PHASE II INVESTIGATION
WORK PLAN
FOR

RITE-OFF INC.
BAYSHORE, NEW YORK

APRIL 1988

H2M GROUP
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WORK PLAN FOR THE PHASE II INVESTIGATION

RITE-OFF, INC.

BAY SHORE, NEW YORK

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WORK PLAN FOR THE PHASE II INVESTIGATION

RITE-OFF, INC.

BAY SHORE, NEW YORK

(CONSENT ORDER NO. WI-007487-06)

APRIL 1988

1.0 - INTRODUCTION

1.1 - SITE DESCRIPTION AND BACKGROUND

Rite-Off, Inc. is located at 1545 5th Industrial Court in Bay Shore, Long Island, New York. The site is located in a highly industrialized area. North of the site is a waste transfer station, Sears Co. warehouse, and a chemical company; to the east is an empty lot, office building, and plastic manufacturing company; to the southeast is a garbage hauling company; to the south is another plastic manufacturing company, and to the west is a residential community.

Rite-Off blends and packages spray lubricants, solvents and insecticides along with other aerosol products for the retail market. Manufactured products are stored in a warehouse.

The site directly overlies the sand and gravel Upper Glacial aquifer. The Gardiners clay aquitard may exist below the Upper Glacial at a depth of approximately 60 feet. Regional groundwater flow is expected to be in a southeasterly direction and the depth to groundwater is expected to be between 14 and 16 feet below the surface.

In December 1986, the New York State Department of Environmental Conservation (NYSDEC) performed sampling at Rite-Off and found elevated concentrations of solvents, including tetrachloroethene, in a sample collected at the loading dock storm drain. A subsequent sampling event in June 1987 did not reveal as high a contaminant level, but did confirm the presence of contaminants in on-site soils and waters. Based on this sampling data, concerns regarding the storage of hazardous wastes and the previous disposal practices at the facility, the NYSDEC has issued an Order on Consent to Rite-Off, Inc. This order requires the company to perform a Phase II Investigation.

1.2 - OBJECTIVES

The objectives of the Phase II Investigation are:

- To characterize the hydrogeologic conditions at and in the vicinity of the site.
- To collect data necessary to identify the nature and distribution of wastes at the site; and to identify the occurrence and probable extent of contamination at and in the vicinity of the site.
- To document any release and evaluate the potential for migration of hazardous waste and/or industrial waste from the site to other on-site and off-site areas.
- To evaluate the on-site and off-site impacts of contaminant migration upon the environment.

- To prepare a site investigation report including the calculation of Hazardous Ranking System (HRS) scores.

2.0 - WORK PLAN TASKS

In order to accomplish the objectives of the Phase II investigation, a comprehensive hydrologic study will be performed. This study will provide insight as to the overall characteristics of the geological and hydrogeological setting of the site area which will, in turn, be utilized to analyze the analytical data generated during the course of the investigation. Specifically, the tasks required to address the objectives of this investigation are:

(1) Review the existing literature of the hydrogeology of the Bay Shore area. Evaluate existing well log data. Evaluate existing monitoring well information, and review the area's general hydraulic profile.

(2) Conduct a geophysical survey to help identify buried objects (i.e., utilities) which will aid in the placement of monitoring wells.

(3) Evaluate drilling contractor bids and observe the installation of five (5) shallow groundwater monitoring wells.

(4) Survey the five (5) proposed on-site wells and nearby off-site Suffolk County Department of Health Services (SCDHS) wells.

(5) Perform a groundwater monitoring program of the above mentioned wells.

(6) Conduct an air, soil and groundwater sampling and analysis program.

(7) Submission of the Phase II Report.

2.1 - LITERATURE REVIEW

A comprehensive review of literature and reports regarding the hydrogeology at the Rite-Off site is an on-going process which will establish a working site characterization. The review process includes examining open file correspondence and memorandums; permits and permit applications; existing well log data; existing well monitoring information; unpublished and published papers, reports and evaluations; and previous investigation summaries that are pertinent to the understanding of the hydrogeologic parameters at the site. To date, the literature review has revealed that there have been several concise comprehensive studies of the hydrogeology of the Bay Shore area. These include:

(1) "Hydrogeology of Suffolk County, Long Island, New York", H.M. Jensen and Julian Soren, USGS 1974.

(2) "Summary of the Hydrologic Situation on Long Island, New York, as a Guide to Water Management Alternatives", USGS Professional Paper 627-F.

(3) "Water Transmitting Properties of Aquifers on Long Island, New York", Geological Survey Professional Paper 627-E, 1972.

2.1.1 - Well Log Data

The investigation into groundwater flow conditions in the area of and downgradient from Rite-Off will consider the geology of the area as well as the hydraulic profile. To examine the underlying geology of the site, selected areal wells and the wells to be installed on-site will be utilized to formulate generalized geological sections. Until these cross sections are formulated, it is anticipated that the geology beneath the site will consist of the Upper Glacial aquifer (unconsolidated Pleistocene sediments) composed of sand and gravel, located from the land surface to approximately 90 feet below grade. Below the Upper Glacial aquifer most probably lies the Gardiners clay. Beneath the Gardiners clay lies the Magothy aquifer which is estimated to be 770 feet thick, composed of fine sand which is clayey in parts. Beneath the Magothy aquifer lies the Raritan clay, estimated to exist at 860 feet below sea level. Beneath the Raritan clay lies the Lloyd sand, composed of gravel, sand, silt and clay, estimated to be situated at 1,060 feet below sea level. The Lloyd sand in turn overlies the bedrock surface which is estimated to have an altitude of 1,450 feet below sea level.

2.1.2 - Direction of Groundwater Flow

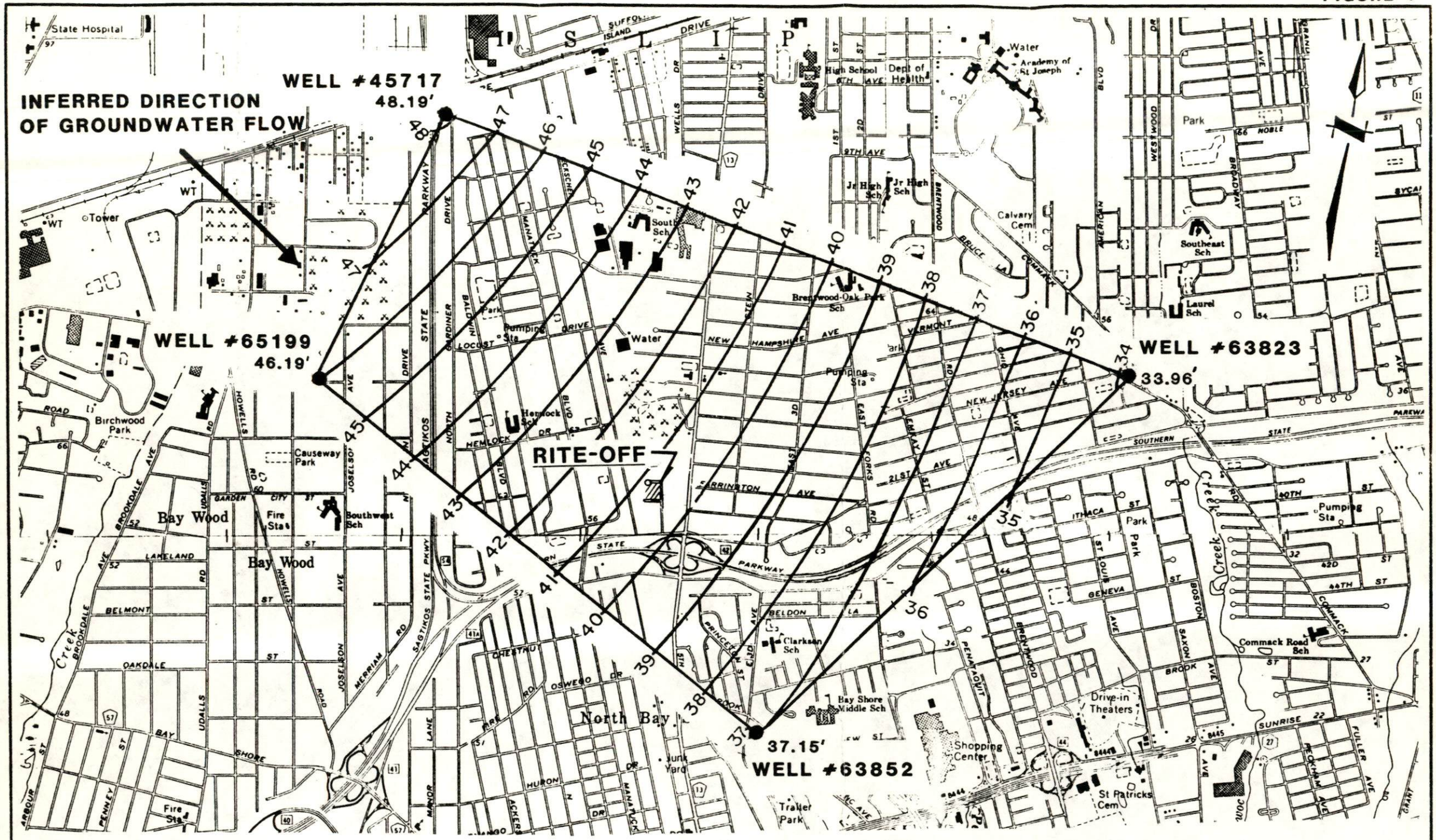
The direction of water movement at Rite-Off is expected to be in a southeasterly direction. This flow direction is based on our construction of a water table map of four (4) SCDHS groundwater monitoring wells (S-65199, S-45717, S-63823 and S-63852) (see Figure 1).

2.1.3 - Rate of Groundwater Flow

According to Geological Survey Paper 627-E, the estimated hydraulic conductivity of the Upper Glacial aquifer is 1,900 gpd/sf with an estimated transmissivity of 200,000 gpd/ft. It is the hydraulic gradient, conductivity and porosity which dictate the rate of groundwater flow. The results of the groundwater level monitoring program and hydraulic conductivity slug test (discussed later in the text) will confirm these estimated groundwater flow conditions.

2.2 - GEOPHYSICAL SURVEY

A geophysical survey using a magnetometer is proposed for the Rite-Off site. The survey will be taken along grids at various locations within the perimeter of the site. The results of the survey will help locate buried objects (i.e., utilities) and will aid in the safe selection of monitoring well locations. Utility company stake-outs will be utilized to confirm the survey. Survey data, interpretations and copies of all maps will be incorporated into the context of the final report.



