



SEP 22 10 01 AM '99

5077

September 21, 1999

Mr. Chuck Schwer
Vermont ANR/DEC
Waste Management Division
103 South Main St. /West Building
Waterbury, VT 05671-0404

RE: Initial Investigation of Suspected Subsurface Petroleum Contamination
Weiss Residence, Chester, Vermont (VTDEC #98-2554)

Dear Mr. Schwer:

Enclosed please find the summary report for the site investigation conducted at the above referenced site. Dr. Weiss has reviewed this report and requested that we forward a copy to you for review.

Please contact me if you have any questions or comments.

Sincerely,

Christine Ward
Hydrogeologist

Enclosure

c.: Dr. Weiss (w/o enclosure)
GI#49941528

INITIAL INVESTIGATION OF
SUSPECTED SUBSURFACE PETROLEUM
CONTAMINATION

WEISS RESIDENCE
CHANDLER ROAD
CHESTER, VERMONT

(VTDEC SITE #98-2554)
GI #49941528

September 1999

Prepared for

Dr. William Weiss
121 Park Street
Springfield, VT 05156

Prepared by



P.O. Box 943
Williston, Vermont 05495
(802) 865-4288

TABLE OF CONTENTS

| | |
|-----------------------------------------------------|----------|
| I. INTRODUCTION | 1 |
| II. SITE BACKGROUND | 1 |
| A. SITE HISTORY | 1 |
| B. SITE DESCRIPTION..... | 1 |
| C. SITE GEOLOGY | 2 |
| III. INVESTIGATIVE PROCEDURES | 2 |
| A. SOIL BORINGS / MONITORING WELL INSTALLATION..... | 2 |
| B. GROUNDWATER FLOW DIRECTION AND GRADIENT..... | 3 |
| C. GROUNDWATER SAMPLING AND ANALYSES..... | 4 |
| D. SOIL SAMPLING AND ANALYSES | 4 |
| E. SUPPLY WELL SAMPLING AND ANALYSES..... | 4 |
| F. SENSITIVE RECEPTOR SURVEY | 5 |
| IV. CONCLUSIONS | 6 |
| V. RECOMMENDATIONS | 7 |
| REFERENCES | 8 |

APPENDICES

Appendix A - Maps

 Site Location Map

 Site Sketch

 Groundwater Contour Map

Appendix B - Soil Logs and Monitoring Well Specifications

Appendix C - Liquid Level Monitoring Data

Appendix D - Water Quality Data and Soil Boring Data

Appendix E - Analytical Laboratory Reports

I. INTRODUCTION

This report summarizes the initial investigation of suspected subsurface petroleum contamination at the Weiss Residence (the Site) at 1328 Chandler Road in Chester, Vermont (see Site Location Map, Appendix A). This work was requested by Mr. Chuck Schwer of the Vermont Department of Environmental Conservation (VTDEC) in a letter to Dr. Weiss, dated February 22, 1999. This work was performed generally in accordance with the April 2, 1999, *Work Plan and Cost Estimate for a Site Investigation of Suspected Petroleum Contamination* prepared by Griffin. The work plan was approved by Mr. Schwer (VTDEC) in a letter to Dr. Weiss dated May 26, 1999.

The work plan specified four monitoring wells to be installed, however during drilling refusal was encountered in the first boring (SB-1) with no indications of a water table so the boring was backfilled without installing a monitoring well. Additionally, due to physical constraints at the Site (i.e., the steep ground surface topography and the house) the drill rig was only able to install one monitoring well in the presumed downgradient direction rather than the two proposed downgradient monitoring wells.

II. SITE BACKGROUND

A. Site History

On November 5, 1998, petroleum contamination was detected at the Site during soil field screening at the routine removal of one 2,000-gallon capacity No. 2 heating oil underground storage tank (UST). Soil samples collected during the UST closure were screened for volatile organic compounds (VOCs) using an HNuTM systems model HW-101 photoionization detector (PID) equipped with a 10.2 eV lamp. Soils collected from the excavation of the UST had PID measurements up to 50 parts per million (ppm) [2]. The detected petroleum contamination was likely the result of leakage from the piping. Groundwater was observed to be flowing into the southeast corner of the UST excavation at approximately 5 feet below grade.

As a result of the petroleum contamination detected in the subsurface beneath the former UST, the VTDEC requested that additional work be conducted at the Site in order to determine the extent and degree of petroleum contamination.

B. Site Description

The Weiss' residence is located on the east side of Chandler Road (formerly Old Baltimore Road) in a rural area of Chester, Vermont. The ground surface topography across the Site slopes down steeply to the east toward Chandler Meadow Brook, which is approximately 200 feet east

of the former UST location. The Site is bordered in all directions by large tracts of undeveloped wooded lots.

C. Site Geology

According to the Surficial Geologic Map of Vermont [3], the Site is underlain by glacial till. Bedrock below the Site is mapped as the Mount Holly Complex, consisting mainly of fine-to medium-grained biotitic gneiss [4].

III. INVESTIGATIVE PROCEDURES

To further define the extent of subsurface petroleum contamination in the area of the former UST, the following investigative tasks were undertaken: soil borings; monitoring well installations; determination of groundwater flow direction and gradient; soil and groundwater sample collection and analyses for petroleum related constituents; and a sensitive receptor survey.

A. Soil Borings / Monitoring Well Installation

On June 17, 1999, two shallow monitoring wells, MW-2 and MW-3, were installed at the Site utilizing hollow-stem auger drilling methods. One soil boring, SB-1, was also advanced in the area between the former UST and the supply well. T & K Drilling, Inc., of Troy, New Hampshire, advanced the soil borings and installed the monitoring wells under the supervision of a Griffin hydrogeologist. The soil boring and monitoring well locations are indicated on the Site Sketch (Appendix A).

During borehole advancement, a two-foot split spoon sampler was advanced ahead of the augers every five feet. Undisturbed soil samples, collected from the borings with the split spoon sampler, were logged by the supervising hydrogeologist and screened for the presence of VOCs using an HNu™ systems Model PI-101 PID equipped with a 10.2 eV lamp. Prior to screening, the PID was calibrated with isobutylene referenced to benzene. Soils were screened using the Griffin Jar/Polyethylene Bag Headspace Screening Protocol, which conforms to state and industry standards. Soil characteristics and contaminant concentrations were recorded by the hydrogeologist in detailed soil logs which are presented in Appendix B.

Soil boring SB-1 was advanced in a presumed crossgradient direction from the former UST, and between the former UST and the on-site supply well. The soil encountered in soil boring SB-1 consisted primarily of gravelly lean clay. Refusal was encountered with the augers at 18 feet below grade. No VOCs were measured with the PID at concentrations exceeding 1 ppm from the soils collected from soil boring SB-1. A monitoring well was not installed in soil boring SB-1

because during drilling the water table was not encountered and the vertical profile of soil in the boring did not exhibit sufficient moisture suggestive of a water table. The soil sample collected from the bottom of the boring was submitted for laboratory analysis described below in Section III D.

Monitoring well MW-2 was installed in the source area of the former UST. The soil encountered in the soil boring for MW-2 consisted primarily of sandy silt from grade to approximately 7 feet below grade, and by sandy lean clay with gravel from 7 feet to 22 feet below grade, which marked the vertical extent of the boring. No VOCs were measured with the PID at concentrations exceeding 1 ppm from the soils collected from soil boring for MW-2, except for the soil sample collected from 5 to 7 feet below grade which had a PID measurement of 4 ppm. The bottom of the former UST was approximately 7 feet below grade. The water table was initially encountered at 17 feet below grade during drilling, however after letting the borehole stay open for one-half hour the water table was measured at 11 feet below grade.

Monitoring well MW-3 was installed east of the former UST in the presumed downgradient direction. The soil encountered in the boring for MW-3 consisted primarily of sandy lean clay with gravel. No VOCs were measured with the PID at concentrations exceeding 1 ppm from the soils collected from the boring for monitoring well MW-3. During drilling, the water table was not established in the boring for MW-3, however the soil samples collected from 15 to 17 feet and from 20 to 21.5 feet below grade were wet, suggestive of a water table.

