May 19, 2023 Update

2023 Schedule and Outline of Proposed Work

Region 18, Lyme-Old Lyme Middle School

Turner Environmental has performed additional testing and monitoring well installation at the Region 18 campus to address the oil spill which occurred in August 2022. Since our last update on May 4, 2023 the following tasks have been completed or are proposed.

Additional borings and soils sampling in the former holding tank area and in the boiler room.

Additional monitoring well installation and development on the western portion of the property.

Results of soil vapor sampling in four additional locations in the school building closer to the release area. No significant concentrations of VOCs were identified in any of the samples.

Additional details are provided below.

Outdoor Investigation/Remediation

The water table at the time of the spill was lower than the current water table. At the time of the spill the water table on the southern side of the Middle School was 7.6 to 8.97 feet below grade (fbg) and the question arose if additional petroleum impacted soil remained deeper than the depth of the post-excavation soil samples collected by Turner in March. During the additional soil excavation substantial groundwater was encountered and we excavated to approximately seven feet deep, approximately 1.5 to 2 feet below the current water table. The current water table in this area is approximately 5.5 fbg.

Additional investigation was performed on May 7, 2023. Borings were performed in four locations in the former remedial area focusing on depths below the current water table. Borings were placed and samples collected from depths of 7.5 fbg to 12 fbg. Several samples from the northwest portion of the remedial excavation showed visual signs of contamination at depths from approximately 9 to 10.5 fbg. Samples from this area showed gray to black staining, had elevated PIDs and showed elevated ETPH concentrations upon analysis. The soil sample from the northwest portion of the remedial area is in a downgradient location from the former holding tank. Analyses showed low concentrations of ETPH in the 9-10' samples, but very high in the 10-10.5 ' sample – 14,100 mg/kg ETPH. ETPH was <50 mg/kg in the 12-13' sample from this boring. This indicates a relatively thin layer of soils with elevated ETPH. In our opinion, this also suggests the ETPH was released from the former UST as opposed to a release from the surface since it was detected at deeper depths but not in samples from the same boring directly above which are also below the water table.

Samples from the southwest and northeast portions of the former tank remedial excavation were much lower and below their respective criteria. The samples from the southeast portion of several showed one sample slightly over the ETPH criteria at 11-12' bgs at 532 mg/kg. Based on the observations and results from this sampling, the most significantly contaminated soil is located in the northwest portion of the remedial area - downgradient from the former UST. The sampling results are summarized in Table 1 which is provided in Attachment A. Boring locations have been added to Figure 4.

Interior Investigation

Previous interior investigation included borings placed through several cracks and seams in the boiler room floor. Four additional borings were placed inside the boiler room on March 14, 2023. These borings were placed on seams and cracks in the boiler room floor. After removal of the concrete, a plastic vapor barrier was encountered beneath the floor. Soil borings beneath the concrete floor in these locations were screened with a PID. While elevated PID readings were observed in these soil borings, they did not indicate a top-down release through the floor. This information was provided in our March 24, 2023 Update.

Two deeper borings were also placed inside the boiler room. Cores were obtained and samples with the highest PID concentrations and visual observations of staining were analyzed. Contaminated soil was also found in deeper soils below the water table inside the boiler room. Sample IB-1 was placed on the southern portion of the boiler room. Sample IB-1, 9-10' contained 7,330 mg/kg, ETPH (very low VOC concentrations, and Sample IB-2 , 9-10' located further north and west of IB-1 and the RA-1 borings contained 1,370 ug/kg ETPH. This indicates a decreasing concentration of ETPH as the distance from the former UST increases. This also supports the release occurred from the UST rather than vertically through cracks and seams on the boiler room floor.

VOCs detected in those soil samples were relatively low and suggest the contamination in the deeper samples obtained from adjacent to the former UST and beneath the boiler room floor are much older than the heating oil release last August.

Based on the high concentrations of ETPH found in the outdoor area– remedial actions will be necessary to address this area. Remedial actions could include dewatering and soil excavation or possibly In Situ Chemical Oxidation (ISCO). The area has a variety of underground utilities including UST monitoring communication lines, electrical service, and the fuel lines from the fuel oil UST to the boiler room. The area is also close to the school building and its footings. Some utility work or relocation may be necessary, as well as shoring and significant dewatering will be necessary to perform excavation in this area. Dewatering will require an Emergency Authorization or a General Permit for Remediation Wastewater prior to dewatering.

Additional Monitoring Wells

Based on the previous detection of contaminants in the off-site wells on the western abutting property three additional monitoring wells were installed on the western portion on the school property.

All monitoring wells on-site were resampled on May 20, 2023. All wells will be analyzed for ETPH and VOCs. Results are expected May 25, 2023.

A site plan showing all monitoring well locations including the new wells (MW-15, MW-16 and MW-17) is also provided (See Figure 2).

Off-site Drinking Water Wells

Drinking water well at [redacted] and were tested on April 26, 2023. No ETPH, VOCs or PAHs were detected in those samples.

[redacted] The locations of the private drinking water wells with respect to the monitoring well network is provided as Figure 4. The limited information found on the well construction was provided in our previous update letter.

These wells will be resampled again for VOCs only the week of May 21.

Figure 3 shows the nearby drinking water wells, the monitoring well network and location of the plume based on the information previously collected.

Soil Vapor Sampling

Sub slab soil vapor sampling was performed on April 26, 2023. Samples were collected from four locations, the boiler room, the basement beneath the kitchen, the auditorium adjacent to the boiler room and from the hallway between the auditorium and the cafeteria. All locations ae closer in proximity to the source of the spill than the previous soil vapor sample. Samples were submitted for analyses by TO-15 VOCs. Results are provided in Table 2. Soil vapor samples are shown in Figure 2. While some low concentrations of VOCs were detected, all concentrations are well below (orders of magnitude) their respective Residential Soil Vapor Criteria. This is consistent with the previous sol vapor sampling results.

Work Plan for Remediation

We previously indicated our intent to use Oxygen Release Compounds (ORC) to provide an oxygen source for bioremediation of the petroleum compounds present in groundwater. Our original plan was to start with an application in the outdoor area and inject additional ORC in numerous locations in the boiler room to initiate bioremediation. Based on the high concentrations of ETPH in the deeper soils in the former holding tank area and evidence of a release from that tank, source reduction in this area will be necessary. Other remedial actions would be more effective in reducing those concentrations more quickly.

Currently we believe dewatering and excavation are possible as well as in situ chemical oxidation. Because the site is a school – it is our opinion that the optics of chemically breaking down petroleum adjacent to or beneath the school are unfavorable. Therefore, dewatering and excavation appear to be the preferred method of performing remediation in this area.

Dewatering will require a General Permit for the Discharge of Remediation Wastewater. Water would be extracted from multiple extraction points around the former UST area which will require shoring. Water would be treated by a treatment system designed to remove petroleum likely to include a frac tank, carbon treatment and bag filters prior to discharge. At this point we believe the discharge location will be a storm sewer and ultimately discharge to wetlands on the eastern side of the Lieutenant River.

After the dewatering is complete, we would continue to operate the treatment system in the boiler room to continue to treat the groundwater in an area known to have elevated concentrations of ETPH and VOCs. That treatment system would be modified after an initial period of operation to a smaller system. We

would also add an additional extraction point on the west side of the building where the plume now daylights to intercept water with elevated, but much lower concentrations of VOCs as a hydraulic control measure.

We previously proposed using and injectable Regenesis product – "PetroFix" as a "Barrier Wall" on the western side of the property. This would include injections in an overlapping pattern in the area where the plume exits from beneath the building, intercepting it and reducing and eliminating the contaminants before they move off-site.

The Petrofix product contains activated carbon and electron acceptors to decrease petroleum concentrations in groundwater. The product we are recommending removes hydrocarbons from the dissolved phase by adsorbing them on to activated carbon particles and then stimulates hydrocarbon biodegradation by adding electron acceptors which are contained in the product. The electron acceptors are sulfate and nitrates with very low toxicity.

We understand that there are DEEP[redacted] officials who are uneasy with the prospect of leaving activated carbon in the ground with this "trap and treat" technology. It remains our opinion that this technology would be effective in immediately reducing VOC concentrations on the western portion of the property and the contaminants moving off-site. The plan outlined here will be further refined and specific details will be provided including the number and location of injection points, monitoring parameters and schedule, if approved. Many of these decisions will be based on the results of the groundwater monitoring which will be reviewed this week.

Our previous plan to use ORC as a primary remedial method does not appear feasible at this time. We anticipate using ORC in the future to follow up the pump and treat operation.

Future Work

A substantial amount of the necessary site characterization work is complete.

Sample results from the entire monitoring well network was performed last week and laboratory results will be available the week of May 22, 2023. These will be used to further delineate the plume on the western portion of the property and better evaluate potential remedial strategies for that aspect of the contaminant plume.

Based on the discovery of contaminated soil at depth in the former holding tank remedial area, we currently plan for excavation to remove impacted soil. This will require dewatering. Since the groundwater in that area has high concentrations of ETPH and VOCs, treatment will be necessary prior to discharge. The proposed treatment will include a frac tank and activated carbon treatment as well as solids removal using bag filters prior to discharge. This activity will require a discharge permit from CT DEEP. We are currently evaluating the requirements of the General Permit for the Discharge of Groundwater Remediation Wastewater.

Due to the proximity of the building, the sandy nature of the soils and depth to groundwater, shoring will be necessary around the proposed excavation area to effectively dewater it. Several buried utilities also

cross this area including communications lines for UST inventory control, fuel lines from the UST to the boilers and an electric line for campus lighting. We will attempt to avoid disturbing the buried fuel lines because the campus will need to provide hot water in the summer months.

Details need to be evaluated and significant planning will be necessary for the excavation in the area of the former holding tank. In general, the treatment system used for dewatering will be used for that task until the outdoor area is complete. We anticipate this work would be initiated in the summer of 2023 and would begin as soon as the discharge permit is valid and equipment is set up on-site. That work would be expected to take approximately three weeks.

Upon completion of the exterior excavation work, the same system would be used to pump and treat groundwater from the boiler room area where high concentrations of ETPH and VOCs have also been detected. We currently propose using that larger system for the remainder of the summer. After an initial operating period, we believe the system size could be reduced to a smaller system using an oil water separator and smaller carbon vessels located inside the boiler room. We will also determine the need and timing of adding a recovery well or trench on the western side of the building/property based on the results of additional sampling and contaminant concentrations and locations. This could be run concurrently with the dewatering operations and operation of a long-term pump and treat system. This would provide at least some hydraulic control where the plume daylights from beneath the building.

It is our opinion that observation of VOCs on the western portion of the property and off-site are the result of an older heating oil release from the former holding tank. This is supported by contamination being found at deeper depths with no contamination in soils directly above IT while these samples are well below the water table, absence of VOCs in the deeper samples, widespread anaerobic groundwater conditions and a large distance the plume has traveled. All of these observations are consistent with an earlier release of heating oil from the same area. The remedial actions proposed will need to address both the former release and more recent oil spill which appear to impact overlapping areas.

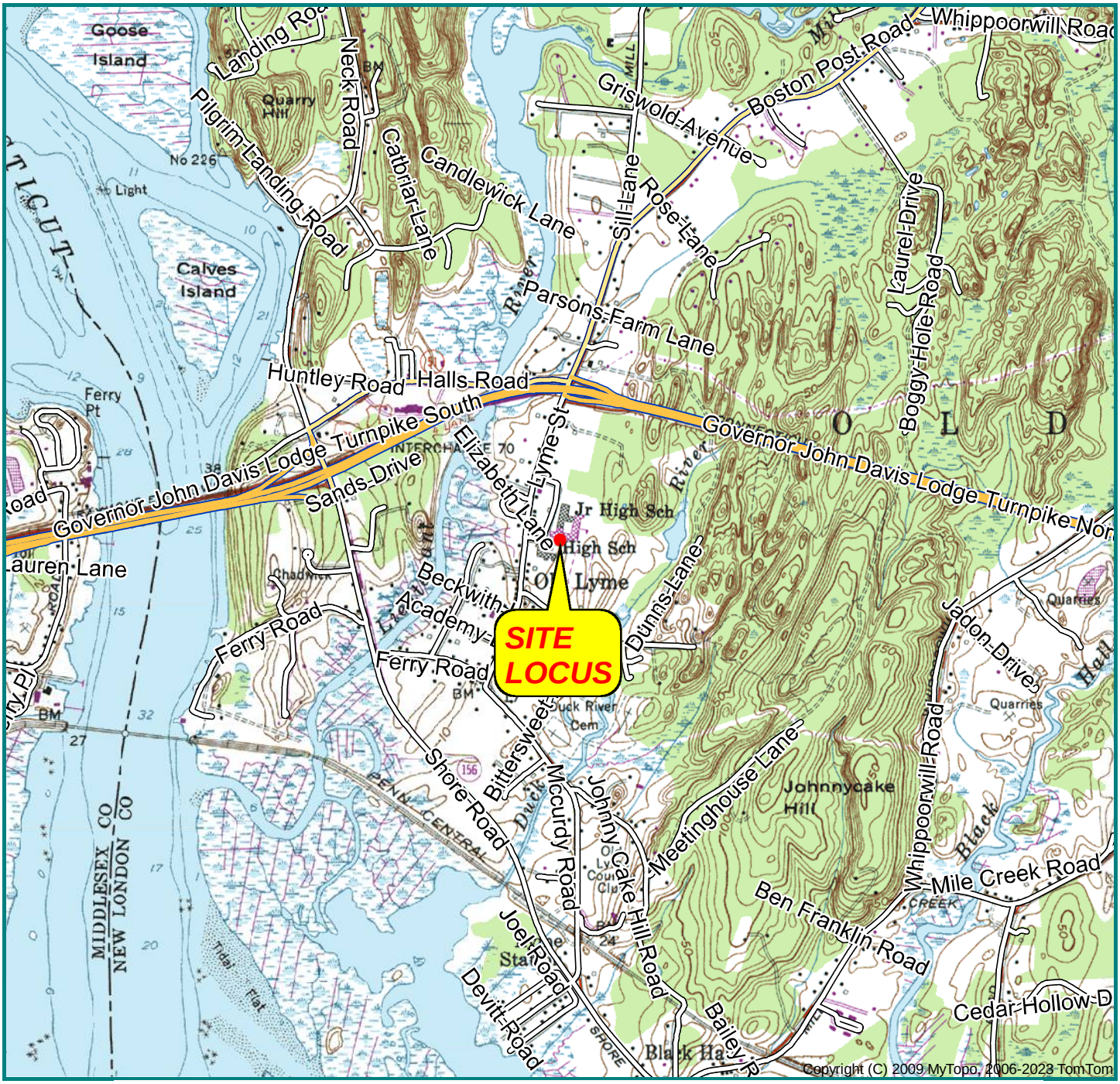
Groundwater that has already migrated off-site can not be effectively recovered. While we still believe that the previously proposed “trap and treat” methods could quickly reduce the VOC concentrations in groundwater, we understand there is resistance to leaving activated carbon in the ground. However, it is our opinion that this would still be effective particularly along the downgradient portion of the school property line.

These are preliminary thoughts on methods to initiate the remediation of the impacts of the oil spill to soil and groundwater based on the most recently acquired data. We understand that details of the site investigation and alternatives analysis must be submitted to the department.