RITE-OFF

GROUNDWATER FLOW DIRECTION IN THE BAYSHORE AREA

ELEVATIONS OF MARCH 1988

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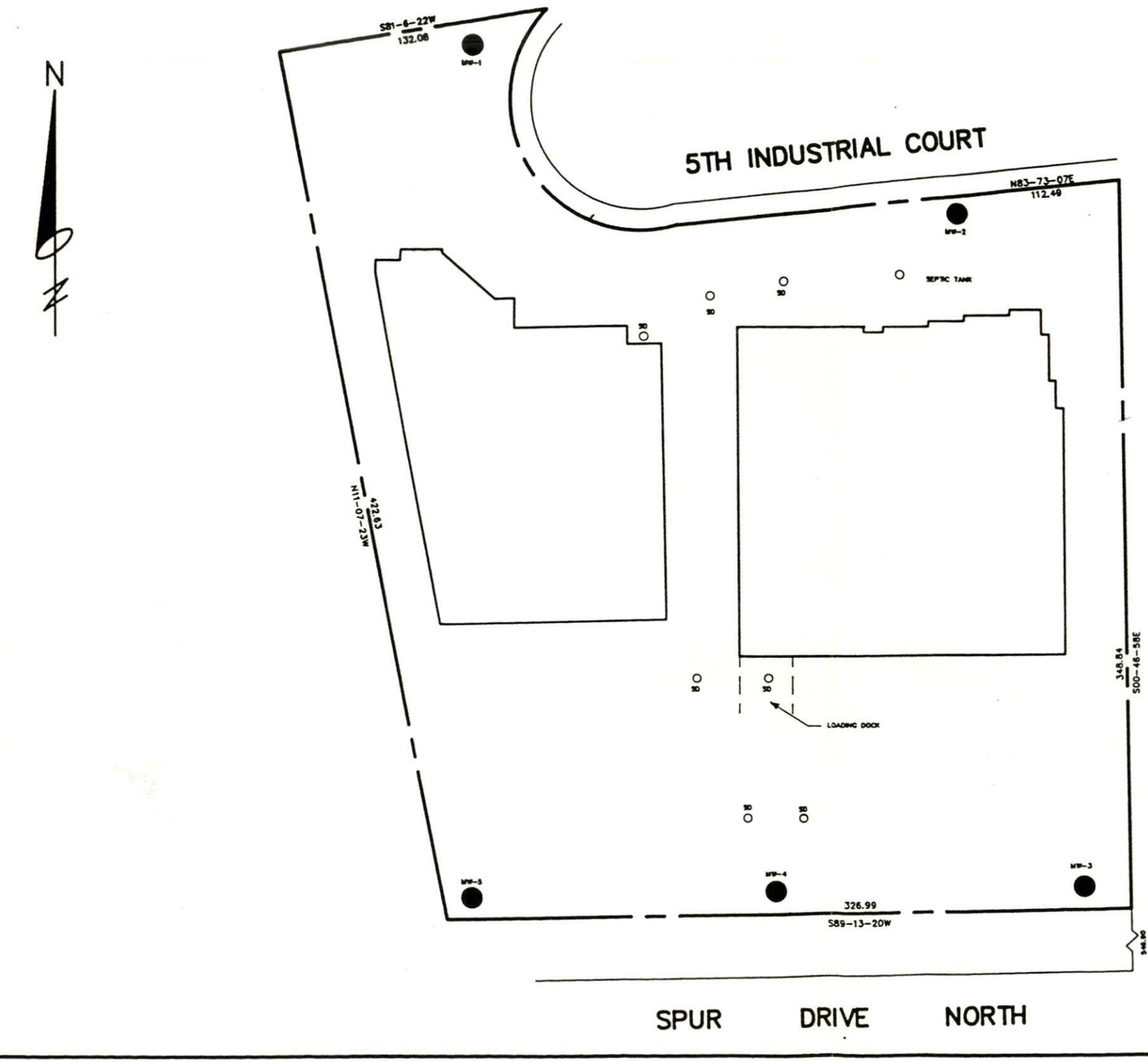
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2.3 - GROUNDWATER MONITORING WELLS

The NYSDEC performed sampling of soils and storm drains located at Rite-Off, and found elevated concentrations of solvents. A subsequent sampling event by NYSDEC did not reveal as high a contaminant level, but did confirm the presence of contaminants in on-site soils. In order to evaluate the potential leachable impacts of the soil contamination on the groundwater quality, it will be necessary to install five (5) on-site groundwater monitoring wells at Rite-Off. The wells will be utilized to determine the site-specific groundwater flow direction, groundwater quality and subsurface soil quality.

The final placement of the monitoring wells will be made once the geophysical data have been reviewed. The tentative locations of the proposed wells are shown on Figure 2. The groundwater monitoring wells will be designated MW-1, MW-2, MW-3, MW-4 and MW-5 and their installation will progress from the background well to the most contaminated, as expected from the available site information. A summary of the well designations, the rationale for well placement, the approximate boring depths, and the length of screen is presented in Table 1. Since the approximate depth to the water table is 15 feet below grade, the five (5) wells will be installed to approximately 25 feet. The proposed groundwater monitoring well locations, specified in Figure 2, will be located in a configuration which will provide maximum distances between wells and downgradient of suspect source areas, (assuming a groundwater flow direction to the southeast).

FIGURE 2



WELL LOCATION PLAN

SCALE: 1" = 60'

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TABLE 1

SUMMARY OF GROUNDWATER MONITORING WELLS

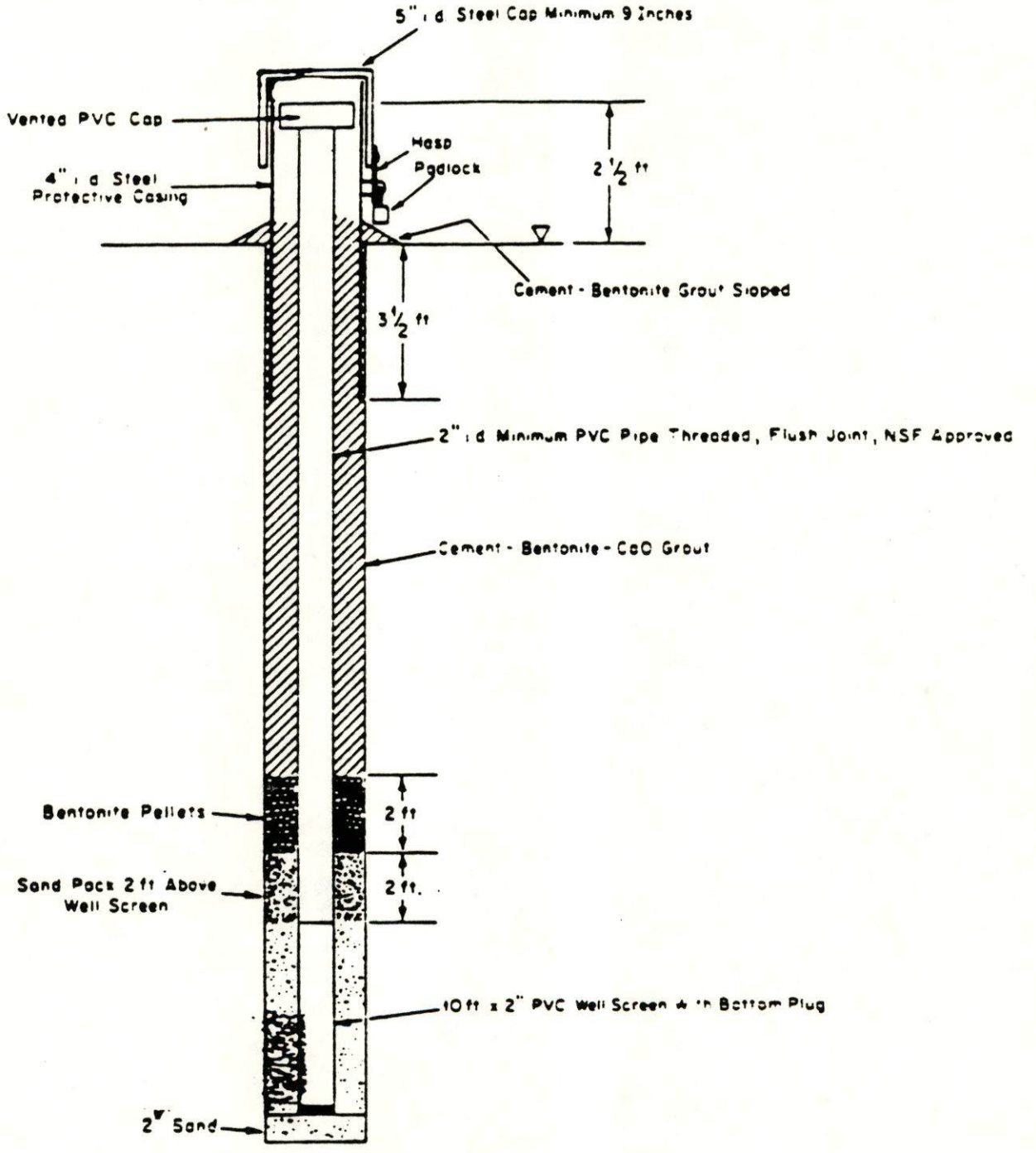
DESIGNATION	LOCATION RATIONALE	APPROX. BORING DEPTH (FEET)	LENGTH OF SCREEN (FEET)
MW-1	Upgradient monitor	25	10
MW-2	Upgradient monitor	25	10
MW-3	Downgradient from previous drum storage area	25	10
MW-4	Downgradient from loading dock storm drains	25	10
MW-5	Downgradient from stockpiled sanitary system pumpout	25	10

MW - indicates monitoring well

Materials of Construction

The construction method used to install the monitoring wells will consist of drilling a 6-inch hole to the desired depth with a hollow stem auger (4-inch inside diameter (I.D.)) and placing the well casing and screen through the hollow stem. The soils emanating from the hole will be spread on the ground in the vicinity immediately adjacent to the well. The monitoring well casing and screen will consist of 2-inch I.D., Schedule 40, flush joint, threaded PVC riser and 10 feet of #10 slot-size, 2-inch I.D. PVC well screen. Joint compound will not be used. A 2-foot thick seal of bentonite pellets will be placed above the screened zone and the open space below the screened zone will be filled with a quartz sand filter pack, extending 2 feet above the screened interval. The remainder of the open space above the screened zone will be backfilled with a bentonite/cement grout. Each well will be adequately developed by pumping or clearing with compressed air. The development water will be discharged a few feet downgradient of each well on the ground surface. A locking protective steel casing will be installed over the top of the PVC riser and cemented into place. A schematic cross section of the proposed monitoring wells is shown in Figure 3.

During drilling operations, steps will be taken to ensure the integrity of each monitoring well. These procedures are detailed in a Quality Assurance/Quality Control (QA/QC) Plan for the site (see Appendix A). Procedures used in well installation will follow NYSDEC monitoring well installation protocols.



MONITORING WELL CONSTRUCTION DETAILS
RITE-OFF

All drilling equipment will be decontaminated and stored as cleaned in a designated "clean" area prior to the drilling of each hole. All downhole drilling tools, sampling tools, and well development materials will also be decontaminated and stored as cleaned in a designated "clean" area prior to entering or re-entering the borehole.

2.4 - GROUNDWATER MONITORING WELL SURVEY

A leveling survey establishing land surface elevations (to the nearest 0.1 foot) and top of the casing elevations (to the nearest 0.01 foot) at all measuring points, as well as relative locations of all points, will be conducted. Water level monitoring will then commence at the five (5) proposed on-site observation wells and neighboring off-site SCDHS monitoring wells. Monitoring of the water levels at all points will be done as close to simultaneously as practicable.

2.5 - GROUNDWATER MONITORING PROGRAM

The groundwater monitoring program will run for two (2) consecutive weeks and involve two (2) visits spaced approximately seven (7) days apart. During each visit the water levels in the wells will be measured using a water sensitive probe. The water level data will then be used to develop a water table map, determine flow direction, and calculate the hydraulic gradient for the site and vicinity. A hydraulic conductivity analysis will be conducted utilizing the recovery or slug test method during one of the regular site visits after the scheduled water level survey.

The results of this analysis coupled with the water leveling data will be used to calculate the seepage velocity by using Darcy's Law.

2.6 - SAMPLING AND ANALYSIS PROGRAM

Previous analysis of samples collected from on-site storm drains and soils has indicated that organic compound contamination exists at the Rite-Off site. The contaminants detected, as a result of the NYSDEC sampling events, are listed in Table 2. As a result of these findings, air, soil and groundwater quality testing will be conducted at the site to determine if these contaminants have significantly impacted the environment.

2.6.1 - Air Quality

Ambient air quality will be monitored by using a photoionization detector (PID). Prior to any drilling, ambient air will be monitored upwind and downwind of: the drilling locations; the trailer area; and the loading dock storm drain, following the procedures recommended by the USEPA. These results will be plotted on a site map and will indicate the release, if any, of organic vapors and gases to the atmosphere.

2.6.2 - Surface Soils

Prior to the commencement of the monitoring well installation program, it is estimated that approximately five (5) surface soil samples and one (1) background sample will be collected at suspect "hot spot" areas. One (1) of the five (5) samples will be near the previously utilized drum storage area. Suspect

TABLE 2

COMPOUNDS FOUND ON SITE (*)
IN SAMPLES COLLECTED BY NYSDEC

December 1986

Methylene Chloride
Acetone
2-Butanone
Tetrachloroethene
1,1,1-Trichloroethane
Toluene
Total Xylenes (J)
1,1,2-Trichloro-1,2,2-Trifluoroethane (T,J)
Trimethyl Silanol (T,J)
1-Chloro-2-Methylbenzene (T,J)
2-Methyl-2-Propanol (T,J)

4,4-DDE (**)

March 1987

Methylene Chloride (B)
Acetone (B)
1,1,1-Trichloroethane
Trichloroethene
Tetrachloroethene
1,2-Dichloro-1,1,2-Trifluoroethane (T,J)
1,1,2-Trichloro-1,2,2-Trifluoroethane (T,J)

NOTES:

* Actual Locations Unclear
(B) Compound Found in Blank
(J) Value was Estimated
(T) Tentatively Identified Compounds
(**) Compound Flagged, but Flat Undefined

hot spots will be identified by utilizing the PID to screen the site's soils at approximately fifty (50) locations in the rear of the property. The screening process will entail creating an approximately 2-1/2 foot deep hole with a thin metal rod, inserting a thin teflon tube and extracting soil gas into the PID to determine relative volatile organic contamination.

A stainless steel dedicated soil coring device will be utilized to collect the soil samples. The coring device and all field sampling equipment will be laboratory cleaned, wrapped and dedicated to a particular sampling point. Samplers will be cleaned and prepared for field use according to the following procedures:

1. Non-phosphate detergent and tap water wash.
2. Tap water rinse.
3. Distilled/deionized water rinse.
4. Nitric acid (10%) rinse. Acetone will not be used, since it is a contaminant identified at the site.
5. Distilled/deionized water rinse.
6. Total air dry.
7. Distilled/deionized water rinse.

After this procedure has been accomplished, the sampling device will be wrapped in cleaned and autoclaved aluminum foil (split spoon soil samplers will not be wrapped and cleaned in foil). A record will be kept of the technician performing the procedure as well as the date and time. The sampling equipment will remain in its wrapping until ready to use.

The coring procedures to be employed, in order to collect the surface soil samples are as follows:

1. Place the sampler in position with the bit touching the ground.
2. Press down on the T-handle while rotating the sampler clockwise.
3. After reaching a required depth, turn the sampler 360° counter-clockwise and remove from the ground taking care not to lose any of the sample.
4. Transfer soil to a laboratory-supplied suitable sample container.
5. Cap the sample container, attach the label, record all pertinent data in the field log book and complete a chain-of-custody record before taking the next sample.
6. Preserve and/or place on ice, if required.
7. Deliver sample to the laboratory for analysis.

All appropriate field and laboratory QA/QC procedures will be employed (i.e., chain-of-custody). These procedures are detailed in the QA/QC plan (see Appendix A).

It is proposed that the surface soil samples will be analyzed for:

Hazardous Substance List (HSL) volatile organics, HSL pesticides/PCBs, total halogenated compounds (TOX), total cyanide and total phenol, utilizing USEPA contract laboratory program (CLP) procedures.

2.6.3 - Borehole Soils

Soil samples will be taken at 5-foot intervals using a split spoon sampler during the boring operations. The sampling device will be decontaminated prior to each use. Additional samples will be collected where changes in lithology occur or where deemed necessary by the supervising geologist and/or site conditions. Specifically, when obtaining soil boring samples, the following protocol will be followed:

1. Assemble the sampler by aligning both sides of barrel and then screwing the bit on the bottom and the heavier headpiece on top.
2. Place the sampler in a perpendicular position on the material to be sampled.
3. Drive the tube utilizing a drilling rig.
4. Record the length of the tube that penetrated the material being samles and the number of blows required to obtain this depth.
5. Withdraw the sampler and open by unscrewing bit and head and splitting barrel.
6. Each split spoon sample will be screened with a photoionization detector (PID) upon opening the spoon. Then a clean, stainless steel knife will be utilized to divide the tube contents in half longitudinally.
7. Place the soil in the prescribed sample container for delivery to the laboratory.

8. A second sample will be capped with aluminum foil.
9. The second sample will be heated for approximately two minutes with a portable sterno stove.
10. The sample will be tested with a PID by inserting the probe through the foil cap. The PID reading will then be recorded.
11. Record all pertinent data in the field log, and complete a chain-of-custody record before taking the next sample.
12. Preserve and/or place on ice, if required.
13. After following proper decontamination procedures, deliver samples to the laboratory for analysis.

It is proposed to analyze one (1) sample from each monitoring well at the water table interface or from the split spoon sample with the highest PID reading. Each sample will be analyzed for HSL volatile organics, total halogenated compounds (TOX), HSL pesticides/PCBs, total cyanide and total phenol, utilizing CLP procedures. Grain size analyses will be conducted for selected samples from the well borings. Based upon the grain size analysis and field observations, site-specific geologic cross sections will be constructed and incorporated into the text of the final report.

2.6.4 - Groundwater

Groundwater samples from the proposed five (5) on-site monitoring wells will be collected and each of the samples will be analyzed for HSL volatile organics, total halogenated compounds (TOX), HSL pesticides/PCBs, total cyanide and total phenol, utilizing CLP procedures. Field and trip blanks will only be analyzed for HSL volatile organics. The analysis will identify the nature and probable extent of groundwater contamination.

The methods utilized to collect the groundwater samples are outlined below:

1. Slit a piece of 4 x 4 foot plastic in the center and place the opening over the well. All sampling will be conducted on the plastic.
2. Utilizing a pre-cleaned dedicated stainless steel bailer, and 5-foot stainless steel chain (leader), attach new polypropylene line to the end of the chain leader.
3. Bail well a minimum of 3 well volumes, or until well runs dry.
4. Discharge the purged water a few feet downgradient of each well location.
5. Following the required purging, field parameters for pH, temperature and conductivity will be measured.
6. Begin to sample.

2.6.5 - Storm Drains/Sanitary System

The site's sanitary and stormwater outfalls will also be sampled in order to serve a dual purpose; for additional information for this investigation and to provide necessary information for Rite-Off's pending SPDES application. There are a total of approximately eight (8) outfalls. The Suffolk County Department of Health Services (SCDHS) requests the sampling of outfalls for priority pollutant metals, total cyanide, total phenol and volatile organic compounds. However, to make better use of these data for the Phase II investigation, HSL pesticides/PCBs and TOX will be added to the analysis list. The standard non-CLP United States Environmental Protection Agency (USEPA) analyzing methodologies will be utilized for these particular analyses.

2.7 - SCHEDULE

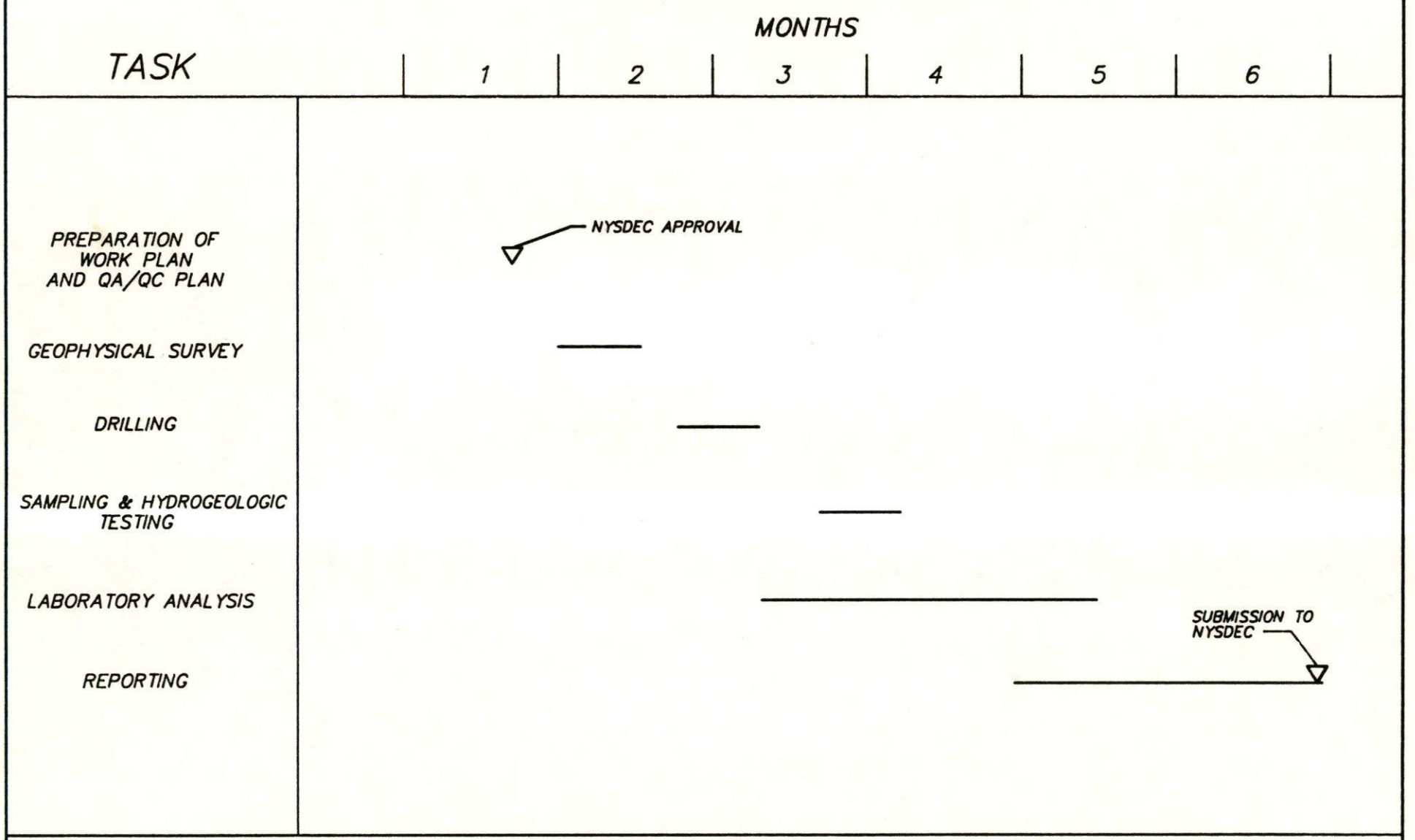
Table 3 provides a detailed schedule for the implementation of the Phase II investigation. The Phase II investigation will be completed within 120 days after the New York State Department of Environmental Consevation (NYSDEC) approval of the work program. No field work will be performed until these plans have been reviewed and approved by the NYSDEC.

A total of two weeks has been allocated for NYSDEC review of H2M's submissions. If more time is required for NYSDEC review, the schedule will be adjusted to accommodate the required review time. The remaining portion of the schedule will comply with the completion dates contained in the order on consent starting on the date the NYSDEC issues a notice to proceed.

TABLE 3

PROJECT SCHEDULE

RITE-OFF PHASE II INVESTIGATION



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2.8 - REPORT

Upon receipt of the laboratory analytical results, H2M will evaluate the data and prepare a Phase II Investigation Report. The report will present raw data including well logs, field notes and observations, as well as present and evaluate the analytical data in terms of defining the extent of soil and groundwater contamination. The report will include a Hazardous Ranking System (HRS) score, as defined by the United States Environmental Protection Agency.

If H2M finds existing on-going leachable contamination or groundwater contamination on-site which may migrate and have a significant adverse impact on the environment, H2M will make recommendations for additional investigations.

APPENDIX A

QUALITY ASSURANCE/QUALITY CONTROL

(QA/QC) PLAN

H2M HOLZMACHER, McLENDON & MURRELL, P.C.

QA/QC PLAN

RITE-OFF, INC.

BAY SHORE, NEW YORK

APRIL 1988

1.0 - PURPOSE

The Quality Assurance/Quality Control (QA/QC) Plan specifies the sampling and laboratory analytical protocols to be used for these investigations at the Rite-Off, Inc. site.

2.0 - PROTOCOLS

1. GENERAL INFORMATION

Site:	Rite-Off, Inc. Bay Shore, N.Y.	Project No.:	RITE 88-01
Location:	Industrial Court Bay Shore, N.Y.	Project Mgr:	M. Tumulty, P.E.
Prepared by:	K.F. Shanahan	Date:	3/31/88
Approved by:	M. Tumulty	Date:	4/8/88
QA Officer:	J.R. Holzmacher	Client:	Mr. Bruce Schleifman

2. PROJECT DESCRIPTION

A Phase II Hydrogeologic Investigation to assess the extent of contamination that may be present in the soil and groundwater at the Rite-Off, Inc. facility.

3. PROJECTED SAMPLING PROGRAM
(See Table 1)

4. PROJECT ORGANIZATION/RESPONSIBILITY

FIELD OPERATIONS: Karen F. Shanahan - Project Hydrogeologist

SAMPLING QC: Paul W. Grosser, Ph.D., P.E.

LABORATORY ANALYSES/QC: Joann M. Slavin, H2M Labs, Inc.

DATA PROCESSING ACTIVITIES/QC: James R. Holzmacher

5. DATA QUALITY REQUIREMENTS AND ASSESSMENTS

H2M LABS, INC.

6. SAMPLING PROCEDURES

The monitoring wells will be constructed to NYSDEC standards. Shown in Figure 1 is a cross section of the proposed monitoring wells. The wells will protrude at the ground surface. The following instruments will be used for the sampling of various media:

Surface Soils - Dedicated stainless steel trowels or hand augers
Subsurface Soils - Split spoons - field dedicated
Groundwater - Dedicated stainless steel bailers

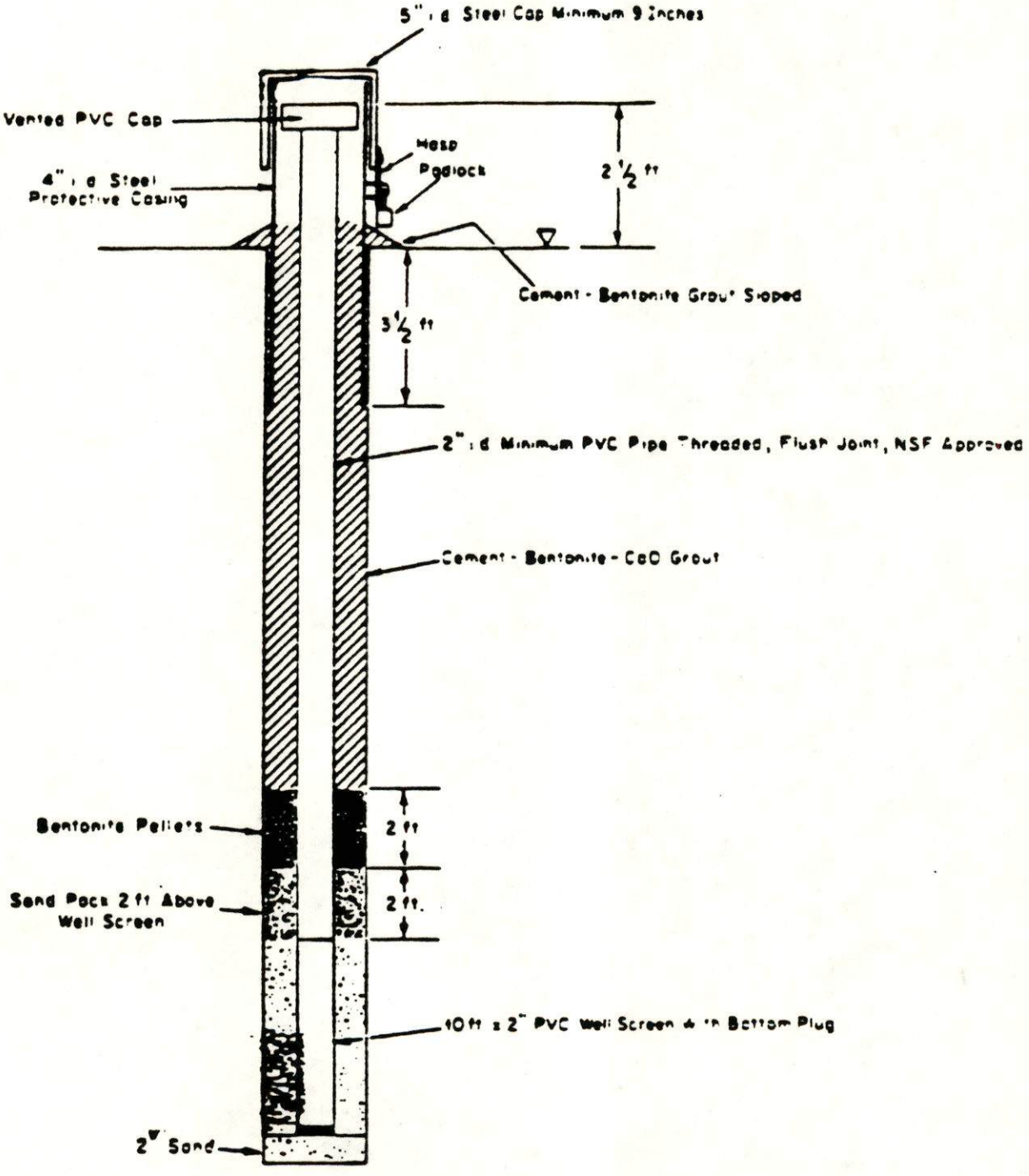
Dedicated sampling equipment will be laboratory cleaned with the exception of the split spoons (which will be field cleaned). Following is a list of decontamination procedures:

METHODS FOR SAMPLE ANALYSIS

PARAMETERS	METHOD REFERENCE	SAMPLE PRESERVATION	HOLDING TIME	CONTAINER
GROUNDWATER SAMPLES				
HSL Pesticides/PCB'S	CLP SOW 7/87	4°C	Extract w/in 5 Days Analyze w/in 30 Days	(2) One liter Glass Bottles w/ Teflon Lined Caps
HSL Volatile Organics	CLP SOW 7/87	Add .008% $Na_2S_2O_3$ Only if Residual Chlorine Present	w/in 7 Days	(2) 40 ml Glass Vials w/ Teflon Lined Caps
TOX	EPA 1979 #450.1	pH<2 w/HCl, 4°C	7 Days	Glass Bottle w/ Teflon Lined Cap
Phenols (total)	CLP SOW 7/87	H_2SO_4, pH < 2, 4°C	28 Days	1 liter Glass w/ Teflon Lined Cap
Cyanide (total)	CLP SOW 7/87	NaOH, pH > 12, 4°C	14 Days	1 liter Plastic
STORMDRAINS/SANITARY SAMPLES				
Sb, Antimony	EPA 1979 #204,40CFR136 ICP 200.7	HNO_3 pH < 2	6 Months	500 ml Plastic
As, Arsenic	EPA 1979 #206,40CFR136 ICP 200.7	do.	do.	do.
Be, Beryllium	EPA 1979 #210,40CFR136 ICP 200.7	do.	do.	do.
Cd, Cadmium	EPA 1979 #213,40CFR136 ICP 200.7	do.	do.	do.
Cr, Chromium	EPA 1979 #281,40CFR136 ICP 200.7	do.	do.	do.
Cu, Copper	EPA 1979 #220,40CFR136 ICP 200.7	do.	do.	do.
Pb, Lead	EPA 1979 #239,40CFR136 ICP 200.7	do.	do.	do.
Hg, Mercury	EPA 1979 #245.1	do.	26 Days	do.
Ni, Nickel	EPA 1979 #249,40CFR136 ICP 200.7	do.	6 Months	do.
Se, Selenium	EPA 1979 #270,40CFR136 ICP 200.7	do.	do.	do.
Ag, Silver	EPA 1979 #272,40CFR136 ICP 200.7	do.	do.	do.
Th, Thallium	EPA 1979 #279,40CFR136 ICP 200.7	do.	do.	do.
Zn, Zinc	EPA 1979 #289,40CFR136 ICP 200.7	do.	do.	do.
Phenol (total)	EPA 1979 #420.1	H_2SO_4 pH<2, 4°C	28 Days	1 liter Glass w/ Teflon Lined Cap
Cyanide (total)	EPA 1979 #335.2	NaOH, pH > 12, 4°C	14 Days	1 liter Plastic
HSL Volatile Organics	EPA 1979 Method 624	Add .008% $Na_2S_2O_3$ Only if Residual Chlorine Present	w/in 7 Days	(2) 40 ml Glass Vials w/ Teflon Lined Caps

METHODS FOR SAMPLE ANALYSIS

PARAMETERS	METHOD REFERENCE	SAMPLE PRESERVATION	HOLDING TIME	CONTAINER
SURFACE SOILS/ BOREHOLE SOILS				
HSL Pesticides/ PCB's	CLP SOW 7/87	4°C	Extract w/in 10 Days Analyze w/in 40 Days	Glass Bottle w/ Teflon Lined Cap
HSL Volatile Organics	CLP SOW 7/87	4°C	10 Days until extraction	(2) 40 ml Glass Vials w/ Teflon Lined Caps
TOX	SW-846 9020	pH<2 W/HCl, 4°C	7 Days	Glass Bottle w/ Teflon Lined Cap
Phenols (total)	CLP SOW 7/87	4°C	Extract w/in 7 Days Analyze w/in 40 Days	1 liter Glass w/ Teflon Lined Cap
Cyanide (total)	CLP SOW 7/87	4°C	14 Days	1 Quart Glass Jar



MONITORING WELL CONSTRUCTION DETAILS
RITE-OFF

- Non-phosphate detergent and tap water wash.
- Tap water rinse.
- Distilled/deionized water rinse.
- 1% nitric acid rinse for carbon steel split spoons.*
- 10% nitric acid rinse for stainless steel samplers.*
- Distilled/deionized water rinse.
- Total air dry or nitrogen blowout.
- Distilled/deionized water rinse.

*Only if sample is to be analyzed for metals.

7. SAMPLE CUSTODY PROCEDURES

H2M Labs, Inc. QA/QC Procedure
Full (External and Internal) Chain-of-Custody

8. CALIBRATION PROCEDURES AND PREVENTIVE MAINTENANCE

H2M Labs, Inc. QA/QC Procedure

9. DOCUMENTATION, DATA REDUCTION AND REPORTING

H2M Labs, Inc. QA/QC Procedure

10. DATA VALIDATION

H2M Labs, Inc. QA/QC Procedure

11. PERFORMANCE AND SYSTEM AUDITS

H2M Labs, Inc. QA/QC Procedure

12. CORRECTIVE ACTION PROCEDURES

H2M Labs, Inc. QA/QC Procedure