

## Heindel and Noyes

P.O. Box 64709 Burlington, Vermont 05406-4709

• Consulting Hydrogeologists  
• Engineers  
• Environmental Scientists

802-658-0820

Fax 802-860-1014

April 8, 1997

Mr. Andrew Schivley  
Sites Management Section  
Vermont Agency of Natural Resources  
103 South Main Street, West Office Building  
Waterbury, VT 05676

RE: Town of Bennington/Depot Street Garage  
Bennington, Vermont  
Site #96-2018

WASTE MANAGEMENT  
DIVISION

Apr 9 10 43 AM '97

Dear Mr. Schivley:

Heindel and Noyes was contracted to perform further investigations for the Town of Bennington following closure of a 1,000 gallon gasoline underground storage tank (UST), and a 2,000 gallon No. 2 heating oil UST, and discovery of petroleum contamination near these tanks at the Depot Street garage in Bennington. These tanks were removed by Aaron and Sons, Inc. under supervision of MSK Engineering & Design, Inc. (MSK) on June 18, 1996. A USGS site location map (Attachment, page 1), and an area map (Attachment, page 4) are provided. This investigation follows our work plan dated October 4, 1996, submitted to Chuck Schwer, Supervisor, Sites Management Section on October 7, 1996 in response to his letter to Joseph Sokul, Public Works Director for the Town of Bennington, dated September 11, 1996.

In his letter, Chuck Schwer requested that the town retain a consultant to perform the following tasks relative to perceived releases from these tanks:

- Further define the degree and extent of contamination to soil;
- Determine the degree and extent of contamination, if any, to groundwater;
- Perform a sensitive receptor survey, including basements of adjacent buildings, nearby surface water, and any public or private drinking water wells located within the vicinity of the site;
- Determine the need for a long-term treatment and/or monitoring plan; and,
- Submit a summary report to the SMS outlining the work performed and providing conclusions and recommendations.

Our work plan, which covers all of these tasks, was approved by you in your letter to Joseph Sokul dated November 14, 1996.

This letter report summarizes our findings, conclusions, and recommendations following further site investigative activities at the Depot Street garage site.

## **1.0 INTRODUCTION**

Details of the tank pulls and tank closure assessments are provided by Toni King of MSK Engineering, in her Tank Closure Form and UST Closure Site Assessment report. A copy of this form and report is provided (Attachment, pages 5-11). The 1,000 gallon gasoline UST removed on June 18, 1996 was a single-walled tank that was approximately eight (8) years old and was reported by MSK to be in excellent condition. This tank may be replaced by an above-ground gasoline tank at a later date.

The 2,000 gallon No. 2 fuel oil tank, removed on the same day as the gasoline tank, was also a single-walled tank, approximately twenty-five (25) years old, in good condition, showing no signs of leakage. The MSK tank pull report indicates that the town is contemplating installation of an interior above-groundwater heating oil storage tank.

## **2.0 INVESTIGATION OF SOIL CONTAMINATION**

During the tank pulls, soils in the tank excavations were screened with a photo-ionizable detector (PID): Thermo Environmental Instrument's Model 580B.

Although the gasoline tank was noted to be in excellent condition, PID levels ranging from 50.7 to 83.6 ppm were observed in the excavation around the tank. Soils contaminated with gasoline above the allowable limits for backfilling (20 ppm as measured with a PID) were stockpiled at the Willow Road Highway Garage site, within the fenced and gated area at this site. Soils adjacent to the tank were described as fine silty sand, likely a bedding sand installed to protect the tank in this bouldery terrain. However, just north of this sandy material, the excavation uncovered brick, masonry, and glass, and PID levels as high as 356 and 586 ppm were noted in this fill material.

To further investigate soils in the vicinity of the gasoline tank, we installed a monitoring well to the northwest of the gasoline UST (MW-3) on January 16, 1997. Split spoon samples could not be obtained during installation of this well, since an ODEX air rotary hammer was used to advance through the bouldery materials on the site. Consequently, we could rely only on PID screening of cuttings recovered during installation of the monitoring well. These cuttings showed no elevated PIDs (H-Nu equipped with 10.2 eV lamp). Water quality results from this well are provided in Section 3.0 of this report.

During closure of the 2,000 gallon No. 2 fuel oil UST on June 18, 1996, the tank excavation exposed cobbly gravels containing yellow-orange ochre materials, as reported by MSK. The depth of the excavation was 8.5 feet below ground surface (bgs), with groundwater

encountered at 7.5 feet. The tank was in good condition and no signs of leakage were noted. Maximum PID levels of 8.0 ppm were observed in the soils around the No. 2 fuel oil tank, and no indication of free product was observed in water exposed in the tank excavation. Consequently, our proposed soil boring locations did not include a further evaluation of the No. 2 fuel oil tank site, but focused on the southern Depot Street garage property line, to ascertain whether petroleum contaminants were entering the site from abutting properties. We were aware of leaky underground storage tanks having been pulled on the former Auto City site, and at Sergeant's Gas Station on the corner of Route 9 and Depot Street. (See maps on pages 2 and 3 of the Attachment for these locations)

### **3.0 INVESTIGATION OF GROUNDWATER CONTAMINATION**

To assess the degree and extent of contamination to groundwater, 2-inch diameter flush-threaded factory-slotted PVC monitoring wells were installed at each of the three boring locations. Boring logs provided by Tri-State Drilling and Boring are attached (Attachment, pages 12-14). Each well was equipped with a 10-foot screen surrounded by a sand pack, and overlain by an approximately 2-foot thick bentonite seal. Flush-mounted curb boxes, cemented in place, were used to complete the wells. On January 23, 1997, one week after installation of the wells, each well was gauged, checked for petroleum odors or sheens, then purged and sampled. No sheens or petroleum odors were noted in any of the wells.

Water level information, coupled to a site survey performed by MSK Engineering and Design, was used to construct a water table map (Attachment, page 2). From the limited data set of only three water level points, there appears to be a groundwater flow direction toward the north or northwest at this site. However, the groundwater flow gradient is very mild. The gradient between MW-1 and MW-2 is 0.68%. Based on the location of the Walloomsac River and Dewey Brook (a tributary to the Walloomsac located across Depot Street to the west) we expected a groundwater flow direction more toward the north (see USGS location map, Attachment, page 1). As a result of the nearly flat topography of the water table at this site, MW-3, which was intended to serve as a downgradient well to the 1,000 gallon gasoline UST, is likely located cross-gradient to the UST.

After gauging all wells and checking for free product, the wells were sampled, preserved, and transported on ice to the laboratory for EPA Method 602 analysis, and for FID fingerprinting. No detectable BTEX (benzene, toluene, ethylbenzene, and xylenes) compounds were observed in any of the three monitoring wells on the site. However, MW-2, located near the south property line, contained 2.7 ppb chlorobenzene, a trace below quantitation limit (TBQ) of 1 ppb of 1,2-dichlorobenzene, and 1.0 ppb 1,4-dichlorobenzene. These concentrations are far below their Groundwater Enforcement Standards (100ppb,

600 ppb and 75 ppb respectively). A trip blank collected during the sampling round also contained benzene (TBQ less than 1 ppb), toluene (TBQ less than 1ppb), and xylenes (1.9 ppb). Methyl tert butyl ether (MTBE), a gasoline additive, was not detected in any of the three monitoring wells or the trip blank, at a detection limit of 10 ppb.

#### **4.0 SENSITIVE RECEPTOR EVALUATION**

There are no public or private drinking water supplies within a one-half mile radius of the UST sites at the Depot Street garage, as reported in the Tank Pull Form prepared by MSK Engineering. In addition, the garage contains no basement that might be impacted by petroleum vapors. However, Tuttle's Hardware and Johnson Fuels, located on the abutting parcel to the north of the Depot Street garage site, does contain crawlspaces. We used a PID (H-Nu with 10.2 eV lamp) to evaluate the air in the crawlway beneath the hardware store, concentrating on the southern end of this crawlspace, which lies closest to the former location of the 1,000 gallon UST. No PID-detectable vapors were observed in this crawlspace, measured on January 16, 1997 at 10:00 am.

The closest surface water receptors to the UST sites include the Walloomsac River, located about 400 feet north of the Depot Street site, and Dewey Brook, a tributary to the Walloomsac River, located about 250 feet west of the site. Dewey Brook passes underground south of Route 9 (Main Street), and does not resurface until it joins the Walloomsac River about two blocks to the north. There are many intervening industrial and commercial facilities between the highway garage and the surface waters, so we did not perform an extensive investigation of these surface waters. However, we observed no visible sheens on the Walloomsac River, or on Dewey Brook as it joins the Walloomsac River.

#### **5.0 LONG-TERM TREATMENT AND MONITORING PLAN**

As described in Section 3.0, we were unable to install a monitoring well directly downgradient of the UST sites, since the groundwater flow direction was improperly estimated on this relatively flat site. It would therefore be constructive to install additional monitoring wells on the property to provide groundwater quality information downgradient of the former USTs. However, we do not recommend that these wells be installed at this time. Our recommendation is based on the fact that the tanks were in good to excellent condition when pulled, and that all residual contamination observed in the excavations appeared to be relict contamination in fill materials that originated from other sources in this urban area. In addition, a sensitive receptor survey of the Depot Street area uncovered no domestic wells, surface water, crawl ways, or basements that were impacted by a gasoline or No. 2 fuel oil release.

The presence of low levels of chlorinated aromatic compounds in groundwater at MW-2 suggests that low level contamination may be entering the Depot Street site from upgradient (which we presume to be to the southwest, south and/or southeast). Given the very low concentrations of these chlorinated compounds, we estimate that the source of contamination is either well-removed from MW-2, or is quite old.

As described in a parallel report for the Willow Road Highway Garage site, the Town of Bennington understands its obligation to have the polyencapsulated soils at the Willow Road Garage site (which include contaminated soils from both the Depot Street site and the Willow Road site) regularly maintained and checked on a quarterly basis for PID detectable contaminants. Once the contaminant levels have declined to below detectable PID levels, and no petroleum odors are present in these soils, they will be thinspread at the Town Highway Garage property, following approval of the Sites Management Section (SMS), in a location least likely to be disturbed by vehicular traffic, or by future excavations.

This completes our investigation of the Town of Bennington Depot Street garage underground storage tank site. Should you have any questions, please do not hesitate to contact me or Craig Heindel.

Sincerely,



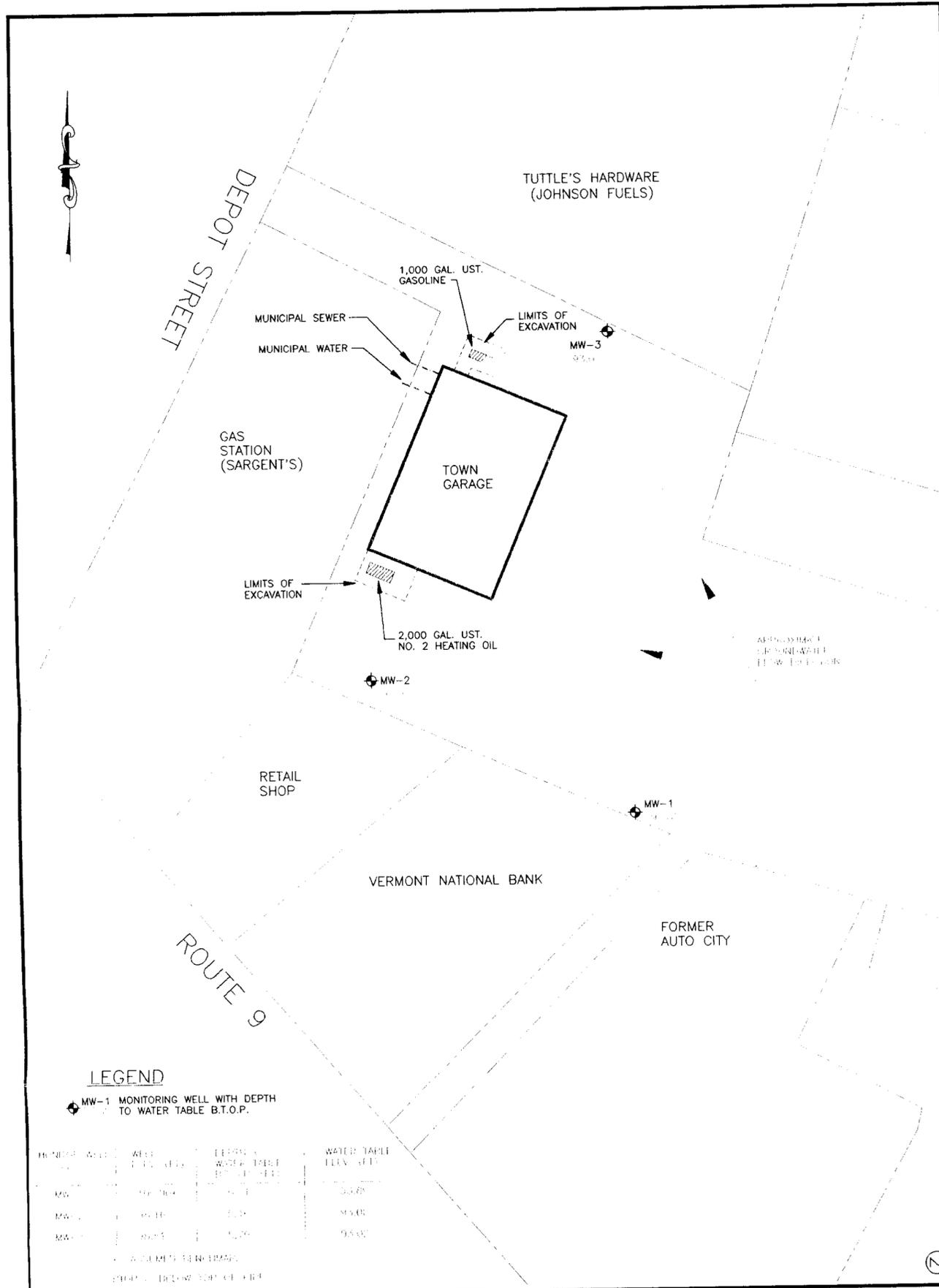
Dean A. Grover, PE  
Chief Engineer

DAG/tjr

Attachments

cc: MSK Engineering  
Town of Bennington



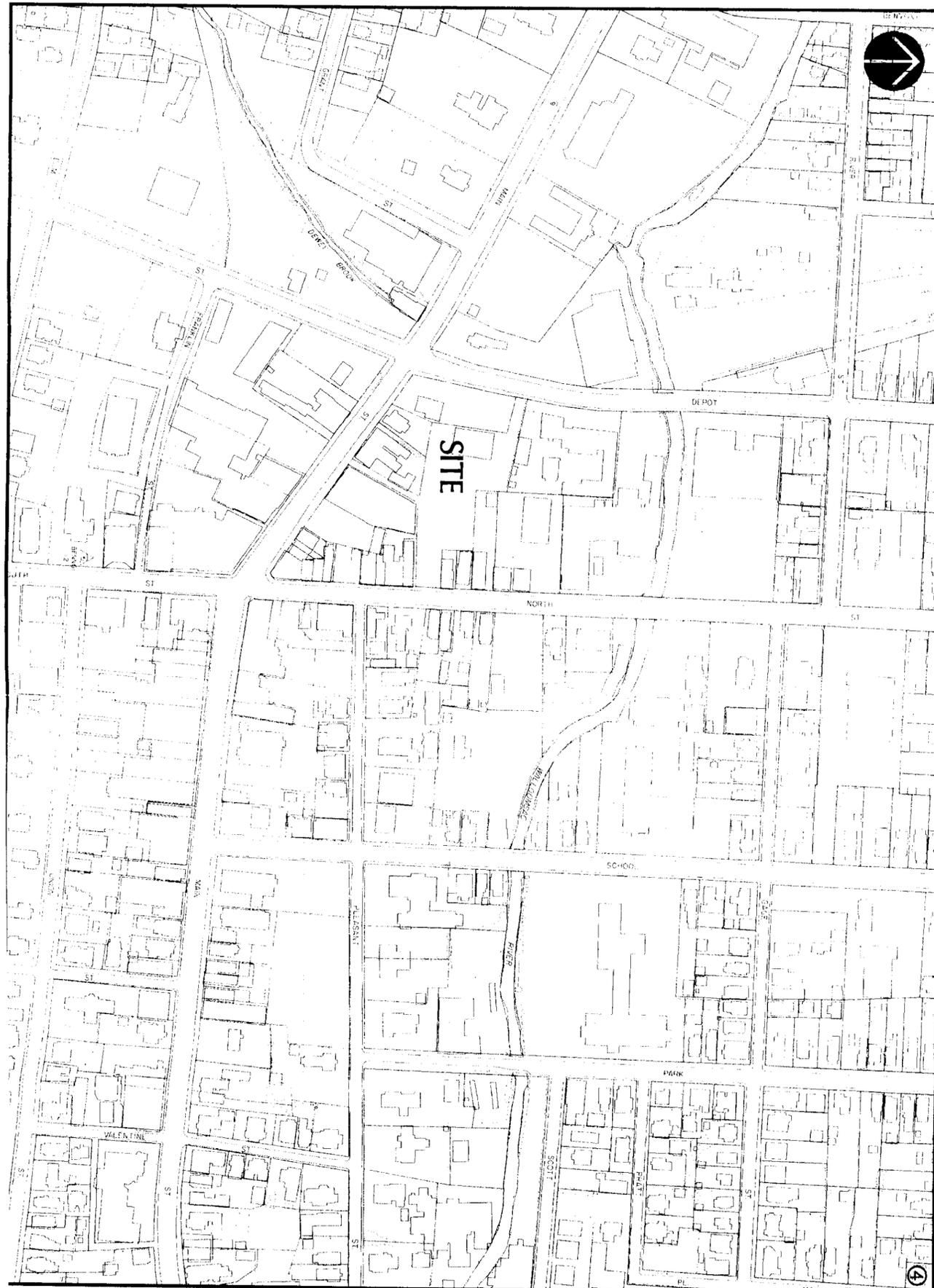


TOWN OF BENNINGTON - DEPOT STREET GARAGE  
 BENNINGTON, VERMONT  
 WATER TABLE MAP - JANUARY 23, 1997  
 SCALE: 1"=40'  
 FILE: C:\MSKDEPOT\SITEPLAN

DATE: MARCH 13, 1997  
 PROJECT NO. 96227  
 DRAWN BY: M. Luman  
 PROJ. MGR: D. Grover  
 APPROVED: C. Heindel  
 DRAFT  FINAL

**Heindel and Noyes**  
 • Hydrogeology • Ecology •  
 • Environmental Engineering •  
 CONSULTING SCIENTISTS AND ENGINEERS  
 P.O. BOX 64709  
 BURLINGTON, VERMONT 05406-4709  
 Prepared By:  
 Information & Visualization Services





TOWN OF BENNINGTON - DEPOT STREET GARAGE

BENNINGTON, VERMONT

AREA MAP

SCALE: 1"=200'

FILE: C:\MSKDEPOT\ORTHBASE

DATE: MARCH 13, 1997

PROJECT NO. 96227

DRAWN BY: M. Luman

PROJ. MGR: D. Dwyer

APPROVED: C. Heindel

DRAFT

FINAL

Heindel and Noyes

- Hydrogeology • Ecology •
- Environmental Engineering •
- CONSULTING SCIENTISTS AND ENGINEERS

P.O. BOX 64709  
BURLINGTON, VERMONT 05406-4709

Prepared By:  
Information & Visualization Services

**UNDERGROUND STORAGE TANK PERMANENT CLOSURE FORM**

**AGENCY USE ONLY**  
 Sched. closure date: 6-19-96  
 Facility Town: Bennington  
 Facility ID#: 4426634  
 DEC Official: ST  
 Evaluated by: \_\_\_\_\_

VERMONT AGENCY OF NATURAL RESOURCES  
 DEPT. OF ENVIRONMENTAL CONSERVATION  
 HAZARDOUS MATERIALS MANAGEMENT DIV.  
 103 SOUTH MAIN STREET, WEST BUILDING  
 WATERBURY, VERMONT 05671-0404  
 TELEPHONE: (802) 241-3888

Company conducting site assessment: MSK  
 Person conducting site assessment: Toni King  
 Telephone number of company for person: 802-447-3340  
 Date of UST closure: 18 JUN 96  
 Date of site assessment: 18 JUN 96

This Closure Form may only be used for the facility and date indicated in the upper left hand corner. Changes in the scheduled closure date should be phoned in at least 48 hours in advance. Both the yellow and white copies must be returned to the above address; the pink copy should be retained by the UST owner. A written report from an environmental consultant covering all aspects of closure and site assessment, complete with photographs and any other relevant data, must accompany this form. All procedures must be conducted by qualified personnel - including training required by 29 CFR 1910.120. Documentation of all methods and materials used must be adequate. All work must be performed in compliance with DEC policy "UST Closure and Site Assessment Requirements" as well as all applicable statutes, regulations, and additional policies. The DEC may reject inadequate closure forms and reports.

**Section A. Facility Information:**

Name of Facility: BEULIARDVILLE DEPOT ST GARAGE Number of Employees: 7  
 Street address of facility: Depot Street  
 Owner of UST(s) to be closed: Town of Bennington  
 Name of Contact and telephone number if different from owner: Joseph Sokol, Public Works Director  
 Mailing address of owner: 205 South Street, Bennington, VT 05201  
 Telephone number of owner: 802-442-1037

**Section B. UST Closure Information: (please check one)**

Reason for initiating UST Closure: \_\_\_\_\_ Suspected Leak \_\_\_\_\_ Liability  Replacement \_\_\_\_\_ Abandoned \_\_\_\_\_  
 Which portion of UST is being closed: \_\_\_\_\_ Tanks \_\_\_\_\_ Piping  Tanks & Piping \_\_\_\_\_  
 USTs undergoing permanent closure. Include condition and if leaks were found:

UST#	Product	Size (gallons)	Tank age	Tank condition	Piping age	Piping condition
1	gasoline	1000	8 yrs	excellent	8 yrs	excellent
2	#2 heating	2000	+ 25 yrs	good	+ 25 yrs	good

Which tanks, if any, will be closed in-place (must have approval from DEC) none  
 Disposal/destruction of removed UST(s): \_\_\_\_\_  
 Location A. Aaron & Sons, Inc. Date 06/18/96 Method scrap Date 06/18/96

Amount (gal.) and type of waste generated from USTs: 19 gal gas, 65 gal fuel oil  
 Tank cleaning company (must be trained in confined space entry): A. Aaron & Sons, Inc.  
 Certified hazardous waste hauler (tank contents are hazardous waste unless recovered and usable product): A. Aaron & Sons, Inc.  
 Hazardous waste generator ID number: #000004597

USTs not closed. This portion must be filled in to include all USTs, regardless of size, and status, \*whether "abandoned", "in use", "to be installed", or "not aware of any other tanks on-site". Remember: most new installations require permits and advance notice to this office.

UST#	Product	Size (gallons)	Tank age	*Tank Status	Piping Age	*Piping Status

**Section C. Initial site characterization:**

Work in this section must be completed by a professional environmental consultant or hydrogeologist with experience in environmental sampling for the presence of hazardous materials. A full report from the consultant must accompany this form.  
 1: 300 1: 6.3 varies -  
 Excavation size (ft<sup>2</sup>): 2: 350 Excavation depth (ft): 2: 8.5 Soil type: see report Bedrock depth (ft): no  
 PID Information: Make: Thermo Environmental Model: 580B  
 Instruments

PID Calibration information: Date 19 JUN 96 Time 0900 Type of Gas Isobutylene  
Contamination detected with PID (ppm): Peak 356:1 Depth of peak (ft) 3 ~~avg~~ 5.6 - 356.7 ra  
Soil samples collected for laboratory analysis? Yes x # of samples 3 No       
(show locations and depth of all readings and samples on diagram).

contamination info above for tank #1 - see report for tank #2 info  
Have soils been polyencapsulated on site? Yes      list amount (cu. yds.):      No x  
Have any soils been transported off site? Yes      list amount (cu. yds.):      No x

Location transported to: \_\_\_\_\_  
Name of DEC official granting approval to transport soils: \_\_\_\_\_ Date:   /  /  

Amount of soils backfilled. (cu. yds.): 48 , Avg. PID 80

Have limits of contamination been defined? Yes      No x

Are you aware of any other contaminants which may be present? Yes      No      possibly

Comments: #1-tank in excellent condition - bedding appeared clean - parking lot base (debris) appears to be source of contamination

Free phase product encountered? Yes      thickness      No x

Groundwater encountered? Yes x depth(ft) 1:6.3 2:7.5 No     

Were there existing monitoring wells on site? Yes      (# samples taken     ) No x

Have new monitoring wells been installed? Yes      (# samples taken     ) No x

Samples collected from monitoring wells for lab analysis? Yes      No x

(include well location, headspace readings, and laboratory results if applicable in a separate report and on the site diagram)

Is there a water supply well or spring on site? Yes      (check type: shallow      rock      spring     ) No x

How many public water supply wells are located within a 0.5 mile radius? none min. distance (ft):     

How many private water supply wells are located within a 0.5 mile radius? none min. distance (ft):     

What receptors have been impacted? x soil      indoor air x groundwater      surface water      water supply

**Section D. Statements of UST closure compliance:** (must have both signatures or site agreement not complete)

As the party responsible for compliance with the Vermont UST Regulations and related statutes at this facility, I hereby certify that all of the information provided on this form is true and correct to the best of my knowledge.

Joseph W. Sebald  
Signature of UST owner or owner's authorized representative

Date: June 19, 1996

As the environmental consultant on site, I hereby certify that the site assessment requirements were performed in accordance with DEC policy and regulations, and that information which I have provided on this form is true and correct to the best of my knowledge.

[Signature]  
Signature of Environmental Consultant

Date: June 19, 1996

**SITE DIAGRAM**

Show location of all tanks and distance to permanent structures, sample points, areas of contamination, potential receptors and any pertinent site information. Indicate North arrow and major street names or route number.

see attached plan

Return form along with complete narrative report and photographs to the Department of Environmental Conservation Underground Storage Tank Program within 72 hours of closure.

# VERMONT UNDERGROUND STORAGE TANK (UST) REMOVAL FORM

This form can only be used when all registered USTs have been removed from the facility.

In compliance with UST Regulations, the registered UST(s) recorded in Book 0-258, Page 50, in the Town/City Bennington Land Records were removed on 6/18/96.

## OWNERSHIP OF TANKS REMOVED

Name TOWN OF BENNINGTON, VT  
Mailing Address 205 SOUTH STREET  
City/Town BENNINGTON State VT Zip 05201

Phone (802) 442-1037  
Contact Name JOSEPH W. SOKUL

## FACILITY LOCATION

Name BENNINGTON DEPOT STRET HIGHWAY GARAGE  
Street Address DEPOT STREET  
City/Town BENNINGTON, County BENNINGTON  
Land Owner \_\_\_\_\_

Facility ID# 4426634  
Site ID# 96-  
# of Tanks Registered: two  
# of Tanks Removed: two

CERTIFICATION: I certify under penalty of law that the information provided on this form is true, accurate, and complete to the best of my knowledge.

TOWN OF BENNINGTON by JOSEPH W. SOKUL, DIRECTOR OF PUBLIC WORKS  
Printed name of owner, if a corporation, add name and title of authorized officer or representative  
Joseph W. Sokul 7/29/96  
Signature of owner or owner's representative Date

### LOCAL USE ONLY

Date Recorded \_\_\_\_\_  
Book Number \_\_\_\_\_  
Page Number \_\_\_\_\_  
City/Town of \_\_\_\_\_ Land Records

filed by: \_\_\_\_\_  
Signature of Town or City Clerk  
Agency of Natural Resources  
Department of Environmental Conservation  
UST Program, West Building  
103 South Main Street  
Waterbury, VT 05671-0404

### STATE USE ONLY

Agency of Natural Resources  
Department of Environmental Conservation  
Underground Storage Tank Program  
Date Approved \_\_\_\_\_

By \_\_\_\_\_  
Signature

# COPY



# ENGINEERING & DESIGN, INC.

PROFESSIONAL ENGINEERING: VT • NH • NY  
 CIVIL • ENVIRONMENTAL • MECHANICAL • STRUCTURAL • SURVEYING  
 SITE & FACILITY DEVELOPMENT • CONSTRUCTION COMPLIANCE • REGULATORY PERMITTING

## SITE ASSESSMENT

PREPARED FOR THE TOWN OF BENNINGTON, DEPOT STREET HIGHWAY GARAGE  
 UST CLOSURE OF 18 JUN 96

Included with this submittal is a site plan prepared by mp mcdonough for the redevelopment of the public parking facilities, the property of which includes the Depot Street highway garage, to display the general site location. The redevelopment of the parking area has been mostly completed, save for repaving of the site. The site is immediately adjacent to Depot Street, and the parking lot maintains access via North Street (Route 7) to facilitate through-traffic. Pedestrian access is maintained from Main Street (Route 9) via new concrete walk to the east of Vermont National Bank. West of the Bank and south of the highway garage is a professional office building. Next to this building, being on the corner of Depot and Main Streets, and lying also to the west of the highway garage is Sargent's Short Stop Deli, a convenience store and gasoline service station. To the <sup>NO. 2 TANK</sup> south of the highway garage is H. M. Tuttle Co., a hardware, building supply, and fuel service enterprise. This area is in the heart of downtown Bennington, and is all served by municipal water and sewer. There are no known sensitive receptors within this vicinity. Also included is a diagram indicating the limits of excavation of the tanks, with proximity to the building noted, along with soils encountered, and monitoring locations and results.

The Town of Bennington, aware of the impending 1998 upgrade requirements, had decided to phase in the removal of their unprotected tanks. This particular site was home to a 1000 gallon gasoline UST (hereinafter referred to as tank #1) and a 2000 gallon #2 heating oil UST (tank #2). The Town intends to investigate an above-ground gasoline tank in the future, and is contemplating interior, above-ground, heating oil storage.

The tank closure was performed on June 18, 1996, an overcast, warm and humid day, following adequate notice to the Underground Storage Tank Program. Tank #1 pump-out was initiated at about 9:00 am. Approximately 19 gallons of waste gasoline were reported to have been properly transported for subsequent disposal to and by A. Aaron & Sons, Inc., ID # 000004597. This corporation was also responsible for the excavation of the USTs, the tank cleaning, and disposal/destruction. The owner had arranged for Agway to disconnect and remove the gas pump, and pump out the recoverable product within the heating oil tank. Following this, the approximately 3" of pavement which was scraped from the top of the excavation was set aside. The excavation of the tank continued, and associated piping was removed, to be disposed of along with the tank. Soils found within this excavation included approximately 12" of old, ground asphalt, with a processed gravel base. The area immediately surrounding the tank included fine silty sand to the depth of the excavation, approximately 5' - 4" deep. Farther from the building, more within the traveled way from the parking area to Depot Street, approximately 3' of demolition debris was uncovered, including brick, masonry and glass. This was followed by coarse gravel with many large cobbles.

Sue Thayer, from the UST program, arrived onsite during the course of the excavation. Following tank removal, Jim Davis, of A. Aaron & Sons, Inc., performed monitoring of the grave via Thermo

Environmental Instruments Model 5808 PID, which had been calibrated earlier in the morning. Initial readings within the grave site ranged from 50.7 to 83.6 ppm. The tank was noted to be in excellent condition, and having less than 1% product remaining, was transported to A. Aaron & Sons, Inc. facility, approximately 1 mile away, for cleaning and disposal. The initial pavement which had been set aside was recorded at between 0.5 and 1.5 ppm. Ms. Thayer approved transport via Town of Bennington trucks to the Burgess Brothers categorical waste disposal site. The soils reading above the allowable limits for backfill, Town of Bennington employees prepared a storage site at the Willow Road highway garage, a larger, fenced and gated facility, away from the the downtown center.

Following a brief lunch break, readings were again taken within the excavation, averaging 19.4 ppm within the grave site. Hand-digging provided excavation to groundwater, revealing coarse sand and small stones below the sand surrounding the tank. No observable free product nor any signs of contamination were noted. The groundwater surface measured immediately in the 20 ppm range and within seconds dropped to 5.6 ppm, continuing to fall. Readings taken outside of the tank grave, within the area noted as containing debris, ranged from 82.6 to 356.7 ppm. Ms. Thayer recommended that the excavated material be returned to the hole rather than being transported offsite, pending consultation with the Sites Management Section. This was accomplished, and approximately 12 cy of processed gravel was added to the excavation and compacted in preparation for the parking lot paving.

This gasoline tank, as may be seen in the enclosed photographs, was found to be in excellent condition, having been installed only 8 years ago. It is unlikely that any contamination found was due to this tank. This tank replaced an older tank, removed prior to the UST program, for which little information can be found. It is possible that the contamination found within this area was due to leakage of the previous tank. The sheet photographs from Jim Davis' collection serve to illustrate the debris found outside of the tank location. Additionally, Ms. Thayer was onsite to witness this fill and can attest to the fact that the larger measurements of contamination appeared outside the grave site, within this noxious fill area. It is likely that any past petroleum contamination has been trapped within this fill layer, bounded by foundations to the north and south (the highway garage and Tuttle's), the groundwater layer below and the pavement above. It is entirely unknown the extent of the contamination, which is assumed from the information noted above, to run more laterally than downward. Many properties within downtown Bennington have been found to be in filled areas. It is rumored that the Fay's Drugs property, immediately across Depot Street, was sited over a pond and stream, filled and paved. It was decided that, being unaware of the limits of the contamination, and/or the limits of the debris fill, it would be of little use to continue the excavation and attempt to transport, and either treat or dispose, of the soil and fill. We believe the backfilling and covering of the excavated material was entirely warranted. Three soil samples were taken, but have not yet been sent for analysis, pending approval/requirement of the program. We await consultation with the Sites Management Section to ascertain recommended corrective action.

Closure of tank #2, the 2000 gallon #2 heating oil UST was then initiated. Ms. Thayer had left the site at this point. Approximately 65 gallons of waste fuel oil was removed and properly transported to and by A. Aaron & Sons, Inc. for disposal. The surface pavement was treated as before, scraped, placed into a Town of Bennington truck, and removed to the Burgess Brothers disposal site, the monitoring having shown levels consistent with that of asphalt. Processed gravel was found beneath the pavement, followed by siity sand with many large cobbles, then dark organic clay including cobbles, with yellow-orange clayey gravel pockets, consistent with an ochre material. The depth of the excavation was 8.5 feet, with the groundwater level encountered at 7.5 feet, and seeps noted at 6 feet/ The tank, at least 25 years old, was found to be in good condition. No signs of leakage were noted. The tank was removed to A. Aaron & Sons, Inc. For cleaning and disposal/destruction.

The diagram depicts the location of the monitoring points, which indicates a maximum 8.0 ppm reading, with an average level of 2.1 ppm. No indication of free product nor of contamination was found at the water level. The soils were backfilled, with approximately 18 cy of processed gravel added and covering the excavation.

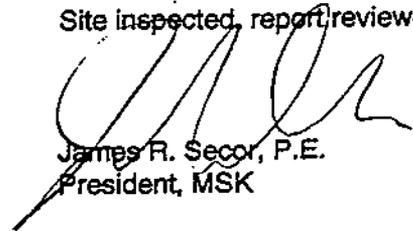
Should you require additional information or clarification, please do not hesitate to call.

Respectfully submitted,



Toni M. King  
Environmental Project Engineer

Site inspected, report reviewed and approved by:



James R. Secor, P.E.  
President, MSK

c: Joe Sokul, Town of Bennington  
Jim Davis, A. Aaron & Sons, Inc.

encs.



# ENGINEERING & DESIGN, INC.

PROFESSIONAL ENGINEERING: VT • NH • NY

CIVIL • ENVIRONMENTAL • MECHANICAL • STRUCTURAL • SURVEYING

SITE & FACILITY DEVELOPMENT • CONSTRUCTION COMPLIANCE • REGULATORY PERMITTING

18 JUL 96

Sue Thayer, UST Program  
Management and Prevention Section  
Hazardous Materials Management Division  
Department of Environmental Conservation  
Agency of Natural Resources  
103 South Main Street  
Waterbury, Vermont 05671-0404

Re: Town of Bennington  
Depot Street Highway Garage UST Closure  
18 JUN 96

Ms. Thayer:

Pursuant to our recent conversation, let this correspondence serve as clarification of reported discrepancy in PID readings at the above-referenced closure. The highest level reported within the form and site assessment narrative previously submitted was one of 356.7 ppm, and due to annotated and reading with illustrated location within the excavation. A level of 586 ppm was measured by Jim Davis of A. Aaron & Sons, Inc., and noted in your presence from a bucket of the debris found on the outskirts of the tank gravesite. We sincerely apologize for any inconvenience this discrepancy may have caused in your review of the submitted materials.

Should you require additional information or clarification, please do not hesitate to contact us.

Respectfully submitted,

Toni M. King  
Environmental Project Engineer

James Davis  
A. Aaron & Sons, Inc.

SOIL PROBE LOG

TRI STATE  
DRILLING & BORING, INC.  
RFD #2, Box 113 West Burke, VT 05871  
(802) 467-3123

Page 1 of 3  
MW #1  
Boring \_\_\_\_\_  
ODEX \_\_\_\_\_

		SAMPLER	SOIL
		Continuous	Saturated
TYPE	SS	_____	Wet
SIZE	3"	_____	Moist
HAMMER	140	_____	Damp
FALL	30"	_____	Slightly Damp

DATE STARTED: 01/16/97

DATE COMPLETED: 01/16/97

FOOTAGE	BLOW COUNTS	REC
DEPTH		

DRILLER'S NOTES & COMMENTS

6 12 18 24

Gravel & large cobbles to 15'.  
Water rate 6'.

Screen 15' to 5', Riser to surface,  
#1 Sand 15' to 3', Chips to 1'.

Project: Town Garage  
Location: Bennington, VT.  
Engineer: Wagner Hiendel & Noyes  
Inspector: Dean Grover

Driller: Neal S. Faulkner  
Helper: Ed Jarrosak  
Materials: 10' Screen, 5' Riser  
1 PVC Caps, 1 Lock Plug, 2 #1 Sand,  
.5 Hole Plug, 1 Road Box.

SOIL PROBE LOG

ODEX

TRI STATE  
DRILLING & BORING, INC.  
RFD #2, Box 113 West Burke, VT 05871  
(802) 467-3123

TYPE	SIZE	HAMMER	FALL	SAMPLER	SOIL
				Continuous	Saturated
					Wet
					Moist
					Damp
					Slightly Damp

DATE STARTED: 01/16/97

DATE COMPLETED: 01/16/97

FOOTAGE	DEPTH	BLOW	COUNTS	REC
		6	12	18 24

DRILLER'S NOTES & COMMENTS

Gravel & boulders to 8'.u coarse  
Fine silt to 15'.

Screen 15'to 5', Riser to surface,  
#1 Sand 15' to 3', Chips to 1'.

Client: Town Garage  
Job Location: Bennington, VT.  
Engineer: Wagner Hiendel & Noyes  
Inspector: Dean Grover

Driller: Neal S Faulkner  
Helper: Ed Jarrosak  
Materials: 10' Screen, 5' Riser  
1 Cap, 1 Lock Plug, 2 Sand, .5 Hole Plug,  
1 Road Box.

SOIL PROBE LOG

MW----#3

ODEX

TRI STATE  
DRILLING & BORING, INC.  
RFD #2, Box 113 West Burke, VT 05871  
(802) 467-3123

TYPE	SIZE	HAMMER	FALL	SAMPLER	SOIL
				Continuous	Saturated
					Wet
					Moist
					Damp
					Slightly Damp

DATE STARTED: 01/17/97

DATE COMPLETED: 01/17/97

FOOTAGE	DEPTH	BLOW	COUNTS	REC	DRILLER'S NOTES & COMMENTS
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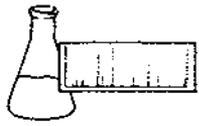
6 12 18 24

Gravel & boulders to 12'.  
 Fine silty sand to 15'.  
 Water at 8'.

Screen 15' to 5', Riser to surface, #1 Sand 15'  
 to 3', Chips to 1'.

Client: Town Garage  
 Job Location: Bennington, VT.  
 Engineer: Wagner Hiendel & Noyes  
 Inspector: Dean Grover

Driller: Neal S. Faulkner  
 Helper: Ed Jarrosak  
 Materials: 10' 10 Slot Screen, 5' Riser,  
 1 PVC Cap, 1 Lock Plug, 2 #1 Sand,



**ENDYNE, INC.**

Laboratory Services

32 James Brown Drive  
Williston, Vermont 05495  
(802) 879-4333  
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel and Noyes  
PROJECT NAME: MSK/Depot  
REPORT DATE: February 3, 1997  
DATE SAMPLED: January 23, 1997

PROJECT CODE: HNMD1828  
REF.#: 99,272 - 99,275

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

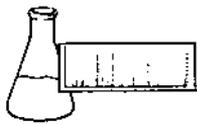
Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by, 

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures



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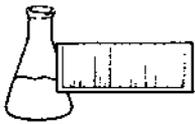
### EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Heindel and Noyes  
PROJECT NAME: MSK/Depot  
CLIENT PROJ. #: NI

DATE RECEIVED: January 27, 1997  
REPORT DATE: February 3, 1997  
PROJECT CODE: HNMD1828

Ref. #:	99,272	99,273	99,274	99,275	
Site:	MW1	MW2	MW3	Trip Blank	
Date Sampled:	1/23/97	1/23/97	1/23/97	1/23/97	
Time Sampled:	11:00	11:10	11:30	8:00	
Sampler:	C. Aldrich	C. Aldrich	C. Aldrich	C. Aldrich	
Date Analyzed:	2/3/97	2/3/97	2/1/97	2/1/97	
UIP Count:	0	3	2	>10	
Dil. Factor (%):	100	100	100	100	
Surr % Rec. (%):	95	104	122	84	
Parameter	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	Conc. (ug/L)	
Benzene	<1	<1	<1	TBQ <1	
Chlorobenzene	<1	2.7	<1	<1	
1,2-Dichlorobenzene	<1	TBQ <1	<1	<1	
1,3-Dichlorobenzene	<1	<1	<1	<1	
1,4-Dichlorobenzene	<1	1.0	<1	<1	
Ethylbenzene	<1	<1	<1	<1	
Toluene	<1	<1	<1	TBQ <1	
Xylenes	<1	<1	<1	1.9	
MTBE	<10	<10	<10	<10	

Note: UIP = Unidentified Peaks    TBQ = Trace Below Quantitation    NI = Not Indicated



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REPORT OF LABORATORY ANALYSIS

CLIENT: Heindel and Noyes  
PROJECT NAME: MSK/Depot  
DATE REPORTED: February 5, 1997  
DATE SAMPLED: January 23, 1997

PROJECT CODE: HNMD1829  
REF. #: 99,276 - 99,278

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody record.

Chain of custody indicated sample preservation with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced methods and within the specified holding times.

All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced methods.

Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy were monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Reviewed by,

Harry B. Locker, Ph.D.  
Laboratory Director

enclosures

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Williston, Vermont 05495  
(802) 879-4333  
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**LABORATORY REPORT****PETROLEUM FINGERPRINT BY GC/FID**

DATE: February 5, 1997  
CLIENT: Heindel and Noyes  
PROJECT: MSK/Depot  
PROJECT CODE: HNMD1829  
COLLECTED BY: Chris Aldrich  
DATE SAMPLED: January 25, 1997  
DATE RECEIVED: January 27, 1997

Reference #	Sample ID	Fuel ID <sup>1</sup>
99,276	MW1; 11:00	ND <sup>2</sup>
99,277	MW2; 11:10	ND
99,278	MW3; 11:30	ND

**Notes:**

- 1 Petroleum identification is determined by comparison of the chromatographic fingerprint of the sample with a laboratory generated library of chromatographic fingerprints of assorted Petroleum standards.
- 2 Not Determined. No Fingerprint Present.