability	36 Reactivity	37 Other		
38 Other					

LAB USE ONLY
 Delivery: *Client*
 Temp: *29*
 Comment:

