

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION



#### **BROWNFIELD CLEANUP PROGRAM (BCP)**

ECL ARTICLE 27 / TITLE 14

7/06				DEPARTME BCP SITE #:_	ENT USE ONLY
The street of the street of the street					
NAME NOCO Energy Corporation	the second secon	<u> </u>	a ya Mayaran	<u>, region de la composition della composition de</u>	
ADDRESS 2440 Sheridan Drive		<del></del>		-	<del>-</del>
CITY/TOWN Tonawanda	ZIP C	CODE 14	150	<del></del>	
PHONE 716-614-1270	FAX 716-874-0773		E-MAIL		
NAME OF REQUESTOR'S REPRESENTATIVE	Mr. Michael Yount	-	<u> </u>		
ADDRESS 700 Grand Island	Boulevard				
CITY/FOWN Tonawanda	ZIP C	ODE 14	<del>1</del> 150	<del></del>	
PHONE 716-504-3319	FAX 716-874-0773		E-MAIL N	nyount@no	oco.com
NAME OF REQUESTOR'S CONSULTANT	Benchmark Environmenta	l Engi	neering	and Scie	nce, PLLC
ADDRESS 726 Exchange Street			· · · · · · · · · · · · · · · · · · ·	<del></del>	
CITY/TOWN Buffalo	ZIP CO	DDE 142	210	<u> </u>	
PHONE 716-856-0599	FAX 716-856-0583		E-MAIL p	werthman@ben	nchmarkees.com
NAME OF REQUESTOR'S ATTORNEY Mr	. Craig Slater, Esq. (Hart	ter, Se			
ADDRESS Twelve Fountain P	aza, Suite 400		<u> </u>		,
CITY/TOWN Buffalo	ZIP CO	DE 142	202		
PHONE 716-845-4233	FAX 716-853-1617		E-MAIL C	slater@hse	elaw.com
THE REQUESTOR MUST CERTIFY THAT HE/S CHECKING ONE OF THE BOXES BELOW:	HE IS EITHER A PARTICIPANT OR VOLUN	TEER IN A	CCORDANC	E WITH ECL § 27	-1405 (1) BY
PARTICIPANT A requestor who either 1) was the owner of the site a of hazardous waste or discharge of petroleum or 2 responsible for the contamination, unless the liability of ownership, operation of, or involvement with the disposal of hazardous waste or discharge of petroleum.	as a result of owners disposal of hazardou	is waste or d  g this box,  h respect to  j stop any co  ent or limit h	on of or involuscharge of pe the requestor the hazardous ontinuing discluman environ	vement with the sit troleum.  r certifies that he waste found at the	/she has exercised e facility by taking
Previous Owner Current Owner  If requestor is not the site owner, requestor will have (Note: proof of site access must be submitted for not the site owner).	Potential /Future Purchaser Other e access to the property throughout the BCP pro	ject.		Yes	□ No

ADDRESS/LOCATION 1055 Genesee Street cr	TY/TOWN Buffalo	-	710	CODE 1	14212
MUNICIPALITY(IF MORE THAN ONE, LIST ALL): City of Buffa	alo			CODE	17212
COUNTY Erie S	ITE SIZE (ACRES) 0.7	<u></u>		<del>-</del>	<del></del>
LATITUDE (degrees/minutes/seconds) N42 · 54 · 7		E (degrees/min	ites/seconds	W78 ·	50 20
HORIZONTAL COLLECTION METHOD: SURVEY GPS		AL REFERENC		_	
FOR EACH PARCEL, FILL OUT THE FOLLOWING TAX MAP INFORM Parcel Address		e parcels, attach		nformation)	
1055 Genesee Street		100.76	5	Lot No.	Acreage 0.75
				<del>                                     </del>	
Do the property boundaries correspond to tax map metes a					
If no, please attach a metes and bounds description of the state of the required property map attached to the application?	application will not b	e processed	without m	ар)	☑Yes □N
2. Is the required property map attached to the application? ( 3. Is the property part of a designated En-zone pursuant to Ta For more information go to: http://www.nylovesbiz.com/Bro If yes, identify area (name)  50% 100% of the site is in the En-zone (check or ROPERTY DESCRIPTION NARRATIVE: The Site is located in the City of Buffalo, Erie County, New York. The sit The surrounding land-use is currently a mix of common site is an operating gasoline filling station, consistin ist of Existing Easements (type here or attach information)	(application will not be ax Law § 21(b)(6)?  ownField_Redevelopene)  I at the corner of the is partially bordenerial, residential.	Fillmore Aered by Peral, and vac	venue atterson Stant parc	and Gen	esee Streethe southeas
2. Is the required property map attached to the application? ( 3. Is the property part of a designated En-zone pursuant to Ta For more information go to: http://www.nylovesbiz.com/Bro If yes, identify area (name)  50% 100% of the site is in the En-zone (check of ROPERTY DESCRIPTION NARRATIVE: The Site is located in the City of Buffalo, Erie County, New York. The sit The surrounding land-use is currently a mix of com-	(application will not be ax Law § 21(b)(6)?  ownField_Redevelopene)  I at the corner of the is partially bordenerial, residential.	Fillmore Aered by Peral, and vac	venue atterson Stant parc	and Gen	esee Stree
2. Is the required property map attached to the application? ( 3. Is the property part of a designated En-zone pursuant to Ta For more information go to: http://www.nylovesbiz.com/Bro If yes, identify area (name)  50% 100% of the site is in the En-zone (check of ROPERTY DESCRIPTION NARRATIVE: The Site is located in the City of Buffalo, Erie County, New York. The sit The surrounding land-use is currently a mix of come The site is an operating gasoline filling station, consistin ist of Existing Easements (type here or attach information) asement Holder	(application will not be ax Law § 21(b)(6)?  ownField_Redevelopment)  I at the corner of the is partially borded mercial, residentially of retail building,  Description	Fillmore A ered by Per al, and vac filling island	venue aterson Stant parc	and Gen treet to ti els (see parking	Yes N

					and the first of the second section of the section of the second section of the section of the second section of the section of th
Environmental Report     A phase I environmental	To the extent that existing information/studies/reports are available to the requestor, please attach the following:  1. Environmental Reports  A phase I environmental site assessment report prepared in accordance with ASTM E 1527 (American Society for Testing and Materials: Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process), and all				
Materials: Standard P	Practice for Enviro	onmental Site Assessment minants on or emanating	ents: Phase I Environment	tal Site Assessment I	Process), and all
			ig from the site. neets the requirements of	CECT Article 27-141	5/2).
			*		· ·
2. Sampling Data: Indi Contaminant Category	Soil	Groundwater	Surface Water	Sediment	Soil Gas
Petroleum	X	X	Surface water	Sediment	Sui Gas
Chlorinated Solvents	<del> ^</del>	<del> ^</del>			
Other VOCs	<del></del>				
SVOCs	<del> </del>	<del>                                     </del>	<del></del>	<del></del>	
Metals	<del> </del>	<del>                                     </del>			
Pesticides	<del> </del>	<u> </u>			<del></del>
PCBs	<del> </del>		-	<del></del>	
Other*					
*Please describe:	<u> </u>			<u> </u>	
	T 3.				
3. Suspected Contamin				1	
Contaminant Category	Soil	Groundwater	Surface Water	Sediment	Soil Gas
Petroleum	<del> </del>	<del>                                     </del>			
Chlorinated Solvents	<del> </del>	<u> </u>			
Other VOCs					
SVOCs					
Metals				<u> </u>	
Pesticides		ļ			
PCBs	<u> </u>	<u> </u>			
Other*				<u>.</u>	
*Please describe:					
4. INDICATE KNOWN OR S	USPECTED SOURCE	CES OF CONTAMINANTS	S:		
Above Ground Pipeline or Routine Industrial Operation Adjacent Property Coal Gas Manufacture Other:	ions Du	agoons or Ponds amping or Burial of Wastes eepage Pit or Dry Well dustrial Accident	✓ Underground Pipeline or  Septic tank/lateral field  Foundry Sand  Unknown	<del></del>	Spill or Discharge r Storage Containers lating
5. INDICATE PAST LAND USES:					
Coal Gas Manufacturing Pipeline Other:	☐ Manufacturing ✓ Service Station		op Dry Cleaner Tannery	Salvage Yard Electroplating	□Bulk Plant □ Unknown
<ul> <li>6. Owners A list of previous owners with names, last known addresses and telephone numbers (describe requestor's relationship, if any, to each previous owner listed. If no relationship, put "none").</li> <li>7. Operators A list of previous operators with names, last known addresses and telephone number (describe requestor's relationship, if any, to each previous operator listed. If no relationship, put "none").</li> </ul>					

	e trongles letores in		es de la companya de La companya de la co La companya de la compan	·	and district the second
OWNER'S NAME (if different from requestor)	Same as Requestor	The result of money of the second of the sec	To the Control of the		
ADDRESS		·			
CITY/TOWN		ZIP CODE	· · ·		
PHONE	FAX	,	E-MAII,		
OPERATOR'S NAME (if different from request	or or owner) Helmi Agha, Pyra	amid Multi-trade Co	p.		
ADDRESS 1055 Genesee Street			·		*
CITY/TOWN Buffalo, NY		ZIP CODE 142°	12		
PHONE 894-8343	FAX unknown		E-MAIL Unknown		
		AND THE STATE OF T		Figure 1 agric	
If answering "yes" to any of the following	<u> </u>				
1. Are any enforcement actions pending				□Yes	<b>7</b> ] No
2. Is the requestor subject to an existing		_		Yes [	Z No
3. Is the requestor subject to an outstand				Yes [	<b>Z</b> No
4. Has the requestor been determined to	have violated any provision	of ECL Article 27?		☐Yes [	<b>Z</b> No
5. Has the requestor previously been de	nied entry to the BCP?			☐Yes [	<b>Z</b> No
6. Has the requestor been found in a civact involving contaminants?	il proceeding to have commit	ted a negligent or in	tentionally tortious	Yes [	<b>✓</b> No
7. Has the requestor been convicted of a theft, or offense against public admin	criminal offense that involve istration?	es a violent felony, fi	raud, bribery, perjury,	☐Yes [	<b>✓</b> No
8. Has the requestor knowingly falsified false statement in a matter before the	or concealed material facts of Department?	or knowingly submit	ted or made use of a	☐Yes [	<b>Z</b> ] No
9. Is the requestor an individual or entity or failed to act, and such act or failure	of the type set forth in ECL	27-1407.8(f) that co denial of a BCP app	mmitted an act lication?	Yes [	<b>Z</b> No
	The service of the service of				
1. Is the property listed on the National l	Priorities List?			☐Yes 5	<b>7</b> 1 No
2. Is the property listed on the NYS Reg If yes, please provide: Site #	istry of Inactive Hazardous W Class #	Vaste Disposal Sites	?	☐Yes [	
3. Is the property subject to a permit und If yes, please provide: Permit type: Date permit is	er ECL Article 27, Title 9, or		-	Yes •	<b>Z</b> No
4. Is the property subject to a cleanup or If yes, please provide: Order #				☐Yes •	Z No
5. Is the property subject to a state or fec If yes, please provide explanation as a	leral enforcement action relatent attachment.	ed to hazardous was	te or petroleum?	∐Yes 【	Z] No
Please attach a description of the project	which includes the following	components:			
<ul> <li>Purpose and scope of the project</li> <li>Estimated project schedule</li> </ul>					

Please attach, at a minimum, the names and addresses of the following: 1. The chief executive officer and zoning board chairperson of each county, city, town and village in which the property is located. 2. Residents, owners, and occupants of the property and properties adjacent to the property. 3. Local news media from which the community typically obtains information. 4. The public water supplier which services the area in which the property is located. 5. Any person who has requested to be placed on the contact list. 6. The administrator of any school or day care facility located on or near the property. 7. The location of a document repository for the project (e.g., local library). In addition, attach a copy of a letter sent to the repository acknowledging that it agrees to act as the document repository for the property. Current Use: Residential ✓ Commercial Industrial □Vacant □ Recreational (check all that apply) Intended Use: Unrestricted Residential Commercial Industrial Please check the appropriate box and provide an explanation as an attachment if appropriate. Provide a copy of the local zoning classifications, comprehensive zoning plan designations, and/or current land use approvals. Yes No 1. Do current historical and/or recent development patterns support the proposed use? (See #12 below ablaП re: discussion of area land uses) 2. Is the proposed use consistent with applicable zoning laws/maps? abla3. Is the proposed use consistent with applicable comprehensive community master plans, local waterfront **7** revitalization plans, designated Brownfield Opportunity Area plans, other adopted land use plans? 4. Are there any Environmental Justice Concerns? (See §27-1415(3)(p)). V 5. Are there any federal or state land use designations relating to this site?  $\square$ 6. Do the population growth patterns and projections support the proposed use? **7** П 7. Is the property accessible to existing infrastructure?  $\square$ П 8. Are there important cultural resources, including federal or state historic or heritage sites or Native П  $\square$ American religious sites within ½ mile? 9. Are there important federal, state or local natural resources, including waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species within ½ mile? 10. Are there floodplains within ½ mile?  $\nabla$ 11. Are there any institutional controls currently applicable to the property? 12. Describe on attachment the proximity to real property currently used for residential use, and to urban, commercial, industrial, agricultural, and recreational areas.

13. Describe on attachment the potential vulnerability of groundwater to contamination that might migrate from the property,

including proximity to wellhead protection and groundwater recharge areas.

14. Describe on attachment the geography and geology of the site.

(By requestor who is an individual)
I hereby affirm that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to section 210.45 of the Penal Law.
Date: Print Name:
(By an requestor other than an individual)
I hereby affirm that I am Fire Office (title) of Nav Fire (entity); that I am authorized by that entity to make this application; that this application was prepared by me or under my supervision and direction; and that information provided on this form and its attachments is true and complete to the best of my knowledge and belief. I am aware that any false statement made herein is punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law.
Date: 1/9/07 Signature: Als In J. Print Name: Millar M. Court.
SUBMITTAL INFORMATION:
Three (3) complete copies are required.
• Two (2) copies, one hard copy with original signatures and one electronic copy in Portable Document Format (PDF) on a CD or diskette, must be sent to:
Chief, Site Control Section New York State Department of Environmental Conservation Division of Environmental Remediation 625 Broadway Albany, NY 12233-7020
One (1) hard copy must be sent to the DEC regional contact in the regional office covering the county in which the site is located. Please check our website for the address of our regional offices: http://www.dec.state.ny.us/website/der/index.html
OR DEPARTMENT USE ONLY
BCP SITE T&A CODE: LEAD OFFICE:

#### LIST OF APPLICATION ATTACHMENTS

NYSDEC Brownfield Cleanup Program Application NOCO Energy Corporation – 1055 Genesee Street Buffalo, New York

Attachment No.	Description
1	Site Location Map and Site Plan
2	Tax Map, Metes and Bounds Description
3	Project Description and Schedule
4	Proposed Redevelopment Plan Maps
5	Previous Environmental Investigations
6	Listing of Previous Site Owners
7	Listing of Previous Site Operators
8	Contact List Information
9	Document Repository Confirmation Letter
10	Environmental Factors and Historic Land Use Considerations
11	Nearby Land Use Map
12	Groundwater Vulnerability Assessment
13	Description of Site Geography/Geology



#### **ATTACHMENT 1**

SITE DESCRIPTION, SITE LOCATION AND SITE PLAN

#### Attachment 01 Current Site Description

#### NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

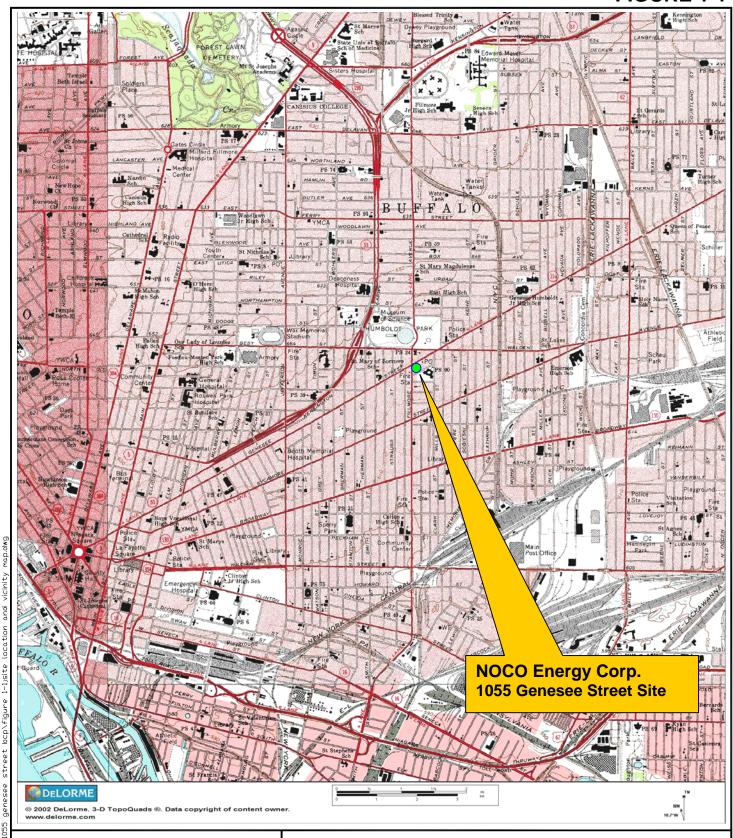
#### **SITE DESCRIPTION**

The Site, addressed at 1055 Genesee Street, is located at the northeast corner of Genesee Street and Fillmore Avenue in the City of Buffalo, Erie County, New York (See Figures 1-1 and 1-2). The site is partially bordered by Peterson Street to the southeast. The surrounding land is mixed use, including commercial, residential, and vacant land (see Figure 11-1).

The site is currently operated as a retail gasoline station and convenience store and includes one retail building, a service island canopy, asphalt parking lot, and grass covered area (see Figure 1-2).



#### FIGURE 1-1





726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO.: 0112-010-100

DATE: MARCH 2007

DRAFTED BY: BCH/NTM

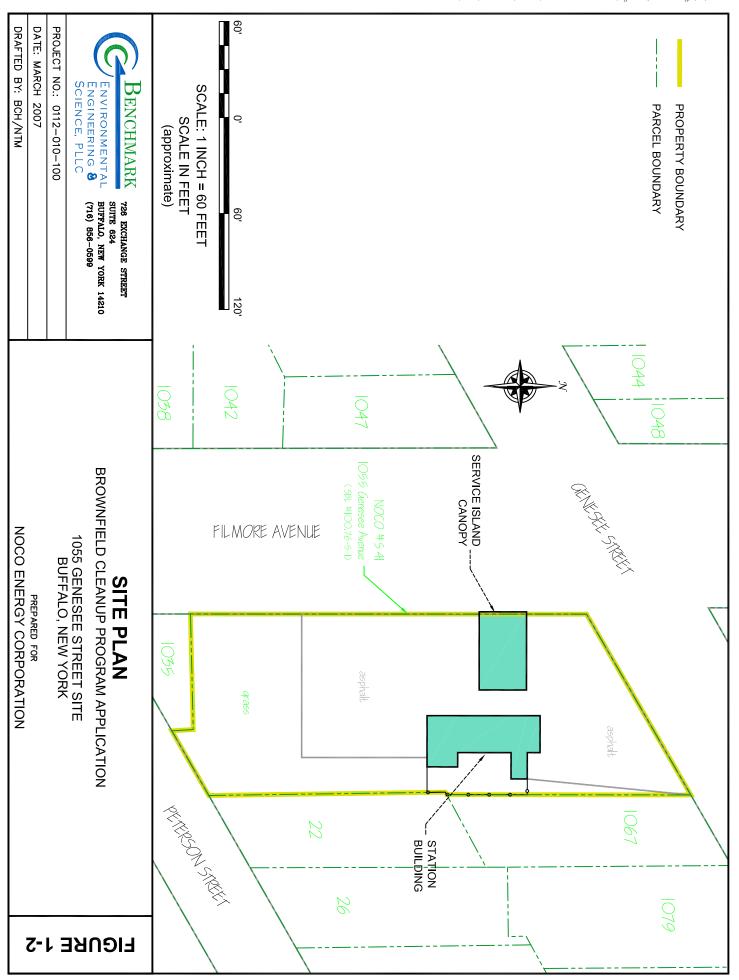
#### SITE LOCATION AND VICINITY MAP

**BROWNFIELD CLEANUP PROGRAM** 

1055 GENESEE STREET SITE BUFFALO, NEW YORK

PREPARED FOR

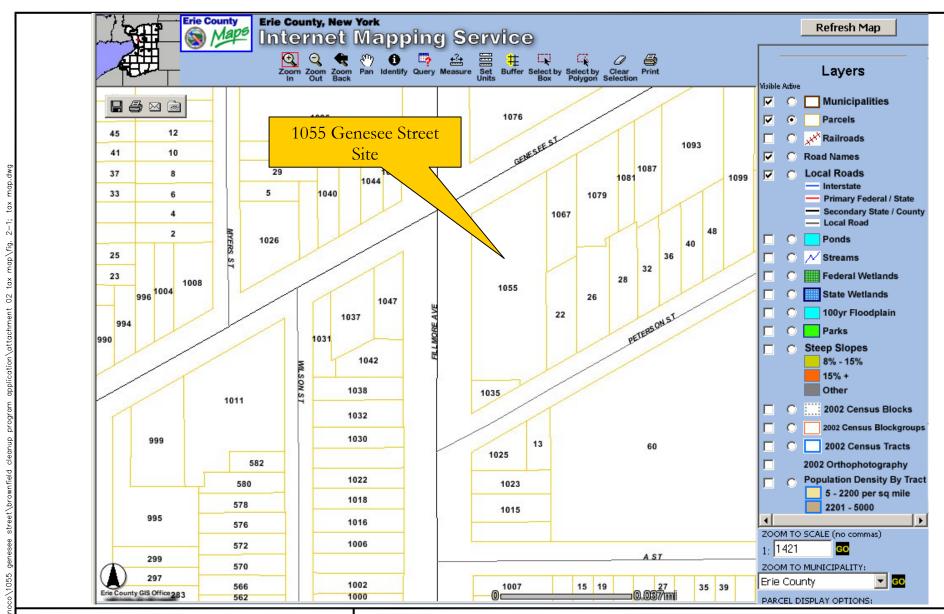
NOCO ENERGY CORPORATION



#### **ATTACHMENT 2**

TAX MAP







726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO.: 0112-010-100

DATE: MARCH 2007

DRAFTED BY: NTM

#### **TAX MAP**

BROWNFIELD CLEANUP PROGRAM APPLICATION

1055 GENESEE STREET SITE BUFFALO, NEW YORK

PREPARED FOR

NOCO ENERGY CORPORATION

#### **ATTACHMENT 3**

PROJECT DESCRIPTION AND SCHEDULE

## Attachment 03 Project Description

#### NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### **PROJECT DESCRIPTION**

The site is in an economically depressed and highly urbanized area in the City of Buffalo. The site is also located within a New York State designated Environmental Zone (En-Zone) due to the high poverty rate and high unemployment rate.

Due to the impoverished area of the Site, NOCO had not planned to redevelop the Site and instead planned to shut down the location. However, the brownfield cleanup program's tax incentives caused NOCO to re-consider site redevelopment options. NOCO is currently negotiating with several national retailers to construct a new commercial retail facility at the subject site.

Petroleum contamination exists in soil and groundwater at the site. Samples collected during a previous site investigation and submitted for forensic analysis identified the contamination as a highly weathered gasoline produced no later than 1985 (prior to NOCO ownership).

Depending on the complexity of the final redevelopment plans, NOCO plans to make a capital investment of at least \$800,000 to \$2,000,000 to redevelop the site. The project will maintain/create approximately 20 jobs in the inner city of Buffalo.

#### **PROJECT SCHEDULE**

The overall project schedule will be established upon finalization of the Site redevelopment plans. The environmental engineering and consulting tasks associated with the BCP are estimated as follows:

April 2007- Submit BCP application and Remedial Investigation (RI) Work Plan May/June 2007- Complete RI fieldwork
June/July 2007- Prepare and submit RI/Alternatives Analysis Report
August 2007- Submit Remedial Design Work Plan
October/November 2007- Remedial Work



#### **ATTACHMENT 4**

#### SITE REDEVELOPMENT PLANS

(to be determined)

#### **ATTACHMENT 5**

PREVIOUS ENVIRONMENTAL INVESTIGATIONS

## Attachment 05 Previous Environmental Investigations

#### NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

Previous environmental investigation reports are provided digitally on the attached CD.



# Supplemental Environmental Investigation Report

1055 Genesee Street Buffalo, New York

August 2006

Prepared For:

Harter, Secrest & Emery, LLP NOCO Energy Corporation

Prepared By:



0112-002-100

# SUPPLEMENTAL ENVIRONMENTAL CHARACTERIZATION REPORT

1055 GENESEE STREET SITE BUFFALO, NEW YORK

August 2006

0112-002-100

Prepared for:

Mr. Craig Slater, Esq.
Harter, Secrest & Emery, LLP
Twelve Fountain Plaza
Buffalo, NY 14202-2228

and

Mr. Michael Yount
NOCO Energy Corporation
700 Grand Island Boulevard
Tonawanda, New York 14150

#### SUPPLEMENTAL ENVIRONMENTAL CHARACTERIZATION REPORT 1055 Genesee Street Site

#### **Table of Contents**

1.0	INT	RODUCTION	1
	1.1	Background and Site Description	1
	1.2	Historical Records Review	1
	1.2	12.1 Site Owner/Operations History.	
		1 2 2 City of Ruffalo Municipal Records.	
		122 NVCDEC Records	
		121 Sanharn Matie	
		125 UST Summary	
		1.2.6 Previous Studies	3
			-
2.0	ME	THODS OF INVESTIGATION	5
	2.1	Geophysical Survey	
	2.2	Soil Borings and Soil Sampling	
	2.3	Monitoring Well Installation and Groundwater Sampling	0
	2.4	Monitoring Well Survey	6
	2.5	Soil and Groundwater Sampling Summary	7
3.0	INIX	ESTIGATION FINDINGS	8
3.0		Geophysical Survey	8
	3.1	Qualitative Soil Screening	8
	3.2	Soil Analytical Results	9
	3.3	Groundwater Analytical Results	
	3.4	Site Hydrogeology	C
	3.4	Site Hydrogeology	
4.0	Co	NCLUSIONS AND RECOMMENDATIONS	11
4.0			
E 0	T ra	MITATIONS	12
5.0	LIN	MITATIONS	

# SUPPLEMENTAL ENVIRONMENTAL CHARACTERIZATION REPORT 1055 Genesee Street Site

#### **Table of Contents**

#### LIST OF TABLES

Table 1	Summary of Qualitative Soil Screening	
Table 2	Monitoring Well and Groundwater Elevations	
Table 3	Summary of Soil Analytical Results	
Table 4	Summary of Groundwater Analytical Results	

#### LIST OF FIGURES

Figure 2 Site Plan  Figure 3 Geophysical Survey Map  Figure 4 Soil Data Map  Figure 5 Groundwater Data Map	Figure 1	Site Location Map
Figure 4 Soil Data Map	Figure 2	Site Plan
	Figure 3	Geophysical Survey Map
Figure 5 Groundwater Data Map	Figure 4	Soil Data Map
	Figure 5	Groundwater Data Map

#### **APPENDICES**

Appendix A	Field Borehole Logs
Appendix B	Water Quality Field Collection Logs
Appendix C	Laboratory Analytical Data Summary Package
Appendix D	City of Buffalo Municipal Records
Appendix E	NYSDEC Records
Appendix F	Sanborn Maps
Appendix G	Previous Studies

#### 1.0 INTRODUCTION

#### 1.1 Background and Site Description

Benchmark Environmental Engineering and Science, PLLC, (Benchmark) performed a supplemental site characterization for NOCO Gasoline Station S41, located at 1055 Genesee Street, Buffalo, New York (Site) (See Figure 1). The Site is an approximate 0.75-acre parcel located on the southeast corner of Genesee Street and Fillmore Avenue, which is utilized as a retail gasoline station and convenience store. The site is improved with one structure utilized as a convenience store. There are currently three 8,000-gallon gasoline tanks and four product dispensers on-Site (see Figure 2).

This investigation included a historical records review, review of previous technical reports, completion of a geophysical survey and a subsurface soil and groundwater investigation. This investigation was completed to further investigate potential historic sources of environmental impact on-Site, to determine the nature and extent of contamination and to facilitate remedial cost estimates.