Monitoring wells MW-2 and MW-3 were constructed in a similar fashion, with two-inch diameter, Schedule 40 PVC well screen and riser. Each well contains a ten-foot length of 0.010-inch, factory-slotted screen. A sand pack was installed in the annular space around the well screen from the bottom of the boring to two feet above the top of the screened interval in each borehole. An approximate two-foot thick bentonite seal was then installed above the sand pack. A second one-foot thick bentonite seal was placed near the surface in monitoring well MW-3. Each well was fitted with a gripper cap, and secured with a water-tight road box. The road box on each well is flush-mounted, set in concrete, and suitable for vehicular traffic. Monitoring well MW-2 was developed by bailing immediately after installation. Monitoring well MW-3 was dry on the day of installation and therefore not developed.

B. Groundwater Flow Direction and Gradient

Water table elevation measurements were collected from the two on-site monitoring wells on July 8, 1999. The top of casing elevations were determined relative to MW-2, which was arbitrarily set at 100 feet. The depth to water in each well was subtracted from the top of casing elevation to obtain the relative water table elevation. Water level data are presented in Appendix C. No free phase product was detected in the wells on July 8, 1999. Water table elevations were plotted on the Site Sketch to generate the Groundwater Contour Map presented in Appendix A.

While a minimum of three data points is required to determine the groundwater flow direction, the relative water table elevations measured in MW-2 and MW-3 on July 8, 1999, suggest that groundwater flow at the Site is directed generally toward the east at a hydraulic gradient on the order of 11.8%. This flow direction is toward Chandler Meadow Brook. This relatively steep hydraulic gradient reflects the sloping ground surface topography between the two monitoring wells. East of monitoring well MW-3, the ground surface slopes steeply down to Chandler Brook.

C. Groundwater Sampling and Analyses

Griffin collected groundwater samples from the two on-site monitoring on July 8, 1999. The water samples were analyzed by Endyne, Inc. of Williston, Vermont, by EPA Method 8021B for the presence of benzene, toluene, ethylbenzene, and xylenes (BTEX), methyl tertiary butyl ether (MTBE), naphthalene, 1,3,5-trimethylbenzene (TMB) and 1,2,4-TMB, and for total petroleum hydrocarbons (TPH) by EPA Method 8015-DRO (diesel range organics).

Results of the laboratory analyses for the monitoring wells are summarized in Appendix D. The laboratory analysis report is contained in Appendix E. Analytical results of the trip blank and duplicate samples indicate that adequate quality assurance and control were maintained during sample collection and analysis.

No targeted petroleum compounds were reported above the sample specific detection limits in the groundwater samples collected from monitoring wells MW-2 and MW-3. No unidentified peaks (UIPs) of petroleum compounds were reported for the groundwater samples collected from monitoring wells MW-2 and MW-3.

D. Soil Sampling and Analyses

Since groundwater was not encountered in soil boring SB-1 on June 17, 1999, the soil sample collected from the bottom of the boring (15 to 16.5 feet below grade) was submitted for laboratory analysis by EPA Method 8021B and by EPA Method 8015-DRO. The laboratory analysis report is contained in Appendix E.

No targeted petroleum compounds were reported above the sample specific detection limits in the soil sample collected from soil boring SB-1. No UIPs were reported for the soil sample from SB-1.

E. Supply Well Sampling and Analyses

Griffin collected a water sample from the Weiss' supply well on June 17, 1999. The supply well sample was collected from the kitchen faucet. Water was purged from the piping system prior to

sample collection. The supply well water sample was analyzed by EPA Method 8021B and by EPA Method 8015-DRO. The laboratory analysis report is contained in Appendix E.

No targeted petroleum compounds were detected by laboratory analysis in the water sample collected from the supply well. No UIPs were reported for the supply well water sample.

F. Sensitive Receptor Survey

A qualitative risk assessment was conducted on June 17, 1999, to identify known and potential receptors of the contamination detected at the Site. Based on this visual survey, a determination of the potential risk to identified receptors was made.

The soil and groundwater in the vicinity of the former UST are receptors of the contamination detected.

The depth to groundwater in the monitoring wells measured on July 8, 1999, was approximately 4 feet below ground surface. The subsurface utility lines between the house and the barn are located immediately downgradient from the former UST location. However, these utility lines are shallow (i.e., less than four feet in depth) and therefore are not likely potential conduits of petroleum contamination.

The nearest surface water is the southerly flowing Chandler Meadow Brook, located approximately 200 feet east of the former UST location. The reach of the brook, immediately downgradient of the former UST was inspected on June 17, 1999. No signs of petroleum contamination such as sheens, seeps, or stains were observed. The risk to Chandler Meadow Brook is considered minimal given the sufficient distance between the former UST and the brook.

The indoor air of the lower level of the Weiss' residence was screened for the presence of VOCs with the PID on June 17, 1999. No VOCs were detected above background. The risk to the indoor air posed by the petroleum impact in the vicinity of former UST is considered minimal based on the non-detection of VOCs in the house with the PID and the eastward groundwater flow direction away from the house.

The area is served by private water supplies. The supply well for the Weiss residence is located approximately 100 feet north of the former UST location. According to Dr. Weiss, the well is 180 feet deep and is completed in bedrock. There are no other supply wells within a 0.5-mile radius according to Dr. Weiss. A water sample was collected from this supply well for laboratory analysis; no targeted VOCs or TPHs were reported above sample specific detection limits. The potential risk for petroleum impact to the supply well is considered minimal based on the construction of the supply well and since no VOCs or TPHs were detected by laboratory analysis in the water sample collected from the supply well.

IV. CONCLUSIONS

Based on the results of this investigation at the Weiss Residence, Griffin presents the following conclusions:

- 1) The source of petroleum contamination detected in soils at the Site was the former 2,000-gallon No. 2 heating oil UST at the property. The release(s) appears to be the result of piping leakage. The volume of product released is unknown but does not appear significant. The source of the petroleum contamination (i.e., the UST system) was removed in November of 1998.
- 2) PID measurements from soils collected during the UST closure in November of 1998 indicate that adsorbed petroleum compounds existed in the soils in the immediate vicinity of the former No. 2 heating oil UST. With the source UST system eliminated, it is expected that adsorbed petroleum compound concentrations will decrease over time with the progressive action of natural mitigative processes including biodegradation, volatilization, and diffusion.
- 3) One soil boring, SB-1, was advanced and two groundwater monitoring wells, MW-2 and MW-3, were installed under Griffin supervision at the Site on June 17, 1999. Soil boring SB-1 is located in a crossgradient direction between the former UST and the on-site supply well. Monitoring well MW-2 is located in the source area. Monitoring well MW-3 is located in a downgradient direction. VOCs were not detected by field screening methods in the soil samples collected from the three soil borings, except for a PID measurement of 4 ppm from the sample collected at 5 to 7 feet below grade in the boring for source area monitoring well MW-2.
- 4) Refusal was encountered in soil boring SB-1 with the augers at 18 feet below grade. No VOCs or TPHs were detected by laboratory analysis in the soil sample collected on June 17, 1999, from 15 to 16.5 feet below grade in SB-1.
- 5) The depth to groundwater measured on July 8, 1999, in the two site monitoring wells was approximately 4 feet below grade. The shallow groundwater flow beneath the Site on this date was estimated to be directed toward the east at a hydraulic gradient of approximately 11.8%.
- 6) Groundwater samples were collected from the two site monitoring wells on July 8, 1999. No VOCs were detected by laboratory analysis in the groundwater samples. No unidentified peaks were noted in the analyses. Detection limits in the analyses were well below the Vermont Groundwater Enforcement Standards (VGES) for the targeted compounds.
- 7) A water sample was collected from the supply well located near the northwest corner of the house on June 17, 1999. No VOCs were detected by laboratory analysis in the supply

well water sample. No unidentified peaks were noted in the analyses. Detection limits in the analyses were well below the VGES.

- 8) The indoor air of the lower level of the Weiss' residence was screened for the presence of VOCs with the PID on June 17, 1999. No VOCs were detected above background.
- 9) There appear to be no significant potential risks to identified sensitive receptors based on currently available data.

V. RECOMMENDATIONS

Based on the results of this site investigation, Griffin recommends that the Weiss Residence site in Chester, Vermont be considered for closure and be removed from the VTDEC Active Hazardous Waste Sites List. This recommendation is offered based upon achievement of the following closure criteria, as per the VTDEC Site Management Activity Completed (SMAC) Checklist (dated December 1, 1997):

- 1) The source(s), nature, and extent of the petroleum contamination at the site has been adequately defined.

See Conclusions #1, #2, #3, #4, and #6.

- 2) Source(s) has been removed, remediated, or adequately contained.

See Conclusions #1, #3, and #6.

- 3) Levels of contaminants in soil and groundwater shall be stable, falling, or non-detectable.

See Conclusion #3, #4, #6 and #7.

- 4) Groundwater enforcement standards are met at the following compliance points:

Any point of present use of groundwater as a source of potable water: See Conclusions #6 and #7.

Any point at or within the boundary of any Class I groundwater area: The Weiss Residence is not within a Class I groundwater area.

Any point at the boundary of the property on which the contaminant source is located: See Conclusion #6 and #7.

- 5) Soil guideline levels are met. If not, engineering or institutional controls are in place.

See Conclusion #3 and #4.

- 6) No unacceptable threat to human health or the environment exists on site.

See Conclusions #4, #6, #7, #8, and #9.

- 7) Site meets RCRA requirements.

Available records indicate that the Weiss Residence is not in violation of the Resource Conservation and Recovery Act (RCRA) as defined in 40 CFR 264.

- 8) Site meets CERCLA requirements.

Available records indicate that the Weiss Residence is not in violation of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as defined in 40 CFR 300.

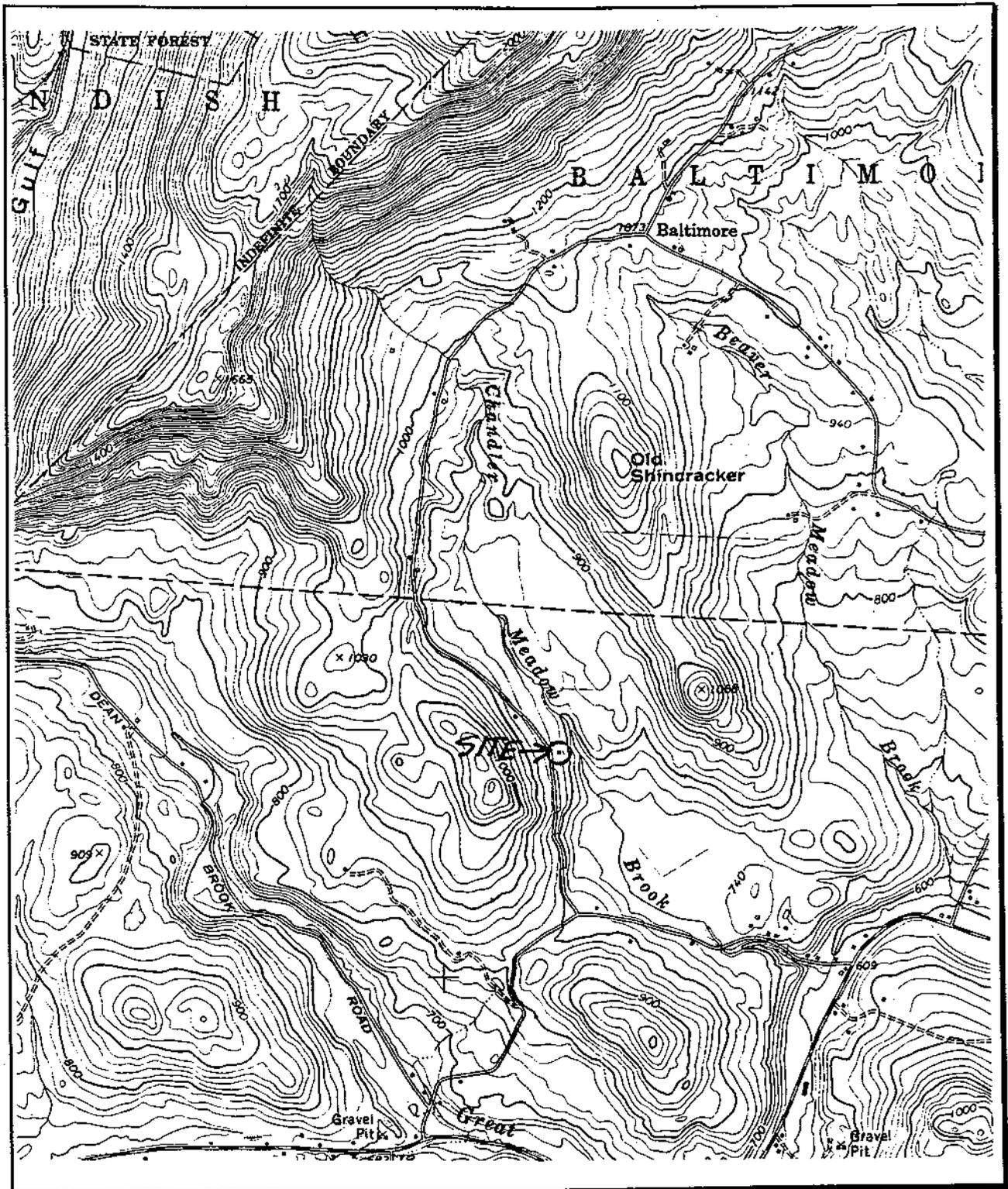
Griffin recommends that the two site monitoring wells be properly abandoned according to VTDEC requirements for well closure and that the site be restored.

REFERENCES

1. USGS 7.5 Minute Topographic Map, Chester, VT, dated 1972.
2. Griffin International, November 10, 1998, *Weiss Residence, Chester, Vermont - UST Closure Inspection*, letter report to Ms. Sue Thayer, Vermont Department of Environmental Conservation, Waste Management Division.
3. Doll, Charles G., ed., 1970, *Surficial Geologic Map of Vermont*, Vermont Geological Survey.
4. Doll, Charles G., ed., 1961, *Centennial Geologic Map of Vermont*, Vermont Geological Survey.

APPENDIX A

**Site Location Map
Site Sketch
Groundwater Contour Map**



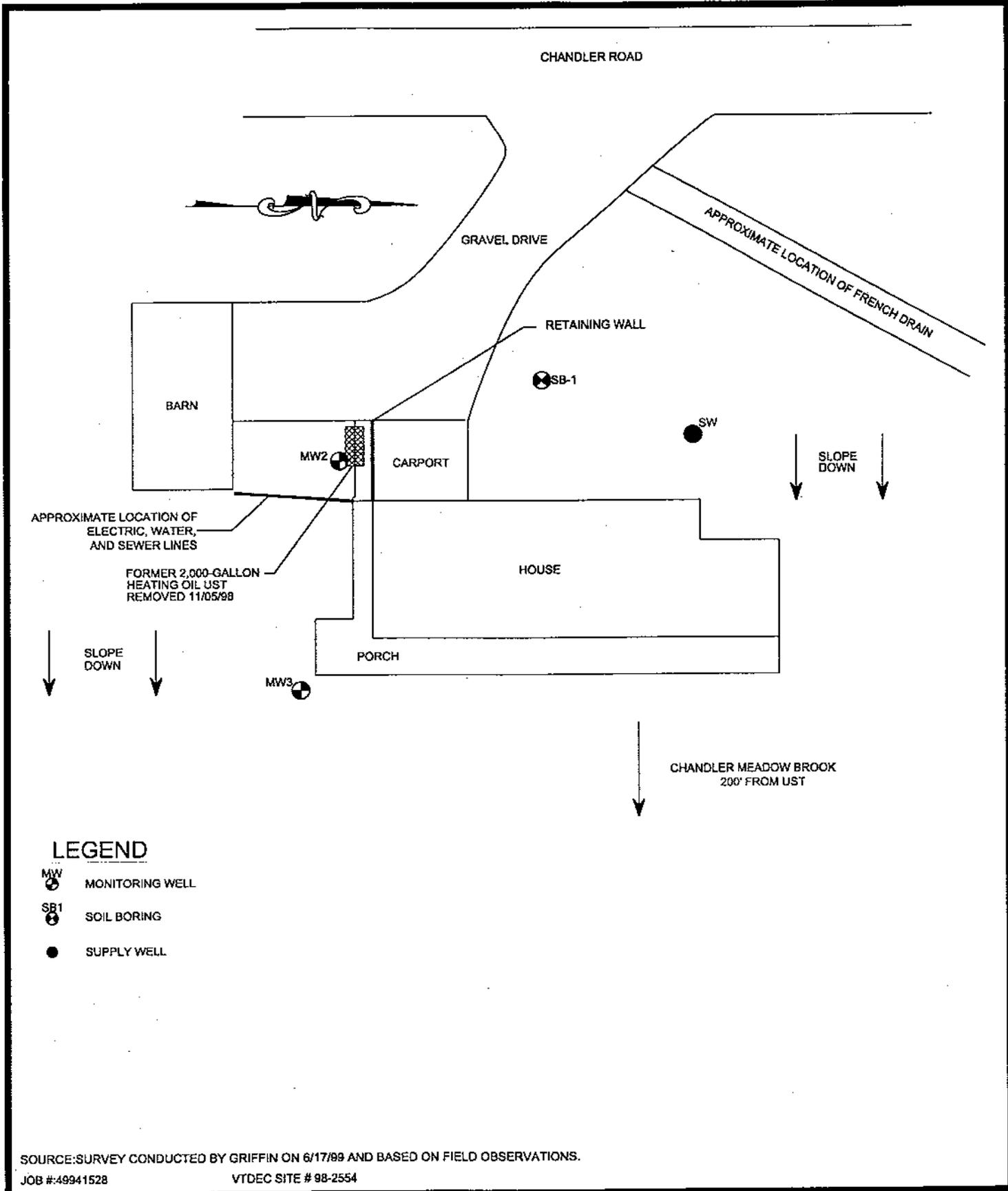
SITE LOCATION MAP - WEISS RESIDENCE

Chester, Vermont

Source: USGS 7.5 minute quadrangle: Chester, VT, dated 1972

Scale: 1:24,000





LEGEND

- MW  MONITORING WELL
- SB1  SOIL BORING
-  SUPPLY WELL

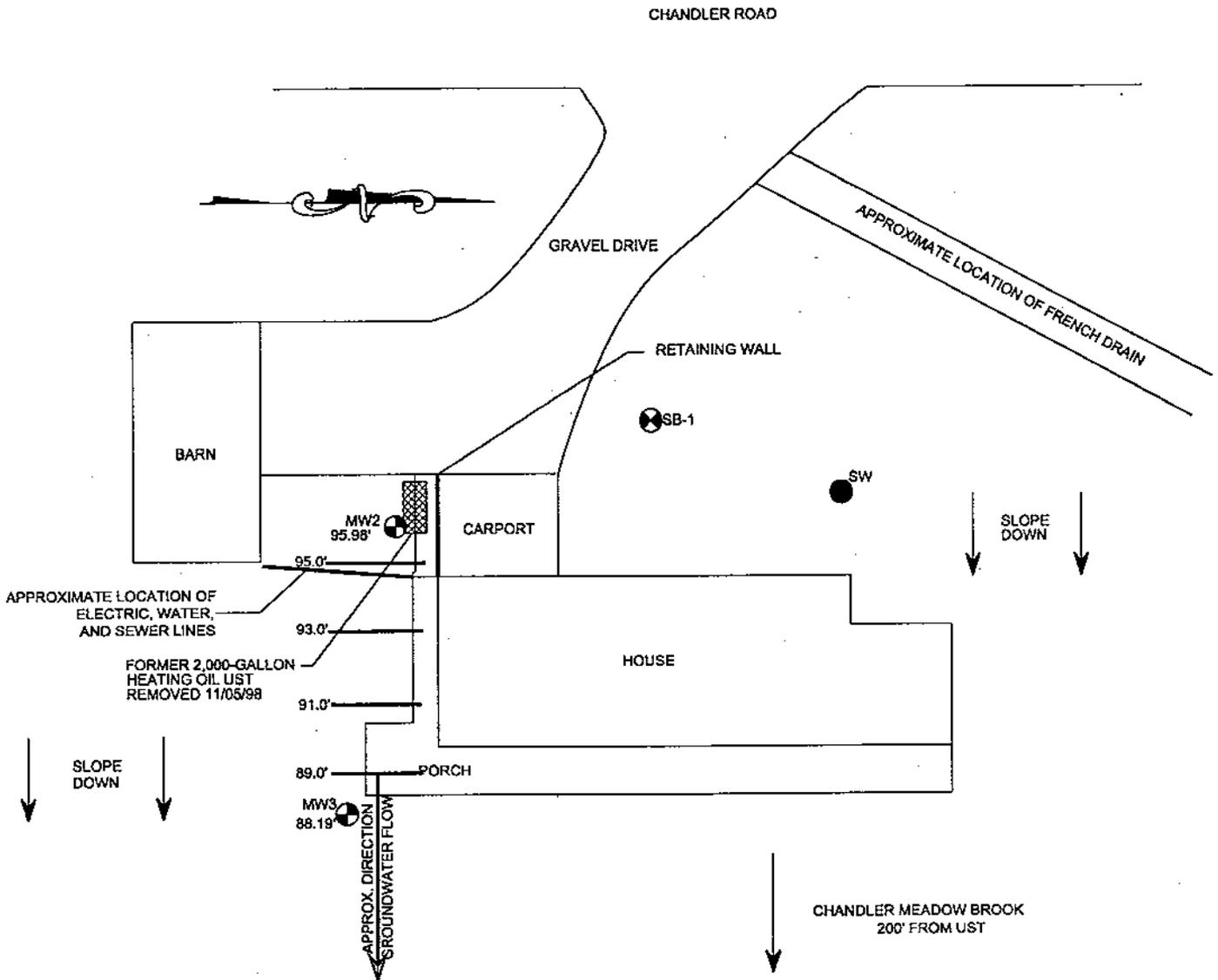
SOURCE: SURVEY CONDUCTED BY GRIFFIN ON 6/17/99 AND BASED ON FIELD OBSERVATIONS.
 JOB #: 49941528 VTDEC SITE # 98-2554



WEISS RESIDENCE
 CHANDLER ROAD CHESTER, VERMONT

SITE SKETCH

| | | | | |
|--------------|----------|---------------|----------|----------|
| DATE: 9/7/99 | DWG #: 1 | SCALE: 1"=40' | DRN.: JL | APP.: CW |
|--------------|----------|---------------|----------|----------|



LEGEND

- MW2 95.98' MONITORING WELL WITH GROUNDWATER LEVEL ELEVATION
- SB-1 SOIL BORING
- SUPPLY WELL
- 95.0' GROUNDWATER TABLE CONTOUR



WEISS RESIDENCE
 CHANDLER ROAD CHESTER, VERMONT
 GROUNDWATER CONTOUR MAP

MEASURED 7/8/99

DATE: 9/7/99

DWG.#: 2

SCALE: 1"=40'

DRN.: JL

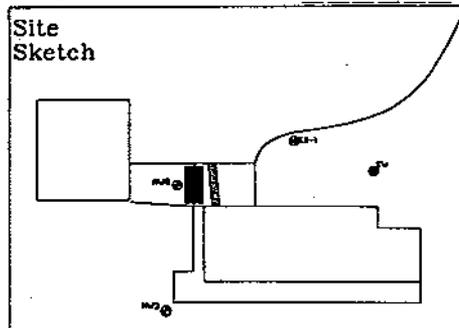
APP.: CW

APPENDIX B

Soil Logs and Monitoring Well Specifications

PROJECT #49941528 WEISS RESIDENCE
 LOCATION CHANDLER ROAD, CHESTER, VT
 DATE DRILLED 6/17/99 TOTAL DEPTH OF HOLE 18'
 DIAMETER NA
 SCREEN DIA. NA LENGTH NA SLOT SIZE NA
 CASING DIA. NA LENGTH NA TYPE NA
 DRILLING CO. T&K DRILLING DRILLING METHOD HSA
 DRILLER ALAN LOG BY C. WARD

WELL NUMBER SB1

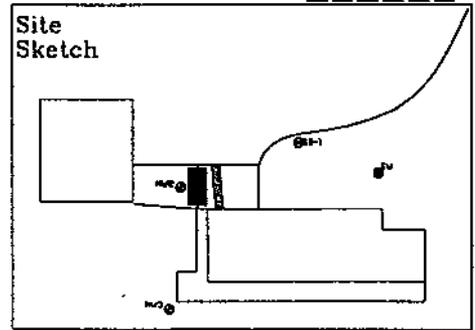


GRIFFIN INTERNATIONAL, INC

| DEPTH IN FEET | WELL CONSTRUCTION | NOTES | BLOWS PER 6" OF SPOON & PID READINGS | DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES) | DEPTH IN FEET |
|---------------|-------------------|-------------------------|--------------------------------------|--------------------------------------------------------------------------------------|---------------|
| 0 | | | | | 0 |
| 1 | | ML | 0-2' 0.2 ppm | SANDY SILT (ML)- 70% silt; 30% fine sand, dry, brown | 1 |
| 2 | | | | | 2 |
| 3 | | | | | 3 |
| 4 | | | | | 4 |
| 5 | | | | | 5 |
| 6 | | CL | 5'-7'- 4,17,21,28 0.1 ppm | GRAVELLY LEAN CLAY (CL)- 70% clay; 10% sand, 20% fine gravel, moist, graybrown | 6 |
| 7 | | | | | 7 |
| 8 | | | | | 8 |
| 9 | | | | | 9 |
| 10 | | | | | 10 |
| 11 | | | 10'-12'- 21,50,55,45 0 ppm | LEAN CLAY w/GRAVEL (CL)- 75% clay; 5% fine sand, 20% fine gravel, moist, graybrown | 11 |
| 12 | | | | | 12 |
| 13 | | | | | 13 |
| 14 | | | | | 14 |
| 15 | | | | | 15 |
| 16 | | | 15'-16.5'- 22,40,58 0 ppm | GRAVELLY LEAN CLAY (CL)- 70% clay; 10% fine sand, 20% fine gravel, moist, graybrown, | 16 |
| 17 | | | | END OF EXPLORATION AT 18' REFUSAL WITH AUGERS AT 18' | 17 |
| 18 | | UNDISTURBED NATIVE SOIL | | | 18 |
| 19 | | | | | 19 |
| 20 | | | | | 20 |
| 21 | | | | | 21 |
| 22 | | | | | 22 |
| 23 | | | | | 23 |
| 24 | | | | | 24 |
| 25 | | | | | 25 |

PROJECT #49941528 WEISS RESIDENCE
 LOCATION CHANDLER ROAD, CHESTER, VT
 DATE DRILLED 6/17/99 TOTAL DEPTH OF HOLE 22'
 DIAMETER 2.5"
 SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 7.7' TYPE sch 40 pvc
 DRILLING CO. T&K DRILLING DRILLING METHOD HSA
 DRILLER ALAN LOG BY C. WARD

WELL NUMBER MW2

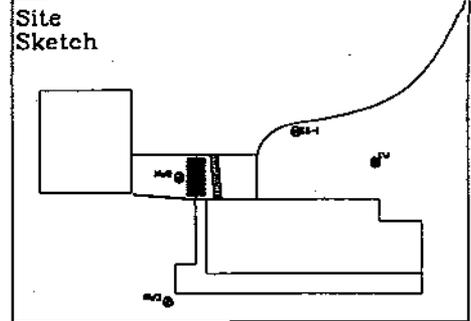


GRIFFIN INTERNATIONAL, INC

| DEPTH IN FEET | WELL CONSTRUCTION | NOTES | BLOWS PER 6" OF SPOON & PID READINGS | DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES) | DEPTH IN FEET |
|---------------|-------------------|------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------|---------------|
| 0 | | ROAD BOX LOCKING WELL CAP | | | 0 |
| 1 | | CONCRETE | 0-2' 0.8 ppm | SANDY SILT (ML)- 60% silt; 40% fine sand, dry, brown | 1 |
| 2 | | NATIVE BACKFILL | | | 2 |
| 3 | | | | | 3 |
| 4 | | BENTONITE | | | 4 |
| 5 | | | | | 5 |
| 6 | | | 5'-7'- 4,2,2,1 4 ppm | SANDY SILT (ML)- 60% silt; 30% sand, 10% fine gravel, moist, olive brown | 6 |
| 7 | | WELL RISER | | | 7 |
| 8 | | SAND PACK | | | 8 |
| 9 | | | | | 9 |
| 10 | | | | | 10 |
| 11 | | WELL SCREEN | 10'-12'- 7,14,15,32 0.2 ppm | LEAN CLAY w/GRAVEL (CL)- 80% clay; 20% fine gravel moist, graybrown 11.0' WATER TABLE | 11 |
| 12 | | | | | 12 |
| 13 | | | | | 13 |
| 14 | | | | | 14 |
| 15 | | | | | 15 |
| 16 | | | 15'-17'- 13,18,20,21 0.2 ppm | SANDY LEAN CLAY w/GRAVEL (CL)- 70% clay; 15% fine sand, 15% fine gravel, moist, graybrown | 16 |
| 17 | | BOTTOM CAP | | | 17 |
| 18 | | | | | 18 |
| 19 | | | | | 19 |
| 20 | | | | | 20 |
| 21 | | | 20'-22'- 16,21,21,32 0.2 ppm | SANDY LEAN CLAY w/GRAVEL (CL)- 80% clay; 25% fine sand, 15% fine gravel, wet, graybrown | 21 |
| 22 | | UNDISTURBED NATIVE SOIL | | | 22 |
| 23 | | | | BASE OF WELL AT 18' END OF EXPLORATION AT 22' | 23 |
| 24 | | | | | 24 |
| 25 | | | | | 25 |

PROJECT #49941528 WEISS RESIDENCE
 LOCATION CHANDLER ROAD, CHESTER, VT
 DATE DRILLED 6/17/99 TOTAL DEPTH OF HOLE 24'
 DIAMETER 2.5"
 SCREEN DIA. 2" LENGTH 10' SLOT SIZE 0.010"
 CASING DIA. 2" LENGTH 13.7' TYPE sch 40 pvc
 DRILLING CO. T&K DRILLING DRILLING METHOD HSA
 DRILLER ALAN LOG BY C. WARD

WELL NUMBER MW3



GRIFFIN INTERNATIONAL, INC

| DEPTH IN FEET | WELL CONSTRUCTION | NOTES | BLOWS PER 6" OF SPOON & PID READINGS | DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES) | DEPTH IN FEET |
|---------------|-------------------|-------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------|---------------|
| 0 | | ROAD BOX | | | 0 |
| 0 | | LOCKING WELL CAP | | | 0 |
| 0-1 | | CONCRETE | 0-2' 0.2 ppm | SANDY SILT (ML)- 60% silt; 40% fine sand, dry, brown | 1 |
| 1-2 | | NATIVE BACKFILL | | | 2 |
| 2-3 | | NATIVE BACKFILL | | | 3 |
| 3-4 | | NATIVE BACKFILL | | | 4 |
| 4-5 | | BENTONITE | | | 5 |
| 5-6 | | NATIVE BACKFILL | 5'-7'- 11,10,12,13 0.2 ppm | SANDY LEAN CLAY w/GRAVEL (CL)- 70% clay; 15% fine sand, 15% fine gravel, moist, graybrown w/orange mottling | 6 |
| 6-7 | | WELL RISER | | | 7 |
| 7-8 | | NATIVE BACKFILL | | | 8 |
| 8-9 | | NATIVE BACKFILL | | | 9 |
| 9-10 | | NATIVE BACKFILL | | | 10 |
| 10-11 | | BENTONITE | 10'-12'- 8,10,27,31 0.2 ppm | SANDY LEAN CLAY w/GRAVEL (CL)- 70% clay; 15% fine sand, 15% fine gravel, moist, graybrown | 11 |
| 11-12 | | BENTONITE | | | 12 |
| 12-13 | | BENTONITE | | | 13 |
| 13-14 | | SAND PACK | | | 14 |
| 14-15 | | WELL SCREEN | | | 15 |
| 15-16 | | WELL SCREEN | 15'-17'- 2,7,13,20 0 ppm | LEAN CLAY (CL)- 90% clay; 10% fine gravel, wet, graybrown | 16 |
| 16-17 | | WELL SCREEN | | | 17 |
| 17-18 | | WELL SCREEN | | | 18 |
| 18-19 | | WELL SCREEN | | | 19 |
| 19-20 | | WELL SCREEN | | | 20 |
| 20-21 | | WELL SCREEN | 20'-21.5'- 22,37,53 0.1 ppm | LEAN CLAY w/GRAVEL (CL)- 75% clay; 10% fine sand, 15% fine gravel, wet, gray | 21 |
| 21-22 | | WELL SCREEN | | | 22 |
| 22-23 | | BOTTOM CAP | | BASE OF WELL AT 24' END OF EXPLORATION AT 24' | 23 |
| 23-24 | | UNDISTURBED NATIVE SOIL | | | 24 |
| 24-25 | | UNDISTURBED NATIVE SOIL | | | 25 |

APPENDIX C

Liquid Level Monitoring Data

LIQUID LEVEL MONITORING DATA

WEISS RESIDENCE
CHANDLER ROAD
CHESTER, VERMONT

7/8/99

| Well I.D. | Well Depth bgs | 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 |
|-----------|-------------------|-------------------------------|-----------------------------|---------------------------|----------------------|-----------------------------------|---------------------|--------------------------------|---------------------------------------|
| MW-2 | | 100.00 | - | 4.02 | - | - | - | - | 95.98 |
| MW-3 | | 91.70 | - | 3.51 | - | - | - | - | 88.19 |

All Values Reported in Feet

btoc - Below Top of Casing

bgs - Below Ground Surface

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

Top of Casing Elevations surveyed by Griffin on 6/17/99

APPENDIX D

**Water Quality Data
Soil Boring Data**

WATER QUALITY DATA

WEISS RESIDENCE CHANDLER ROAD CHESTER, VERMONT

| <i>Sample Location</i> <i>Sample Date:</i> <i>Analytical Method:</i> | MW-2 7/8/99 8021B | MW-3 7/8/99 8021B | Supply Well 6/17/99 8021B | VGES (ppb) |
|----------------------------------------------------------------------------|-------------------------|-------------------------|---------------------------------|-------------------|
| PARAMETER | | | | |
| Benzene | ND(1) | ND(1) | ND(1) | 5. |
| Toluene | ND(1) | ND(1) | ND(1) | 1,000. |
| Ethylbenzene | ND(1) | ND(1) | ND(1) | 700. |
| Xylenes | ND(1) | ND(1) | ND(2) | 10,000. |
| Total BTEX | ND | ND | ND | - |
| MTBE | ND(10) | ND(10) | ND(2) | 40. |
| 1,3,5-Trimethylbenzene | ND(1) | ND(1) | ND(1) | 4. |
| 1,2,4-Trimethylbenzene | ND(1) | ND(1) | ND(1) | 5. |
| Naphthalene | ND(1) | ND(1) | ND(5) | 20. |
| Total Targeted VOCs | ND | ND | ND | - |

| <i>Analytical Method:</i> | 8015-DRO | 8015-DRO | 8015-DRO | (ppm) |
|---------------------------|----------|----------|----------|-------|
| TPH (mg/L) | ND(0.40) | ND(0.40) | ND(0.40) | |

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

ND(1) - None Detected above (Detection Limit)

TBQ(1) - Trace Below (Quantitation Limit)

Detections are bolded.

Blank cell - not analyzed

VGES - Vermont Groundwater Enforcement Standard

>VGES

SOIL BORING DATA
WEISS RESIDENCE
CHANDLER ROAD
CHESTER, VERMONT

| | |
|---------------------------|---------|
| <i>Sample Location</i> | SB-1 |
| <i>Sample Date:</i> | 6/17/99 |
| <i>Analytical Method:</i> | 8021B |
| PARAMETER | |
| Benzene | ND(10) |
| Toluene | ND(10) |
| Ethylbenzene | ND(10) |
| Xylenes | ND(20) |
| Total BTEX | ND |
| MTBE | ND(20) |
| 1,3,5-Trimethylbenzene | ND(10) |
| 1,2,4-Trimethylbenzene | ND(10) |
| Naphthalene | ND(50) |
| Total Targeted VOCs | ND |

| | |
|---------------------------|----------|
| <i>Analytical Method:</i> | 8015-DRO |
| TPH (mg/Kg) | ND(5.00) |

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

ND(1) - None Detected above (Detection Limit)

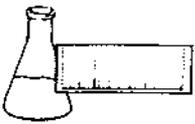
TBQ(1) - Trace Below (Quantitation Limit)

Detections are bolded.

Blank cell - not analyzed

APPENDIX E

Analytical Laboratory Reports



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: June 25, 1999

ORDER ID: 2752
DATE RECEIVED: June 18, 1999

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

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 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, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: June 25, 1999ORDER ID: 2752
DATE RECEIVED: June 18, 1999
SAMPLER: CW
ANALYST: 725

Ref. Number: 139940

Site: SB-1

Date Sampled: June 17, 1999

Time: 10:06 AM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|-------------------------|---------------|-------------|---------------|----------------------|
| MTBE | < 20.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| Benzene | < 10.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| Toluene | < 10.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| Ethylbenzene | < 10.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| Xylenes, Total | < 20.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| 1,3,5 Trimethyl Benzene | < 10.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| 1,2,4 Trimethyl Benzene | < 10.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| Naphthalene | < 50.0 | ug/kg, dry | SW 8021B | 6/23/99 |
| UIP's | 0. | | SW 8021B | 6/23/99 |
| Percent Solid | 92. | % | SW 8021B | 6/23/99 |
| Surrogate 1 | 97.% | % | SW 8021B | 6/23/99 |

Ref. Number: 139941

Site: Supply Well

Date Sampled: June 17, 1999

Time: 10:45 AM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|-------------------------|---------------|-------------|---------------|----------------------|
| MTBE | < 2.0 | ug/L | SW 8021B | 6/24/99 |
| Benzene | < 1.0 | ug/L | SW 8021B | 6/24/99 |
| Toluene | < 1.0 | ug/L | SW 8021B | 6/24/99 |
| Ethylbenzene | < 1.0 | ug/L | SW 8021B | 6/24/99 |
| Xylenes, Total | < 2.0 | ug/L | SW 8021B | 6/24/99 |
| 1,3,5 Trimethyl Benzene | < 1.0 | ug/L | SW 8021B | 6/24/99 |
| 1,2,4 Trimethyl Benzene | < 1.0 | ug/L | SW 8021B | 6/24/99 |
| Naphthalene | < 5.0 | ug/L | SW 8021B | 6/24/99 |
| UIP's | 0. | | SW 8021B | 6/24/99 |
| Surrogate 1 | 98.% | % | SW 8021B | 6/24/99 |

CHAIN-OF-CUSTODY RECORD

49941528

34501

| | | |
|-------------------------------------|-----------------------------------|---------------------------------|
| Project Name: <i>Weiss</i> | Reporting Address: <i>Griffin</i> | Billing Address: <i>Griffin</i> |
| Site Location: <i>Chester, VT</i> | | |
| Endyne Project Number: <i>2-752</i> | Company: | Sampler Name: <i>C. Ward</i> |
| | Contact Name/Phone #: | Phone #: <i>802 865-4288</i> |

| Lab # | Sample Location | Matrix | G R A B | C O M P | Date/Time | Sample Containers | | Field Results/Remarks | Analysis Required | Sample Preservation | Rush |
|---------------|--------------------|--------------|------------------|------------------|----------------------|-------------------|--------------------|-----------------------|--------------------------|---------------------|------|
| | | | | | | No. | Type/Size | | | | |
| <i>139940</i> | <i>SB-1</i> | <i>SOIL</i> | <i>X</i> | | <i>4/17/99 10:06</i> | <i>1</i> | <i>4oz 2oz</i> | | <i>30, 31</i> | <i>Cool</i> | |
| <i>139941</i> | <i>SUPPLY WELL</i> | <i>WATER</i> | <i>X</i> | | <i>4/17/99 10:45</i> | <i>3</i> | <i>40ml</i> | | <i>30, 31</i> | <i>HCL, Cool</i> | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | |
|-------------------------------------------------|-----------------------------------------------|-----------------------------------|
| Relinquished by: Signature <i>Christie Ward</i> | Received by: Signature <i>Stacey Benjamin</i> | Date/Time <i>10-18-99 10:05AM</i> |
|-------------------------------------------------|-----------------------------------------------|-----------------------------------|

| | | |
|---------------------------------------------------|------------------------------------------|----------------------------------|
| Relinquished by: Signature <i>Stacey Benjamin</i> | Received by: Signature <i>John Sulli</i> | Date/Time <i>6/18/99 10:45AM</i> |
|---------------------------------------------------|------------------------------------------|----------------------------------|

New York State Project: Yes No Requested Analyses

| | | | | | | | | | | | |
|----|---------------------------------------------------------------------------|----|------------------|----|--------------|----|----------------------------|----|------------------|----|----------------------|
| 1 | pH | 6 | TKN | 11 | Total Solids | 16 | Metals (Specify) | 21 | EPA 624 | 26 | EPA 8270 B/N or Acid |
| 2 | Chloride | 7 | Total P | 12 | TSS | 17 | Coliform (Specify) | 22 | EPA 625 B/N or A | 27 | EPA 8010/8020 |
| 3 | Ammonia N | 8 | Total Diss. P | 13 | TDS | 18 | COD | 23 | EPA 418.1 | 28 | EPA 8080 Pest/PCB |
| 4 | Nitrite N | 9 | BOD ₅ | 14 | Turbidity | 19 | BTEX | 24 | EPA 608 Pest/PCB | | |
| 5 | Nitrate N | 10 | Alkalinity | 15 | Conductivity | 20 | EPA 601/602 | 25 | EPA 8240 | | |
| 29 | TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides) | | | | | | | | | | |
| 30 | Other (Specify): <i>EPA 8021 B</i> | | | | | 31 | <i>TPH by EPA 8015-DRO</i> | | | | |



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: June 25, 1999

ORDER ID: 2752
DATE RECEIVED: June 18, 1999

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

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.

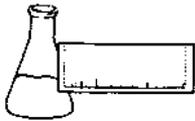
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy 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, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: June 25, 1999

ORDER ID: 2752
DATE RECEIVED: June 18, 1999
SAMPLER: CW
ANALYST: 820

Ref. Number: 139940 Site: SB-1 Date Sampled: June 17, 1999 Time: 10:06 AM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|------------------|---------------|-------------|---------------|----------------------|
| TPH 8015 DRO | < 5.00 | mg/Kg | SW 8015B | 6/23/99 |

Ref. Number: 139941 Site: Supply Well Date Sampled: June 17, 1999 Time: 10:45 AM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|------------------|---------------|-------------|---------------|----------------------|
| TPH 8015 DRO | < 0.40 | mg/L | SW 8015B | 6/22/99 |

CHAIN-OF-CUSTODY RECORD

49941528

34501

| | | |
|-----------------------------------------------------------------|------------------------------------|--------------------------------------------------------------|
| Project Name: <i>Weiss</i> Site Location: <i>Chester, VT</i> | Reporting Address: <i>W. J. F.</i> | Billing Address: <i>W. J. F.</i> |
| Endyne Project Number: <i>2752</i> | Company: Contact Name/Phone #: | Sampler Name: <i>C. Ward</i> Phone #: <i>802 865-9288</i> |

| Lab # | Sample Location | Matrix | G R A B | C O M P | Date/Time | Sample Containers | | Field Results/Remarks | Analysis Required | Sample Preservation | Rush |
|----------------|--------------------|--------------|------------------|------------------|----------------------|-------------------|--------------------|-----------------------|--------------------------|---------------------|------|
| | | | | | | No. | Type/Size | | | | |
| <i>13994</i> | <i>SB-1</i> | <i>SOIL</i> | <i>X</i> | | <i>4/17/99 10:06</i> | <i>1</i> | <i>402 202</i> | | <i>30, 31</i> | <i>Cool.</i> | |
| <i>13994/1</i> | <i>SUPPLY WELL</i> | <i>WATER</i> | <i>X</i> | | <i>4/17/99 10:45</i> | <i>3</i> | <i>70ml</i> | | <i>30, 31</i> | <i>HCL, Cool</i> | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | |
|---------------------------------------------------|-----------------------------------------------|-----------------------------------|
| Relinquished by: Signature <i>Christa Ward</i> | Received by: Signature <i>Stacey Benjamin</i> | Date/Time <i>10-18-99 10:05AM</i> |
| Relinquished by: Signature <i>Stacey Benjamin</i> | Received by: Signature <i>John Sullivan</i> | Date/Time <i>6/18/99 10:45AM</i> |

New York State Project: Yes No

Requested Analyses

| | | | | | | | | | | | |
|----|---------------------------------------------------------------------------|----|------------------|----|--------------|----|----------------------------|----|------------------|----|----------------------|
| 1 | pH | 6 | TKN | 11 | Total Solids | 16 | Metals (Specify) | 21 | EPA 624 | 26 | EPA 8270 B/N or Acid |
| 2 | Chloride | 7 | Total P | 12 | TSS | 17 | Coliform (Specify) | 22 | EPA 625 B/N or A | 27 | EPA 8010/8020 |
| 3 | Ammonia N | 8 | Total Diss. P | 13 | TDS | 18 | COD | 23 | EPA 418.1 | 28 | EPA 8080 Pest/PCB |
| 4 | Nitrite N | 9 | BOD ₅ | 14 | Turbidity | 19 | BTEX | 24 | EPA 608 Pest/PCB | | |
| 5 | Nitrate N | 10 | Alkalinity | 15 | Conductivity | 20 | EPA 601/602 | 25 | EPA 8240 | | |
| 29 | TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides) | | | | | | | | | | |
| 30 | Other (Specify): <i>EPA 8021 B</i> | | | | | 31 | <i>TPH by EPA 8015-DRO</i> | | | | |



ENDYNE, INC.

Laboratory Services

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

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: Weiss/#49941528
REPORT DATE: July 13, 1999
DATE SAMPLED: July 8, 1999

ORDER ID: 3031
REF.#: 140,659 - 140,662

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.

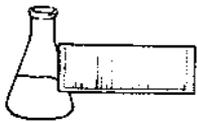
Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

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



ENDYNE, INC.

Laboratory Services

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

EPA METHOD 8021B--PURGEABLE AROMATICS

CLIENT: Griffin International

DATE RECEIVED: July 9, 1999

PROJECT NAME: Weiss/#49941528

REPORT DATE: July 13, 1999

CLIENT PROJ. #: 49941528

ORDER ID: 3031

| Ref. #: | 140,659 | 140,660 | 140,661 | 140,662 | |
|-------------------------|--------------|--------------|--------------|--------------|--|
| Site: | MW #2 | MW #3 | Duplicate | Trip Blank | |
| Date Sampled: | 7/8/99 | 7/8/99 | 7/8/99 | 7/8/99 | |
| Time Sampled: | 12:20 | 12:45 | 12:48 | 9:15 | |
| Sampler: | J.R. | J.R. | J.R. | J.R. | |
| Date Analyzed: | 7/12/99 | 7/12/99 | 7/13/99 | 7/12/99 | |
| UIP Count: | 0 | 0 | 0 | 0 | |
| Dil. Factor (%): | 100 | 100 | 100 | 100 | |
| Surr % Rec. (%): | 103 | 98 | 97 | 96 | |
| Parameter | Conc. (ug/L) | Conc. (ug/L) | Conc. (ug/L) | Conc. (ug/L) | |
| MTBE | <10 | <10 | <10 | <10 | |
| Benzene | <1 | <1 | <1 | <1 | |
| Toluene | <1 | <1 | <1 | <1 | |
| Ethylbenzene | <1 | <1 | <1 | <1 | |
| Xylenes | <1 | <1 | <1 | <1 | |
| 1,3,5 Trimethyl Benzene | <1 | <1 | <1 | <1 | |
| 1,2,4 Trimethyl Benzene | <1 | <1 | <1 | <1 | |
| Naphthalene | <1 | <1 | <1 | <1 | |

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

CHAIN-OF-CUSTODY RECORD

| | | |
|-------------------------------------------------------------------------------|------------------------------------------------------------|-------------------------------------|
| Project Name: Dr. Weiss Residence Site Location: Chester Vt. | Reporting Address: Griffin | Billing Address: Griffin |
| Endyne Project Number: 3031 | Company: Griffin Contact Name/Phone #: CW | Sampler Name: JR Phone #: |

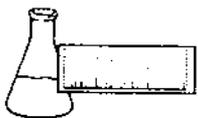
| Lab # | Sample Location | Matrix | G R A B | C O M P | Date/Time | Sample Containers | | Field Results/Remarks | Analysis Required | Sample Preservation | Rush |
|--------|-----------------|------------------|------------------|------------------|--------------|-------------------|-----------|-----------------------|----------------------|---------------------|------|
| | | | | | | No. | Type/Size | | | | |
| 140659 | MW#2 | H ₂ O | / | | 7/8/99 12:20 | | 40ml | | 8021B TPH EOL/DEC | HCL | |
| 140660 | MW#3 | H ₂ O | / | | 12:45 | | 40ml | | " | " | |
| 140661 | Duplicate | H ₂ O | / | | 12:48 | | 40ml | | 8021B | HCL | |
| 140662 | TRIP BLANK | H ₂ O | / | | 9:15 | | 40ml | | 8021B | HCL | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | |
|-----------------------------------------------|-------------------------------------------|-------------------------------|
| Relinquished by: Signature <i>[Signature]</i> | Received by: Signature <i>[Signature]</i> | Date/Time 7-1-99 10:05 |
|-----------------------------------------------|-------------------------------------------|-------------------------------|

| | | |
|-----------------------------------------------|-------------------------------------------|-------------------------------|
| Relinquished by: Signature <i>[Signature]</i> | Received by: Signature <i>[Signature]</i> | Date/Time 7/9/99 10:05 |
|-----------------------------------------------|-------------------------------------------|-------------------------------|

 New York State Project: Yes No
Requested Analyses

| | | | | | | | | | | | |
|----|---------------------------------------------------------------------------|----|------------------|----|--------------|----|--------------------|----|------------------|----|----------------------|
| 1 | pH | 6 | TKN | 11 | Total Solids | 16 | Metals (Specify) | 21 | EPA 624 | 26 | EPA 8270 B/N or Acid |
| 2 | Chloride | 7 | Total P | 12 | TSS | 17 | Coliform (Specify) | 22 | EPA 625 B/N or A | 27 | EPA 8010/8020 |
| 3 | Ammonia N | 8 | Total Diss. P | 13 | TDS | 18 | COD | 23 | EPA 418.1 | 28 | EPA 8080 Pest/PCB |
| 4 | Nitrite N | 9 | BOD ₅ | 14 | Turbidity | 19 | BTEX | 24 | EPA 608 Pest/PCB | | |
| 5 | Nitrate N | 10 | Alkalinity | 15 | Conductivity | 20 | EPA 601/602 | 25 | EPA 8240 | | |
| 29 | TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides) | | | | | | | | | | |
| 30 | Other (Specify): | | | | | | | | | | |



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: July 14, 1999

ORDER ID: 3031
DATE RECEIVED: July 9, 1999

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Different groups of analyses may be reported under separate cover.

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.

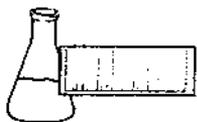
Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy 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, unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

enclosures



ENDYNE, INC.

Laboratory Services

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

LABORATORY REPORT

CLIENT: Griffin International
PROJECT: Weiss/#49941528
REPORT DATE: July 14, 1999

ORDER ID: 3031
DATE RECEIVED: July 9, 1999
SAMPLER: JR
ANALYST: 820

Ref. Number: 140659 Site: MW #2 Date Sampled: July 8, 1999 Time: 12:20 PM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|------------------|---------------|-------------|---------------|----------------------|
| TPH 8015 DRO | < 0.40 | mg/L | SW 8015B | 7/13/99 |

Ref. Number: 140660 Site: MW #3 Date Sampled: July 8, 1999 Time: 12:45 PM

| <u>Parameter</u> | <u>Result</u> | <u>Unit</u> | <u>Method</u> | <u>Analysis Date</u> |
|------------------|---------------|-------------|---------------|----------------------|
| TPH 8015 DRO | < 0.40 | mg/L | SW 8015B | 7/13/99 |

CHAIN-OF-CUSTODY RECORD

| | | |
|------------------------------------------|---------------------------------|-------------------------------|
| Project Name: <u>Dr. Weiss Residence</u> | Reporting Address: <u>3117m</u> | Billing Address: <u>3117m</u> |
| Site Location: <u>Chester VT.</u> | | |
| Endyne Project Number: <u>3031</u> | Company: <u>Endyne</u> | Sampler Name: <u>JP</u> |
| | Contact Name/Phone #: <u>CW</u> | Phone #: <u>11</u> |

| Lab # | Sample Location | Matrix | G R A B | C O M P | Date/Time | Sample Containers | | Field Results/Remarks | Analysis Required | Sample Preservation | Rush |
|--------|-----------------|------------------|------------------|------------------|--------------|-------------------|-----------|-----------------------|---------------------|---------------------|------|
| | | | | | | No. | Type/Size | | | | |
| 140659 | MW#2 | H ₂ O | / | | 7/8/99 12:20 | | 40ml | | EC2-B TPH EC10EC | HCC | |
| 140660 | MW#3 | H ₂ O | / | | 12:45 | | 40ml | | " | " | |
| 140661 | Duplicate | H ₂ O | / | | 12:48 | | 40ml | | EC21B | HCC | |
| 140662 | TRIP BLANK | H ₂ O | / | | 4:15 | | 40ml | | EC21B | HCC | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | | |
|-----------------------------------------------|-----------------------------------------------|-------------------------------|
| Relinquished by: Signature <u>[Signature]</u> | Received by: Signature <u>Tung Desrochers</u> | Date/Time <u>7-9-99 10:05</u> |
|-----------------------------------------------|-----------------------------------------------|-------------------------------|

| | | |
|---------------------------------------------------|-------------------------------------------|-------------------------------|
| Relinquished by: Signature <u>Tung Desrochers</u> | Received by: Signature <u>[Signature]</u> | Date/Time <u>7/9/99 10:05</u> |
|---------------------------------------------------|-------------------------------------------|-------------------------------|

 New York State Project: Yes No
Requested Analyses

| | | | | | | | | | | | |
|----|---------------------------------------------------------------------------|----|------------------|----|--------------|----|--------------------|----|------------------|----|----------------------|
| 1 | pH | 6 | TKN | 11 | Total Solids | 16 | Metals (Specify) | 21 | EPA 624 | 26 | EPA 8270 B/N or Acid |
| 2 | Chloride | 7 | Total P | 12 | TSS | 17 | Coliform (Specify) | 22 | EPA 625 B/N or A | 27 | EPA 8010/8020 |
| 3 | Ammonia N | 8 | Total Diss. P | 13 | TDS | 18 | COD | 23 | EPA 418.1 | 28 | EPA 8080 Pest/PCB |
| 4 | Nitrite N | 9 | BOD ₅ | 14 | Turbidity | 19 | BTEX | 24 | EPA 608 Pest/PCB | | |
| 5 | Nitrate N | 10 | Alkalinity | 15 | Conductivity | 20 | EPA 601/602 | 25 | EPA 8240 | | |
| 29 | TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides) | | | | | | | | | | |
| 30 | Other (Specify): | | | | | | | | | | |