Respectfully submitted,

TURNER ENVIRONMENTAL, LLC

David T. Turner, LEP
Attachments



OLD LYME Topographic 1958 41072-C3-TF-024 National Geodetic Vertical Datum 1929

SCALE 1:24000

0 1000 2000 3000 4000 5000
FEET

0 1
MILE

N NE E SE S SW W NW

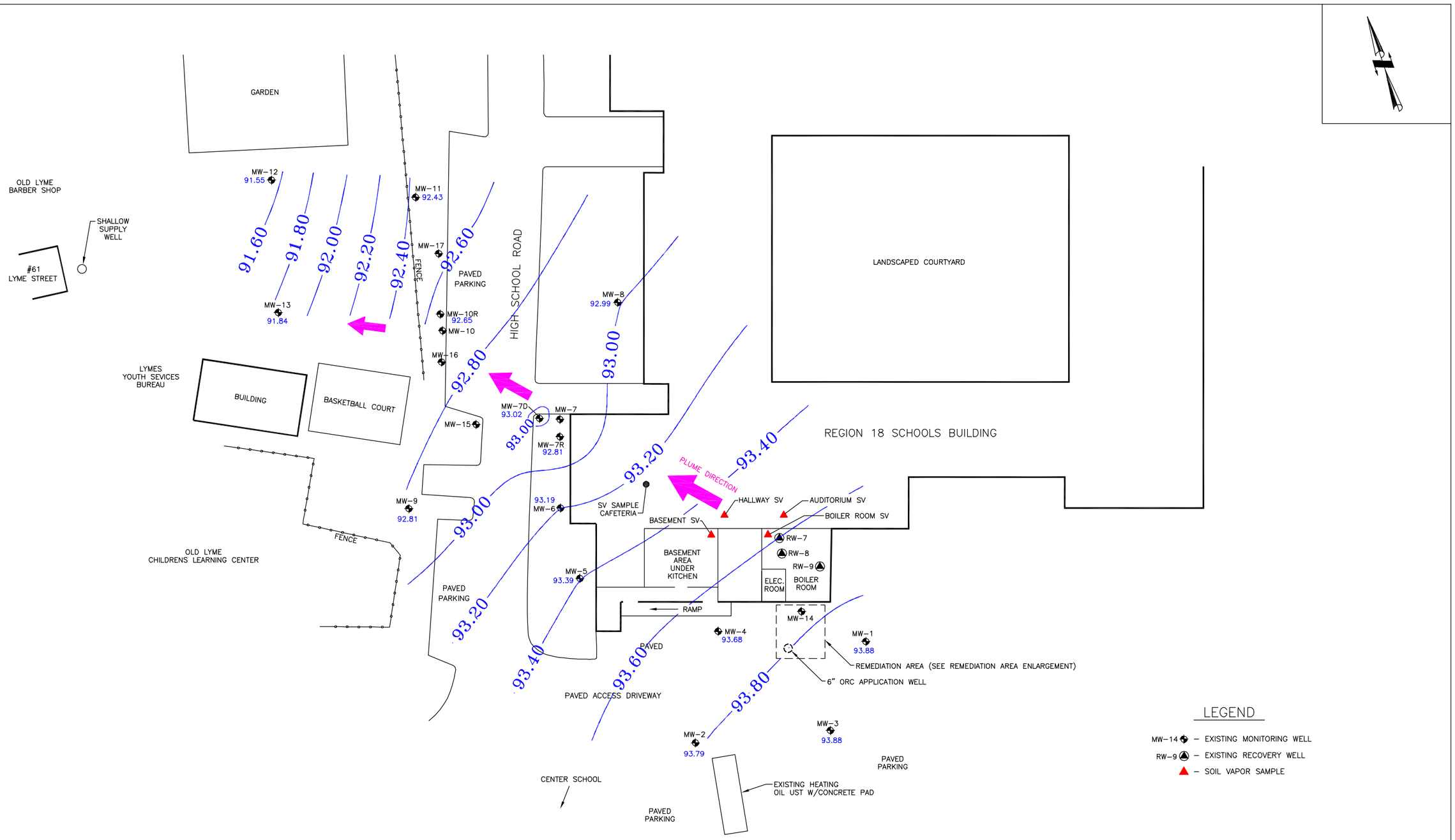
Site Coordinates:
041° 19' 04.35" N, 072° 19' 42.04" W

Turner Environmental LLC
P.O. Box 581, East Lyme, CT 06333
(860) 705-8704 turnerenviro@att.net

Site Location:
47 Lyme Street
New London County,
Old Lyme, CT

Project: TE 23-007 Date: 3/9/23

Figure-1
Site Locus Map



Turner Environmental LLC
P. O. Box 581 East Lyme, CT 06333
(860) 705-8704 turnerenviro@att.net

Figure 2 - Site Plan

Client: REGION 18 SCHOOLS
47 Lyme Street
Old Lyme, Connecticut

Drawn:	K. Hazel
Date:	5/16/23
Scale:	AS SHOWN
Project:	TE23-007
Figure:	FIGURE 2

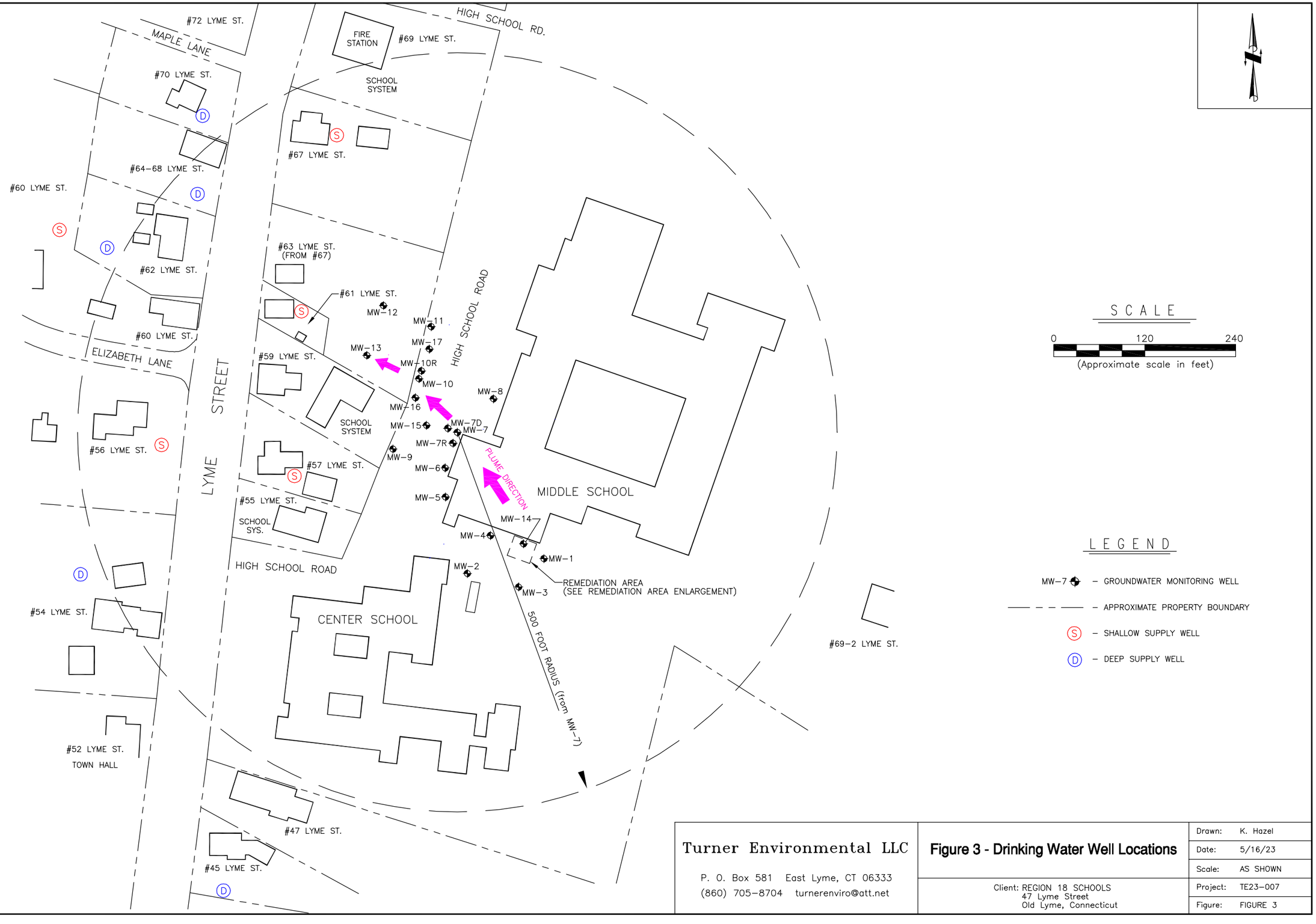


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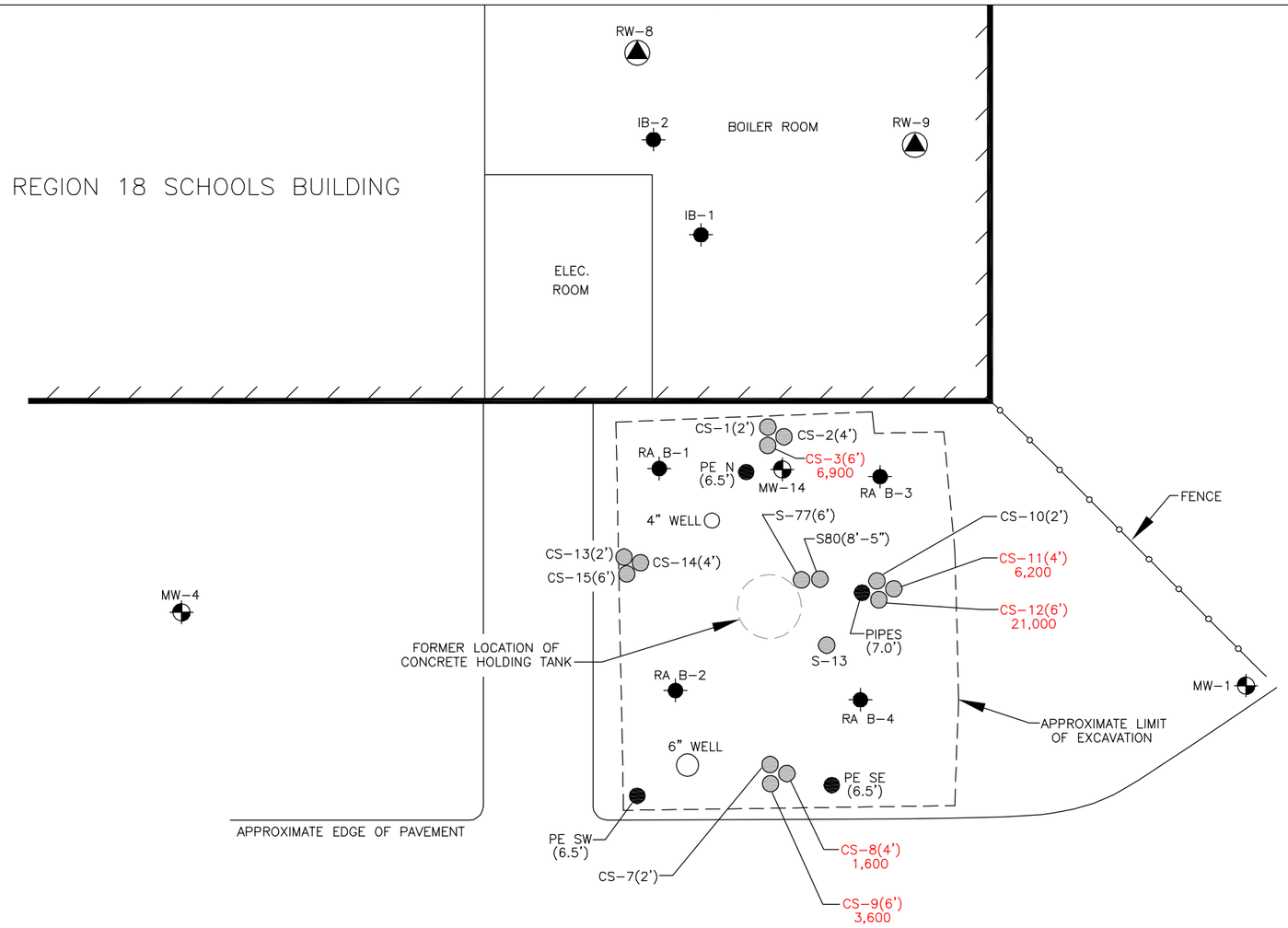
Figure 3 - Drinking Water Well Locations

Client: REGION 18 SCHOOLS
47 Lyme Street
Old Lyme, Connecticut

Drawn:	K. Hazel
Date:	5/16/23
Scale:	AS SHOWN
Project:	TE23-007
Figure:	FIGURE 3



L E G E N D

CS-12 (6.0') 21,000 — SOIL SAMPLE LOCATION OBTAINED BY KROPP ENVIRONMENTAL CONTRACTORS, INC. (August 2022)
- DEPTH OF SAMPLE
- SOIL SAMPLE DATA ABOVE RSR CRITERIA (IN PPM)

PE PW (7.0') — SOIL SAMPLE LOCATION OBTAINED BY TURNER ENVIRONMENTAL LLC (March 17, 2023)
- DEPTH OF SAMPLE

— GROUNDWATER MONITORING WELL

— RECOVERY WELL

— SOIL BORING

S C A L E

0 10 20

(Approximate scale in feet)

Turner Environmental LLC
P.O. Box 581 East Lyme, CT 06333
(860) 705-8704 turnerenviro@att.net

Figure 4
Remediation Area Enlargement

Address: 49 Lyme Street
Town of Old Lyme, New London County, Connecticut

Drawn:	K. HAZEL
Date:	5/16/23
Scale:	As Shown
Project:	TE 23-007
Figure:	FIGURE-4

Attachment A:
Summary Tables - Soil Sample and Soil Vapor Sampling Results

Sample ID			RA B-1 7.5-8.5 ft		RA B-1 9-10 ft		RA B-1 10.5-11.5 ft		RA B-1 12-13 ft		RA B-2 7.5-8 ft		RA B-2 9-10 ft		RA B-2 12-13 ft		RA B-3 9-10 ft		RA B-3 11-12 ft		RA B-4 9-10 ft		RA B-4 11-12 ft		IB-1 9-10 ft		IB-2 9-10 ft	
York ID		CTDEP RSR Direct Exposure Criteria Residential	23E0517-01		23E0517-02		23E0517-03		23E0517-04		23E0517-05		23E0517-06		23E0517-07		23E0517-08		23E0517-09		23E0517-10		23E0517-11		23E0517-12		23E0517-13	
Sampling Date			5/7/2023 1:00:00 PM		5/7/2023 1:00:00 PM		5/7/2023 1:00:00 PM		5/7/2023 1:00:00 PM		5/7/2023 1:25:00 PM		5/7/2023 1:35:00 PM		5/7/2023 1:25:00 PM		5/7/2023 1:50:00 PM		5/7/2023 1:50:00 PM		5/7/2023 2:00:00 PM		5/7/2023 2:05:00 PM		5/7/2023 2:10:00 PM		5/7/2023 2:15:00 PM	
Client Matrix			Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
Compound	**CAS Number**		Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q	Result	Q
VOA, 8260 RCP MASTER		mg/kg			mg/kg								mg/kg				mg/kg				mg/kg				mg/kg		mg/kg	
Dilution Factor					100								1				1				500				1		100	
1,1,1,2-Tetrachloroethane	630-20-6	24	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1,1-Trichloroethane	71-55-6	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1,2,2-Tetrachloroethane	79-34-5	3.1	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1,2-Trichloroethane	79-00-5	11	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1-Dichloroethane	75-34-3	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1-Dichloroethylene	75-35-4	1	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,1-Dichloropropylene	563-58-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2,3-Trichlorobenzene	87-61-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2,3-Trichloropropane	96-18-4	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2,4-Trichlorobenzene	120-82-1	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2,4-Trimethylbenzene	95-63-6	~	NT		19	D	NT		NT		NT		0.0260		NT		0.00290	U	NT		170	D	NT		0.0510		34	D
1,2-Dibromo-3-chloropropane	96-12-8	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2-Dibromoethane	106-93-4	0.007	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		**0.570**	U	NT		0.00460	U	**0.450**	U
1,2-Dichlorobenzene	95-50-1	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2-Dichloroethane	107-06-2	6.7	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,2-Dichloropropane	78-87-5	9	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,3,5-Trimethylbenzene	108-67-8	~	NT		5	D	NT		NT		NT		0.0110		NT		0.00290	U	NT		42	D	NT		0.0130		9	D
1,3-Dichlorobenzene	541-73-1	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,3-Dichloropropane	142-28-9	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
1,4-Dichlorobenzene	106-46-7	26	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
2,2-Dichloropropane	594-20-7	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
2-Butanone	78-93-3	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.0310		0.450	U
2-Chlorotoluene	95-49-8	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
2-Hexanone	591-78-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
4-Chlorotoluene	106-43-4	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
4-Methyl-2-pentanone	108-10-1	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Acetone	67-64-1	500	NT		0.140		NT		NT		NT		0.0110	U	NT		0.0340		NT		1.100	U	NT		0.490		0.900	U
Acrylonitrile	107-13-1	1.1	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Benzene	71-43-2	21	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Bromobenzene	108-86-1	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Bromochloromethane	74-97-5	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Bromodichloromethane	75-27-4	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Bromoform	75-25-2	78	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Bromomethane	74-83-9	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Carbon disulfide	75-15-0	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Carbon tetrachloride	56-23-5	4.7	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Chlorobenzene	108-90-7	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Chloroethane	75-00-3	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Chloroform	67-66-3	100	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Chloromethane	74-87-3	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
cis-1,2-Dichloroethylene	156-59-2	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
cis-1,3-Dichloropropylene	10061-01-5	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Dibromochloromethane	124-48-1	7.3	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Dibromomethane	74-95-3	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Dichlorodifluoromethane	75-71-8	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Ethyl Benzene	100-41-4	~	NT		1.400	D	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		26	D	NT		0.00460	U	2	D
Hexachlorobutadiene	87-68-3	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Isopropylbenzene	98-82-8	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		9.600	D	NT		0.00460	U	1.500	D
Methyl Methacrylate	80-62-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Methyl tert-butyl ether (MTBE)	1634-04-4	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Methylene chloride	75-09-2	82	NT		0.0100	U	NT		NT		NT		0.0110	U	NT		0.00570	U	NT		1.100	U	NT		0.00930	U	0.900	U
Naphthalene	91-20-3	1000	NT		0.140		NT		NT		NT		0.0110	U	NT		0.00570	U	NT		11	D	NT		0.0200		3	D
n-Butylbenzene	104-51-8	~	NT		0.00520	U	NT		NT		NT		0.00750		NT		0.00290	U	NT		14	D	NT		0.0130		3.600	D
n-Propylbenzene	103-65-1	~	NT		2.600	D	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		26	D	NT		0.00600		4.600	D
o-Xylene	95-47-6	~	NT		2.900	D	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		48	D	NT		0.00680		4.400	D
p- & m- Xylenes	179601-23-1	~	NT		5.700	D	NT		NT		NT		0.0110	U	NT		0.00570	U	NT		99	D	NT		0.0140		8.300	D
p-Isopropyltoluene	99-87-6	~	NT		0.220		NT		NT		NT		0.00560	U	NT		0.00290	U	NT		7	D	NT		0.00460	U	1.800	D
sec-Butylbenzene	135-98-8	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		11	D	NT		0.00590		2.700	D
Styrene	100-42-5	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
tert-Butylbenzene	98-06-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Tetrachloroethylene	127-18-4	12	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Tetrahydrofuran	109-99-9	~	NT		0.0100	U	NT		NT		NT		0.0110	U	NT		0.00570	U	NT		1.100	U	NT		0.00930	U	0.900	U
Toluene	108-88-3	500	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		9.700	D	NT		0.00460	U	0.450	U
trans-1,2-Dichloroethylene	156-60-5	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
trans-1,3-Dichloropropylene	10061-02-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
trans-1,4-dichloro-2-butene	110-57-6	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Trichloroethylene	79-01-6	56	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Trichlorofluoromethane	75-69-4	~	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		0.570	U	NT		0.00460	U	0.450	U
Vinyl Chloride	75-01-4	0.32	NT		0.00520	U	NT		NT		NT		0.00560	U	NT		0.00290	U	NT		**0.570**	U	NT		0.00460	U	**0.450**	U
Extractable Total Petroleum Hydrocarbons (ETPH)		mg/kg	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg	
Dilution Factor			1		2		100		1		1		1		1		1		1		1		5		50		10	
ETPH (Extractable Total Petroleum Hydrocarbons)	CT ETPH	500	51.500		233	D	**14,100**	D	47.400	U	47		150		65.900		45.300	U	43.300	U	186		**532**	D	**7,330**	D	**1,370**	D
Total Solids			%		%		%		%		%		%		%		%		%		%		%		%		%	
Dilution Factor			1		1		1		1		1		1		1		1		1		1		1		1		1	
% Solids	solids	~	90.100		84.200		83.800		79.700		84.800		86		82.800		83.300		84.700		84.700		79.100		86.100		90.100	

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~=this indicates that no regulatory limit has been established for this analyte

DISCLAIMER:

Sample ID		CTDEEP RSR Volatization Criteria for Soil Vapor Residential - 06/2021	Boiler Rm SV		Basement SV		Auditorium SV		Hallway SV	
York ID			23E0001-01		23E0001-02		23E0001-03		23E0001-04	
Sampling Date			4/26/2023 6:15:00 PM		4/26/2023 6:35:00 PM		4/26/2023 7:20:00 PM		4/26/2023 7:40:00 PM	
Client Matrix			Soil Vapor		Soil Vapor		Soil Vapor		Soil Vapor	
Compound	CAS Number		Result	Q	Result	Q	Result	Q	Result	Q
Volatile Organics, EPA TO15 Full List		ug/m3	ug/m3		ug/m3		ug/m3		ug/m3	
Dilution Factor			1.585		1.361		1.432		1.822	
1,1,1,2-Tetrachloroethane	630-20-6	62	1.098	U	0.961	U	0.961	U	1.235	U
1,1,1-Trichloroethane	71-55-6	380000	0.873	U	0.764	U	0.764	U	0.982	U
1,1,2,2-Tetrachloroethane	79-34-5	8.3	1.098	U	0.961	U	0.961	U	1.235	U
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	76-13-1	~	1.226	U	1.072	U	1.072	U	1.379	U
1,1,2-Trichloroethane	79-00-5	1700	0.873	U	0.764	U	0.764	U	0.982	U
1,1-Dichloroethane	75-34-3	58000	0.647	U	0.566	U	0.566	U	0.728	U
1,1-Dichloroethylene	75-35-4	~	0.159	U	0.135	U	0.143	U	0.182	U
1,2,4-Trichlorobenzene	120-82-1	~	5.860	U	5.044	U	5.341	U	6.751	U
1,2,4-Trimethylbenzene	95-63-6	~	2.801	D	1.474	D	1.032	D	1.327	D
1,2-Dibromoethane	106-93-4	~	1.229	U	1.075	U	1.075	U	1.382	U
1,2-Dichlorobenzene	95-50-1	55000	0.962	U	0.841	U	0.841	U	1.082	U
1,2-Dichloroethane	107-06-2	53	0.647	U	0.566	U	0.566	U	0.728	U
1,2-Dichloropropane	78-87-5	98	0.739	U	0.647	U	0.647	U	0.831	U
1,2-Dichlorotetrafluoroethane	76-14-2	~	1.118	U	0.978	U	0.978	U	1.258	U
1,3,5-Trimethylbenzene	108-67-8	~	0.786	D	0.688	U	0.688	U	0.885	U
1,3-Butadiene	106-99-0	~	1.061	U	0.907	U	0.951	U	1.216	U
1,3-Dichlorobenzene	541-73-1	55000	0.962	U	0.841	U	0.841	U	1.082	U
1,3-Dichloropropane	142-28-9	~	0.739	U	0.647	U	0.647	U	0.831	U
1,4-Dichlorobenzene	106-46-7	18000	0.962	U	0.841	U	0.841	U	1.082	U
1,4-Dioxane	123-91-1	~	2.845	U	2.449	U	2.593	U	3.278	U
2-Butanone	78-93-3	376000	38.325	D	10.318	D	18.278	D	15.920	D
2-Hexanone	591-78-6	~	6.961	D	2.784	J	3.358	D	3.726	U
3-Chloropropene	107-05-1	~	2.472	U	2.128	U	2.253	U	2.847	U
4-Methyl-2-pentanone	108-10-1	28000	1.310	U	1.106	U	1.188	U	1.474	U
Acetone	67-64-1	140000	73.609	D	12.347	D	23.745	D	23.033	D
Acrylonitrile	107-13-1	~	0.347	U	0.304	U	0.304	U	0.390	U
Benzene	71-43-2	2500	0.511	U	0.447	U	0.543	D	0.766	D
Benzyl chloride	100-44-7	~	1.656	U	1.397	U	1.501	U	1.863	U
Bromodichloromethane	75-27-4	~	1.071	U	0.938	U	0.938	U	1.205	U
Bromoform	75-25-2	420	1.653	U	1.447	U	1.447	U	1.860	U
Bromomethane	74-83-9	~	0.621	U	0.543	U	0.543	U	0.699	U
Carbon disulfide	75-15-0	~	0.498	U	0.436	U	0.436	U	0.685	D
Carbon tetrachloride	56-23-5	380	0.302	D	0.258	D	0.358	D	0.572	D
Chlorobenzene	108-90-7	28000	0.736	U	0.644	U	0.644	U	0.828	U
Chloroethane	75-00-3	~	0.422	U	0.369	U	0.369	U	0.475	U
Chloroform	67-66-3	380	0.927	D	0.683	U	0.683	U	0.879	U
Chloromethane	74-87-3	~	0.330	D	0.557	D	0.289	U	1.837	D
cis-1,2-Dichloroethylene	156-59-2	~	0.159	U	0.135	U	3.408	D	3.765	D
cis-1,3-Dichloropropylene	10061-01-5	~	0.726	U	0.635	U	0.635	U	0.817	U
Cyclohexane	110-82-7	~	44.729	D	0.482	U	0.482	U	0.619	U
Dibromochloromethane	124-48-1	~	1.362	U	1.192	U	1.192	U	1.533	U
Dichlorodifluoromethane	75-71-8	~	2.422	D	2.620	D	2.620	D	3.510	D
Ethyl acetate	141-78-6	~	1.153	U	0.972	U	1.045	U	1.297	U
Ethyl Benzene	100-41-4	40000	0.912	D	0.608	D	0.608	U	0.868	D
Hexachlorobutadiene	87-68-3	~	3.411	U	2.878	U	3.092	U	3.838	U
Isopropanol	67-63-0	~	36.856	D	0.663	U	5.897	D	5.160	D
Methyl Methacrylate	80-62-6	~	0.655	U	0.573	U	0.573	U	0.737	U
Methyl tert-butyl ether (MTBE)	1634-04-4	120000	0.577	U	0.505	U	0.505	U	0.649	U
Methylene chloride	75-09-2	2300	1.111	U	0.937	U	1.007	U	1.250	U
n-Heptane	142-82-5	~	3.769	D	0.574	U	1.598	D	0.737	D
n-Hexane	110-54-3	~	5.637	D	0.493	U	1.762	D	1.092	D
o-Xylene	95-47-6	~	2.257	D	0.694	D	0.608	D	1.345	D
p- & m- Xylenes	179601-23-1	~	3.993	D	1.693	D	1.476	D	3.168	D
p-Ethyltoluene	622-96-8	~	2.359	D	0.934	D	0.688	D	0.885	D
Propylene	115-07-1	~	0.275	U	0.241	U	0.241	U	2.236	D
Styrene	100-42-5	39000	3.577	D	1.618	D	0.894	D	1.533	D
Tetrachloroethylene	127-18-4	3800	13.559	D	0.949	U	38.644	D	46.780	D
Tetrahydrofuran	109-99-9	~	0.943	U	0.796	U	0.855	U	1.061	U
Toluene	108-88-3	160000	5.650	D	4.897	D	2.223	D	3.089	D
trans-1,2-Dichloroethylene	156-60-5	~	0.634	U	0.555	U	0.555	U	0.713	U
trans-1,3-Dichloropropylene	10061-02-6	~	0.726	U	0.635	U	0.635	U	0.817	U
Trichloroethylene	79-01-6	760	3.384	D	0.183	U	6.983	D	8.057	D
Trichlorofluoromethane (Freon 11)	75-69-4	~	1.236	D	1.292	D	1.348	D	1.741	D
Vinyl acetate	108-05-4	~	0.563	U	0.493	U	0.493	U	0.634	U
Vinyl bromide	593-60-2	~	0.700	U	0.612	U	0.612	U	0.787	U
Vinyl Chloride	75-01-4	110	0.202	U	0.174	U	0.485	D	0.613	D

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