#### 1.2 Historical Records Review

The historical records reviewed included New York State Department of Environmental Conservation (NYSDEC) records, City of Buffalo municipal records, historic Sanborn fire insurance maps, and previous reports completed by others.

#### 1.2.1 Site Owner/Operations History

Based on the historic Sanborn maps reviewed, the site has been a gasoline station since at least 1950. According the City of Buffalo permits and NYSDEC reviewed, previous gas station owner/operators on-Site included Gulf Oil Corporation, Northeast Stations, Inc. and Cumberland Farms. NOCO Motor Fuels, Inc. has been site owner since approximately 1993.

#### 1.2.2 City of Buffalo Municipal Records

City of Buffalo municipal records indicated that several generations of USTs have existed on the site since at least 1954. These records showed that the products stored

included gasoline and waste oil. Based on these records, it appears that the site was historically utilized a gas station and automotive service station. Appendix D includes the municipal records reviewed.

#### 1.2.3 NYSDEC Records

NYSDEC petroleum bulk storage (PBS) records indicate that there are three 8,000-gallon gasoline USTs located on-Site. The current USTs were installed in 1988. Historic tanks include one 6,000-gallon gasoline UST installed in 1966, one 6,000-gallon gasoline UST installed in 1977, one 10,000-gallon gasoline UST installed in 1977 and one 550-gallon UST installed in 1954 with the product stored listed as "other." The NYSDEC PBS certificate is included in Appendix E.

NYSDEC Spill records obtained on the NYSDEC spill records on-line database indicate that there is one "active" spill on-Site and there have been at least two "closed" spills on- site since 1987. Of note, NYSDEC Spill no. 8710706 involved excavation and on-Site bioremediation of gasoline-impacted soils. These records indicate that bio-treated soils were left on-Site upon completion of the bioremediation program. Appendix E includes the NYSDEC records reviewed.

#### 1.2.4 Sanborn Maps

Historic Sanborn maps for the years 1899, 1926, 1950 and 1986 were reviewed. Appendix F contains copies of the maps reviewed. A summary of Sanborn maps reviewed is as follows:

Year	Summary
1899	The site is utilized as commercial storefront and one unidentified building.
1926	The site is utilized as a residential dwelling and two storefronts. A south adjacent parcel has two gasoline tanks on-site.
1950	The site is developed as a filling station. UST locations are not shown.
1986	The site is developed as a filling station similar to the 1950 map. UST locations are not shown.

#### 1.2.5 UST Summary

There have been numerous USTs installed on-Site from 1950 to 1988. The historic gasoline USTs (since at least 1967) were located in the same general location as the existing tank field. Tank locations prior to 1967 were not identified in the records reviewed. The following table is summary of current and historic USTs that were on-site in a given year based on municipal records as well as NYSDEC petroleum bulk storage (PBS) records.

Year	Number, size and contents of USTs	Notes
1950s	Unknown	Records reviewed could not confirm tank sizes, locations and/or contents prior to 1967. However, there was one record of a waste oil UST installed in 1954.
1967	<ul><li>(1) 3,000-gallon steel gasoline UST</li><li>(1) 4,000-gallon steel gasoline UST</li><li>(1) 6,000-gallon steel gasoline UST</li></ul>	(1) 6,000-gallon UST was replaced in 1967, suggesting at least (1) 6,000-gallon UST prior to 1967.
1977	(1) 10,000-gallon steel gasoline UST (2) 6,000-gallon steel gasoline USTs	(1) 4,000-gallon gasoline and (1) 3,000-gallon gasoline USTs were removed in 1977 and replaced with the referenced (1) 10,000-gallon gasoline UST and (1) 6,000-gallon gasoline UST.
1988	(3) 8,000-gallon FRP gasoline USTs	(1) 10,000-gallon gasoline UST and (2) 6,000-gallon gasoline USTs were replaced by the referenced (3) 8,000-gallon gasoline USTs. Also, one City of Buffalo record reviewed indicated that one waste oil UST was removed in 1986.

#### 1.2.6 Previous Studies

A Subsurface Investigation Report was completed by Sentinel Technologies, Inc. (Sentinel) in October 2004 to further investigate groundwater impact previously identified in a tank field observation well. Ten soil borings were completed in the area of the current USTs and pump islands and in an area where impacted soil was biologically treated on-Site. Groundwater samples were collected from three of the soil boring locations via temporary wells. The results of that study indicated that petroleum-related volatile organic compounds (VOCs) were present in on-Site soils and groundwater above NYSDEC recommended soil cleanup objectives and groundwater standards. NYSDEC Spill file #02-75425 is currently listed as "active" for the Site. A copy of the previous report is included in Appendix G.

Characterization of one groundwater sample from the Phase II study referenced above was sent to Worldwide Geosciences, Inc. Laboratory (Worldwide), for purposes of analyzing and dating the product that was apparently released on-Site. The results of Worldwide's analysis indicated that the product in the groundwater sample analyzed was a residual fraction of a highly weathered gasoline produced no later than 1985 (i.e., prior to NOCO's ownership). A copy of the Worldwide report is included in Appendix G.

#### 2.0 METHODS OF INVESTIGATION

#### 2.1 Geophysical Survey

A geophysical survey was completed by Geomatrix Consultants, Inc. (Geomatrix) to assess whether buried metal objects, such as legacy USTs, are located on-site. The sites were surveyed using a Geonics EM-61 unit equipped with a high sensitivity, high-resolution electromagnetic metal detector that can detect both ferrous and non-ferrous metallic objects to an approximate depth of 10 feet. The results of the survey are presented in a color-contoured figure showing metallic anomalies. The results of the geophysical survey are discussed in section 3.1 and shown in Figure 3.

#### 2.2 Soil Borings and Soil Sampling

Boreholes SB1 through SB13 were completed on June 28, 2006, in accessible locations of the subject property. (See Figure 2.) Soil samples were collected with a truck-mounted percussion and hydraulically driven drive system equipped with an approximate 1.5-inch diameter, approximate 48 inch long macro-core sampler. Soil samples were generally collected within each borehole continuously from the ground surface to approximately 8 to 12 feet below the ground surface (fbgs). Any downhole equipment was decontaminated with an Alconox and water wash and tap water rinse between boreholes. The cutting shoes were decontaminated in a similar manner between the collection of each sample.

The physical characteristics of all soil samples were classified using the Unified Soil Classification System (USCS) (Visual-Manual Method). Upon collection, the liner containing the sample was opened slightly at several locations and total volatile organic compound (VOC) concentrations in air within the sample were recorded using a photoionization detector (PID) calibrated in accordance with manufacturer's specifications. (The PID is designed to detect VOCs, such as those associated with petroleum.) The results of this screening are included in Table 1. Based on the field observations and/or PID measurements, soils were selected for analysis.

The soil samples were then submitted, under standard chain-of-custody, to a National Environmental Laboratory Accreditation Counsel (NELAC) approved laboratory, for analysis in accordance with United States Environmental Protection Agency (USEPA) SW-

846 Methods 8260 for NYSDEC STARS List volatile organic compounds (VOCs). Select samples were analyzed for ethylene dibromide (EDB), ethylene dichloride (EDC), tetraethyl lead, as well as a petroleum fingerprint analysis.

#### 2.3 Monitoring Well Installation and Groundwater Sampling

Following borehole advancement described above, three new temporary monitoring wells were installed at the site (see Figure 2). Well construction diagrams are provided in Appendix A. The wells were constructed via installation of a temporary one-inch diameter Schedule 40 PVC well in each borehole. The temporary wells were allowed to stabilize a minimum of one hour prior to groundwater sample collection. Groundwater grab samples were collected from each temporary well, as well as three tank field observation wells, utilizing dedicated 0.5" polyethylene bailers. Field measurements of pH, temperature, specific conductance, and turbidity were determined following collection of the analytical samples. Field measured parameters were recorded on Water Quality Field Collection Logs presented in Appendix B. All temporary wells were manually decommissioned (pulled) following reference elevation determinations. The resulting open annulus was backfilled with site soils and/or bentonite and supplemented at the surface with asphalt patch or soil to match the existing grade and to close the open hole.

Groundwater samples were placed in pre-cleaned laboratory provided sample bottles, cooled to 4 °C in the field, and transported under chain-of-custody to STL for analysis of NYSDEC STARS List VOCs (EPA Method 8260B). Select samples were analyzed for EDB, EDC, tetraethyl lead, as well as a petroleum fingerprint analysis. In addition, one groundwater sample from within the impacted area was analyzed for dissolved oxygen (DO), total and dissolved iron and manganese, biological oxygen demand (BOD), chemical oxygen demand (COD), nitrate and sulfate. These inorganic and water quality parameters were used for evaluation of enhanced in-situ biodegradation as a potential remedial alternative.

#### 2.4 Monitoring Well Survey

Following temporary monitoring well installation, Benchmark personnel surveyed each temporary well using an arbitrary reference elevation of 500.00 feet above mean sea level (fmsl) to estimate groundwater flow direction. The reference top of riser elevations, as

well as groundwater elevations, obtained from the three on-site temporary monitoring wells during the investigation is summarized in Table 2.

#### 2.5 Soil and Groundwater Sampling Summary

Based on sample location, field observations and PID measurements, soil and groundwater samples were selected for analysis (see below).

Sample Location	Rationale	Testing Parameters
Soil		
SB-1 (4-6 ft. bgs)	Current/Historic USTs	VOCs, EDB, EDC, Lead, Petroleum Fingerprint
SB-3 (2-4 ft. bgs)	Contamination Delineation	VOCs, EDB, EDC
SB-7 (4-6 ft. bgs)	Current/Historic Pump Islands	VOCs, EDB, EDC
Groundwater		
TPMW1	Current/Historic USTs	VOCs, EDB, EDC
TPMW2	Contamination Delineation	VOCs, EDB, EDC
TPMW3	Current/Historic Pump Islands	VOCs, EDB, EDC, Lead, Petroleum Fingerprint, Water Quality Parameters
OW-1	Current/Historic USTs	VOCs, EDB, EDC
OW-2	Current/Historic USTs	VOCs, EDB, EDC
OW-3	Current/Historic USTs	VOCs, EDB, EDC

#### 3.0 INVESTIGATION FINDINGS

A geophysical survey was completed on June 21, 2006. The results of that survey are discussed in section 3.1 below and shown on Figure 3. Thirteen test borings (SB1-SB13) and three temporary monitoring wells (TPMW1-TPMW3) were completed in accessible areas of the subject property on June 28, 2006 (see Figure 2). Site investigation soil and groundwater sample results are presented in Tables 3 and 4, respectively. Each compound that was analyzed and detected above the laboratory reporting limit is listed on the table with its associated result to provide a complete data summary. For comparison purposes, Table 3 presents recommended soil cleanup objectives (RSCOs) for each of the detected parameters as published in NYSDEC TAGM HWR-94-4046. Similarly, Table 4 presents NYSDEC Class "GA" Groundwater Quality Standards (GWQS) for each of the detected parameters as published in NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998). A copy of the laboratory analytical data package is included in Appendix C. Analytical results for collected soil and groundwater samples are discussed below.

#### 3.1 Geophysical Survey

The geophysical survey identified metallic anomalies north of the current USTs and south of the building (see Figure 3). The strength of the anomalies suggests that they could represent buried metallic objects. The northern anomaly was located in the area of a historic UST adjacent to the existing USTs. The southern anomaly was located approximately 110 feet south of the building. Based on the historic records reviewed, the southern anomaly was not located in a known area of historic USTs.

Soil borings were advanced in the area of each of the anomalies. There were no metallic objects encountered in those borings. However, soil boring SB-2 in the area of the northern anomaly (i.e., historic UST area) encountered petroleum odors from zero to eight fbgs.

#### 3.2 Qualitative Soil Screening

Soil samples were screened for VOCs using a Photovac 2020 PID. PID measurements ranged from 0.0 ppm (several locations) to 734 ppm (BH2, 4-6 fbgs) (see Table 1). In Benchmark's experience, some of the PID measurements and field

observations are indicative of petroleum-VOC impact. Refer to the attached subsurface logs for soil classification for each sample interval, field observations, and PID measurements.

#### 3.3 Soil Analytical Results

Soil samples from soil borings SB-1 (4-6 fbs), SB-3 (2-4 fbgs) and SB-7 (4-6 fbgs) detected NYSDEC STARS List VOCs above applicable NYSDEC RSCOs. Soil sample SB-7 indicated the greatest impact of the soil samples submitted with three analytes above their respective RSCOs (total xylenes- 29,000 ug/kg; 1,2,4-trimethylbenzene- 31,000 ug/kg; 1,3,5-trimethylbenzene- 9,300 ug/kg; and, total VOCs- 80,760 ug/kg). Soil sample SB-1 indicated that only one analyte (benzene- 74 ug/kg) was detected above its applicable RSCO. Soil sample SB-3 indicated that only two analytes (benzene-150 ug/kg and total xylenes- 2,400 ug/kg) were detected above their respective RSCOs.

Analytical results for the soil samples are presented in Table 3. Figure 4 shows the soil impacted areas of the site based on analytical results and qualitative field screening. The laboratory analytical report is included in Appendix C.

#### 3.4 Groundwater Analytical Results

Groundwater samples TPMW1, TPMW2, TPMW-3, OW-1, OW-2 and OW-3 detected NYSDEC STARS List VOCs above applicable GWQS. Groundwater contaminant concentrations were highest from TPMW-3 and OW-3 (32,030 ug/L total VOCs and 99,990 ug/L total VOCs, respectively). Tetraethyl lead was also detected at a concentration of 1,500 ug/L from TPMW-3.

Analytical results for the groundwater samples are presented in Table 4. Figure 5 shows the groundwater impacted area of the site. The laboratory analytical report is included in Appendix C.

#### 3.4 Site Hydrogeology

The geology at the site is generally described as fill materials overlying dense brown clay. The fill materials consist of silt, sand and gravel with varying amounts of brick fragments at depths ranging from 1.5 to 8 fbgs. Native materials consists of dense clay with varying amounts of sand and gravel to depths up to 12 fbgs.

Groundwater elevations at monitoring wells TPMW-1 through TPMW-3 ranged from 494.59 at TPMW-2 to 497.45 at TPMW-1 (relative to a common site datum of 500.00). Based on the groundwater gauging, groundwater appears to generally flow in northwestern direction.

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on a review of historical documents, review of previous studies, a geophysical survey and a soil and groundwater investigation at the Site, Benchmark offers the following conclusions and recommendations:

- The site has been a gasoline station since at least 1950. Past site use likely included automotive repair based on evidence of a historic waste oil UST on site.
- USTs and pump islands on-site have historically been located in the same general area as the current USTs and pump islands.
- A previous subsurface investigation identified soil and groundwater impact in the area of the current/historic UST and pump islands. One groundwater sample submitted for forensic analysis at that time indicated that some of the groundwater contamination was the result of gasoline spill from a gasoline product produced no later than 1985.
- A geophysical survey identified two anomalies on-Site (see Figure 3). There was
  no evidence of buried metallic objects or subsurface impact in the area of the
  southern anomaly. Soil boring SB-2 in the area of the northern anomaly (i.e.,
  historic UST area) encountered petroleum odors from zero to eight fbgs. Tank
  records indicate that an UST was removed from this area in approximately 1988.
- During this investigation, additional soil and groundwater impact was identified on-Site (see Figures 4 and 5). Soil and/or groundwater impact appears to extend to the northern, eastern and western property boundaries in the area of the current/historic USTs and pump islands. The greatest soil impact was identified at sample location SB-7 (4-6 fbgs), south of the current/historic pump islands. The greatest groundwater impact was identified in TPMW-3 (installed at soil boring SB-7) in the area of the current/historic pump islands and OW-3, a tank field observation well in the area of the current/historic USTs. The groundwater sample from TPMW-3 also contained tetraethyl lead, indicating a historic spill of leaded gasoline.

Benchmark has prepared a conceptual remedial approach and associated remedial cost estimates to address the soil and groundwater impact identified on-Site. Such will be provided under separate cover for your review. Upon review, a corrective action plan (CAP) can be submitted to the NYSDEC for review and approval.

#### 5.0 LIMITATIONS

This report has been prepared for the exclusive use of NOCO Energy Corporation and Harter, Secrest & Emery, LLP. The contents of this report are limited to information available at the time of the site investigation activities and to data referenced herein, and assume all referenced historic information sources to be true and accurate. The findings herein may be relied upon only at the discretion of NOCO Energy Corporation. Use of or reliance upon this report or its findings by any other person or entity is prohibited without written permission of Benchmark Environmental Engineering & Science, PLLC.

### **TABLES**





# TABLE 1

# PID SUMMARY

# 1055 Genesee Street Site Buffalo, New York

ONIGOG				BC	BORING LOCATION & PID FIELD SCAN READINGS (ppm)	ATION & P	ID FIELD S	CAN REAL	NINGS (ppr	n)			
INTERVAL (fbgs)	, ,	000	000	V do	SB.5	SB.6	SB-7	SB - 8	SB - 9	SB - 10	SB - 11	SB - 12	SB - 13
•	SB - 1	7- gc	c-de	4-00	200	200							
0.0 - 2.0	0.0	127.0	5.0	72.1	0.0	0.7	7.9	0.3	0.0	0.0	0.0	0.0	0.0
2.0 - 4.0	0:0	91.2	0.9	27.0	0.0	0.3	0.7	0.0	0.5	0.0	0.0	0.0	0.0
4.0 - 6.0	38.0	734.0	1.3	0.0	0.0	9.0	78.2	0.0	148.0	0.0	0.0	0.0	0.0
6.0 - 8.0	164.0	60.7	1.9	0.0	0.0	0.3	22.0	0.0	0.0	0.0	0.0	0.0	0.0
8.0 - 10.0	0.0	8.9	1.6	0.0	0.0	0.2	91.3						
10.0 - 12.0	0.0			0.0			65.3						
Boring Terminus	12 fbgs	10 fbgs	10 fbgs	12 fbgs	10 fbgs	10 fbgs	12 fbgs	8 fbgs	8 fbgs	8 fbgs	8 fbgs	8 fbgs	8 fbgs

# Notes

1. fbgs= feet below ground surface



### TABLE 2

### **GROUNDWATER ELEVATIONS SUMMARY**

### 1055 Genesee Street Site Buffalo, New York

Monitoring Well Designation	Top of Casing Elevation	Top of Riser Elevation (Reference Point)	Depth to Water (fbTOR)	Groundwater Elevation (fmsl)
TPMW - 1	grade	501.41	3.96	497.45
TPMW - 2	grade	500.7	6.11	494.59
TPMW - 3	grade	501.14	4.51	496.63

### Note

- 1. Top of riser elevation based upon an assumed datum of 500.00 fmsl.
- 2. Water levels measured and recorded on June 28, 2006
- 3. fbTOR = feet below Top of Riser
- 4. fmsl = feet above mean sea level.



### TABLE 3

## SUMMARY OF SOIL ANALYTICAL RESULTS

### 1055 Genesee Street Site Buffalo, New York

	Boring Locat	Boring Location and Depth Interval (fbgs)	nterval (fbgs)	Requistory
Parameter	SB-1 (4.0-6.0)	SB-3 (2.0-4.0)	SB-7 (4.0-6.0)	Guidance
NYSDEC STARS List Volatile Organic Compounds (VOCs) -ug/kg	nic Compound	s (VOCs) -ug/kg		
Benzene	74	150	QN	09
Ethylbenzene	51	330	3,400	5,500
Toluene	110	710	ND	1,500
Total Xylenes	200	2,400	29,000	1,200
Isopropylbenzene	QN	75	1,500	2,300
n-Propylbenzene	QN	87	3,100	3,700
p-Cymene	QN	ND	260	5,000
1,2,4-Trimethylbenzene	78	440	31,000	13,000
1,3,5-Trimethylbenzene	31	260	9,300	3,300
n-Butylbenzene	QN	ND	1,900	12,000
sec-Butylbenzene	ND	ND	1,300	11,000
tert-Butylbenzene	QN	QN	QN	10,000
Methyl-Tert-Butyl-Ether (MTBE)	ND	75	QN	120
Total VOCs	544	4,527	80,760	10,000

Notes:

1. The regulatory limits are taken from NYSDEC TAGM #4046

2. Only those compounds detected above the laboratory reporting limit are presented in this table.

3. Shaded yellow or red values indicate an exceedance of the regulatory limit.

4. ND= not detected above laboratory detection limits.



### TABLE 4

# SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

## 1055 Genesee Street Site Buffalo, New York

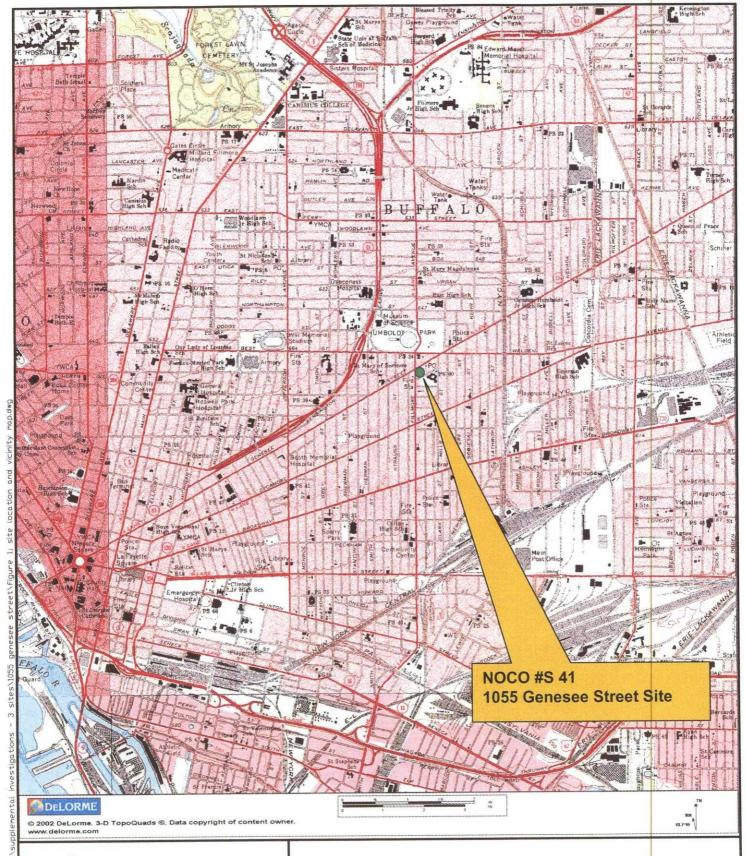
			Monitoring Location	Location			Regulatory
Parameter	TPMW-1	TPMW-2	TPMW-3	OW-1	OW-2	OW-3	Guidance
NYSDEC STARS List Volatile Organic Compounds (V	nic Compounds	(VOCs) - ug/L					
Benzene	3.3		1,500	140	160	7,700	0.7
Ethylbenzene	8.6	18	2,400	140	140	7,000	5.0
Toluene	2.5	0.84	210	41	29	1,100	5.0
Total Xylenes	54	130	19,000	430	430	30,000	5.0
Isopropylbenzene	7.1	2.8	170	40	27	1,000	5.0
n-Propylbenzene	19	8.6	480	92	51	1,700	5.0
p-Cymene	1.3	0.59	ND	10	10	200	5.0
1,2,4-Trimethylbenzene	44	81	5,500	220	230	14,000	5.0
1,3,5-Trimethylbenzene	14	25	1,500	120	140	8,400	5.0
n-Butylbenzene	4.7	1.6	860	ND	ND	ND	5.0
sec-Butylbenzene	9.1	2.2	100	30	35	890	5.0
Methyl-Tert-Butyl-Ether (MTBE)	59	240	310	390	440	28,000	10.0
Total VOCs	227	517	32,030	1,637	1,730	066'66	
Other Parameters- ug/L							
Tetraethyl - Lead			1500	1	I	1.	25
Water Quality Parameters mg/L							
Iron - Soluble			22	1	1	1	NA
Manganese - Soluble	1		9	1	****	-	NA
Iron - Total	1		306	1			NA
Manganese - Total			10.5		-	-	NA
Biochemical Oxygen Demand			1,110		1		NA
Chemical Oxygen Demand			270	1	-	-	NA
Nitrate			ND		777		NA
Sulfate	1		84.9	1	1	1	NA

- 1. Regulatory limits are NYSDEC Class "GA" Groundwater Quality Standards (GWQS) as published in NYSDEC Ambient Water Quality Standards and Groundwater Effluent Limitations (June 1998).
  2. Only those compounds detected above the laboratory reporting limit are presented in this table.
  3. Shaded yellow values indicate an exceedance of the regulatory limit.
  4. J = indicates an estimated value.
  5. ND= not detected above laboratory detection limits.
  6. NA= not applicable.

### **FIGURES**



### FIGURE 1





726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO .: 0112-002-100

DATE: JULY 2006 DRAFTED BY: BCH

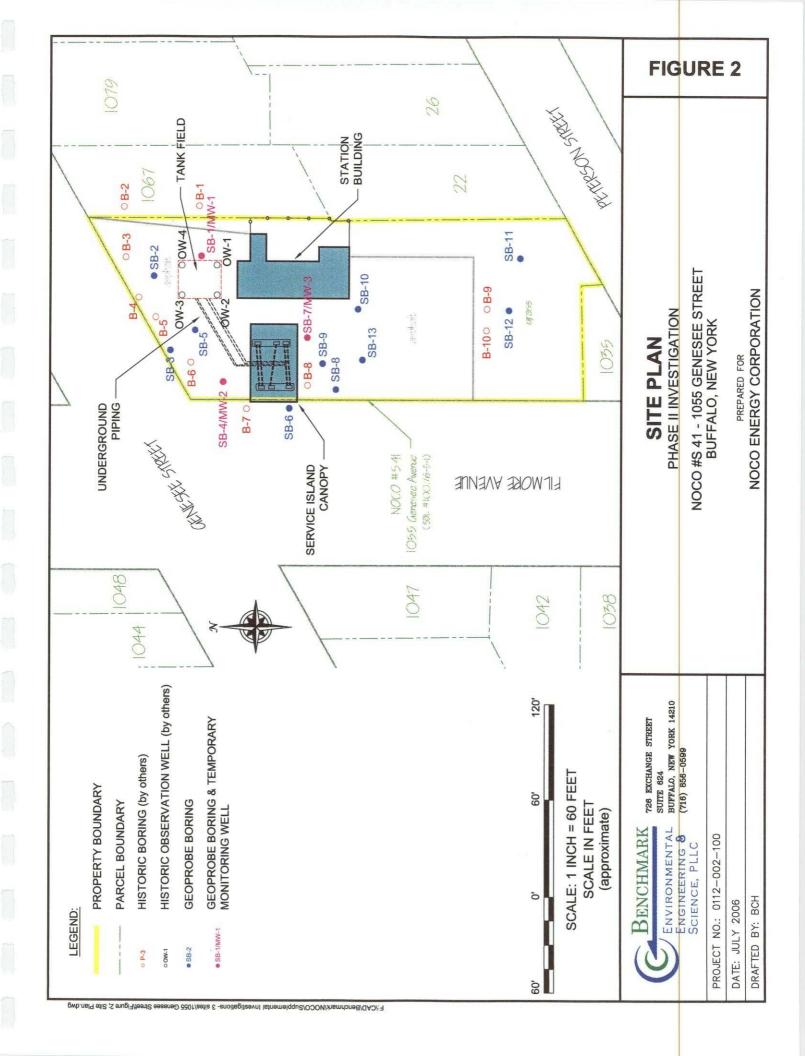
### SITE LOCATION AND VICINITY MAP

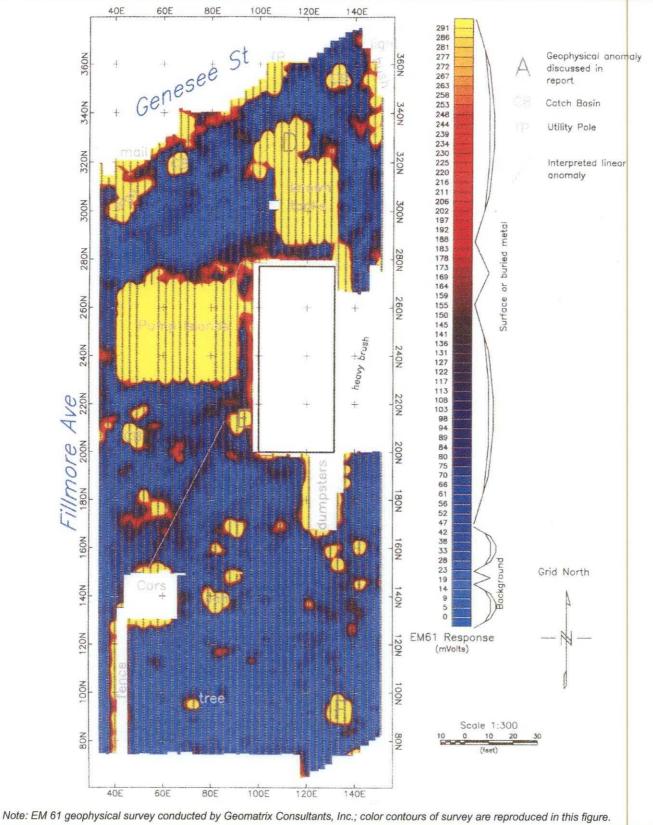
PHASE II INVESTIGATION

NOCO #S 41 - 1055 GENESEE STREET BUFFALO, NEW YORK

PREPARED FOR

NOCO ENERGY CORPORATION







726 EXCHANGE STREET BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO.: 0112-002-100

DATE: JULY 2006 DRAFTED BY: BCH

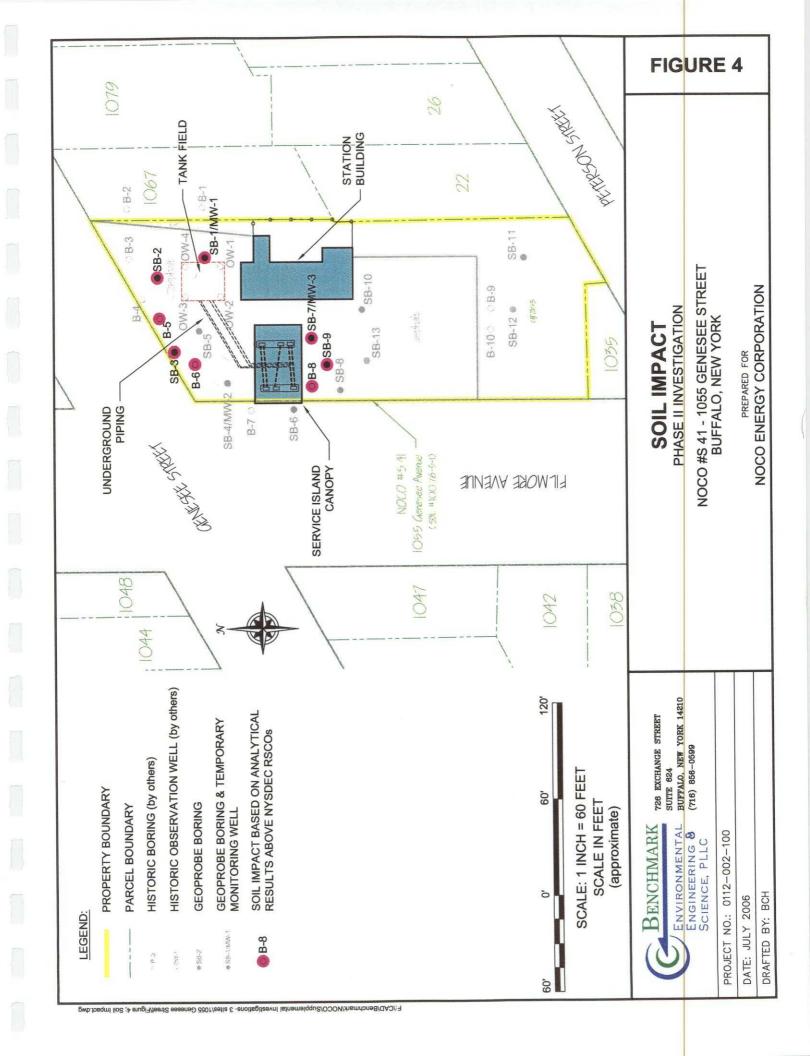
### **GEOPHYSICAL SURVEY (EM 61)**

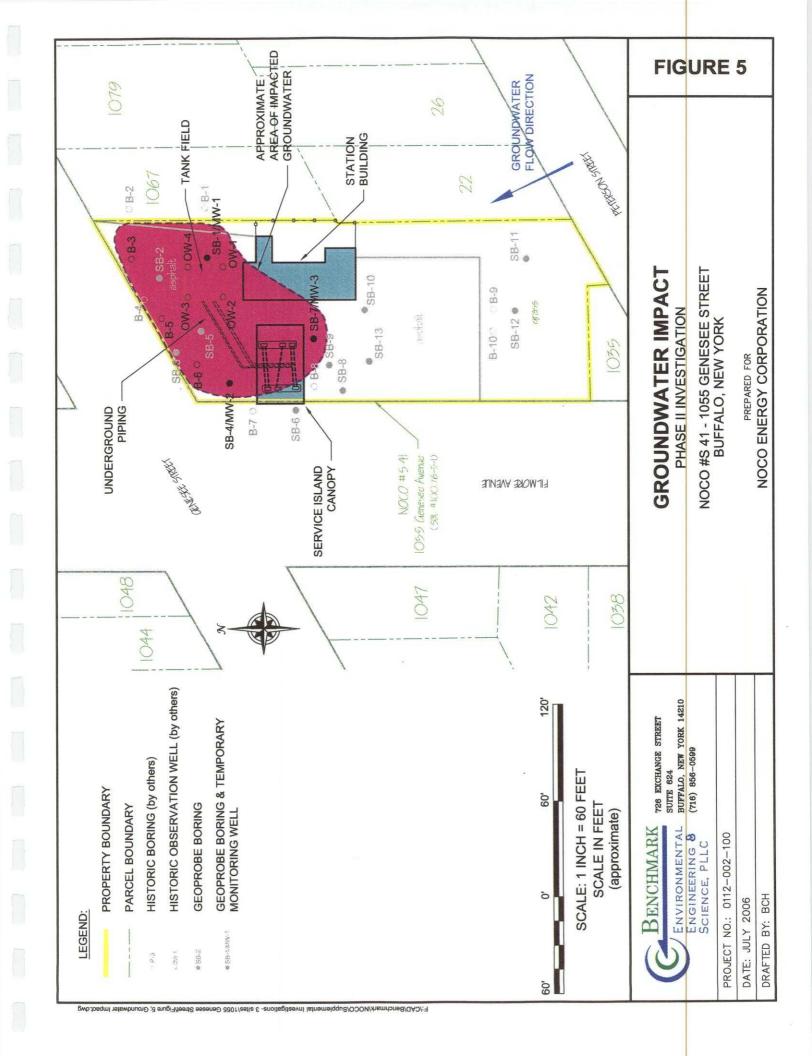
PHASE II INVESTIGATION

NOCO #S 41 - 1055 GENESEE STREET BUFFALO, NEW YORK

PREPARED FOR

NOCO ENERGY CORPORATION





### APPENDIX A

FIELD BOREHOLE LOGS







OJE	CT:	1	чосо	station	\$41D			Log of Boring No.:	SB - 1/ MW - 1	
RING	G LC	OCA1	ION:		As	phalt p	parking lot	ELEVATION AND DATUM:		
RILLII	NG (	CON	TRACT	OR:		Trec E	nvironmental	DATE STARTED: 6/28/06	DATE FINISHED: 6/2	8/06
ILLII	NG I	METI	HOD:		Direct F	Push ("	'Geoprobe")	TOTAL DEPTH: 11.0 FT	SCREEN INTERVAL	10.5 - 5.5
RILLII	ING I	EQU	IPMEN'	T:	Geopro	be dire	ect push truck mounted	DEPTH TO WATER: 3.96 ft	CASING: NA	
MPL	LING	ME	THOD:		Direct I	Push -	dedicated core samples	LOGGED BY: TAB		
MMI	IER V	WEIG	SHT:		NA		DROP: NA	RESPONSIBLE PROFESSIONAL:		REG. NO.
Τ	_	S	AMPLE	ES		(i	SAMPLE	EDESCRIPTION		
O'N CO	Core No.	Sample	Well	SPT N-Value	Recovery	Scan (ppm)	USCS Classification: Color, Moisture	Condition, % of Soil Type, Texture, Plasticity, thering/Fracturing, Odor, Other	REMARKS	
(	Ö	0)	Cor	SP	œ	PID	SURFACE ELEVATION (FMSL):			
T					2.8	F M	Medium brown to blackish grey, den			
			PVC riser			0	poorly sorted, asphalt and bedding r		-	
1	.		Cri				fine sand, with poorly sorted gravels	and concrete with med brown		
	1						moist clay layer at 1.6 - 2.0.			
			. 40			0			-	
			Sch.		3.0					
			1		3.0		Medium brown, moist, clay, stiff, no			
		Y				38	fines, 20% fine sand w/ slight organ	ic odor and a grey sand lense	-	
	2	'	slot				at 0.0 - 0.2 ft.			
	2		0.010"						-	
			0.0			164				
			screen,		3.0			L 1' 5 CON	4 4	
			scr				medium grey, wet, loose, 40% non		-	
	3		PVC			0	sands and gravels (poorly sorted) w	// slight organic odor.	1-1	
			40		2.5			dilata au 000/ madium plactic	1-1	
	4		Sch.			0	Medium brown, moist, clay, stiff, no			
			+		_		fines, 20% fine sand w/ slight organ	lic odor and a grey sand lense	4 4	
							at 0.0 - 0.2 ft.			
						_	Boring complete at 11.0'			
1										
1			_	_	_	-				
1		_								
1									4-1	
1		-		_		-				
1		_			132	_				
1			-		-	-				
1		_	-	-	-	-		the state of the s		
1				_						
_			ENT:	100	117-201-201-201-201-201-201-201-201-201-201		n 6/29/06	nallana	borehole depth =	
					nite gro					
Vo	olum	ne of	cement	/bento	nite gro	ut inst		gallons	borehole diameter =	1
На	as b	ridgir	ng of gr	out oc	curred?		yes no		borehole radius =	
	lf	f yes,	explair	n resol	ution:					
M	letho	od of	installat	tion:						
		la. n	112-00	2 100			Benc	hmark Environmental Engineering & Sc	ience, PLLC	





PROJ	IECT:	NOC	O stati	on S41	D			Log of Boring N	lo ·	SB - 2	
BORII	NG LO	ATION			Asphalt p	parking lot		ELEVATION AND DATUM:	10	30-2	
RILL	ING CO	ONTRAC	TOR:		Trec F	nvironmental		DATE STARTER COOMS			
	3110.110.110.	an a	A74 POS-11103-00					DATE STARTED: 6/28/06		DATE FINISHE	D 6/28/06
RILL	ING M	THOD:		Direc	t Push ("	Geoprobe")		TOTAL DEPTH: 10.0 FT		SCREEN INTE	RVAL: NA
RILL	ING EC	UIPME	NT:	Geop	robe dire	ect push truck mou	nted	DEPTH TO		CASING:	NA
AMP	LING N	ETHOD	r:	Direc	t Push -d	ledicated core sam	ples	WATER: ~3.0 ft  LOGGED BY: TAB			
I A B A B	MER WE	ICUT.		NA			200				
PAIVIIV	ILK WE	IGHT.		NA			DROP: NA	RESPONSIBLE PROFESSIO	NAL:	3	REG. N
-	_	SAMPL	_		(E		SAMPLE D	DESCRIPTION			
	. e	ction	/alue	ery	Scan (ppm)	USCS		ondition, % of Soil Type, Texture, Plasticit			
	Core No.	Well	SPT N-Value	Recovery	Sca	0000	Fabric, Bedding, Weather	ering/Fracturing, Odor, Other	у.	REMAI	RKS
L'		රි	SP	œ	Pio	SURFACE I	ELEVATION (FMSL):				
				2.4	1			nd bedding, poorly sorted, 70%			
-					127.0		astic, 30% gravel.				
-	1							wet, soil/fill, rapid dilatancy,			
-							sturbed, 80% fine sand,	20% low plasticity fines,			
-	_	-			91.2	w/ slight organ	nic odor.				
	-	-		3.8		at t					
-					724 0			lay, 80% medium plastic fines,			
ł	Y	-			734.0	20 % fine san	d, w/ poorly sorted grave	IS.			
2	2	H									1
1	-				60.7						
1											
r				3.6		same as abov	e.				
3	3				8.9						
									-11		
						Boring comple	te at 10.0'				
_	_		_	_							
_	-		-	-							
-100	-		-	-							
	-		$\dashv$	-							
-	+		-	-							
	-		-						-11		
ND	ONME	IT· \	Nell ah	andor	ed on 6/2	20/06					
					required		$V = \pi r^2 \times 7.48 =$	nallan.	0		1
25-70		7.00			installed:		v - /// x /.40 =	gallons	L	borehole depth =	ft.
100	VE- 35	of grout	A CONTRACTOR	-		ye	s no	gallons	be	borehole radius =	ft.
-		kplain re								buteriole radius =	ft.
or Same		tallation	-								-
oct N	No: 011	2-002-10	00				Benchmar	k Environmental Engineering &	Science 1	PLIC	+





PR	ROJEC	T:	NOC	) statio	on S41[	D				Log of Boring No		SB - 3	
ВС	RING	LOCA	ATION:		-	Asphalt	parking lot			ELEVATION AND DATUM:		3B - 3	
DF	RILLIN	G COI	NTRAC	TOR:		Trec E	nvironmental			DATE STARTED: 6/28/06		DATE FINISHED:	6/28/06
DF	RILLIN	G ME	THOD:		Direct	t Push (	'Geoprobe")			TOTAL DEPTH: 10.0 FT		SCREEN INTERV	AL: NA
DR	RILLIN	3 EQI	JIPMEN	NT:	Geop	robe dire	ect push truck mounted	d		DEPTH TO WATER: ~3.5 ft		CASING:	NA
SA	MPLI	IG ME	THOD	i	Direct	Push -	dedicated core sample	es	-	LOGGED BY: TAB			
HA	MME	WEI	GHT:		NA		DF	ROP: NA		RESPONSIBLE PROFESSIONA	L:		REG. NO.
Depth (fbgs)	Core No.	Sample	Well Construction	SPT N-Value	Recovery	PID Scan (ppm)	USCS Clas		E DESCRIPT Condition, % thering/Fract	% of Soil Type, Texture, Plasticity.		REMARKS	3
			Ö	S	_	۵		EVATION (FMSL):			THE REAL PROPERTY.		
0_					2.5					hen disturbed, coarse			1 1
						5.0		and sands, poorly so					
2 -	1						40% coarse grai	ined gravels and san	nds, w/ so	me medium brown clay			
							and orange brick	Κ.					
		У				6.0					11		
4 -					4.0								
4					4.0		medium brown,	moist, stiff, massive,	, clay, 809	% medium plastic fines,	1 -		
						1.3	DOCUMENT AND ADDRESS OF THE PARTY OF THE PAR	w/ poorly sorted grav		production (			
								pro) contou gran	.0.0.				
6 -	2								- Source				3
-						1.9							
-		-		-	-	1.5							-
8 -					3.0								
-							same as above.						
	3					1.6							
10 -			-										
11 -													
1											-		
-							Boring complete	at 10.0'					
1													
1													
+											11		
1	77												
+			-	$\dashv$									
1											++		
ARA	NDON	IMEN	T: V	Vell at	andone	ed on 6/	29/06						
	H I See See See		1800	1426201103821	order to the second	required		V = #2 7 10			4		
_				_	-	-		$V = \pi r^2 \times 7.48 =$		gallons		orehole depth =	ft.
						installed				gallons	bore	hole diameter =	ft.
п	10133	- TH.	of grout		-		yes	no			bo	rehole radius =	ft.
			plain re		n:								
			allation										
Proje	ect No	0112	-002-10	00				Benchm	ark Envir	ronmental Engineering & Sci	ence, PL	LC	





PROJEC				on S41			Log of Boring No.:	SB - 4/ MW -	2
BORING	LOC	ATION:			Asphalt p	parking lot	ELEVATION AND DATUM:		
RILLING	G CO	NTRAC	TOR:		Trec E	nvironmental	DATE STARTED: 6/28/06	DATE FINISHED	6/28/06
RILLING	G ME	THOD:		Direc	t Push ("	Geoprobe")	TOTAL DEPTH: 12.0 FT	SCREEN INTERV	AL: 11.0 - 1
RILLING	G EQI	UIPMEI	NT:	Geop	robe dire	ect push truck mounted	DEPTH TO	CASING: sch 40 I	NC.
AMPLIN	IG ME	THOD		Direct	Dunb a	ladiantad assaults	WATER: 6.11 ft	CACING, SCI 401	VC
MINIFELIA	IG IVIE	THOD	•	Direc	Pusn -c	ledicated core samples	LOGGED BY: TAB		
IAMMER	WEI	GHT:		NA		DROP: NA	RESPONSIBLE PROFESSIONAL:		REG. NO
	Т	SAMPL 5		>	Scan (ppm)		DESCRIPTION		
Core No.	Sample	Well	SPT N-Value	Recovery	PID Scan	USCS Classification: Color, Moisture Co Fabric, Bedding, Weathe	ondition, % of Soil Type, Texture, Plasticity, ring/Fracturing, Odor, Other	REMARK	S
		O	S			SURFACE ELEVATION (FMSL):			
-				1.5		Medium brown to grayish black, moist,			
-	У				72.1	gravels, soil/fill and asphalt bedding ma	aterial, 60% fines non - plastic,		10
1						40% poorly sorted gravel.		1	
		slot			27.0				
		0, 8		1.0					
		0.010"				As above but wet.			
1 1		0, 0			0.0				
2		screen,							
1		CS			0.0				
1		PVC	-		0.0				
A-17 (Texas (A-17))		40		3.5		Modium brown stiff	N		
1 1		Sch.			0.0	Medium brown, stiff, massive, clay, 709 30% fine sand w/some black sand lens			
3		1.5			0.0	30 % line saild w/some black sand lens	es and poorly sorted gravels.	-	
					0.0			1	
		-				Boring complete at 12.0'			
-	-	-		-					
-									
	7			-				-	
ANDON	MEN	T: V	Vell at	andone	ed on 6/2	9/06			
/olume o	of cen	nent/be	ntonite	grout	required	$V = \pi r^2 \times 7.48 =$	gallons	borehole depth =	ft.
/olume o	of cen	nent/be	ntonite	grout	installed		gallons	borehole diameter =	ft.
las bridg	ging c	of grout	occuri	red?		yes no		borehole radius =	ft.
If yes	s, ex	plain re	solutio	n:					74.
Method o	of inst	allation			. 3				
ect No: (	0112	-002-10	0			Benchmar	k Environmental Engineering & Science	re. PLLC	





PROJ	ECT:	NC	CO sta	tion S41	D		Log of Poring No.	OD 5	
BORII	NG LO	CATIC	N:		Asphalt	parking lot	Log of Boring No.:	SB - 5	
					10000	A CONTROL OF TRACE			
DRILL	ING C	ONTR	ACTOR			Environmental	DATE STARTED: 6/28/06	DATE FINISHED:	6/28/06
DRILL	.ING N	<b>IETHO</b>	D:	Direc	t Push (	("Geoprobe")	TOTAL DEPTH: 12.0 FT	SCREEN INTERV	AL: 11.0 - 1.0
DRILL	ING E	QUIPN	IENT:	Geop	orobe dir	rect push truck mounted	DEPTH TO WATER: NA	CASING: NA	
SAMP	LING	METHO	DD:	Direc	t Push -	dedicated core samples	LOGGED BY: TAB		
HAMN	IER W	EIGHT		NA		DROP: NA	RESPONSIBLE PROFESSIONAL:		REG. NO.
$\top$	_	SAM	PLES		T =				
(sbai) indaa	Core No.	Sample	Construction SPT N-Value	Recovery	D Scan (ppm)	USCS Classification: Color, Moisture Co	ESCRIPTION  ndition, % of Soil Type, Texture, Plasticity, ing/Fracturing, Odor, Other	REMARK	S
			2 8	-	PB	SURFACE ELEVATION (FMSL):			
0				2.5		Dark brown to blackish grey, moist, der	nse, loose when disturbed,		
					0.0	asphalt and bedding, 80% fines non - p	plastic, 20% fine sand, w/ pieces		
	1					of cement and crushed limestone, sl or			
						Medium brown, moist stiff, dense, mas	sive, clay, 80% fines medium		2
_					0.0	plastic, 20% fine sand, w/ slight organic	odor.		
1.	-,-	-		3.9					
-			1		corus	Medium brown, moist stiff, dense, mas	sive, clay, 80% fines medium		
-	)	<b>/</b>	-		0.0	plastic, 20% fine sand, w/ slight organic	odor.		
- 2	2	-	-						
_			1		0004916-0				
_		_	-		0.0				
-		-	-	3.9					
1	. –	-	-			Medium brown, moist stiff, dense, mass			
- 3	<b>'</b>  -	+	-		0.0	plastic, 20% fine sand, w/ slight organic	odor.		
+	+	-	-						
+	+	+	-						
+	-	+-	+	$\vdash$					-
+	-	+	-						
+	-	-	-			Poring complete at 40 0			
+	-	+	-	$\vdash$		Boring complete at 10.0'			
+	+	+	-						
+	+	-	-	$\vdash$					
+	+	+	-		-				
+	+	+-	-						
+	+	+							
+	+	+					MD.		
1	1	-	-						У
T	+							-	
1									1
RAND	ONME	NT.	10/-11	hand	nd == 0:	20/06			
					ed on 6/				
2024/19					required		gallons	borehole depth =	ft.
		-			installed		gallons	borehole diameter =	ft.
700			ut occu			yes no		borehole radius =	ft.
v C-roy		explain istallatio	resoluti	UN.					
Shire one	MODEL STATE OF STATE		20/10						BV ELL SILL
Ject I	vo: U1'	12-002-	100			Benchmarl	Environmental Engineering & Scien	ice, PLLC	





PR	OJEC	CT:	NOC	O stati	on S41	D			Log of Boring N	٥.	CD C	
ВС	RING	LOC	ATION:			Asphalt	parking lot		ELEVATION AND DATUM:	0	SB - 6	
DD	III I IKI	0.00	NTDAG	TOD			21 - 1872					
DR	ILLIN	G CO	NTRAC	TOR:		Trec E	Environmental		DATE STARTED: 6/28/06		DATE FINISHED	6/28/06
DR	ILLIN	G ME	THOD:		Direc	t Push (	"Geoprobe")		TOTAL DEPTH: 12.0 FT		SCREEN INTER	VAL: 11.0 - 1.0
DR	ILLIN	G EQ	UIPMEI	NT:	Geop	robe dir	ect push truck m	ounted	<b>DEPTH TO</b>		CASING: NA	
SA	MPLI	NG ME	ETHOD		Direc	t Push -	dedicated core sa	amples	WATER: ~2.5 ft			
114								water-1990	LOGGED BY: TAB			
HA	MME	₹ WEI	GHT:		NA			DROP: NA	RESPONSIBLE PROFESSION	NAL:		REG. NO.
•		_	SAMPL	ES		Ê		SAMPLE DES	CRIPTION			
Depth (fbgs)	Core No.	Sample	Well	SPT N-Value	Recovery	Scan (ppm)	USCS		ition, % of Soil Type, Texture, Plasticity		REMAR	<b>KS</b>
	0		ပိ	SP.	00	PID	SURFACI	ELEVATION (FMSL):		-		
0					3.3			to blackish grey, moist, dens	e, loose when disturbed.			
		У				0.7			stic, 20% fine sand, w/ pieces			
2 -	1						of cement a	nd crushed limestone, sl orga	anic odor			
_								wn, moist stiff, dense, massi				
-						0.3	plastic, 20%	fine sand, w/ slight organic of	odor.			
1					3.9							
-						0.0		wn, moist stiff, dense, massiv				
-						0.6	plastic, 20%	fine sand, w/ slight organic of	odor.			
+	2											
-						0.2						
-		-				0.3						
+		-		-	3.2		Modium broa	are moist stiff dance	- 1 000/ 5			
-	3					0.2		wn, moist stiff, dense, massiv fine sand, w/ slight organic of		_		
-	•					0.2	piastic, 20 %	ine sand, w/ slight organic d	dor.	_		
) +										-1		
1										= 4		
T										-		
T	100111									-1		
I							Boring comp	lete at 10.0'				
1												
1										-1-1		
1												
1												
1												
+												
+			_	-					Legenger, Carrier and Carrier			
+			-	-								
+			-									
T												
BAI	NDON	IMEN	T: V	Vell at	andone	ed on 6/	29/06					
Vo	lume	of cer	nent/be	ntonite	grout	required	l:	$V = \pi r^2 \times 7.48 =$	gallons		borehole depth =	ft.
Vo	lume	of cer	nent/be	ntonite	grout	installed	:		gallons		rehole diameter =	ft.
Ha	s brid	ging o	of grout	occur	red?			res no			borehole radius =	ft.
			plain re		n:				1 17			
		200	allation:									11 1 1 1 1 1
oje	ct No:	0112	-002-10	00				Benchmark I	Environmental Engineering & S	cience, P	LLC	





PI	ROJEC	CT:	NOC	O stati	on S41	D		Log of Boring No.:	CD Z/MANA/	•
Bo	DRING	LOC	ATION			Asphalt	parking lot	ELEVATION AND DATUM:	SB - 7/MW -	3
D	IAI I IIC	G CO	NTRAC	TOD:		T F				
	VILLIIN	G CO	NIKAC	JIOK.		Trec E	nvironmental	DATE STARTED: 6/28/06	DATE FINISHED:	6/28/06
Df	RILLIN	G ME	THOD:		Direc	t Push (	Geoprobe")	TOTAL DEPTH: 12.0 FT	SCREEN INTERV	AL: 11.0 - 1.0
DF	RILLIN	G EQ	UIPME	NT:	Geop	orobe dire	ect push truck mounted	DEPTH TO WATER: 4.51 ft	CASING: sch 40 F	VC
SA	MPLI	NG ME	THOD	1	Direc	t Push -	dedicated core samples	LOGGED BY: TAB		
HA	MME	R WEI	GHT:		NA		DROP: NA	RESPONSIBLE PROFESSIONAL:		
_			SAMPL	EC		_		THE THE ESSIONAL.		REG. NO.
Depth (fbgs)	Core No.	Sample	Well	1	Recovery	PID Scan (ppm)	SAMPLE DE USCS Classification: Color, Moisture Con Fabric, Bedding, Weatherin	dition, % of Soil Type. Texture Plasticity	REMARK:	8
		_	0	S		_	SURFACE ELEVATION (FMSL):			
0					2.6	-	Dark brown to blackish grey, moist, den	se, loose when disturbed,		
			10.00			7.9	asphalt and bedding, 80% fines non - pl			
2 -	1						of cement and crushed limestone, sl org			
-			Total T				Medium brown, moist stiff, dense, mass			
-		-	slot		_	0.7	plastic, 20% fine sand, w/ slight organic	odor.		
4 -	-	-	10"		3.9		Disable and the second			
1		\ ,	0.0			70.0	Black to medium brown, moist to wet, m			
-		У	screen, 0.010"			78.2	medium plastic, 40 % fine sand, w/ som			
6 -	2		cre			Hard to the	gravels some woody material strong org			
		-	PVC s			22.0	Medium brown, moist stiff, dense, massiplastic, 20% fine sand, w/ strong organic			
-			9			22.0	plastic, 20 % line saild, w/ strong organic	; odor.		
8 -			Sch. 40		3.8		Medium brown, moist stiff, dense, massi	ive clay 90% fines median		
1			Sch			91.3	plastic, 20% fine sand, w/ strong organic	codor		
40	3		-		C 1	3331530	, and any original	, ddoi.		
10 –										
11 -						65.3				
1							Boring complete at 11.0'	=		
1										
1										
1										
4			_							
4		_								
+		4	_							
4		$\dashv$	_		_					
+	_	-		-	_				h	
1										
ABA	NDON	MEN	T: \	Vell ab	andone	ed on 6/2	29/06			
V	olume	of cen	nent/be	ntonite	grout	required	$V = \pi r^2 \times 7.48 =$	gallons	horehole death -	
V	olume	of cen	nent/be	ntonite	grout	installed		gallons	borehole depth =	ft.
Ha	as brid	ging o	f grout	occurr	ed?		yes no	Sanorio	borehole dameter =	ft.
	If ye	es, exp	olain re	solutio	n:				Continue radius -	ft.
M	ethod (	of insta	allation							
Proje	ct No:	0112	-002-10	00			Benchmark	Environmental Engineering & Science	PLLC	



PF	ROJE	CT:	NOC	O stati	on S41	D		Log of Boring No.:	SB - 8	
ВС	ORING	LOC	ATION:		,	Asphalt	parking lot	ELEVATION AND DATUM:	30-0	
DE	OH I IN	0.00	NTRAC	TOD						
Dr	KILLIN	iG CO	NIRAC	TOR:		Trec E	Environmental	DATE STARTED: 6/28/06	DATE FINISHED:	6/28/06
DF	RILLIN	G ME	THOD:		Direct	Push (	"Geoprobe")	TOTAL DEPTH: 8.0 FT	SCREEN INTERV	AL: NA
DR	RILLIN	G EQI	UIPME	NT:	Geop	robe dir	ect push truck mounted	<b>DEPTH TO</b>	CASING: NA	
SA	MPLI	NG ME	ETHOD	4	Direct	Push -	dedicated core samples	WATER: NA		
							outside de la samples	LOGGED BY: TAB		
НА	MME	R WEI			NA		DROP: NA	RESPONSIBLE PROFESSIONAL:		REG. NO.
s)	_	Т	SAMPL		_	(m)	SAMPLE DE	SCRIPTION		
Depth (fbgs)	Core No.	Sample	Well	SPT N-Value	Recovery	PID Scan (ppm)	USCS Classification: Color, Moisture Con- Fabric, Bedding, Weatherin	dition, % of Soil Type. Texture Plasticity	REMARK	3
			S	SP	Œ	III	SURFACE ELEVATION (FMSL):		-	
0					3.3		Dark brown to blackish grey, moist, dens	se, loose when disturbed,		
_		У				0.3	asphalt and bedding, 80% fines non - pla			
2 -	1						of cement and crushed limestone.			
							Medium brown, moist stiff, dense, mass	ve, clay, 80% fines medium		
						0.0	plastic, 20% fine sand.			
4 -		-			3.9					
4							Medium brown, moist stiff, dense, massi	ve, clay, 80% fines medium		
-						0.0	plastic, 20% fine sand.			
6 -	2									
-		$\vdash$								
-						0.0				
В							Poring complete at 0.01			
+	_						Boring complete at 8.0'			
+			$\dashv$	-						
+	-									
+										
1										
+			1							
+										
1										
T								-		
T										
T										
I								-		
1										
1										
1										
$\perp$										
		MENT	200		andone					
Vo	lume (	of cerr	nent/be	ntonite	grout r	equired	$V = \pi r^2 \times 7.48 =$	gallons	borehole depth =	ft,
Vo	lume (	of cerr	ent/bei	ntonite	grout in	nstalled		gallons	borehole diameter =	ft.
Ha	s brid	ging o	f grout	occurr	ed?		yes no		borehole radius =	ft.
		_	olain res	olutio	n:				194000 menored 200 0170 months (	-4.
	- 200		allation:							
roje	ct No:	0112-	002-10	0			Benchmark	Environmental Engineering & Science	PLLC	





DRILLING METHOD: Direct Push ("Geoprobe")  TOTAL DEPTH: 8.0 FT  SCREE  DRILLING EQUIPMENT: Geoprobe direct push truck mounted  DEPTH TO WATER: NA  SAMPLING METHOD: Direct Push -dedicated core samples  LOGGED BY: TAB	FINISHED: 6/28/06 N INTERVAL: NA S: NA
DRILLING CONTRACTOR: Trec Environmental DATE STARTED: 6/28/06 DATE F  DRILLING METHOD: Direct Push ("Geoprobe") TOTAL DEPTH: 8.0 FT SCREE  DRILLING EQUIPMENT: Geoprobe direct push truck mounted DEPTH TO WATER: NA  SAMPLING METHOD: Direct Push -dedicated core samples LOGGED BY: TAB	N INTERVAL: NA
DRILLING METHOD: Direct Push ("Geoprobe")  DRILLING EQUIPMENT: Geoprobe direct push truck mounted  DEPTH TO WATER: NA  SAMPLING METHOD: Direct Push -dedicated core samples  LOGGED BY: TAB	N INTERVAL: NA
DRILLING EQUIPMENT: Geoprobe direct push truck mounted  DEPTH TO WATER: NA  SAMPLING METHOD: Direct Push -dedicated core samples  LOGGED BY: TAB	
SAMPLING METHOD: Direct Push -dedicated core samples LOGGED BY: TAB	5: NA
SAMPLING METHOD: Direct Push -dedicated core samples LOGGED BY: TAB	
LIMB MED MELONE	
HAMMER WEIGHT: NA DROP: NA RESPONSIBLE PROFESSIONAL:	REG. NO.
SAMPLES	
S S S S S S S S S S S S S S S S S S S	REMARKS
SURFACE ELEVATION (FMSL):	
Dark brown to blackish grey, moist, dense, loose when disturbed,	
0.0 asphalt and bedding, 80% fines non - plastic, 20% fine sand, w/ pieces	
2 - 1 of cement and crushed limestone.	
y 0.5 Orange Brick.	
4 - 3.6 Madium have a sixt stiff to	
Medium brown, moist stiff, dense, massive, clay, 80% fines medium  148.0 plastic, 20% fine sand w/ strong organic odor.	
6 - 2	
0.0	
8 Boring complete at 8.0'	
ARANDONMENT: Well-chandered at 2 (2002)	
ABANDONMENT: Well abandoned on 6/29/06  Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 = 0$	
Volume of cement/hentonite grout installed:	110
Has bridging of grout occurred?	
If yes, explain resolution:	s = ft.
Method of installation:	
Project No: 0112-002-100  Benchmark Environmental Engineering & Science, PLLC	





PR	OJEC	CT:	NOC	O stati	on S41[	)			Log of Paris a Na		<b>.</b>	-
ВС	RING	LOC	ATION:		<i>A</i>	Asphalt	parking lot		Log of Boring No.		SB - 10	
						X			LEEVATION AND DATOM:		THE PARTY	
DR	ILLIN	G CO	NTRAC	TOR:		Trec E	nvironmental		DATE STARTED: 6/28/06		DATE FINISHED:	6/28/06
DR	ILLIN	G ME	THOD:		Direct	Push (	Geoprobe")	Trans.	TOTAL DEPTH: 8.0 FT		SCREEN INTERV	'AL: NA
DR	ILLIN	G EQ	JIPMEI	NT:	Geopr	obe din	ect push truck mounted		DEPTH TO		CASING: NA	
SA	MPLIN	NG ME	THOD	:	Direct	Push -	ledicated core samples		WATER: NA LOGGED BY: TAB			
НА	MMEF	R WEI	GHT:		NA		DROP:	NA	DECENORIES E CONTRACTOR			
							, bitor.	NA .	RESPONSIBLE PROFESSIONAL:			REG. NO.
(st	_		SAMPL	_	_	(md		SAMPLE DESC	RIPTION			
Depth (fbgs)	Core No.	Sample	Well	SPT N-Value	Recovery	D Scan (ppm)	USCS Classifica	tion: Color, Moisture Conditionabric, Bedding, Weathering/F	on, % of Soil Type, Texture, Plasticity, Fracturing, Odor, Other		REMARK	6
			ŏ	S	u.	PID	SURFACE ELEVATI				nii Yali w	
0					2.0		Dark brown to blacki	sh grey, moist, dense	loose when disturbed,			
-		_				0.0	asphalt and bedding	, 80% fines non - plas	tic, 20% fine sand, w/ pieces			
2 -	1	-					of cement and crush	ed limestone and lots	of orange brick.			
7		у				0.0				44		
		'										
4					3.8		Medium brown, mois	t stiff, dense, massive	, clay, 80% fines medium	-		
						0.0	plastic, 20% fine san		y Tario mile mediam	11		
6	2									1-1		
-												
-		-				0.0						
В							Poring complete at 9	01				
+							Boring complete at 8	.0				
+										-		
1										1-1		
1										1		
1										1		
1												
+												
+				_								
+					-							
+	-		-		-							
+	-				-							
Ť			1							-		
T										-		
I												
1												
$\perp$								- 18 L -			السارواة	
ABA	NDON	MEN	T: \	Well at	pandone	ed on 6/2	29/06					
Vo	olume	of cer		-	e grout r			$t = \pi r^2 \times 7.48 =$	gallons	ho	rehole dooth -	
Vo	olume	of cer	nent/be	ntonite	e grout i	nstalled			gallons		rehole depth = ole diameter =	ft.
Ha	as brid	lging (	of grout	occur	red?		yes	no		107	ehole radius =	ft.
9000			plain re		n:						Common rever (Compagn)	
	200		allation		14.1							
<sup>o</sup> roje	ct No:	0112	-002-10	00				Benchmark Er	vironmental Engineering & Scien	nce, PLI	.C	



### FIELD BOREHOLE LOG

BORNES LOCATION    Soal and grass	PR	OJEC	T:	NOC	) statio	on S410	)				Log of Boring	No.	CD 44	
DRIELING METHOD   Direct Push ("Geogrape")	ВО	RING	LOCA	ATION:		5	Sod and	grass				NO.:	SB - 11	
DRIELING METHOD   Direct Push ("Geogrape")	DD	II I INI	0.00	UTDAC	TOD									
DRILLING EQUIPMENT: Geographe direct push truck mounted	CEANIN				TOR:						DATE STARTED: 6/28/06		DATE FINISHED:	6/28/06
MATER NA	DR	ILLING	G ME	THOD:		Direct	Push (	'Geoprobe")			TOTAL DEPTH: 8.0 FT		SCREEN INTERV	/AL: NA
SAMPLE   SAMPLE   SAMPLE   SAMPLE   SAMPLE   SAMPLE   SAMPLE DESCRIPTION	DR	ILLING	G EQI	JIPMEI	NT:	Geopr	obe dir	ect push truck mounted					CASING: NA	
SAMPLES   SAMPLES   SAMPLE DESCRIPTION   USCS Classification: Color. Mistake Condition. N. of Soil Type. Technic, Plasticity. Fathric, Bladding, Weathering/Fracturing, Other, Other Plasticity. Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering, Other, Other, Other, Other, Other, Plasticity, Fathric, Bladding, Weathering, Other, Other, Fathric, Bladding, Weathering, Other, Fathric, Bladding, We	SAI	MPLIN	NG ME	THOD		Direct	Push -	dedicated core samples						
SAMPLES   SAMPLES   SAMPLE DESCRIPTION   USCS Classification: Color. Mistake Condition. N. of Soil Type. Technic, Plasticity. Fathric, Bladding, Weathering/Fracturing, Other, Other Plasticity. Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering/Fracturing, Other, Other, Plasticity, Fathric, Bladding, Weathering, Other, Other, Other, Other, Other, Plasticity, Fathric, Bladding, Weathering, Other, Other, Fathric, Bladding, Weathering, Other, Fathric, Bladding, We	НΔΙ	MME	WEI	GHT:		NA	1	L pp	DD 114					
SAMPLE DESCRIPTION  USCS Classification Coto Mature Condition. V of Soil Type. Texture, Plasticity, Falco, Bedding, Weathering/recturing, Coto, Other  SURFACE ELEVATION (FMSL):  SURFACE ELEVATION (FMSL):  SURFACE ELEVATION (FMSL):  Well abandoned on 6/2006  Well abandoned on 6/2006  Well abandoned on 6/2006  SURFACE ELEVATION (FMSL):  SURFACE ELEVATION (FMSL):  Medium brown, moist, Stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Boring complete at 8.0°  Boring complete at 8.0°  SURFACE ELEVATION (FMSL):  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Boring complete at 8.0°  Boring complete at 8.0°  SURFACE ELEVATION (FMSL):  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Boring complete at 8.0°  Boring complete at 8.0°  SURFACE ELEVATION (FMSL):  Well abandoned on 6/2006  Volume of cemer/behorinde grout required:  Vel. abandoned on 6/2006  Volume of cemer/behorinde grout required:  Velume of cemer/behorinde grout required:  Velume of cemer/behorinde grout required:  Volume of cemer/behorinde grout required:  Velume of cemer/behorinde grout required:  Ve		T T				NA		DRC	DP: NA		RESPONSIBLE PROFESSI	ONAL:		REG. NO.
1	Depth (fbgs)	Core No. Sample Well Construction PT N-Value Recovery ID Scan (ppm				USCS Classi	fication: Color, Moisture	re Condition, 9	% of Soil Type, Texture, Plastic	iity,	REMARK	s		
ABANDONMENT: Well abandoned on 6/29/06  Volume of cemerbbentonite grout required: V = 717² x 7.48 = gallons borehole depth = n.  Notice of cemerbbentonite grout required: V = 717² x 7.48 = gallons borehole depth = n.  Has bridging of grout occurred? yes no borehole radius = n.  Method of installation:			_	O	S		₫							
Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fines medium plastic, 20% fine sand.  Medium brown, moist, stiff, dense, massive, clay, 80% fines medium plastic, 20% fines medium pla	0_					3.3				soil, 30% le	ow plasticity fines,			
A	-						0.0							
Y	2 -	1								massive, c	lay, 80% fines medium			
Medium brown, moist stiff, dense, massive, clay, 80% fines medium	-				11/		arre due	plastic, 20% fine s	sand.					
Medium brown, moist stiff, dense, massive, clay, 80% fines medium	-		У				0.0							
ABANDONMENT: Well abandoned on 6/29/06  Volume of cement/bentonite grout required: V = 717² X 7.48 = gallons borehole diameter = ft. Has birkiging of grout occurred? yes no borehole radius = ft.  Help of irrigate and installation:	4		-			3.7								
ABANDONMENT: Well abandoned on 6/29/06  Volume of cement/bentonite grout required: V = 712 × 7.48 = gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:	-		-							massive, cl	ay, 80% fines medium			
ABANDONMENT: Well abandoned on 6/29/06  Volume of cement/bentonite grout required: V = 7112 x 7.48 = gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? Jes no borehole radius = ft.  If yes, explain resolution:	-		-	_			0.0	plastic, 20% fine s	and.					
Boring complete at 8.0'	6 -	2												
Boring complete at 8.0'	-					_	0.0		A 15					
Boring complete at 8.0'	-						0.0							
ABANDONMENT: Well abandoned on 6/29/06  Volume of cement/bentonite grout required: V = πr² x 7.48 = gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:	8							Poring complete a	4 9 O'					
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+							Borning complete a	1 0.0					
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+	-												
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	+													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	1													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	7													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	1											-11		
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	T											-		
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	Ť													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	T													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	T													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	T													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	T													
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:														
Volume of cement/bentonite grout required: $V = \pi r^2 \times 7.48 =$ gallons borehole depth = ft.  Volume of cement/bentonite grout installed: gallons borehole diameter = ft.  Has bridging of grout occurred? yes no borehole radius = ft.  If yes, explain resolution:  Method of installation:	ABA	NDON	MEN	T: \	Well at	pandone	ed on 6/	29/06						
Volume of cement/bentonite grout installed:  Has bridging of grout occurred?  Let yes no borehole diameter = ft.  By sexplain resolution:  Method of installation:	-	CAULT PRODU	A CHARLES						V = 71r <sup>2</sup> × 7 48 -		collons			
Has bridging of grout occurred?									+ - 01 × 7.40 =					
If yes, explain resolution:  Method of installation:	7.00	-			_				7 no	-	gallons			
Method of installation:													porenole radius =	ft.
Project No. 0112-002-100	Me													
Project No: 0112-002-100 Benchmark Environmental Engineering & Science, PLLC	Proje	ct No:	0112	-002-10	00				Benchr	mark Envir	Onmental Engineering	Science D	LIC	





PR	OJEC	T:	NOC	O stati	on S41[	)			Log of Boring No.:	0	D 40	
BC	RING	LOC	ATION:		F	Asphalt	parking lot		ELEVATION AND DATUM:	3	B - 12	
DR	ILLING	G CO	NTRAC	TOR		Trec F	nvironmental			الرجوالة		
	A00410000010		Charles Andrews	/ TOK.		1160 E	TVIOTITIETILAI		DATE STARTED: 6/28/06		DATE FINISHED:	6/28/06
DR	ILLING	G ME	THOD:		Direct	Push (	Geoprobe")		TOTAL DEPTH: 8.0 FT		SCREEN INTERV	AL: NA
DR	ILLING	G EQI	JIPMEI	NT:	Geopi	obe din	ect push truck mounted		DEPTH TO WATER: NA		CASING: NA	
SA	MPLIN	IG ME	THOD	:	Direct	Push -	dedicated core samples		LOGGED BY: TAB			
шл	MMER	MEI	CHT		NA		1 2222					
11/5	IVIIVILI				IVA		DROP:	NA	RESPONSIBLE PROFESSIONAL:			REG. NO.
s)	_	Т :	SAMPL		_	(mc		SAMPLE DESC	RIPTION			
Depth (fbgs)	o S	ole	Well	SPT N-Value	hery	Scan (ppm)	USCS Classification: (	Color Moisture Condit	on, % of Soil Type, Texture, Plasticity,			
Septi	Core No.	Sample	We	Z L	Recovery	Sca	Fabric,	Bedding, Weathering/	Fracturing, Odor, Other		REMARK	S
_	0	7.57	ပိ	SP	α.	PID	SURFACE ELEVATION (	FMSL):		-		
0					3.2		Dark brown, moist, loose	e, soft, top soil, 30	% low plasticity fines,			
						0.0	70% fine sand w/ rootlets			11		
2 -	1						Medium brown, moist, st	iff, dense, massiv	e, clay, 80% fines medium	1 1		
_							plastic, 20% fine sand w/			11		
		У				0.0				11		
4 -					4.0					11		
-									e, clay, 80% fines medium			
-						0.0	plastic, 20% fine sand w/	some sand lense	es softer towards the top.			
6 -	2									17		
-												
-		$\vdash$		_		0.0						
8							Doring annual to at 0.01					
+							Boring complete at 8.0'					
+			-									
+										-		
+										4		
+	-		-									
1										-		
1										-		
1						_				-		
1										-		
T										-		
T										-		
T										-		
T								Total State of the		-		
										-		
										-		
$\perp$												
ABA	NDON	MEN.	T: V	Vell ab	andone	d on 6/2	29/06					Def .
Vo	lume	of cen	nent/be	ntonite	grout r	equired	: V = π	r <sup>2</sup> x 7.48 =	gallons	her	pholo donth -	
					grout i	-10111-0			gallons		ehole depth = le diameter =	ft.
Ha	s brid	ging c	f grout	occurr	ed?		yes no		g		hole radius =	ft.
	If ye	es, ex	plain re	solutio	n:					5016		ft.
Me	ethod o	of inst	allation:									
Proje	ct No:	0112	-002-10	00				Benchmark E	nvironmental Engineering & Scien	ce. PLL	C	



PR	OJEC	CT:	NOC	O stati	on S41I	D				Log of Boring No.:	e.	3 - 13	
ВО	RING	LOC	ATION:		1	Asphalt	parking lot			ELEVATION AND DATUM:	31	3 - 13	
DR	ILLIN	G CO	NTRAC	TOR		Troc	nvironmental						
				/ OIX.		I I E C L	invirorimental			DATE STARTED: 6/28/06		DATE FINISHED	6/28/06
		en-more-	THOD:		0.00	07	"Geoprobe")			TOTAL DEPTH: 8.0 FT		SCREEN INTER	/AL: NA
DR	ILLIN	G EQI	JIPMEI	NT:	Geop	robe dir	ect push truck m	ounted		DEPTH TO		CASING: NA	
SAI	MPLIN	NG ME	THOD	:	Direct	Push -	dedicated core sa	amples		WATER: ~ 1.5 ft.  LOGGED BY: TAB			
LIA		211/51	~					200		LOGGED BY, TAB			
HAI	MIME	R WEI		FC.	NA			DROP: NA		RESPONSIBLE PROFESSIONAL:			REG. NO.
gs)	-	Т	SAMPL			(md		SA	MPLE DESCRIP	PTION			
Depth (fbgs)	Core No.	Sample	Well	SPT N-Value	Recovery	Scan (ppm)	USCS	Classification: Color, Moi	isture Condition,	% of Soil Type, Texture, Plasticity, cturing, Odor, Other		REMARK	s
ا دَ	ŏ	S	Co	SPT	Re	PD	SUBFACE		Treathering/Trac	otaling, odar, other			
0		1			3.2			ELEVATION (FMSL):	ad boddine				
-					0.2	0.0		ey, moist, asphalt, ar			-		
$\top$						0.0	non - plastic	, 20 % fine sand.	wet, sandier	towards bottom, 80% fines	-		
? -	1	nestro.						The state of the s	o massivo s	lay, 80% fines medium			
1		у				0.0	plastic, 20%		e, massive, c	lay, 80% fines medium	-		
							p	mio daria.			-		
					4.0		Medium bro	wn, moist stiff, dense	e massive c	lay, 80% fines medium	-		
						0.0	plastic, 20%			ay, 00% lines medium	-		
	2										-		
	_										-		
						0.0					-		
1							L Y L						
1							Boring comp	lete at 8.0'			-		
+													
+			_								1		
+	_		-										
+	-	-											
+	-	-	$\dashv$								1		
+		-	-	-									
+	-	-	-	-	-								
+	-	-	-	-									
+	-	-	-	-	-								
+	$\dashv$	+	+	-									
+	$\dashv$	-	$\dashv$	-	-								
+	$\dashv$	$\dashv$	+	$\dashv$	-						1		
+	$\neg$	+	-	-									
+		+	-	1	+						-		
+		1		+	-						-		
1				1							-		
BAN	IDON	MEN	r	1-0 -:			20.00						
-		MEN				d on 6/2 equired	(2) (1) (2)	37 2		180			
					-	nstalled		$V = \pi r^2 \times 7.48$	=	gallons	boreh	ole depth =	ft.
YEVE .	66 6900	19.0	f grout		_	istaile()		noc		gallons	borehole	diameter =	ft.
		-	olain res				)	res 🔲 no			boreh	ole radius =	ft.
Me			allation:								105		
			002-10		_			D	ohana 1 5 1		-		
	otati (1961)	1.1.1	10	of .	-			Ben	comark Envi	ronmental Engineering & Science	ce, PLLC		

### APPENDIX B

WATER QUALITY FIELD COLLECTION LOGS





### **PURGE & SAMPLE COLLECTION LOG**

Project Name: Genesse and Fillmore	WELL LOCATION: TPMW - 1
Project Number:	Sample Matrix: groundwater
Client: NOCO	Weather: partly cloudy, mid 70's, SW wind 5 - 10 mph
	Volume Calculation

			Volume C	alculation
WELL DATA:	DATE: 6/28/2006	TIME: 1705	Well	Volume
Casing Diameter (inches):	1 inch	Casing Material: PVC	Diameter	gal/ft
Screened interval (fbTOR)		Screen Material: PVC	1"	0.041
Static Water Level (fbTOR	3.96	Bottom Depth (fbTOR): 490.91	2"	0.163
Elevation Top of Well Rise	r (fmsl): 501.41	Ground Surface Elevation (fmsgrade	3"	0.367
Elevation Top of Screen (fi		Stick-up (feet): flush	4"	0.653
Standing volume in gallons	3.96	3 - 10.39 x .041 = 0.26 gal	5"	1.020
[(bottom depth - static water I		n in table per well diameter]:	6"	1.469

SAMPLING DATA: DATE: 6/28/2006	START TIME: 1705 END TIME:	17	25
Method: Bailer	Was well sampled to dryness?	yes	no
Initial Water Level (fbTOR): 3.96	Was well sampled below top of sand pack?	No sar	d was used
Final Water Level (fbTOR): 3.96	Field Personnel: TAB/ PWW		

PHYSICAL	& CHEMICAL DATA:	WATER QUALITY MEASUREMENTS						
Appearance:	black cloudy	рН	TEMP.	SC	TURB.	DO	ORP	
Color:	cloudy	(units)	(°C)	(uS)	(NTU)	(ppm)	(mV)	
Odor:	slight organic odor + slight sheen	7.63	21.1	2033	>1000	1.62	-95	
Sediment Pres	sent? yes							

REMARKS:			
	PREPARED BY	Thomas A. Beherendt	



### **PURGE & SAMPLE COLLECTION LOG**

Project Name: Genesse and Fillmore	WELL LOCATION:	<b>TPMW - 2</b>
------------------------------------	----------------	-----------------

Project Number: Sample Matrix: groundwater

Client: NOCO Weather: partly cloudy, mid 70's, SW wind 5 - 10 mph

		Volume C	aculation
<b>WELL DATA:</b> DATE: 6/28/2006	6 TIME: 1645	Well	Volume
Casing Diameter (inches): 1 inch	Casing Material: PVC	Diameter	gal/ft
Screened interval (fbTOR):	Screen Material: PVC	1"	0.041
Static Water Level (fbTOR) 6.11	Bottom Depth (fbTOR): 490.7	2"	0.163
Elevation Top of Well Riser (fmsl): 500.70	Ground Surface Elevation (fms grade	3"	0.367
Elevation Top of Screen (fmsl) 499.70	Stick-up (feet): flush	4"	0.653
Standing volume in gallons: 6.1	1 - 10.91 x .041 = 0.19 gal	5"	1.020
[(bottom depth - static water level) x vol calculation	on in table per well diameter]:	6"	1.469

SAMPLING DATA: DATE: 6/28/2006	START TIME: 1645 END TIME:	17	00
Method: Bailer	Was well sampled to dryness?	yes	no
Initial Water Level (fbTOR): 6.11	Was well sampled below top of sand pack?	No san	d was used
Final Water Level (fbTOR): 6.11	Field Personnel: TAB/ PWW		

PHYSICAL & CHEMICAL DATA:	WATER QUALITY MEASUREMEN					ENTS
Appearance: black cloudy	рН	TEMP.	sc	TURB.	DO	ORP
Color: cloudy	(units)	(°C)	(uS)	(NTU)	(ppm)	(mV)
Odor: No odor	7.46	20.3	7041	>1000	2	-118
Sediment Present? yes						

DE	MARKS:	
KEI	VIAKNO.	

PREPARED BY: Thomas A. Beherendt



### **PURGE & SAMPLE COLLECTION LOG**

Project Name: Genesse and Fillmore WELL LOCATION: TPMW - 3

Project Number: Sample Matrix: groundwater

Client: NOCO Weather: partly cloudy, mid 70's, SW wind 5 - 10 mph

			Volume C	alculation
WELL DATA:	DATE: 6/28/2006	TIME: 1540	Well	Volume
Casing Diameter (inches):	1 inch	Casing Material: PVC	Diameter	gal/ft
Screened interval (fbTOR):		Screen Material: PVC	1"	0.041
Static Water Level (fbTOR)	4.51	Bottom Depth (fbTOR): 490.7	2"	0.163
Elevation Top of Well Riser	(fmsl): 501.14	Ground Surface Elevation (fmsgrade	3"	0.367
Elevation Top of Screen (fi	msl) 499.70	Stick-up (feet): flush	4"	0.653
Standing volume in gallons	: 4.51	- 10.69 x .041 = 0.25 gal	5"	1.020
[(bottom depth - static water le	evel) x vol calculation	n in table per well diameter]:	6"	1.469

SAMPLING DATA: DATE: 6/28/2006	START TIME: 1540 END TIME: 16	30
Method: Bailer	Was well sampled to dryness? yes	no
Initial Water Level (fbTOR): 4.51	Was well sampled below top of sand pack? No san	d was used.
Final Water Level (fbTOR): 4.51	Field Personnel: TAB/ PWW	

PHYSICAL & CHEMICAL DATA:		WATER QUALITY MEASUREME				NTS	
Appearance:	black cloudy	pН	TEMP.	SC	TURB.	DO	ORP
Color:	cloudy	(units)	(°C)	(mS)	(NTU)	(ppm)	(mV)
Odor:	Organic odor + slight sheen	6.60	25.8	12.10	>1000		-93
Sediment Pres	sent? yes						

**REMARKS:** 

PREPARED BY: Thomas A. Beherendt

### APPENDIX C

LABORATORY ANALYTICAL DATA SUMMARY PACKAGE





**STL Buffalo** 10 Hazelwood Drive, Suite 106 Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991 www.stl-inc.com

### ANALYTICAL REPORT

Job#: A06-7485, A06-7562, A06-7581

STL Project#: NY4A9217

SDG#: 7485

Site Name: Benchmark

Task: Benchmark - 3WNY sites

Ms. Jeanne Asquith Turnkey Environmental 726 Exchange St. Ste 624 Buffalo, NY 14210

STL Buffalo

Brian J. Fischer Project Manager

07/13/2006

### STL Buffalo Current Certifications

### As of 4/10//2006

STATE	Program	Cert # / Lab ID
AFCEE	AFCEE	
Arkansas	SDWA, CWA, RCRA, SOIL	03-054-D/88-0686
California	NELAP CWA, RCRA	01169CA
Connecticut	SDWA, CWA, RCRA, SOIL	PH-0568
Florida	NELAP CWA, RCRA	E87672
Georgia	SDWA	956
Illinois	NELAP SDWA, CWA, RCRA	200003
lowa	SW/CS	374
Kansas	NELAP SDWA, CWA, RCRA	E-10187
Kentucky	SDWA	90029
Kentucky UST	UST	30
Louisiana	NELAP CWA, RCRA	2031
Maine	SDWA, CWA	NY044
Maryland	SDWA	294
Massachusetts	SDWA, CWA	M-NY044
Michigan	SDWA	9937
Minnesota	SDWA,CWA, RCRA	036-999-337
New Hampshire	NELAP SDWA, CWA	233701
New Jersey	SDWA, CWA, RCRA, CLP	NY455
New York	NELAP, AIR, SDWA, CWA, RCRA,ASP	10026
Oklahoma	CWA, RCRA	9421
Pennsylvania	Env. Lab Reg.	68-281
South Carolina	RCRA	91013
Tennessee	SDWA	02970
USACE	USACE	
USDA	FOREIGN SOIL PERMIT	S-41579
USDOE	Department of Energy	DOECAP-STB
Virginia	SDWA	278
Washington	CWA,RCRA	C1677
West Virginia	CWA,RCRA	252
Wisconsin	CWA	998310390

### SAMPLE SUMMARY

			SAMPI	ED	RECEIVE	ED .
LAB SAMPLE ID	CLIENT SAMPLE ID_	MATRIX	DATE	$\underline{\text{TIME}}$	DATE	TIME
A6748501	MW-1	WATER			06/29/2006	
A6748502	MW-2	WATER			06/29/2006	
A6748503	MW-3	WATER			06/29/2006	
A6756201	MW-3	WATER			06/30/2006	
A6748504	OW-1	WATER			06/29/2006	
A6748505	OW-2	WATER			06/29/2006	
A6748506	OW-3	WATER			06/29/2006	
A6758101	SB-1(4.0-6.0)	SOIL	06/28/2006	08:40	06/30/2006	18:20
A6758102	SB-3(2.0-4.0)	SOIL	06/28/2006	10:30	06/30/2006	18:20
A6758103	SB-7(4.0-6.0)	SOIL	06/28/2006	12:41	06/30/2006	18:20

### METHODS SUMMARY

Job#: <u>A06-7485, A06-7562, A06-7581</u>

STL Project#: <u>NY4A9217</u> SDG#: <u>7485</u>

Site Name: Benchmark

	ANZ	LYTICAL
PARAMETER	N	ÆTHOD
Benchmark - Method 8260 by Selective Ion	OTHER	S.I.M.
METHOD 8260 - EDB and EDC	SW8463	8260
BENCH - AQ - 8021 - STARS	SW8463	8021
METHOD 8021 - VOLATILE ORGANICS (STARS)	SW8463	8021
METHOD 8270 - TEIRA-EIHYL LEAD	SW8463	8270
METHOD 8270 - Tetra-ethyl lead	SW8463	8270
METHOD 310.13 - PETROLEUM PRODUCTS	NYSDOH	31013
Iron - Soluble	SW8463	6010
Iron - Total	SW8463	6010
Manganese - Soluble	SW8463	6010
Manganese - Total	SW8463	6010
Biochemical Oxygen Demand	MCAWW	405.1
Chemical Oxygen Demand	MCAWW	410.4
Nitrate	MCAWW	353.2
Sulfate	MCAWW	300.0

MCAWW	"Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/4-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993)
NYSDOH	"Compendium of Methods", New York State Department of Health, Wadsworth Center for Laboratories and Research.
OTHER	Non-Standard Protocol and Method Defined by State, Client QAPP or Developed by Laboratory
SW8463	"Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, 9/86; Update I, 7/92; Update IIA, 8/93; Update II, 9/94; Update IIB, 1/95; Update III, 12/96.

### NON-CONFORMANCE SUMMARY

Job#: A06-7485, A06-7562, A06-7581

STL Project#: NY4A9217

SDG#: 7485

Site Name: Benchmark

### General Comments

The enclosed data may or may not have been reported utilizing data qualifiers (Q) as defined on the Data Comment Page.

Soil, sediment and sludge sample results are reported on "dry weight" basis unless otherwise noted in this data package.

According to 40CFR Part 136.3, pH, Chlorine Residual, Dissolved Oxygen, Sulfite, and Temperature analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH-Field), they were not analyzed immediately, but as soon as possible after laboratory receipt.

Sample dilutions were performed as indicated on the attached Dilution Log. The rationale for dilution is specified by the 3-digit code and definition.

### Sample Receipt Comments

### A06-7485

Sample Cooler(s) were received at the following temperature(s);  $8.0\,^{\circ}\text{C}$  Samples were received at a temperature of  $8.0\,^{\circ}\text{C}$ . These samples were analyzed as per instructions from the client. Based on EPA data validation guidelines, there is no impact on data usability.

A06-7562

Sample Cooler(s) were received at the following temperature(s); 5.4 °C All samples were received in good condition.

A06-7581

Sample Cooler(s) were received at the following temperature(s);  $4.0\,^{\circ}\text{C}$  All samples were received in good condition.

### GC/MS Volatile Data

The surrogate recovery for p-Bromofluorobenzene was above the laboratory quality control limits for sample 03 (SB-1(4.0-6.0)). However, because the results were considered biased high and all target analytes in the sample were non-detect, no further corrective action was necessary.

Due to instrument malfunction, samples OW-1, OW-2, and OW-3 were analyzed with headspace by method 8260S.I.M. Also due to the instrument malfunction, no data was aquired for the Trip Blank due to the fact that only one volume was supplied. 8260 S.I.M. analysis for these three compounds should be considered estimate only.

### GC Volatile Data

For method 8021, the recovery of surrogate aaa-Trifluorotoluene was outside quality control limits for samples MW-1, OW-1 and OW-2. However, the chromatogram shows clear evidence of matrix interference and all other quality control samples met acceptance criteria. Therefore, no further corrective action was performed and the data is accepted.

Volume provided for aqueous analysis did not allow for method 8021 confirmation analysis.

### GC/MS Semivolatile Data

All surrogate concentrations were diluted below the linear range of the calibration curve in sample MW-3.

### GC Extractable Data

No deviations from protocol were encountered during the analytical procedures.

### Metals Data

No deviations from protocol were encountered during the analytical procedures.

### Wet Chemistry Data

No deviations from protocol were encountered during the analytical procedures.

The results presented in this report relate only to the analytical testing and condition of the sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Date: 07/13/2006 Time: 16:28:25 Dilution Log w/Code Information For Project NY4A9217, Task 23, SDG 7485 7/99°age:

Rept: AN1266R

Client Sample ID	Lab Sample ID	Parameter (Inorganic)/Method (Organic)	Dilution	Code
MW-3	A6748503	8021	200.00	800
MW-3	A6748503	8270	5.00	800
MW-3	A6748503	Biochemical Oxygen Demand	25.00	800
MW-3	A6748503	Chemical Oxygen Demand	2.00	800
MW-3	A6748503	Sulfate	10.00	002
0W-3	A6748506	8021	100.00	800
MW-3	A6756201	31013	200.00	800
SB-7(4.0-6.0)	A6758103	8021	20.00	800
SB-7(4.0-6.0)	A6758103MS	8021	20.00	800
SB-7(4.0-6.0)	A6758103SD	8021	20.00	800

### Dilution Code Definition:

002 - sample matrix effects

003 - excessive foaming

004 - high levels of non-target compounds

005 - sample matrix resulted in method non-compliance for an Internal Standard

006 - sample matrix resulted in method non-compliance for Surrogate

007 - nature of the TCLP matrix

008 - high concentration of target analyte(s)

009 - sample turbidity

010 - sample color

011 - insufficient volume for lower dilution

012 - sample viscosity

013 - other



### DATA QUALIFIER PAGE

These definitions are provided in the event the data in this report requires the use of one or more of the qualifiers. Not all qualifiers defined below are necessarily used in the accompanying data package.

### ORGANIC DATA QUALIFIERS

ND or U Indicates compound was analyzed for, but not detected.

- J Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the data indicates the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero.
- C This flag applies to pesticide results where the identification has been confirmed by GC/MS.
- B This flag is used when the analyte is found in the associated blank, as well as in the sample.
- E This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis.
- D This flag identifies all compounds identified in an analysis at the secondary dilution factor.
- N Indicates presumptive evidence of a compound. This flag is used only for tentatively identified compounds, where the identification is based on the Mass Spectral library search. It is applied to all TIC results.
- P This flag is used for CLP methodology only. For Pesticide/Aroclor target analytes, when a difference for detected concentrations between the two GC columns is greater than 25%, the lower of the two values is reported on the data page and flagged with a "P".
- A This flag indicates that a TIC is a suspected aldol-condensation product.
- 1 Indicates coelution.
- Indicates analysis is not within the quality control limits.

### INORGANIC DATA QUALIFIERS

ND or U. Indicates element was analyzed for, but not detected. Report with the detection limit value.

- J or B Indicates a value greater than or equal to the instrument detection limit, but less than the quantitation limit.
- N Indicates spike sample recovery is not within the quality control limits.
- S Indicates value determined by the Method of Standard Addition.
- E. Indicates a value estimated or not reported due to the presence of interferences.
- H Indicates analytical holding time exceedance. The value obtained should be considered an estimate.
- \* Indicates the spike or duplicate analysis is not within the quality control limits.
- + Indicates the correlation coefficient for the Method of Standard Addition is less than 0.995.

	Reporting Limit		
	Sample Value	NA NA	A N N N N N N N N N N N N N N N N N N N
A6758103	Reporting Limit	\$ \$	50-200 50-200 50-200 71-125 68-124 61-136
SB-7(4.0-6.0) A06-7581 06/28/2006	Sample Value	ND ND	115 95 68 102 58 *
A6758102	Reporting Limit	9	50-200 50-200 50-200 71-125 68-124 61-136
SB-3(2.0-4.0) A06-7581 06/28/2006	Sample Value	N ON	100 103 90 108 100
A6758101	Reporting Limit	9	50-200 50-200 50-200 71-125 68-124
SB-1(4.0-6.0) A06-7581 O6/28/2006	Sample	N ON	97 98 92 113 108
	Units	ug/kg ug/kg	*****
client ID Job No Lab ID Sample Date	Analyte	1,2-Dibromoethane 1,2-Dichloroethane	chlorobenzene-D5 1,4-Difluorobenzene 1,4-Dichlorobenzene-D4 Toluene-D8 p-Bromofluorobenzene 1,2-Dichlorocthane-D4

Benchmark Benchmark – 3WNY sites METHOD 8260 – EDB AND EDC

Client ID Job No Lab ID Sample Date		MW-1 A06-7485 06/28/2006	A6748501	MW-2 A06-7485 06/28/2006	A6748502	MW-3 A06-7485 Q6/28/2006	A6748503	0W-1 A06-7485 06/28/2006	A6748504
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,2-Dichtoroethane 1,2-Dibromoethane	06/L 06/L	ND ND	0.020	ND ND	0.020	Q N	0.020	DN ON	0.020
Client ID Job No Sample Date		0W-2 A06-7485 06/28/2006	A6748505	0W-3 A06-7485 06/28/2006	A6748506				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
1,2-Dichloroethane 1,2-Dibromoethane	UG/L UG/L	N D ON	0.020	QN	0.020	A A		A N N	

Benchmark Benchmark - 3wnY sites BENCHMARK - METHOD 8260 BY SELECTIVE ION

Detected
* Not
Ñ
Applicable
= Not
Ϋ́

Client ID Job No. cample Date		SB-1(4.0-6.0) A06-7581 06/28/2006	A6758101	SB-3(2.0-4.0) A06-7581 06/28/2006	A6758102	SB-7(4.0-6.0) A06-7581 G6/28/2006	A6758103		
Analyte	Units	Sample	Reporting Limit	Sample	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene Total Xylenes Isopropylbenzene n-Propylbenzene p-Cymene 1,2,4-Trimethylbenzene n-Butylbenzene sec-Butylbenzene tert-Butylbenzene tert-Butylbenzene Hertyl-t-Butyl Ether (MTBE)	0.6/kg	74 110 110 35 35 160 100 ND ND ND ND ND ND ND ND ND ND ND ND ND	£ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £ £	150 330 710 800 1600 1 ND 1 2400 75 87 ND 440 260 ND ND ND ND ND ND ND	21 21 21 22 24 25 21 21 21 21 21 21 21 21 21	ND 3400 ND 7200 22000 1 ND 1 29000 1500 1500 3100 260 3100 9300 1900 1300 ND	260 260 260 260 260 260 260 260 260 260	X X X X X X X X X X X X X X X X X X X	
p-Bromofluorobenzene a.a.a-Trifluorotoluene	* *	91	66-138 66-141	91	66-138 66-141	90	66–138 66–141	A N	

Benchmark Benchmark - 3wnY sites METHOD 8021 - VOLATILE ORGANICS (STARS)

Client ID Job No Sample Date		MW-1 A06-7485 06/28/2006	A6748501	MW-2 AO6-7485 O6/28/2006	A6748502	MW-3 A06-7485 06/28/2006	A6748503	0W-1 A06-7485 O6/28/2006	A6748504
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	1/9n	3.3	07.50	6.7	0.20	1500	07	140	07.50
Ethylbenzene	1/90	8.6	0.20	18	07.0	2400	07	140	0.20
Toluene	\	2.5	0.20	0.84	0.20	210	07	1.4	0.20
o-Xylene	UG/L	1,4	0.20	34	0.20	7800	07	210	07.50
m-Xylene	ne/r	41 1	0,40	97 1	0.40	14000 1	- 08	220 1	0,40
p-Xylene	ne/r	ND 1	0,40	ND	07.0	ND 1	80	ND 1	0,40
Total Xylenes	UG/L	54	09.0	130	09.0	19000	120	430	09.0
Isopropylbenzene	NG/L	7.1	0.20	2.8	07.0	170	707	70	07.50
n-Propylbenzene	UG/L	19	0.20	8.6	0.20	780	07	92	0.20
p-Cymene	UG/L	1.3	0,40	0.59	0.40	Q.	80	10	0.40
1,2,4-Trimethylbenzene	UG/L	77	0.20	81	0.20	5500	07	220	0.20
1,3,5-Trimethylbenzene	UG/L	14	07.0	52	0.20	1500	07	120	0.20
n-Butylbenzene	UG/L	4.7	0,40	1.6	0.40	860	80	Ş	0.40
sec-Butylbenzene	1/9n	9.1	0.40	2.2	07.0	100	80	30	0.40
Methyl-t-Butyl Ether (MTBE)	ne/r	59	0.40	240	07.0	310	80	390	07.0
D-Bromofluorobenzene	*	26	65-123	93	65-123	91	65-123	98	65-123
a,a,a-Trifluorotoluene	*	156 *	71-127	118	71-127	66	71-127	* 191	71-127

Benchmark Benchmark - 3wNY sites BENCH - AQ - 8021 - STARS

Date: 07/13/2006 Time: 16:28:35				Benchmark Benchmark - 3WNY sites BENCH - AQ - 8021 - STAF	mark 3WNY sites 8021 – STARS				Rept: AN0326
client ID Job No Sample Date		04-2 A06-7485 06/28/2006	A6748505	0W-3 A06-7485 06/28/2006	A6748506				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene	UG/L	160	0.20	7700	02	ΑN		AN	
Ethylbenzene	1/9n	140	0.20	2000	8	A N		NA	
Toluene	1/9n	29	0.20	1100	02	A N		ΔN	
o-xylene	UG/L	210	07.0	13000	22	ď		۸×	
□~Xy Lene	UG/L	220 1	07.0	16000 1	70	K N		NA	
p-xytene	N6/L	ND 1	0,.0	ND 1	07	K Z		ď×	
Total Xylenes	1/9n	430	09.0	30000	09	ď Z		ΑN	
Isopropylbenzene	UG/L	22	07.0	1000	50	A.		AN	
n-Propylbenzene	UG/L	51	07.0	1700	20	ď		۸×	
p-Cymene	UG/L	10	0,.0	500	0,7	ď Z		٩×	
1,2,4-Irimethylbenzene	UG/L	230	0.20	14000	50	ď Z		ΝA	
1,3,5-Trimethylbenzene	1/9n	140	0.20	8400	50	N.A.		۸A	
n-Butylbenzene	UG/L	ON.	0,40	Q.	0,7	ΑN		NA	
sec-Butylbenzene	UG/L	35	07.0	890	07	ΝA		NA	
Methyl-t-Butyl Ether (MTBE)	1/9n	740	07.0	28000	07	NA		NA	
n-Bromof Lucrobenzene	84	86	65-123	92	65-123	ď		AN	
p 0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	2 34	* 710	71-127	117	71-127	ď		ΝA	
מימים_וו וו ממן מנמנוב	•								

Γ	<u></u>	<b>T</b> -		
	Reporting			
	Sample	A N	C	€
	Reporting			_
	Sample Value	AA	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	
	Reporting Limit			_
	Sample Value	ΑN	A A A A A A A A A A A A A A A A A A A	
A6758101	Reporting Limit	1300	50-200 50-200 50-200 50-200 50-200 35-120 45-120	
SB-1(4.0-6.0) A06-7581 06/28/2006	Sample Value	ON	28 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	
	Units	UG/KG	* * * * * * * * * *	-
Client ID Job No Sample Date	Analyte	Tetraethyl-Lead	1,4-Dichlorobenzene-D4 Naphhalene-D8 Acenaphthene-D10 Phenanthrene-D10 Chrysene-D12 Perylene-D12 Nitrobenzene-D5 2-Fluorobiphenyl p-Terphenyl-d14	

Benchmark Benchmark - 3wNY sites METHOD 8270 - TETRA-ETHYL LEAD

h			_			_							
	Sample Value	NA	ΝA	ΑN	42	£ 2	ďZ	άZ		₹ Z	43	A N	NA
	Reporting Limit								_				
	Sample Value	AN	42	. d	5	42	ďZ	2	2	ď	42	Z.	NA
A6748503	Reporting Limit	100	20-200	0000	202-06	20~500	50-200	0000	20-200	20-200	46-120	021-77	23-143
MW-3 A06-7485 06/28/2006	Sample Value	1500	7.2	יייייייייייייייייייייייייייייייייייייי	70	73	080	) i	35	73	454 D	0 801	7 77
	Units	ne∕L		- e :	×.	**	. *	•	*	**	. >	٠,	< ×
Client ID Job No Sample Date	Analyte	Tetraethyl-Lead	IS/SURROGATE(S)	1,4-Dichlorobenzene-D4	Naphthalene-08	ocenant thene-010		Phenanthrene-DIO	chrysene-D12	perviene-012		Nitropenzene-U5	Z-Fluorobiphenyl  p-Terphenyl-d14

Benchmark Benchmark - 3wNY sites METHOD 8270 - TETRA-ETHYL LEAD

Date: 07/13/2006 Time: 16:28:39

Reporting Limit

Sample Value

Reporting Limit

ž

	Reporting Limit	
	Sample	A A A A A A A A A A A A A A A A A A A
	Reporting Limit	
	Sample	X X X X X X X X X X X X X X X X X X X
	Reporting	
	Sample Value	N N N N N N N N N N N N N N N N N N N
A6758101	Reporting Limit	13 13 13 13 13 13
SB-1(4.0-6.0) A06-7581 06/28/2006	Sample Value	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
	Units	MG/KG MG/KG MG/KG MG/KG MG/KG MG/KG
Client ID Job No Sample Date	Analyte	Kerosene Gasoline Motor Oil Fuel Oil #2 Fuel Oil #4

Benchmark Benchmark - 3wNY sites METHOD 310.13 - PETROLEUM PRODUCTS

Detected
■ Not
Q
Applicable
□ Not
ž

client ID		MW-3 A06-7562	A6756201						
a)		06/28/2006							
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Kerosene Gasoline Motor Oil Fuel Oil #2 Fuel Oil #4 Fuel Oil #6	MG/L MG/L MG/L MG/L MG/L MG/L MG/L	0 N O O O O O O O O O O O O O O O O O O	38 190 190 38 38 19	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	

Benchmark Benchmark - 3WNY sites METHOD 310.13 - PETROLEUM PRODUCTS

	Reporting	
	Sample	AN AN
	Reporting	
	Sample Value	NA
	Reporting	
	Sample Value	NA NA
A6748503	Reporting Limit	0.050
MW-3 A06-7485 06/28/2006	Sample Value	22.0 6.0
	Units	MG/L MG/L
client ID Job No Sample Date	Analyte	Iron - Soluble Manganese - Soluble

Benchmark Benchmark - 3wNY sites BENCHMARK+DISSOLVED FE, MN -sw8463/6010

Date: 07/13/2006

ND = Not Detected

NA ≂ Not Applicable

Detected
= Not
Ñ
licable
Appl
= Not
ΑN

Time: 16:28:46		BEN	Benchmark Benchmark - 3WNY sites BENCHMARK-TOTAL FE,MN -SW8463/6010	-k INY sites NN -SW8463/6010				מברוש אינים
client ID Job No Lab ID Sample Date	MW-3 A06-7485 06/28/2006	A6748503						
Analyte	Sample	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Iron - Total MG/L Manganese - Total MG/L	306	0.050	A N N N N N		NA NA		A A A	

	Reporting	
	Sample	4 4 4 4 2 2 2 2 2 2 2 2
	Reporting Limit	
	Sample Value	4 4 4 4 4 4 4 4
	Reporting Limit	
	Sample Value	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
A6748503	Reporting Limit	50.0 20.0 0.050 20.0
MW-3 AG6-7485 G6/28/2006	Sample Value	1110 270 ND 84.9
	Units	MG/L MG/L MG/L MG/L
Client ID Job No Lab ID Sample Date	Analyte	Biochemical Oxygen Demand Chemical Oxygen Demand Nitrate Sulfate

Benchmark Benchmark – 3wNY sites WET CHEMISTRY ANALYSIS

Batch Quality Control Data

Date: 07/13/2006 16:30:00 Batch No: A6B22549			m/sm	MS/MSD Batch QC Results							Rept: AN1392	M1392
Lab Sample ID: A6758103	A6758103MS	A6758103SD	103sp									
	4 : 4 :		Conce	Concentration			**	Recovery				
Analyte	Measure	Sample	Matríx Spike	Spike Duplicate	Spike MS	Spike Amount   MSD	SE SE	MSD	A V	% Q	QC LIMITS	IITS
METHOD 8021 - VOLATILE ORGANICS (STARS)									,			
Benzene	UG/KG	0	9967	2613	5168	21.60	ò	į	-			
n-Butylbenzene	UG/KG	1937	6324	6881	5168	5148	2 4	5 2	\$ 8	- (		78-120
sec-Butylbenzene	UG/KG	1341	6058	6546	5168	2168	9 5	2 5	~ `	7,		75-124
tert-Buty(benzene	UG/KG	0	5183	5240	5168	8915	7 6	5 5	2 5	⊋ •		78-122
Ethylbenzene	UG/KG	3427	6935	7661	5168	891.5	3 %		5 1	- ;		771-87
Isopropylbenzene	UG/KG	1483	5948	6316	5168	51.58	2 4	70 0	0 8	<u>.</u>		071-67
p-Cymene	UG/KG	592	5220	5347	5168	5168	3 6	. 8	2 6	<i>ب</i> د		20 121
Tollings	UG/KG	3138	2029	7507	5168	5168	6,6	. 2		2 5		13-126
1 ) ( +	ng/kg	0	5193	5162	5168	5168	100	50,	- 6	3 0		52-120
1,2,4=1rlmethylbenzene	UG/KG	30646	23906	30103	5168	5168	-130 *	* 22-	2 2	*		77-173
	UG/KG	6226	10307	12409	5168	5168	* 02	* 09	2.7	*		77-120
0-7% refle	UG/KG	7233	9546	10916	5168	5168	* 57	*	2 00	*		77-120
II-Aylene	UG/KG	22063	22817	27677	10336	5168	*	8	2 00	4 4 4 4		127
forat Aylenes	ug/kg	29296	32364	38594	15504	15504	- 2	*	₹ 5	*		001101
Methyl-t-Butyl Ether (MTBE)	UG/KG	0	5331	5259	5168	5168	103	102	103	3 -	30.0	66-120
										,		2

Lab Sample ID: A6743802	A6743802MS	A6743802SD	302SD						-			
			Conce	Concentration	:		% - Xe	% Recovery			STIMITE	118
Ana	Units of Measure	Sample	Matrix Spike	Spike Duplicate	Spike	Spike Amount MSD	MS	MSD	Avg	RPD	RPD	REC.
SOLUBLE METALS SOLUBLE ALUMINUM SOLUBLE ARSENIC SOLUBLE CADMIUM SOLUBLE CALCIUM SOLUBLE CALCIUM SOLUBLE CAPPER SOLUBLE IRON SOLUBLE IRON SOLUBLE ERAD SOLUBLE POTASSIUM SOLUBLE POTASSIUM SOLUBLE SELENIUM SOLUBLE SELENIUM SOLUBLE SOLUME SOLUBLE SOLUME SOLUBLE SILVER	7/90 7/90 7/90 7/90 7/90 7/90 7/90 7/90	30.60 13.90 106.5 0 129378 0.100 7543 0.500 35240 9901 1940 2.30 0 2.30 2.30	9961 208.6 300.5 193.4 133052 194.6 209.4 16996 190.8 43148 9648 12639 202.6 50.00 34427 183.2	10018 206.6 305.5 190.2 137292 191.7 205.5 17100 188.2 44179 9963 12747 195.2 52.30 35165	10000 200.0 200.0 200.0 10000 200.0 200.0 10000 200.0 10000 200.0 200.0 200.0 200.0 200.0	10000 200.0 200.0 200.0 10000 200.0 200.0 10000 200.0 10000 200.0 200.0 200.0	99 97 97 97 105 105 100 100 92 92 92 92 93	100 95 100 103 103 103 100 100 100 100 100 100	100 99 99 99 99 58 70 70 70 89 89 89 89 89 89 89 89 89 89 89 89 89	72	20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0	75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125

MS/MSD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6822177

			MITS	75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125 75-125	75-125 75-125 75-125 75-125 75-125 75-125
i		1	QC LIMITS	20.0 20.0 20.0 20.0 20.0 20.0 20.0 20.0	
		,	% & GP.	00 + 00 00 00 0 0 0 0 0 0 0 0 0 0 0 0 0	* * * * * * * * * * * * * * * * * * * *
		_	DV A	105 106 104 110 94 103 103 113 112 115 99 493	110 50 105 105 103 1103
		Recovery	MSD	108 106 103 100 94 101 1360 * 110 110 110 110 110 110 110 110 110 11	108 27 * 91 106 270 * 103
		MS %		106 106 107 107 107 103 113 113 112 100 3343 *	* 72 90 103 -67 105 1103
		Spike Amount	MSD	10.0 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 10.0 10.	0.200 0.0500 0.0500 10.0 0.200 0.200
		Snike	MS	10.0 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200 0.200	10.0 0.200 0.200 10.0 0.200 0.200
	Concentration		Spike Duplicate	11.14 0.211 0.209 0.239 0.239 0.225 184.4 0.226 0.226 0.226 0.200 0.219 12.01 12.01 12.01 15.01 15.01 15.01 15.01	31.34 0.186 0.0530 155.5 0.205 0.204
A6745601SD	92003	_	Matrix Spike	10.97 0.213 0.214 0.236 0.203 0.203 120.1 0.208 0.208 0.208 0.208 0.209 0.201 68.91 0.236	35.81 0.185 0.0517 175.7 0.210 0.207
			Sample	0.358 0 0.00300 0.0178 0.0362 0.0362 0.0362 0.00210 0.00210 0.00050 0.00050 0.134 0.134	28.59 0.00470 0 182.4 0.00120
A6745601MS		Units of	Measure	MG/L MG/L MG/L MG/L MG/L MG/L MG/L MG/L	MG/L MG/L MG/L MG/L MG/L MG/L MG/L
Lab Sample ID: A6745601		000	טומר) רב	TOTAL ALUMINUM TOTAL ANTIMONY TOTAL ANTIMONY TOTAL BARIUM TOTAL BERNIC TOTAL CADMIUM TOTAL CALCIUM TOTAL COPER TOTAL COPER TOTAL LEAD TOTAL LEAD TOTAL LEAD TOTAL LEAD TOTAL LEAD TOTAL MAGNESIUM TOTAL MAGNESIUM TOTAL MAGNESE	

MS/MSD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6B22055

MS/MSD Batch QC Results

	9	LIMITS		70 * 73-114
	OD Analyonad &	MS		* 02
		spine Amount		25.00
	ration	Matrix Spike		72.13
	Concentration	Sample		54.74
A6718519MS		Units of Measure		MG/L
Lab Sample ID: A6718519 A6		***************************************	Anaryte	CHLORIDE, FILTERED ANALYSIS SM4110C - CHLORIDE, SOLUBLE BY IC - 0. MG/L

A6718519MS

Date: 07/13/2006 16:30:00 Batch No: A6B22201

OC Limits	t Detected
outside QC	2 =
<u>.</u>	ated ND
Indicates Result	= Not Calculated
* Indi	NC = N

		Concen	Concentration			
Analyte	Units of Measure	Sample	Matrix Spike	Spike Amount	% Recovery MS	QC
FLUORIDE ANALYSIS METHOD 300.0 - FLUORIDE	MG/L	0.0200	2 5 5	67		
			;	02	5	611-77

A6723504MS

Lab Sample ID: A6723504

Date: 07/13/2006 16:30:00 Batch No: A6B22201

MS/MSD Batch QC Results

esults
ac R
Batch
MS/MSD

Date: 07/13/2006 16:30:00 Batch No: A6B22201

Rept: AN1392

Lab Sample 1D: A6737409 A	A6737409MS					
		Concen	Concentration		3 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Je
2 × 1 × 1 × 1 × 1 × 1	Units of Measure	Sample	Matrix Spike	Spike Amount	MS MS	LIMITS
CHLORIDE ANALYSIS METHOD 300.0 - CHLORIDE BY IC	MG/L	45.73	97.69	25.00	96	73-114

STL Buffalo

Results	
ih ac	
Bato	į
MS/MSD Batch Q	

Date: 07/13/2006 16:30:00 Batch No: A6B22201

A6739310MS

Lab Sample ID: A6739310

Rept: AN1392

					ļ	
	1	Concen	Concentration			
Analyte	Measure	Sample	Matrix Spike	Spike Amount	% Recovery MS	QC 1 TMITS
SULFATE ANALYSIS						,
METHOD 300.0 - SULFATE	HG/L	5.79	33.95	25.00	113	75-125
					_	

ts
Result
တ္ထ
Batch
MS/MSD

Date: 07/13/2006 16:30:00 Batch No: A6B22201

Rept: AN1392

	၁ဗ	LIMITS	73-114
	% Recovery	MS	80
	2 67: 67:	Amount	25.00
	ration	Matrix Spike	67.68
	Concentration	Sample	65.74
A6743003MS		Units of Measure	MG/L
Lab Sample ID: A6743003 A6		400 × 100 ×	CHLORIDE ANALYSIS METHOD 300.0 - CHLORIDE

		QC LIMITS	REC.	20.0 77-123
	-		GHN.	20.
			RPD	ъ
		\- -	5,4	96
	Recovery	2	DVA USII	6
	**		2	46
		Spike Amount		1.00
		Spike MS		1.00
	Concentration	Matrix Spike Spike Duplicate		0.938
207sp	Concen	Matrix Spike		0.969
A6743207SD		Sample		0
A6743207MS	llnite of	Measure		W-7/5₩
Lab Sample ID: A6743207 A.		Analyte	NITRATE ANALYSIS	- RL=0.05 MG/L TOTAL

MS/MSD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6B22003

its	ed
	Not Detected
is outside	N ON
Result is	Not Calculated
* Indicates	NC = Not Ca

Lab Sample ID: A6743803	A6743803MS					
		Concen	Concentration	() ()	% Becovery	၁၉
<u>.</u>	Units of Measure	Sample	Matrix Spike	Spire	MS LIMITS	LIMITS
Analyte						
NITRATE ANALYSIS METHOD 353.2 - NITRATE	MG/L-N	0	0.970	1.00	26	77-123

s
Results
ဗ္ဗ
Batch
MS/MSD
MS

Results
ဗ္ဗ
Batch
MSD
MS/

Date: 07/13/2006 16:30:00 Batch No: A6B22003

Lab Sample ID: A6745601	A6745601MS	A6745	A6745601SD									
	Units of		Conce	Concentration			× ~	% Recovery				
Analyte	Measure	Sample	Matrix Spike	Matrix Spike Spike Duplicate	Spike MS	Spike Amount   MSD	V.	M.	0,0	<b>№</b> 0	QC LIMITS	ITS
BIOCHEMICAL OXYGEN DEMAND ANALYSTS								13.	5,4	מארו	77	MEC.
METHOD 405.1 - BIOCHEMICAL OXYGEN DEMA MG/L	MG/L	0	194.0	200.5	198.0	198.0	å	5	5	•	- 6	
NITRATE ANALYSIS						) ) )		2	3	n	0.0	20.0
ALLIED - METHOD 353.2 - NITRATE - W MG/L-N	MG/L-N	0	0.394	0.669	1.00	1.00	39 *	39 * 67 *	53	53 53 * 20 0 77_122	0	22-122
								-	:	)		2

MS/MSD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6B22046

Date: 07/13/2006 16:30:00 Batch No: A6B22206

Rept: AN1392

Lab Sample 10: A6745605 A6	A6745605MS					
		Concen	Concentration	: 1	21.00	
	Units of	Sample	Matrix Spike	Spike Amount	W Necessary	LIMITS
CHEMICAL OXYGEN DEMAND ANALYSIS ALLIED - METHOD 410.1 CHEMICAL OXYGEN MG/L	MG/L	0	47.20	50.00	76	90-110

A6745605MS

-Rept: AN1392

Date: 07/13/2006 16:30:00 Batch No: A6B22206

A6749405MS

Lab Sample ID: A6749405

		George	operation			
	Units of			Spike	% Recovery	ē
Analyte	Measure	Sample	Matrix Spike	Amount	SW	LIMITS
CHEMICAL OXYGEN DEMAND ANALYSIS  AFCEE - METHOD 410.4 - CHEMICAL OXYGEN MG/L	J/9₩	0	76.60	50.00	153 *	81-117

outside QC Limits	ND = Not Detected
* Indicates Result is	NC = Not Calculated

Lab sallpre to the total and lab and lab						
		Concen	concentration			
4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Units of Measure	Sample	Matrix Spike	Spike Amount	% Recovery MS	LIMITS
אומרארכ						
BIOCHEMICAL OXYGEN DEMAND ANALYSIS AFCEE - METHOD 405.1 - BIOCHEMICAL OXY MG/L	HG/L	0	193.2	198.0	86	67-119

		·	LIMITS		67-119
			% Recovery ms		86
MS/MSD Batch QC Results			Spike Amount		198.0
MS/MSD		ration	Matrix Spike		193.2
		Concentration	Sample		0
	A6749409MS		Units of Measure		MG/L
Date: 07/13/2006 16:30:00 Batch No: A6B22046	Lab Sample ID: A6749409 A6			Allatyte	BIOCHEMICAL OXYGEN DEMAND ANALYSIS AFCEE - METHOD 405.1 - BIOCHEMICAL OXY MG/L

entration Spike Amoun 78.00 50		X Recovery QC t MS LIMITS	50.00 113 70-120
	ration	Spike Matrix Spike Amount	

Concentration
Analyte Units of Sample Matrix Spike X Recovery QC Matrix Spike Amount MS LIMIT
CHEMICAL OXYGEN DEMAND, FILTERED ANALYSI METHOD 410.4 - CHEMICAL OXYGEN DEMAND, MG/L 21.50 78.00 50.00 113 70-120

Date: 07/13/2006 16:30:00 Batch No: A6B2Z206

MS/MSD Batch QC Results

Rept: AN1392

Lab Sample ID: A6752405

A6752405MS

STL Buffalo

Date: 07/13/2006 16:30:00 Batch No: A6B22046

MS/MSD Batch QC Results

н

Analyte DEMAND ANALYSIS METHOD 405.1 - BIOCHEMICAL OXYGEN DEMAN MG/L  Concentration Spike % Recovery QC Measure Sample Matrix Spike Amount MS LIMITS  Sample Matrix Spike Amount MS LIMITS  2.59 163.7 198.0 81 22-178	Ean sample to. We seed	101000000					
Units of Measure Sample Matrix Spike Amount MS L  DEMA MG/L 2.59 163.7 198.0 81			Concent	tration			
Measure Sample Matrix Spine Amount 100 PMA MG/L 2.59 163.7 198.0 81		Units of	•		Spike		OC OC
DEMA MG/L 2.59 163.7 198.0 81	Analyte	Measure	Sample	Matrix Spike	Amount	MS.	LIMITS
	BIOCHEMICAL OXYGEN DEMAND ANALYSIS METHOD 405.1 - BIOCHEMICAL OXYGEN DEMA	MG/L	2.59	163.7	198.0	81	22-178

\* Indicates Result is outside QC Limits NC = Not Calculated ND = Not Detected

Lab Sample ID: A6756802	A6756802MS					
		Concen	Concentration	;		
	Units of	Sample	Matrix Spike	Spike Amount	% Recovery WC MS LIMITS	LIMITS
Anaryte						
FLUORIDE ANALYSIS METHOD 300.0 - FLUORIDE	7/9W	0	2.62	2,50	105	77-119

A6756802MS

Ms/MsD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6B22201

ļ

Lab Sample ID: A6757003	A6757003MS	;			
		uacuog	Concentration		
	Units of Measure	Sample	Matrix Spike	Spike Amount	*
CHEMICAL OXYGEN DEMAND ANALYSIS 410.4 CMEMICAL OXYGEN DEMAND, - 10 MG/	MG/L	0	43.80	50.00	<b></b>

Rept: AN1392

MS/MSD Batch QC Results

Date: 07/13/2006 16:30:00 Batch No: A6B22206

QC Recovery MS \* 88

90-110

Date: 07/13/2006 16:30:00 Batch No: A6B22201

MS/MSD Batch QC Results

Rept: AN1392

		LIMITS	73–114
	2	MS LIMIT	100
	1	Spike	25.00
	Concentration	Matrix Spike	29.72
	Concent	Sample	4.73
A6757005MS		Units of Measure	MG/L
Lab Sample ID: A6757005 A6		Analyte	CHLORIDE ANALYSIS METHOD 300.0 - CHLORIDE BY IC

MS/MSD Batch QC Results	A6757014MS	Concentration	Units of Spike % Recovery QC Measure Sample Matrix Spike Amount MS LIMITS	MG/L 21.45 45.47 25.00 96 73-114
	A6757014MS			
Date: 07/13/2006 16:30:00 Batch No: A6B22201	Lab Sample ID: A6757014		Analyte	CHLORIDE ANALYSIS METHOD 300.0 - CHLORIDE BY IC

Chronology and QC Summary Package

Not Detected
11
Q.
Applicable
= Not
≡ KN

client ID Job No Sample Date		vb1k47 A06-7581	A6B2234002						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting	Sample	Reporting	Sample	Reporting
1,2-Dibromoethane 1,2-Dichloroethane 1,2-Bichloroethane 1s/SURROGATE(S)	UG/KG US/KG	ND ND	יטיט	NA NA		NA AN		A N N	
Chlorobenzene—D5 1,4-Difluorobenzene 1,4-Dichlorobenzene-D4 Toluene-D8 p-Bromofluorobenzene 1,2-Dichloroethane-D4	* * * * * *	102 103 91 109 99 101	50-200 50-200 50-200 71-125 68-124	N N N N N N N N N N N N N N N N N N N		AN N N N N N N N N N N N N N N N N N N		A A A A A A A A A A A A A A A A A A A	

Benchmark Benchmark - 3wNY sites METHOD 8260 - EDB AND EDC

Œ
+
4
æ
$\vdash$
ST

							_		
Client ID Job No Lab ID Sample Date		VBLK74 A06-7485	A6B2228202	VBLK78 A06-7485	A682242702				
									Dai troppe
47	Units	Sample	Reporting Limit	Sample	Reporting	Sample Value	Reporting Limit	sample Value	Limit
and of the								S Z	
1,2-Dichloroethane	UG/L	ON C	0.020	<u>S</u> S	0.020	4 Z Z Z		ζ Z Ζ	
1,2-Dibromoethane	1 000				T				

Benchmark Benchmark – 3wNY sites BENCHMARK – METHOD 8260 BY SELECTIVE ION

Date: 07/13/2006 Time: 16:28:52

	Reporting		
	Sample	AN AN	X X X X X X X X X X X X X X X X X X X
	Reporting		
	Sample Value	4 X X	N N N N N N N N N N N N N N N N N N N
	Reporting Limit		
	Sample Value	NA NA	A A A A A A A A A A A A A A A A A A A
A6B2234001	Reporting Limit	זע זע	50-200 50-200 50-200 71-125 68-124 61-136
msb47 A06-7581	Sample Value	ND ND	101 103 90 110 101
	Units	∪6/K6 ∪6/K6	****
client ID Job No Lab ID Sample Date	Analyte	1,2-Dibromoethane 1,2-Dichloroethane	Chlorobenzene-D5 1,4-Difluorobenzene 1,4-Dichlorobenzene-D4 Toluene-D8 P-Bromofluorobenzene 1,2-Dichloroethane-D4

Benchmark Benchmark - 3WNY sites METHOD 8260 - EDB AND EDC

			Sample Reporting value	4.4	AN AN			
			Reporting Limit					
			Sample Value		A A			
	A6B2228201		Reporting Limit		0.020			
	MSB74 A06-7485		Sample Value		0.21			
	A6B2242701		Reporting		0.020			
	LFB78 A06-7485		Sample	אמומר	0.23			
			Units		UG/L			
	Client ID Job Not cample Date	משווים המוכ		Analyte	1,2-pichloroethane			

Benchmark Benchmark - 3WNY sites BENCHMARK - METHOD 8260 BY SELECTIVE ION

Date: 07/13/2006 Time: 16:28:52

Client ID Lab ID		LFB78 A06-7485	A6B2242701	MSB74 A06-7485	A6B2228201				
sample pare								_	4
4 ×   end	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample	Limit
32 (38)								NA	_
1,2-Dichloroethane	06/L UG/L UG/L	0.23	0.020	0.21	0.020	A A		A A	

Detected
Not
Iŧ
2
je.
icable
Appl
Not
11
ď

Job No Lab ID Sample Date		VBLK004S A06-7581	A6B2254903						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting	Sample Value	Reporting	Sample	Reporting
Benzene	ue/ke	QN	10	NA		0.12			,   
Ernytbenzene	UG/KG	ND	10	AN		C 6		₹Z	
lotuene	ne/kg	ND	10	Ϋ́		ζ <u>ς</u>		ΝΑ	
o-xylene	UG/KG	Ñ	10	N		<b>C S</b>		۸×	
m-Xylene	UG/KG	N.	10	A.		<b>4</b> × 2		ΑN	_
p-Xy ene	UG/KG	QN	10	ع 2		<b>X</b> 2	•	٩٧	
Total Xylenes	UG/KG	QN.	30	ĄV		4.7		ΝA	
Isopropylbenzene	UG/KG	QN	- 2	Z Z		۲ ;		NA	
n-Propylbenzene	UG/KG	ND	. ę	2		4		٧×	
p-Cymene	UG/KG	QN	-	( e		۲ 2		NA	
1,2,4-Trimethylbenzene	UG/KG	QN	2 2			ď	-	AN	
1,3,5-Trimethylbenzene	UG/KG	GN	2 6	( e		Z :		NA	
n-Butylbenzene	UG/KG	QN	2	C 2		۲ :		NA	
sec-Butylbenzene	UG/KG	NO.		C 2		٧ <u>٠</u>		NA	
tert-Butylbenzene	UG/KG	ON.	5 5	2 2		ΨZ.		NA	
Methyt-t-Butyl Ether (MTBE)	UG/KG	S	_ . 0	( d		٧ .		ΑN	
SURROGATE(S)=						AN.		AN AN	
p-Bromofluorobenzene  a.a.a-Trifluorotoluene	>< >	89	66-138	NA		NA		AN	
	-	,,	1.5100	ďΖ		ď			

Benchmark Benchmark - 3wny sites METHOD 8021 - VOLAIILE ORGANICS (STARS)

Date: 07/13/2006 Time: 16:28:59				Benchmark Benchmark – 3wNY sites BENCH – AQ – 8021 – STAR	ırk WNY sites 021 - STARS				Kept: ANOSCO
Client ID Job No Sample Date		Method Blank(VBLK_) A06-7485 A6748508	/BLK ) A6748508	VBLK139W A06-7485	A6B2250401				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Benzene Ethylbenzene Toluene o-Xylene m-Xylene p-Xylene Total Xylenes Isopropylbenzene n-Propylbenzene p-Cymene 1,2,4-Trimethylbenzene 1,3,5-Trimethylbenzene sec-Butylbenzene sec-Butylbenzene	7/90 7/90 7/90 7/90 7/90 7/90 7/90 7/90	0 N N N N N N N N N N N N N N N N N N N	0.20 0.20 0.20 0.20 0.40 0.40 0.20 0.20	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	0.20 0.20 0.20 0.20 0.40 0.20 0.20 0.20	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		X X X X X X X X X X X X X X X X X X X	
p-Bromofluorobenzene a,a,a-Trifluorotoluene	76 X6	86 86	65-123 71-127	89	65-123	N N N N N		4 X X	

Detected
Not
Ħ
Q.
e e
icabl
Appl
Not
IJ

client ID Job No Sample Date		MSB A06-7581	A6B2254904	SB-7(4.0-6.0) A06-7581	A6758103MS	SB-7(4.0-6.0) A06-7581	A6758103SD		
				00/28/2006	114	06/28/2006			
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting
Benzene	UG/KG	190	Ç	0000					
Ethylbenzene	UG/KG	500	5 5	0000	760	0067	560	AN	
Toluene	UG/KG	200	2 5	0000	007	00//	560	ΨN	
o-Xylene	UG/KG	200	2 5	2500	097	2500	560	NA	
m-Xylene	UG/KG	7 7 7 7	2 5	00026	097	11000	560	Ϋ́	
p-Xylene	UG/KG	N CN		23000 1	260	28000 1	560	AN	
Total Xylenes	UG/KG	620	2 5	1 00005	097	ND .	560	άN	
Isopropylbenzene	UG/KG	200	3 5	5800	087	38000	780	NA	
n-Propylbenzene	UG/KG	200	2 5	0065	760	6300	560	AN	
p-Cymene	UG/KG	200	5 5	00.00	007	7500	560	ΝA	
1,2,4-Trimethylbenzene	UG/KG	200	2 5	0026	760	5300	560	A N	
1,3,5-frimethylbenzene	UG/KG	200	2 5	10000	097	30000	560	NA	
n-Butylbenzene	UG/KG	202	2 5	0000	007	12000	560	AN	
sec-Butylbenzene	UG/KG	200	2 5	0200	097	0069	560	NA	
tert-Butylbenzene	UG/KG	200	2 5	0000	007	9200	560	AN.	
Methyl-t-Butyl Ether (MTBE)	U6/KG	210	2 5	2200	097	5200	560	NA	
SURROGATE(S)	,		2	nnec	097	2200	792	AN AN	
p-Bromofluorobenzene	*	06	66-138	0	024-77				
a,a,a-Trifluorotoluene	*	86	66-141	101	66-173	2 6	66-138	NA W	
					1	701	66-141	N.A.	
							•		

Benchmark Benchmark – 3wNY sites METHOD 8021 – VOLATILE ORGANICS (STARS)

unit unit us/r us/r us/r us/r us/r us/r us/r	Rept: AN0326	Benchmark - 3wNy sites BENCH - AQ - 8021 - STARS	MSB Matrix Spike Blank A6748509 A66-7485 A66-7485 A6748509	Sample Reporting Sample	Value Limit Value	4.0 0.20 4.1 0.20 NA 4.1 0.20 NA 6.20 NA 6.20 NA	4.0 0.20 4.1 0.20 NA 4.0 0.20 NA 8.61 0.40 NA	8.41 0.40 ND 1 0.40 NA	12 0.20 4.3 0.20 4.1 0.20 4.2 0.20 4.1 0.20	4.1 0.20 4.1 0.20 NA NA 4.1 0.20 NA	3.9 0.40 4.1 0.40 NA	3.7 0.40 3.8 0.40	
					Sample								

Rept: AN0326		Sample		N N N N N N N N N N N N N N N N N N N	
		Reporting	Limit		-
		Sample	AN AN	2	
ark Swny sites TRA-ETHYL LEAD		Reporting			
Benchmark Benchmark - 3wNY sites METHOD 8270 ~ TETRA-ETHYL LEAD		Sample Value	NA	X X X X X X X X X X X X X X X X X X X	
	A6B2227203	Reporting Limit	1000	50-200 50-200 50-200 50-200 50-200 50-200 50-200 50-120 54-135	
	SBLK A06-7581	Sample Value	ON	97 98 98 107 112 113 96 103	
		Units	UG/KG	*****	
Date: 07/13/2006 Time: 16:29:03	Client ID Job No Sample Date	Analyte	etraethy -Lead 	1,4-D1chlorobenzene-D4 Naphthalene-D8 Acenaphthene-D10 Phenanthrene-D12 Perylene-D12 Nitrobenzene-D5 Z-Fluorobiphenyl P-Terphenyl-d14	

Date: 07/13/2006 Time: 16:29:03

A A

Lab ID		Matrix Spike Blank A06-7581 A6E	Blank A682227201						
	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting	Sample Value	Reporting Limit
(8)	UG/KG	2100	066	NA		4Z		NA	
-04	*	76	50-200	ΑN		άN		N A	
	ж	95	20-200	AN		N.		( <del>(</del> Z	
	×	86	50-200	ΑN		ΝA		d Z	
	×	107	20-200	ΑN		ď		. d	
	*	112	20-200	NA		Z.		. A	
	*	107	50-200	NA		A.W.		. A	
	*	93	35-120	AN		ď		. 2	
	×	102	45-120	NA		40 Z		2	
	*	9,6	54-135	NA		NA		Υ N	
									_

Lab ID         A06-7485         A6B2208303         Sample         Reporting         Repo	Client ID		2							
yte         Units         Sample         Reporting         Sample         Reporting         Sample         Reporting         Sample           GATE(S)         Ug/L         ND         10         NA         NA         NA         NA           GATE(S)         X         70         50-200         NA         NA         NA         NA           Cone-D4         X         74         50-200         NA         NA         NA         NA           Cone-D4         X         73         50-200         NA         NA         NA         NA         NA           Cone-D4         X         73         50-200         NA         NA         NA         NA         NA           Cone-D5         X         74-120	Date		35LN A06-7485	A6B2208303						
GATE(S) UG/L ND 10 NA	Analyte	Units	Sample	Reporting Limit	Sample Value	Reporting Limit	Sample	Reporting	Sample	Reporting
zene-04	Tetraethyl-Lead	UG/L	QN	10	NA		NA		NA NA	רושונ
*Z	1,4-Dichlorobenzene-D4 Naphthalene-D8 Acenaphthene-D10 Phenanthrene-D10 Chrysene-D12 Perylene-D12 Nitrobenzene-D5 Z-Fluorobiphenyl P-Terphenyl-d14	****	70 74 74 74 74 75 73 88 89 89 89	50-200 50-200 50-200 50-200 50-200 44-120 44-120 23-143	X		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	

Benchmark Benchmark – 3wNY sites METHOD 8270 – TETRA-ETHYL LEAD

Not Detected
QN
Applicable
NO.
2

Client ID  Sample Date  Analyte  Analyt	Reporting Sa Limit va	Sample Reporting Value NA	Sample Value NA NA NA NA NA NA NA NA	Reporting Limit
--	--------------------------	---	---	--------------------

Benchmark Benchmark - 3WNY sites METHOD 8270 - TETRA-ETHYL LEAD

Client ID Job No Lab ID Sample Date		Matrix Spike Blank A06-7485 A6B	Blank A6B2208301	Matrix Spike Blk Dup AO6-7485 A6B22	Blk Dup A6B2208302				
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Tetraethyl-Lead	7/9n	37	10	25	10	NA		ΑN	
1,4-Dichlorobenzene-D4	3-2	82	50-200	88	20-200	NA		NA	
Naphthalene-D8	*	98	20-200	88	20-200	AN		ΑN	
Acenaphthene-010	<b>&gt;</b> <	98	20-200	87	20-200	ΑX		ΑN	
Phenanthrene-010	ж	96	20-200	26	20-200	ΝA		ΑN	
chrysene-012	34	86	20-500	100	20-200	ΑX		ΑN	
Perylene-D12	<b>&gt;</b> <	84	20-200	98	20-200	NA		άN	
Nitrobenzene-D5	3-5	103	44-120	104	44-120	ĄN		ΑN	
2-Fluorobiphenyl	×	98	44-120	66	44-120	Ā		ΑN	
p-Terphenyl-d14	**	06	23-143	88	23-143	Ą		A.S.	

Benchmark Benchmark - 3wNY sites METHOD 8270 - TETRA-ETHYL LEAD

Client ID Job No Sample Date		Method Blank A06~7581	A6B2226703						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Kerosene	MG/KG	QN	6.6	NA		ΑN		AN	
Gasoline	MG/KG	QN	6.6	N.		ΑN		A.N	
Motor Oil	MG/KG	QN	6.6	AN		ΑN		4 4 2	
Fuel Oil #2	MG/KG	S	6.6	AN		ΑN		₹ Z	
Fuel Oil #4	MG/KG	N	6.6	AN		ΝΑ		ΑN	
Fuel Oil #6	MG/KG	ON	6.6	ΑN		ΝΑ		٧×	
other-1	MG/KG	ON.	66	NA NA		NA		NA	

Benchmark Benchmark - 3wNY sites METHOD 310.13 - PETROLEUM PRODUCTS

Detected
= Not
QN
Applicable
= Not
<b>∢</b>

Rept: AN0326		Reporting	Limit		
			Reporting Sample	-	N N N N N N N N N N N N N N N N N N N
				value	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	k NY sites ROLEUM PRODUCTS		Benorting	Limit	
	Benchmark Benchmark - 3WNY sites METHOD 310.13 - PETROLEUM PRODUCTS			sample Value	A
	MET	A6B2222503		Reporting Limit	0.20 0.10 1.0 0.10 0.20 0.10
		Method Blank A06-7562		Sample	S S S S S S
				Units	MG/L MG/L MG/L MG/L MG/L MG/L
	te: 07/13/2006 me: 16:29:07	ient ID Lab ID	ample Date	0.000	rosene soline tor Oil #2 el Oil #4 el Oil #6

Rept: ANO326			Reporting	Limit Sample R	value	4 4 2	AN AN	A N	NA
		_	Sample	Value	NA	AN A	N N	NA AN	C.
Benchmark Benchmark – 3WNY sites 310.13 – PETROLEUM PRODUCTS	11k Dup A6B2226702		Reporting		6*6	9.9	9.9	6°6	
Benchmark Benchmark – 3wNY sites METHOD 310.13 – PETROLEUM PR	Matrix Spike Blk Dup AO6~7581 A6B2226702		Sample Value		O C N	ND	ND 45	Q Q	
MET	lank A6B2226701		Reporting Limit		8 8	8.0	0 & a	86	
	Matrix Spike Blank AO6-7581 A6B		Sample Value	4	2 Q	ND 45	N N	ND	
			Units	MG/KG	MG/KG	MG/KG MG/KG	MG/KG MG/KG	MG/KG	
Date: 07/13/2006 Time: 16:29:07	Client ID Job No Sample Date		Analyte	Kerosene	Gasoline Motor Oil	Fuel oil #Z	ruet Ull #4 Fuel Oil #6	רוופן – ו	

	Reporting Sample Reporting Limit Value Limit	X
	Sample Value	X X X X X X X X X X X X X X X X X X X
31k Dup A682222502	Reporting Limit	0.20 0.10 0.10 0.20 0.20 0.10
Matrix Spike Blk Dup A06-7562 A6B2222502	Sample Value	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
slank A6B2222501	Reporting Limit	0.20 0.10 1.0 0.10 0.20 0.10
Matrix Spike Blank A06-7562 A6B	Sample Value	ON ON ON ON ON ON ON
	Units	MG/L MG/L MG/L MG/L MG/L MG/L MG/L
Client ID Job No Lab ID Sample Date	Analyte	Kerosene Gasoline Motor Oil Fuel Oil #2 Fuel Oil #4

Benchmark
Benchmark - 3wNY sites
METHOD 310.13 - PETROLEUM PRODUCTS

Client ID Job No Lab ID Sample Date		Method Blank A06-7485	A6B2217702						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample	Reporting
Iron - Soluble Manganese - Soluble	7/9W WG/r	ON ON	0.050	NA NA		A N A		AN AN	

Benchmark
Benchmark - 3wNY sites
BENCHMARK-DISSOLVED FE, MN -SW8463/6010

Date: 07/13/2006				Benchmark	īrk				Rept: AN0326
Time: 16:29:10			BEN	Benchmark - 3 ICHMARK-TOTAL FE,	Benchmark - 3wNY sites BENCHMARK-TOTAL FE,MN -5w8463/6010				
									The state of the s
client ID		Method Blank					-		
Job No Lab ID Sample Date		A06-7485	A682205502				_		
		Sample	Reporting	Sample	Reporting	Sample	Reporting	Sample	Reporting
Analyte	Units	Value	Limit	Value	Limit	Value	Limit	Value	Limit
Iron - Total	MG/L	ON	0.050	NA		NA		NA	
Manganese - Total	MG/L	QN	0.0030	Ϋ́		NA		NA	

client ID Job No Sample Date	ID	LFB A06-7485	A682217701						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Manganese – Soluble Iron – Soluble	MG/L MG/L	0.19 9.9	0.0030	4 4 Z Z		A N A		A A	

Benchmark Benchmark - 3WNY sites BENCHMARK-DISSOLVED FE, MN -SW8463/6010

Date: 07/13/2006 Time: 16:29:10

Client ID Job No Lab ID Sample Date		LFB A06-7485	A6B2205501						
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Manganese - Total Iron - Total	MG/L MG/L	0.20	0,0030	4 4 2 2		N N A A		AN A	

Benchmark Benchmark - 3WNY sites BENCHMARK-TOTAL FE,MN -SW8463/6010

Date: 07/13/2006 Time: 16:29:10

9
ŭ
S.
Detected
2
Not
Z
ıı
2
Z
ų
e e
apre
icable
licable
pplicable
Applicable
Not
» Not
Not

Client ID Job No Sample Date		Method Blank A06-7485	A6B2200302	Method Blank A06-7485	A682204602	Method Blank A06-7485	A6B2220102	Method Blank A06-7485	A6B2220602
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Nitrate Biochemical Oxygen Demand Sulfate Chemical Oxygen Demand	MG/L-N MG/L MG/L MG/L	N N N N	0.050	N N N N N N N N N N N N N N N N N N N	2.0	A N N N O N O N	2.0	N N N N A A A O	10

Benchmark Benchmark – 3wNY sites WET CHEMISTRY ANALYSIS

client ID Job No Lab ID Sample Date		LCS A06-7485	A6B2200301	LCS A06-7485	A6B2204601	LCS A06-7485	A6B2220101	LCS A06-7485	A6B2220601
Analyte	Units	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit	Sample Value	Reporting Limit
Nitrate Biochemical Oxygen Demand Sulfate Chemical Oxygen Demand	MG/L-N MG/L MG/L	2.7 NA NA NA	0.050	NA 185 NA NA	2.0	NA NA 19.4 NA	2.0	NA NA NA 26.0	10

Benchmark Benchmark – JWNY sites WET CHEMISTRY ANALYSIS

Date : 07/13/2006 16:29:20		The second secon	SAMPLE	SAMPLE DATE 06/28/2006							Rept:	Rept: AN0364
SDG: 7485 Client Sample ID: SB-7(4,0-6.0) Lab Sample ID: A6758103	SB-7(4.0-6.0) A6758103MS		SB-7(4.0-6.0) A6758103SD									
			Conce	Concentration			*	Recovery				
Analyte	Units of Measure	Sample	Matrix Spike	Spike Duplicate	Spike MS	Spike Amount   MSD	MS	MSD	Avg	% 97 07 03	QC LIMITS REC.	MITS REC.
METHOD 8021 - VOLATILE ORGANICS (STARS)												
Benzene	ug/kg	0	9967	4913	5168	5168	96	95	96	-	30.0	78-120
n-Butylbenzene	UG/KG	1937	6324	6881	5168	5168	85	96	91	12	30.0	75-124
sec-Butylbenzene	ug/kg	1341	8509	6546	5168	5168	91	101	96	10	30.0	78-122
tert-Butylbenzene	UG/KG	0	5183	5240	5168	5168	100	101	101	_	30.0	78-122
Ethylbenzene	UG/KG	3427	6935	7661	5168	5168	* 89	82	22	19	30.0	79-120
Isopropylbenzene	ug/kg	1483	2948	6316	5168	5168	86	76	96	σ.	30.0	80-121
p-Cymene	UG/KG	592	5220	5347	5168	5168	96	98	26	2	30.0	79-127
n-Propylbenzene	ue/ke	3138	2029	7507	5168	5168	69	84	77	20	30.0	61-128
Toluene	UG/KG	0	5193	5162	5168	5168	100	100	100	0	30.0	72-122
1,2,4-Trimethylbenzene	UG/KG	30646	53906	30103	5168	5168	-130 *	-10 *	-70	171 *	30.0	77-123
1,3,5-Trimethylbenzene	UG/KG	9279	10307	12409	5168	5168	* 02	* 09	70	100	30.0	77-120
o-Xylene	UG/KG	7233	9546	10916	5168	5168	<b>*</b> 57	× 1.2	58	* 54	30.0	77-120
m-Xylene	UG/KG	22063	22817	27677	10336	5168	* ^	109	28	176 *	30.0	80-121
Total Xylenes	UG/KG	59296	32364	38594	15504	15504	* 02	* 09	70	100	30.0	79-120
Methy(-t-Butyl Ether (MTBE)	UG/KG	0	5331	5259	5168	5168	103	102	103	-	30.0	66-120
	_						_	-	_			

\* Indicates Result is outside QC Limits NC = Not Calculated ND = Not Detected

Rept: AN0364

Matrix Spike Blank A6748509 SDG: 7485 Client Sample ID: Method Blank(VBLK\_) Lab Sample ID: A6748508

	10:40	Concentration	ration		
Analyte	Measure	Spike	Amount	A Recovery Blank Spike	LIMITS
BENCH - AQ - 8021 - STARS		No.			
Benzene	UG/L	4.03	7.00	101	76-120
n-Butylbenzene	ne/r	4.05	7.00	101	75-122
sec-Butylbenzene	1/9n	4.10	7.00	103	78-120
Ethylbenzene	ne/r	4.09	4.00	102	79-120
Isopropylbenzene	ne/∟	62.5	4.00	107	80-121
p-Cymene	ue/r	4.22	4.00	106	78-120
n-Propylbenzene	ng/r	4.20	4.00	105	70-130
Toluene	UG/L	4.19	7.00	105	78-124
1,2,4-Trimethylbenzene	UG/L	4.10	7.00	103	77-120
1,5,5-Trimethylbenzene	1/9n	4.11	4.00	103	76-120
o-Xylene	UG/L	4.11	00.7	103	76-120
ma⊤Xy(ene	7/90	8.56	8.00	107	80-120
	1/9n	12.6	12.0	106	77-120
Methyl-t-Butyl Ether (MTBE)	ne/r	3.79	7.00	95	66-120
					-

_
16:29:20
07/13/2006
Date : 0

SDG: 7485 Client Sample ID: VBLKOO4S Lab Sample ID: A692254903	MSB A6B2254904		
		Concentration	ation.
	Units of	Blank	Spi
Analyte	Measure	Spike	Ашс
METHOD 8021 - VOLATILE ORGANICS (STARS)			

		Concentration	ation		
	Units of	Blank	Spike	% Recovery	5
Analyte	Measure	Spike	Amount	Blank Spike Limits	LIMIIS
(SOVES) STRUCTUS LITTLE CO.					
IETHOD 8021 - VOLAFILE URGANICS (STARS)	116/46	190	200	95	78-120
Benzene	2/20	195	200	86	75-124
n-Buty benzene	2/20	76,	200	66	78-122
sec-Butylbenzene	00/20	805	200	66	78-122
tert-Butylbenzene	U6/KG	90	200	00	79-120
Ethylbenzene	U6/K6	2,0	002	80	80-121
Isopropylbenzene	UG/KG	761	202	2 8	70-127
D-Cymene	UG/KG	196	007	0	13-121
7 c/mc/c	UG/KG	200	200	190	61-128
1 - 1 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	us/kg	199	200	100	72-122
	116/KG	200	200	100	77-123
	52/20 116/KG	197	200	66	77-120
1,5,5-irlmetnytpenzene	2 2 2	201	502	101	77-120
o-Xylene	00/20	- 10	000	101	80-121
m-Xylene	06/KG	417	004	5	200
Total Vylones	UG/KG	616	900	103	120 -62
Hotal Ayteres	us/kg	207	200	104	66-120
שפווואו-ו-מחואו ביופו איימרא	211./22				

:20
16:29:
16:
/2006
/13/
07
••
Date
a

	,,	500	SUG: 7485	
lient	Sample	ä	VBLK139W	MSB
Lab	Sample	10:	Lab Sample ID: A6B2250401	A6B

Client Sample ID; VBLK139W Lab Sample ID; A6B2250401	MSB A6B2250402				
		Concentration	ation		_
	Units of	Blank	Spike	% Recovery	ğ
Analyte	Measure	Spike	Amount	Blank Spike	LIMITS
BENCH - AG - 8021 - STARS		***			
Пепуепе	1/9n	3.95	4.00	66	76-120
n-Butylbenzene	1/90 :	3,91	4.00	86	75-122
sec-Buty benzene	UG/L	3.96	4.00	66	78-120
Ethylbenzene	1/9n	3.99	4.00	100	79-120
Isopropylbenzene	06/L	4.11	4.00	103	80-121
D-Cysene	1 06/L	4.06	7.00	102	78-120
n-Propylbenzene	UG/L	4.07	4.00	102	70-130
Toluene	UG/L	4.02	7.00	101	78-124
1.2.4-Trimethylbenzene	ne/r	3.99	4.00	100	77-120
1.3.5-Trimethylbenzene	1/90	3.99	4.00	100	76-120
oral vy - o	1/90	3.99	<b>7.</b> 00	100	76-120
2 / / C   C   C   C   C   C   C   C   C	1/50	8.38	8.00	105	80-120
Total Volence	1/90	12.3	12.0	103	77-120
Methyl-t-Butyl Ether (MTBE)	1/9n	3.68	4.00	92	99-150
•					_

SDG: 7485 Client Sample ID: SBLK Lab Sample ID: A6B2208303	Matrix Spike Blank A6B2208301		Matrix Spike Blk Dup A6B2208302								
		Concer	Concentration	2		34	% Recovery	_			
	Units of				Spike Amount				*	GC LIMITS	MITS
Analyte	Measure		Spike Blank Spike Blank Dup	SB	SBD	88	SBD	Avg	RPD	RPD	REC.
METHOD 8270 - TETRA-ETHYL LEAD Tetraethyl-Lead	ne/∟	36.9	47.1	100	100	37	25	75	75 24	35.0	35.0 20-120
	_						-				

σ	73
Limits	Detected
ဗ္ဗ	<u>^</u>
outside	= Not
ts	
9	2
<u>.</u> 2	
Result	NC = Not Calculated
es	Cal
Indicates	Not
Ě	II
*	ž

SDG: 7485 Client Sample ID: SBLK Lab Sample ID: A6B2227203 A	Matrix Spike Blank A6B2227201	Blank			
Analyte	Units of Measure	Concentration Blank Spike	ation Spike Amount	% Recovery QC Blank Spike LIMITS	QC LIMITS
METHOD 8270 - TETRA-ETHYL LEAD Tetraethyl-Lead	UG/KG	2081	3299	53	40-160

		ITS RFC.	50-150
		QC LIMITS RPD   REC.	35.0 50-150
		% & Q	11 16
		Avg	91
	% Recovery	SBD	86
	**	SB	96
		Spike Amount   SBD	1.50
		Spike SB	1.50
Matrix Spike Blk Dup A6B2222502	ration	Spike Blank Oup	1.28
	Concentration	Spike Blank	1.43
Matrix Spike Blank A6B2222501	4 9 41	Measure	MG/L
SDG: 7485 Client Sample ID: Method Blank Ma Lab Sample ID: A6B22225503 A6		Analyte	METHOD 310.13 - PETROLEUM PRODUCTS Fuel Oil #2

outside QC Limits	ND = Not Detected
* Indicates Result is c	NC = Not Calculated A

Suc: 7465 Client Sample ID: Method Blank Lab Sample ID: A6B226703	Matrix Spike Blank A6B2226701	i	Matrix Spik A6B2226702	Matrix Spike Blk Dup A6B2226702			1					
			Concentration	ation	;		*	% Recovery		3		
Analyte	Units of Measure	Spike E	ank st	slank Spike Blank Dup	Spike Amount	Amount \$BD	SB	SBD	Avg	A RPD	RPD REC.	REC.
METHOD 310.13 - PETROLEUM PRODUCTS Fuel Oil #2	MG/KG	45.3	<b>№</b>	45.4	7.67	49.7	92	16	92	-	35.0	35.0 50-150

Date : 07/13/2006 16:29:26

9:30
6 16:29
13/200
: 07/
Date

SDG: 7485

100 100	4				
	LFB A6B2205501	Client Sample ID: Method Blank Lab Sample ID: A682205502	: 01 10:	Sample Sample	client Lab

		Concentration	ation		
Analyte	Units of Measure	Blank Spike	Spike Amount	% Recovery QC Blank Spike LIMITS	QC LIMITS
BENCHMARK-TOTAL FE,MN -SW8463/6010 BENCH - TOTAL IRON - W TOTAL MANGANESE	MG/L MG/L	10.22 0.198	10.0	102	80-120

16:29:30
/2006
13/
/20
••
Date

SDG: 7485 Client Sample ID: Method Blank Lab Sample ID: AAR?????

Client Sample ID: Method Blank LFB Lab Sample ID: A6B2217702 A6B3	LFB A6B2217701				
		Concentration	ation		
	Units of	Blank	Spike	% Recovery	မွ
Analyte	Measure	Spike	Amount	Blank Spike Limils	LIMITS
BENCHMARK-DISSOLVED FE, MN -SW8463/6010 SOLUBLE IRON SOLUBLE MANGANESE	MG/L MG/L	9.90	10.0	99	80-120 80-120

Date : 07/13/2006 16:29:33

		00301	
	SOT	A6B2200301	
SDG: 7485	Method Blank	A6B2200302	
SDG:	Client Sample ID: Method Blank	Lab Sample ID: A6B2200302	

	_	Concentration	ration		
Analyte	Units of Measure	Blank Spike	Spike Amount	% Recovery QC Blank Spike LIMITS	QC LIMITS
WET CHEMISTRY ANALYSIS BENCHMARK - METHOD 353.2 - NITRATE - W MG/L-N	MG/L-N	2.73	2.50	110	90-110

\* Indicates Result is outside QC Limits NC = Not Calculated ND = Not Detected

SDG: 7485 Client Sampte ID: Method Blank Lab Sample ID: A6B2204602	LCS A6B2204601				
Analyte	Units of Measure	Concentration Blank S Spike A	ation Spike Amount	% Recovery QC Blank Spike LIMITS	QC LIMITS
WET CHEMISTRY ANALYSIS BENCHMARK - METHOD 405.1 - BOD	MG/L	185.1	198.0	93	85-115

Rept: AN0364

Date : 07/13/2006 16:29:33

LCS A6B2220101 SDG: 7485 Client Sample ID: Method Blank Lab Sample ID: A6B2220102 Ans WET (

		Concentration	ation		
	Units of	Blank	Spike	% Recovery	ည
inalyte	Measure	Spike	Amount	Blank Spike LIMITS	LIMITS
CHEMISTRY ANALYSIS					
METHOD 300.0 - SULFATE	MG/L	19.45	20.00	96	90-110

I

Rept: AN0364

SDG: 7485 Client Sample ID: Method Blank Lab Sample ID: A6B2220602

od Blank LCS 2220602 A6B2220601

		Concentration	ation		
Analyte	Units of Measure	Blank Spike	Spike Amount	% Recovery QC Blank Spike LIMITS	QC
WET CHEMISTRY ANALYSIS BENCHMARK - METHOD 410.4 - CHEMICAL OX MG/L	T/9₩	26.00	25.00	104	90-110

Date: 07/13/2006 Time: 16:29:37		BENCHMARK ENVIRON SAM	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE		Rept: ANO374 Page: 1
BENCHMARK - METHOD 8260 BY SELECTIVE ION	Y SELECTIVE ION				
Client Sample ID Job No & Lab Sample ID	MW-1 A06-7485 A6748501	MW-2 AO6-7485 A6748502	MW-3 A06-7485 A6748503	0W-1 A06-7485 A6748504	OW-2 A06-7485 A6748505
Sample Date Received Date Extraction Date	06/28/2006 17:05 06/29/2006 12:30	06/28/2006 16:45 06/29/2006 12:30	06/28/2006 15:40 06/29/2006 12:30	06/28/2006 17:15 06/29/2006 12:30	06/28/2006 17:20 06/29/2006 12:30
Analysis Date Extraction HT Met?	07/03/2006 14:01	07/03/2006 14:18	07/03/2006 14:33	07/07/2006 19:35	07/07/2006 19:52
Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	YES WATER 1.0 0.025 LITERS	YES WATER 1.0 0.025 LITERS	YES WATER 1.0 0.025 LITERS	YES WATER 1.0 0.025 LITERS	YES WATER 1.0 0.025 LITERS

Date: 07/13/2006 Time: 16:29:37		BENCHMARK ENVIRONI SAMF	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY		Rept: ANO37 Page:
METHOD 8260 - EDB AND EDC					
Client Sample ID Job No & Lab Sample ID	OW-3 A06-7485 A6748506	SB-1(4.0-6.0) A06-7581 A6758101	SB-3(2.0-4.0) A06-7581 A6758102	SB-7(4.0-6.0) A06-7581 A6758103	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	NA	06/28/2006 08:40 06/30/2006 18:20 07/06/2006 00:27 YES \$01L LOW 1.0 5.03 GRAMS	06/28/2006 10:30 06/30/2006 18:20 07/06/2006 00:57 YES SOIL LOW 1.0 5.24 GRAMS 83.75	06/28/2006 12:41 06/30/2006 18:20 07/06/2006 01:27 YES SOIL LOW 1.0 5.1 GRAMS 77.09	
BENCHMARK - METHOD 8260 BY SELECTIVE ION	SELECTIVE ION				
Client Sample ID Job No & Lab Sample ID	OW-3 A06-7485 A6748506	SB-1(4.0-6.0) A06-7581 A6758101	SB-3(2.0-4.0) A06-7581 A6758102	SB-7(4.0-6.0) A06-7581 A6758103	7.4
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/28/2006 17:30 06/29/2006 12:30 07/07/2006 20:09 - YES WATER 1.0 0.025 LITERS	A A	AN	<b>پ</b>	

Rept: ANO374 Page: 2

Date: 07/13/2006 Time: 16:29:37		BENCHMARK ENVIRON	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY	Rept: ANO374 Page: 3
METHOD 8260 - EDB AND EDC				
Client Sample ID Job No & Lab Sample ID	LFB78 A06-7485 A6B2242701	MSB74 A06-7485 A6B2228201	msb47 A06-7581 A6B2234001	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Sample Matrix Sample wt/vol % Dry	NA	AA	07/05/2006 21:47 - - Soil LOW 1.0 5.0 GRAMS	
BENCHMARK - METHOD 8260 BY SELECTIVE ION	Y SELECTIVE ION			
Client Sample ID Job No & Lab Sample ID	LFB78 A06-7485 A6B2242701	MSB74 A06-7485 A6B2228201	msb47 A06-7581 A6B2234001	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample Wt/vol % Dry	07/07/2006 10:15 	07/03/2006 11:07 - - WATER 1.0 0.025 LITERS	A X	

Date: 07/13/2006 Time: 16:29:37		BENCHMARK ENVIRON	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY	Rept: ANG374 Page: 4
METHOD 8260 - EDB AND EDC				
Client Sample ID Job No & Lab Sample ID	VBLK74 A06-7485 A6B2228202	VBLK78 A06-7485 A6B2242702	vb1k47 A06-7581 A682234002	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	A A	AN	07/05/2006 22:17 	
BENCHMARK - METHOD 8260 BY SELECTIVE ION	IY SELECTIVE ION			
Client Sample ID Job No & Lab Sample ID	VBLK74 A06-7485 A6B2228202	VBLK78 A06-7485 A6B2242702	vblk47 A06-7581 A6B2234002	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	07/03/2006 11:25 - WATER 1.0 0.025 LITERS	07/07/2006 10:32 - WATER 1.0 0.025 LITERS	NA A	

Date: 07/13/2006 Time: 16:29:40		BENCHMARK ENVIRO	ARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY		Rept: AN0374
BENCH - AQ - 8021 - STARS					
Client Sample ID Job No & Lab Sample ID	MW-1 AG6-7485 A6748501	MW-2 A06-7485 A6748502	MW-3 A06-7485 A6748503	OW-1 A06-7485 A6748504	OW-2 A06-7485 A6748505
Sample Date Received Date Extraction Date	06/28/2006 17:05 06/29/2006 12:30	06/28/2006 16:45 06/29/2006 12:30	06/28/2006 15:40 06/29/2006 12:30	06/28/2006 17:15 06/29/2006 12:30	06/28/2006 17:20 06/29/2006 12:30
Analysis Date Extraction HT Met?	07/06/2006 15:23	07/06/2006 15:56	07/08/2006 14:23	07/06/2006 17:01	07/06/2006 17:34
Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol	YES WATER 1.0 0.005 LITERS	YES WATER 1.0 0.005 LITERS	YES WATER 200.0 0.005 LITERS	YES WATER 1.0 0.005 LITERS	YES WATER 1.0 0.005 LITERS

METHOD 8021 - VOLATILE ORGANICS (STARS)	GANICS (STARS)			
client Sample ID Job No & Lab Sample ID	04-3 A06-7485 A6748506	SB-1(4.0-6.0) A06-7581 A6758101	SB-3(2.0-4.0) A06-7581 A6758102	SB-7(4.0-6.0) A06-7581 A6758103
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	N A	06/28/2006 08:40 06/30/2006 18:20 07/10/2006 22:00 - YES SOIL MED 1.0 5.0 GRAMS 76.46	06/28/2006 10:30 06/30/2006 18:20 07/10/2006 22:33 FES SOIL MED 1.0 5.01 GRAMS	06/28/2006 12:41 06/30/2006 18:20 07/10/2006 23:06 YES SOIL MED 20.0 5.02 GRAMS
BENCH - AQ - 8021 - STARS				
Client Sample ID Job No & Lab Sample ID	OW-3 AO6-7485 A6748506	SB-1(4.0-6.0) A06-7581 A6758101	\$8-3(2.0-4.0) A06-7581 A6758102	SB-7(4.0-6.0) A06-7581 A6758103
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/28/2006 17:30 06/29/2006 12:30 07/06/2006 18:07 res water 100.0 0.005 LITERS	Ą	ĄĄ	A A

Rept: ANG374 Page: 2

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY

Date: 07/13/2006 Time: 16:29:40

Date: 07/13/2006 Time: 16:29:40		BENCHMARK ENVIRON QC SA	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY		Rept: AN0374 Page: 3	3774
METHOD 8021 - VOLATILE ORGANICS (STARS)	GANICS (STARS)			77.		
Client Sample ID Job No & Lab Sample ID	MSB A06-7485 A6B2250402	MSB A06-7581 A682254904	Matrix Spike Blank A06-7485 A6748509	SB-7(4.0-6.0) A06-7581 A6758103MS	SB-7(4.0-6.0) A06-7581 A6758103SD	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	NA	07/10/2006 19:49 - SOIL MED 1.0 5.0 GRAMS	Ā	06/28/2006 12:41 06/30/2006 18:20 07/10/2006 23:38 - YES \$01L MED 20.0 5.02 GRAMS	06/28/2006 12:41 06/30/2006 18:20 07/11/2006 00:11 YES SOIL MED 20.0 5.02 GRAMS 77.09	
BENCH - AQ - 8021 - STARS						
Client Sample ID Job No & Lab Sample ID	MSB A06-7485 A6B2250402	MSB A06-7581 A6B2254904	Matrix Spike Blank A06-7485 A6748509	SB-7(4.0-6.0) A06-7581 A6758103MS	SB-7(4.0-6.0) A06-7581 A6758103SD	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	07/08/2006 10:52 - WATER 1.0 0.005 LITERS	A A	07/06/2006 13:49 _ WATER 1.0 0.005 LITERS	٧×	NA	

Date: 07/13/2006 Time: 16:29:40		BENCHMARK ENVIRON	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY	Rept: Page:	Rept: AN0374 Page:
METHOD 8021 - VOLATILE ORGANICS (STARS)	GANICS (STARS)				
Client Sample ID Job No & Lab Sample ID	Method Blank(VBLK ) A06-7485 A6748508	VBLK004S A06-7581 A6B2254903	VBLK1394 A06-7485 A6B2250401		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	A A	07/10/2006 19:16 - - SOIL MED 1.0 5.0 GRAMS 100.00	A A		
BENCH - AQ - 8021 - STARS					ſ
Client Sample ID Job No & Lab Sample ID	Method Blank(VBLK ) A06-7485 A6748508	VBLKOO4S AO6-7581 A6B2254903	VBLK139W A06-7485 A6B2250401		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	07/06/2006 12:13 WATER 1.0 0.005 LITERS	NA	07/08/2006 10:04 		

Date: 07/13/2006 Time: 16:29:43		BENCHMARK ENVIRONM SAMPI	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY	Rept: ANO374 Page: 1
METHOD 8270 - TETRA-ETHYL LEAD	. LEAD			
Client Sample ID Job No & Lab Sample ID	MW-3 AO6-7485 A6748503	SB-1(4.0-6.0) A06-7581 A6758101		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	NA	06/28/2006 08:40 06/30/2006 18:20 07/05/2006 14:30 07/07/2006 01:50 YES YES SOIL LOW 1.0 30.34 GRAMS		
METHOD 8270 - TETRA-ETHYL LEAD	. LEAD			
Client Sample ID Job No & Lab Sample ID	MW-3 A06-7485 A6748503	SB-1(4.0-6.0) A06-7581 A6758101		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/28/2006 15:40 06/29/2006 12:30 06/30/2006 15:30 07/05/2006 21:48 YES YES WATER 5.0	NA A		

Date: 07/13/2006 Time: 16:29:43		BENCHMARK ENVIRON QC SA	MARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY	Rept: AN0374 Page: 2
METHOD 8270 - TETRA-ETHYL LEAD	LEAD			
Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A06-7485 A6B2208301	Matrix Spike Blank A06-7581 A6B2227201	Matrix Spike Blk Dup AO6-7485 A6B2208302	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol	A A	G7/05/2006 14:30 07/07/2006 02:12 - S01L LOW 1.0 30.31 GRAMS 100.00	<b>₹</b>	
METHOD 8270 - TETRA-ETHYL LEAD	LEAD			
Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank AO6-7485 A6B22O83O1	Matrix Spike Blank A06-7581 A6B2227201	Matrix Spike Blk Dup AO6-7485 A6B2208302	
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/30/2006 15:30 07/05/2006 16:35 - WATER 1.0 1.0 LITERS	ΝΑ	06/30/2006 15:30 07/05/2006 16:57 - WATER 1.0 1.0 LITERS	

Date: 07/13/2006 Time: 16:29:43		BENCHMARK ENVIRON	MARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY	Rept: ANO374 Page: 3
METHOD 8270 - TETRA-ETHYL LEAD	LEAD			
Client Sample ID Job No & Lab Sample ID	SBLK A06-7485 A6B2208303	SBLK A06-7581 A6B2227203		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	Ā	07/05/2006 14:30 07/07/2006 02:34 - - SOIL LOW 1.0 30.08 GRAMS		
METHOD 8270 - TETRA-ETHYL LEAD	LEAD			
Client Sample ID Job No & Lab Sample ID	SBLK A06-7485 A6B2208303	SBLK A06-7581 A682227203		
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/30/2006 15:30 07/05/2006 17:20 - WATER 1.0 1.0 LITERS	AA		

METHOD 310.13 - PETROLEUM PRODUCTS	PRODUCTS	
Client Sample ID Job No & Lab Sample ID	MW-3 A06-7562 A6756201	SB-1(4.0-6.0) A06-7581 A6758101
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample Wt/vol % Dry	A A	06/28/2006 08:40 06/30/2006 18:20 07/05/2006 14:30 07/07/2006 21:31 YES YES SOIL LOW 1.0 30.27 GRAMS
METHOD 310,13 - PETROLEUM PRODUCTS	1 PRODUCTS	
Client Sample ID Job No & Lab Sample ID	MW-3 A06-7562 A6756201	\$B-1(4.0-6.0) A06-7581 A6758101
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	06/28/2006 15:40 06/30/2006 12:45 07/05/2006 07:00 07/11/2006 10:07 YES YES WATER 200.0 1.04 LITERS	NA

Rept: AN0374

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY

Date: 07/13/2006 Time: 16:29:46

Date: 07/13/2006 Time: 16:29:46		BENCHMARK ENVIRON QC SA	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY		Rept: ANO3 Page:
METHOD 310.13 - PETROLEUM PRODUCTS	PRODUCTS				
Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A06-7562 A6B22225501	Matrix Spike Blank AO6-7581 A6B2226701	Matrix Spike Blk Dup AO6-7562 A6B2222502	Matrix Spike Blk Dup AD6-7581 A6B2226702	
ample Date leceived Date xtraction Date inalysis Date xtraction HT Met?	ΑN	07/05/2006 14:30 07/07/2006 19:17	A X	07/05/2006 14:30 07/07/2006 19:51	
nalytical Hi Met; ample Matrix ilution Factor ample wt/vol		S01L LOW 1.0 30.43 GRAMS 100.00		SOIL LOW 1.0 30.17 GRAMS 100.00	
METHOD 310.13 - PETROLEUM PRODUCTS	PRODUCTS				
Client Sample ID Job No & Lab Sample ID	Matrix Spike Blank A06-7562 A6B2222501	Matrix Spike Blank A06-7581 A6B2226701	Matrix Spike Blk Dup AO6-7562 A6B2222502	Matrix Spike Blk Dup A06-7581 A6B2226702	
ample Date eceived Date xtraction Date nalysis Date xtraction HT Met? nalytical HT Met? ilution Factor ample watrix only you	07/05/2006 07:00 07/07/2006 16:29 _ WATER 1.0 1.0	A N	07/05/2006 07:00 07/07/2006 17:03 - WATER 1.0 LITERS	NA	

METHOD 310.13 - PETROLEUM PRODUCTS	PRODUCTS	
Client Sample ID Job No & Lab Sample ID	Method Blank A06-7562 A6B2222503	Method Blank A06-7581 A6B2226703
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	¥ Z	07/05/2006 14:30 07/07/2006 20:24 - SOIL LOW 1.0 30.19 GRAMS
METHOD 310.13 - PETROLEUM PRODUCTS	PRODUCTS	
Client Sample ID Job No & Lab Sample ID	Method Blank A06-7562 A6B2222503	Method Blank A06-7581 A6B2226703
Sample Date Received Date Extraction Date Analysis Date Extraction HT Met? Analytical HT Met? Sample Matrix Dilution Factor Sample wt/vol % Dry	07/05/2006 07:00 07/07/2006 17:36 - WATER 1.0 1.0	Ą

Rept: ANO374 Page: 3

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC SAMPLE CHRONOLOGY

Date: 07/13/2006 Time: 16:29:46

Date: 07/13/2006 16:29:48 Jobno: A06-7485	48	BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY	RONMENTAL & ENGINEE SAMPLE CHRONOLOGY	ERING SCIEN	ICE				צ	Rept: AN0369
Lab ID Sample ID	Units	Units Analyte	Method	Dilution Factor	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT Matrix
A6748503 MW-3	MG/L MG/L MG/L MG/L	Iron - Soluble Manganese - Soluble Iron - Total Manganese - Total	6010 6010 6010 6010	1.00	1.00 06/28/2006 15:40 06/29 12:30 1.00 06/28/2006 15:40 06/29 12:30 1.00 06/28/2006 15:40 06/29 12:30 1.00 06/28/2006 15:40 06/29 12:30	06/29 12:30 06/29 12:30 06/29 12:30 06/29 12:30	4 X X X X X X X X X X X X X X X X X X X	4 4 4 4 4 4 4 4	NA 07/05 19:07 Yes WATER NA 07/05 19:07 Yes WATER NA 07/04 01:44 Yes WATER NA 07/04 01:44 Yes WATER	8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8

AHT = Analysis Holding Time Met JHT = TCLP Holding Time Met NA = Not Applicable

											-	
Lab ID	Sample ID	Units	Units Analyte	Method	Dilution Factor	Sample Date	Receive	TCLP Date	THT	Analysis Date	<u>∓</u>	AHT Matrix
A6B2205502	A6B2205502 Method Blank	T/9₩	Iron - Total	0109	1.00	t	- 12:30	ΑN	άZ	NA 07/03 23:37 Yes WATER	es 🔻	ATER
		MG/L	Manganese - Total	6010	1.00	•	- 12:30	Ą	Ϋ́	07/03 23:37	es.	ATER
A6B2217702	A6B2217702 Method Blank	MG/L		6010	1.00	ı	- 12:30	Ą	δ	07/05 18:07 Yes WATER	es.	ATER
		MG/L	Manganese - Soluble	6010	1.00	,	- 12:30	Ą	Z K	07/05 18:07 Yes WATER	es S	ATER
A6B2205501 LFB	LFB	MG/L	Iron - Total	6010	1.00	•	- 12:30	άZ	Ä	07/03 23:41	es ×	ATER
		MG/L	al	6010	1.00	t	- 12:30	ΑN	ع ع	07/03 23:41 Yes WATER	es.	ATER
A6B2217701 LFB	LFB	MG/L		6010	1.00	1	- 12:30	Ą	ď	07/05 18:12 N	es.	ATER
		MG/L	Manganese - Soluble	6010	1.00	,	- 12:30	Ϋ́	Ž	07/05 18:12 Yes WATER	Nes X	ATER

Rept: AN0369

BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE QC CHRONOLOGY

Date: 07/13/2006 16:29:48 Jobno: A06-7485

AHT = Analysis Holding Time Met THT = TCLP Holding Time Met NA = Not Applicable

Date: 07/ Jobno: A06	Date: 07/13/2006 16:29:51 Jobno: A06-7485		BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE SAMPLE CHRONOLOGY	RONMENTAL & ENGINEE SAMPLE CHRONOLOGY	RING SCIEN	C E				α. Φ	pt: /	Rept: AN0369
Lab ID	Sample ID	Units	Units Analyte	Method	Dilution	Sample Date	Receive Date	TCLP Date	THT	Analysis Date	AHT	AHT Matrix
A6748503 MW-3	MW-3	MG/L MG/L MG/L	MG/L-N Nitrate MG/L Biochemical Oxygen Demand MG/L Chemical Oxygen Demand	353.2 405.1 410.4 300.0	25.00 (25.00 (1.00	1.00 06/28/2006 15:40 06/29 12:30 25.00 06/28/2006 15:40 06/29 12:30 06/28/2006 15:40 06/29 12:30 10.00 06/28/2006 15:40 06/29 12:30	06/29 12:30 06/29 12:30 06/29 12:30 06/29 12:30	4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4	NA 06/29 16:43 Yes WATER NA 06/30 09:20 Yes WATER NA 07/03 12:00 Yes WATER NA 07/03 14:08 Yes WATER	Yes Yes Yes Yes	ATER ATER ATER ATER

AHI = Analysis Holding Time Met THI = TCLP Holding Time Met NA = Not Applicable

ING SCIENCE	
ENTAL & ENGINEER	VOC LOISOBUT NO.
BENCHMARK ENVIRONMENTAL & ENGINEERING SCIENCE	ć
36	

Date: 07/13/2006 16:29:51 Jobno: A06-7485

Rept: AN0369

ac CHRONOLOGY

Matrix	WATER WATER WATER WATER WATER WATER
AHT	Yes Yes Yes Yes Yes Yes
Analysis Date	06/29 16:43 Yes WATER 06/30 09:20 Yes WATER 07/03 14:08 Yes WATER 06/29 16:43 Yes WATER 06/30 09:20 Yes WATER 07/03 14:08 Yes WATER 07/03 12:00 Yes WATER
THT	X X X X X X X X X X X X X X X X X X X
TCLP Date	4 4 4 4 4 4 4 4
Receive Date	- 12:30 - 12:30 - 12:30 - 12:30 - 12:30 - 12:30
Sample Date	
Dilution Factor	00.000000000000000000000000000000000000
Method	353.2 405.1 300.0 410.4 353.2 405.1 300.0
Units Analyte	MG/L-N Nitrate MG/L-N Biochemical Oxygen Demand MG/L Sulfate MG/L Chemical Oxygen Demand MG/L-N Nitrate MG/L Biochemical Oxygen Demand MG/L Sulfate MG/L Chemical Oxygen Demand
Units	MG/L-N MG/L-N MG/L-N MG/L-N MG/L-N
Sample ID	(682200302 Method Blank (682204602 Method Blank (6822204602 Method Blank (682220602 Method Blank (682200301 LCS (682200401 LCS (682220101 LCS
ab ID	A682200302 Method I A6822004602 Method I A6822200102 Method I A682200301 LCS A6822014601 LCS A68220101 LCS A68220101 LCS

AHT = Analysis Holding Time Met THT = TCLP Holding Time Met NA = Not Applicable

Chain of Custody Record

SEVERN STL®

Severn Trent Laboratories, Inc.

	]	† 1	ı				1	3	ı	ı	ı	,	1		, ,	,		ı	1 ~	97/9	99	ı
	Chain 2 9 6 2 9 6	Page of		Concist Incharactions	Conditions of Receipt												(A fee may be assessed if samples are retained longer than 1 month)		Date Time 72130	.1	Date	
	0 30/8K/0	Láb Number	Analysis (Attach list if nore space is neaded)	אונים בינה אינים בינה בינה אינים בינה אינים	CON (3 )	1. re 4 .2 908			-								(A fee may be assesse Months longer than 1 month)		.778		((	
~g	भट	87	200	7 / 1 1 9C8 -	0x -	00) 101 100 100 100 100 100 100 100 100	- -	ァ - -	- 22 CC CC	3							Archive For	ارق ر	The State of the S			
	tos Mike	SSG-DS Number	L Lab Contact		Containers & Preservatives	Unpres.	X	X	XXXXX	×							al Cient 🔲 Disposal By Lab	1	1. Rocewed By	Z. Haceived By	3. Received By	
	Project Manager	24 Tolephone Number (Area	Site Contact	Carrier/Waybill Number	Matrix	E POS SHOOLDA	X 3921	1645 X	X Ohar	1715 X	X 0241	X ossi					Sample Disposal     Sample Disposal		10 12810K 17	امل	Date	
		St Sut (24) relegions	Sirily Zip Code			n on one line) Date	70/82/9					ъ					Poison B	4 Days				
11)	Benchmerk Eng	7		Project Name and Location (State)	Contract/Purchase Order/Quote No.	Sample I.D. No. and Description (Containers for each sample may be combined on one line)	/	7	3	7	2	3					Possible, Hazard Identification  Non-Hazard		A LA K	od By	д Ву	Comments
STL-4124 (0901)	Client 13ev	Address 726		Project Name	Contract/Purc	S <sub>c</sub> (Containers fo	MW-	MW-2	MW-3	-m0	0W-	08-			į		Possible Hazz	Tum Around Time Required	1. Relinquished By	2. Relinquished By	3. Relinquished By	Comments

Chain of Custody Record

STL-4124 (0901)

SEVERN STL ®

FRENT Severn Trent Laboratories, Inc.

98/99 56-30-06/21:43 Special Instructions/ Conditions of Receipt (A fee may be assessed if samples are retained longer than 1 month) Chain of Custody Number 296299 ð J. Page Date Date Date Date | 6/30/06 SIN Analysis (Attach list if more space is needed) Lab Number Months Archive For 14 - 15 OJ-17-9 OC Requirements (Specify) HOPN Containers & Preservatives Disposal By Lab HOPN Lab Contact
Stien Fix 3. Received By ЮH Mike Leso Kouski 5350-958 EONH roszh səxdur Beturn To Client She Contact
To the State State
Carrier/Waybii Number 732 Sample Disposal MOS Matrix Time Corner STD pos Project Manager 130/08 N'y Unknown 15% Time Date Sut 624 21 Days 10/22/1 07651 Date Poison B ☐ 14 Days (Containers for each sample may be combined on one line) Skin Irritant Sample I.D. No. and Description 7 Days Address - Exchange Buchmerk Contract/Purchase Order/Duote No. Flammable Project Name and Location (State) 48 Hours Possible Hazard Identification Turn Around Time Required MW-3 1. Relinjuished By Relinquished By Non-Hazard 3. Relinquished By Comments

DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample; PINK - Field Copy

5.42

Chain of Custody Record

SEVERN STIL\*
Severn Trent Laboratories, Inc.

STL-4124 (0901)					Osta	Chain of Custody Number	
Ĺ	Project Manag	Project Manager			90196/9	296301	
Concrement on	, , , , , , , , , , , , , , , , , , ,	September 1	Alexander		Lab Number		
Address	625	mber (Area Code)/rax	Number	,		Page of	
City Of State Zp Code			Lab Contact		Analysis (Attach list if more space is needed)		
Suffer 10% 1	YALO I'M DEARTH			77		<del>-</del>	
Project Name and Location (State)	Califery			77 200		Special Instructions/	
Contract/Purchase Order/Quote No.		Matrix	Containers & Preservatives	) Q ( : \$ / 1		מומויים וויים מומויים וויים מומיים	
Sample I.D. No. and Description	Date Time	Sed: Sed: Soil	HOSOH HOSOH HOSOH	£3			
+	048 30/56/9	メ					
2 (2.0-4.0)		×					
4	1/10 0	×					
	-						
				-			
							-
	S L	Sample Disposal	Disposal Bv Lab	Archive For	(A fee may t	(A lee may be assessed if samples are retained longer than 1 month)	
Non-Hazard Flammable Skin Imian Line Acount Time Required		4	Š	7			
14 Days 14 Days 14 Days	☐ 21 Days XOther_	510	7 0			Time	
d By D		8 (8/ 170)	1. Received 84/	The state of the s	X 700	020	9
2. Relinquished By	Date	Time	2. Received By			e une	צ/צי
3. Refinquished By	Date	Time	3. Received By			Date	ሃ ,
Comments							
DISTRIBUTION: WHITE - Returned to Client with Report: CANARY - Stays with the Sample	1	PINK - Field Copy			7	20/1	

## APPENDIX D

CITY OF BUFFALO MUNICIPAL RECORDS

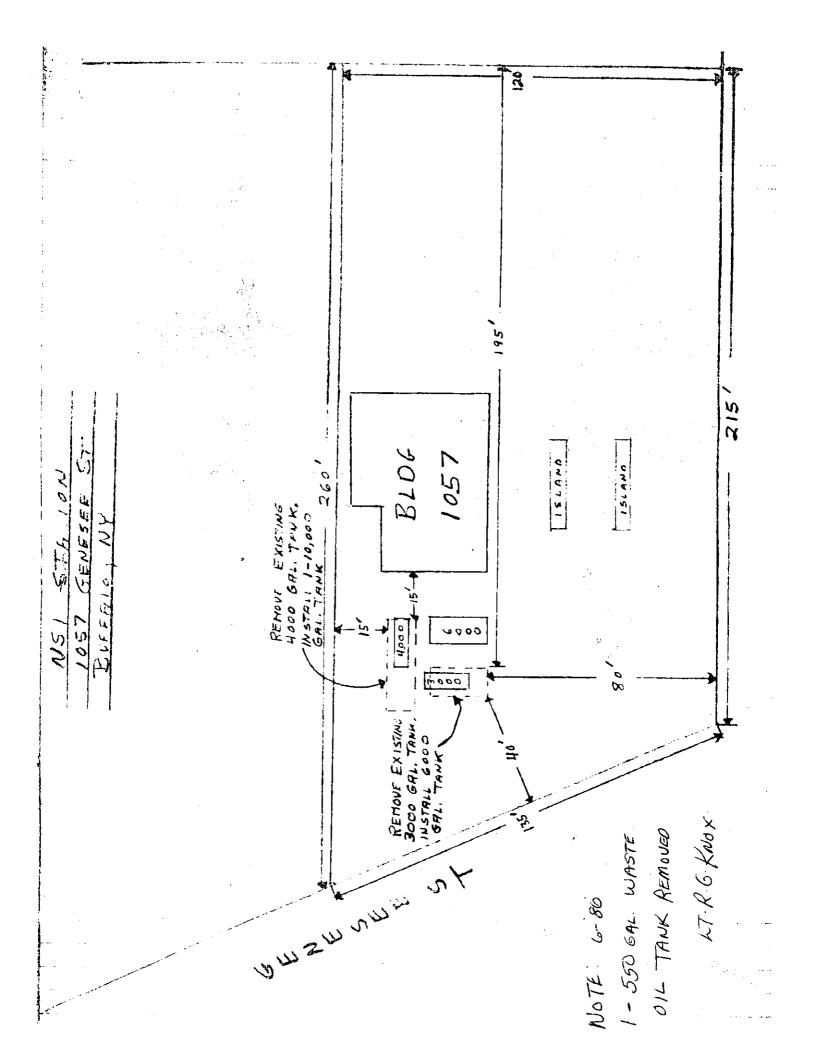


BATTALIONS COMPANY

STORAGE AND USE OF	GARRIAGE CHAPTER XXIX
FLATION	TYPE OF LIQUID CLASS
LATE: 4-26 A3	DISTRICT ZORING
HAME COMPERLADO FARMS	ADDRESS 10 88 GEARS FOR
USE: COMMERCIAL PRIVATE	PROPERTY: CITY PRIVATE
CONTRACTOR S.L. BOBLER	ADDRESS 8600 ROLLED CLHARWAR
APPROVED	MULL RD CLIMBERED
DISAPPROVED FRED LARSON	TITLE CHIEF OF FIRE PREVENTION
BEMOVE EXISTING TANKS	4 INSTALL THREE (3) 5000 GAL FIBE
A. COUDANTING	GLASS TANKS WITH LINER FIBER GLAS
DATE: 4-26-88	PIPING PIPING
DATE 1-20	6.88 PERMIT. NO: <u>B8028</u> DATE 4-26 88
TANKS:	VENT PIPE:
Number of THREE (3)	Number of THREE (3)
Capacity of Each 5000 GAL.	Size 2"
Total Capacity 15,000 GAL	
We Ground No	Terminates Outside /E3
Feet Underground 2	Feet Above Fill Pipe 10'
Feet From Property Line 10	Feet From Bldg. Opening 20 + Weaherproof Hood Yes
·	P.LAMB APPAGEAN
"Got From Bidg. or Collar /// +	
.L. Label Numbers 5/64/2	PUMPs:
516412 516410	Mumban at name
Public Assemblage Bldg. Within	
(Sec. 82)	Feet From Bldg. Line Feet From Street Line U.L. Label Nos. If inside Bldg. are
ockes (see 16 c	U.L. Label Nos.
ocks: (Sec. 16,Chap LLX)	If inside Bldg., are pumps protected as required by Sec. 118
ILL PIPR:	3
ize 4" Extended Fill? Yes	TESTS: (Sec. 91)  APPROVED 5-15-58 LT-K-G-KNex
POT From Ridg. Amendan	
SQUIREMENTS OF THE BLANCARD	RE INSTALLED IN ACCORDANCE WITHIN THE
PPROVED A Bussell & Ka	DATE 5-18-98
	C'T FEM PAND 2 : 1
WE	STALLED FOR THE FOLLOWING SUPPLIER. ADDRESS
PORTANT: Tholada Bananta CI	etch of Pump and Tank Locations On to form. Forward Copy to BUREAU OF

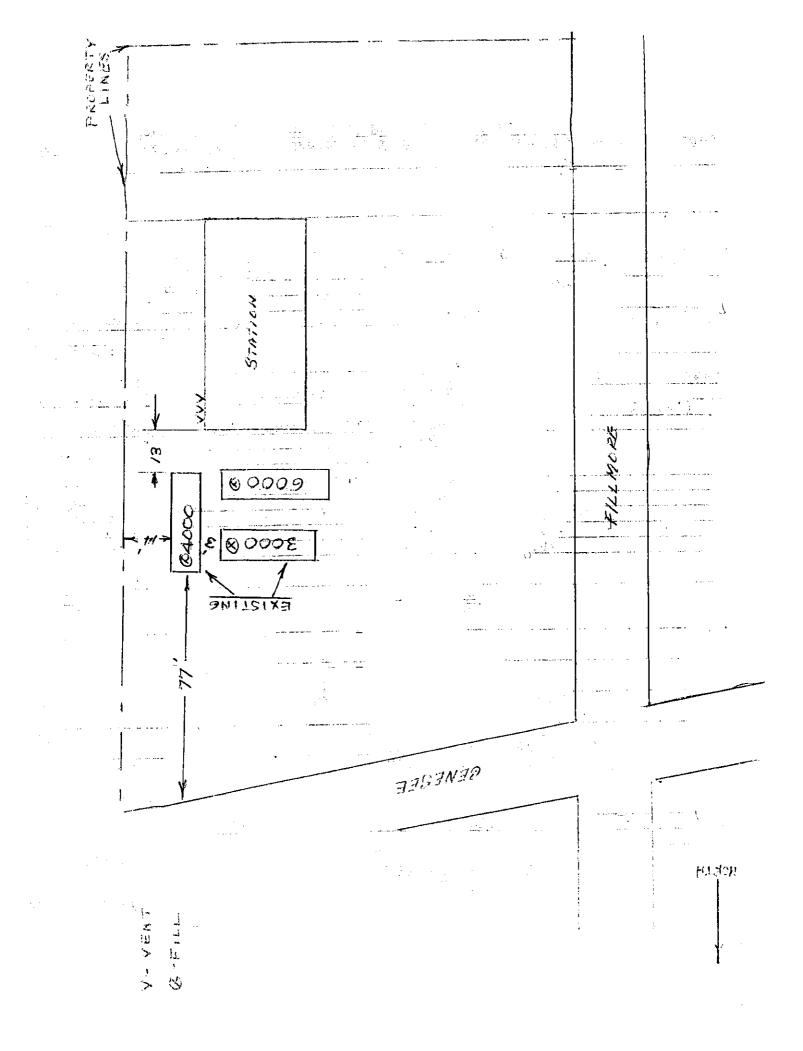
经民族企业管理

Form 29 BUREAU OF FIRE 11/6/67 FLAMMABLE LIQUID ORDINANCE CHAPTER XXIX STORACE AND USE OF GASOLINE TYPE OF LIQUID CLASS APPLICATION DATE: October 4, 1976
Northeast Stations, DISTRICT ZONING 1057 Genesee Streett Inc. ADDRESS Buffalo, New York COMPERCIAL X USE: PRIVATE 74 Skillen Street PROPERTY: Fleischmann Service Comporation COMTRACTOR Buffalo, New York ADDRESS APPROVED Chieff Bureau of Fire Prevention Remove existing one (1) 3,000 gallon and one (1) 4,000-gallon underground tanks and install one (1) 10,000-gallon and one (1) 6,000-gallon, underground, steel, gasoline storage tanks. INSTALLATION DATE: 10-13-76 APPLICATION NO: 147599DATE 10/6/76PERMIT NO: 806857 DATE 10/6/76 TANKS: VENT PIPE: Two (2) Number of Mumber of One (1) 10,000-gallon Capacity of Each One (1) 6.000-gailen Total Capacity 16,000-gallon Terminates Outside 101 Thoma Ground No: \_ Faet Above Fill Pipe Feet Underground Feet From Bldg. Opening Feet From Property Line Wecherproof Hood YE Feet From Street Line 🧳 Flame Arrester Feet From Bldg. or Cellar U.L. Label Numbers PITTIPS: Number of Pumps Public Assemblage Bldg. Within Feet From Bldg. Line 300 Ft. 🗗 (Sec. 82) Feet From Street Line -Less Than 50 Feet From RR & U.L. Label Nos.\_\_\_ Docks? (Sec. 16 Chap LLX) If inside Bldg., are pumps protected as required by Sec. 148\_\_\_\_ FILL PIPE: TESTS: (Sec. 91) Size 4 Extended Fill? 14. APPROVED Located Outside Tex Protected Tes Feet From Bldg. Opening 25 DISAPPROVED ALL TANKS, PUMPS AND PIPING, ARE INSTALLED IN ACCORDANCE WITHIN THE REQUIREMENTS OF THE FLAN ABLE LIQUID ORDINANCE, I THEREFORE, RECOMMEND APPROVED TO LICULAR Bureau of Fire Prevention DATE 19-13-14 THE ABOVE LOCATION HAS BEEN INSTALLED FOR THE FOLLOWING SUPPLIER. NAME Northeast Stations. Inc. ADDRESS Buffalo. New York IMPORTATT: Include Remarks, Sketch of Pump and Tank Locations On -thank alentah to form Forward Conv to BUREAU OF



	REMOVED
F29 (Revised 6/56)	5 Th
TLAMMABLE LIQUID O	E DEPARTMENT RDINANCE CHAP. XXIX E AND USE BATTALION  I COMPANY CLASS DATE 8-98 19 67
COMMISSIONER OF PURE:	
NAME GULF OIL CORR.	CITY PROPERTY (CURB) PRIVATE PROPERTY ZONED USE DISTRICT
FURPOSE OF USE: COMMERCIAL PRIVATE	IS LICENSE REQUIRED? YES  CONTRACTOR ELMWOOD ELECTRIC & PUMP
APPLICATION NO. 107148 8-17-67	CONTRACTOR ELMWOOD ELECTRIC & PUMP
Date: 8-17-67	ADDRESS 819 ELMWOOD AVE.
ANKS: Simber of One (Replacement)	VENT PIPE: Number of One
'apacity of Each 6000 Gals 'apacity Total 13,000 Gals.  Above Ground No  Feet Underground 4 Feet  Ft. from Property Line 20 /Feet  Ft. from Street Line (Min.10 /ft.) 10 plu  Ft. from Cellar or Bldg. 30 Feet  U. L. Label Numbers F 213675	Size Two inch Terminates Outside Yes Ft. above Fill Pipe 15 Feet Ft. above Bldg. Opening 10 Feet Weatherproof hood s Flame Arrester Yes  PUNPS: Number of Pumps
Less than 50 it. Irom AR & docks?	? Ft. from Bldg. Line ) Ft. from Street Line (Min. 10 ft.) U. L. Label Numbers
(Sec. 16, Chap. LXX) None  FILL PIPE: SUBMERGED	If inside bldg., are pumps protected as required by Sec. 148?
Size 4 Irch (Extended) Located Outside Yes Ft. from Bldg. Opening 30 Feet Protected against damage Yes ALL TANKS, PUMPS AND PIPING, WILL BE	TESTS: Lt. AHerns (Sec. 91) APPROVED 8 - 21-67  DISAPPROVED
ACCORDANCE WITH THE REQUIREMENTS OF THE	, ARE , ARE NOT , INSTALLED IN E CITY ORDINANCE, I THEREFORE, RECOMMEND
APPROVED X! LT. J.E. SKALSKI	TITLE BUR. FIRE PREV.
APPROVED LT. J. AHERNS	DATE 8 - 21 - 67

MPORTANT: Include Remarks, Sketch of Tank and Pump Location on other side, Forward copy to Bureau of Fire Prevention.



F29 (Revised 6/56) BUFFALO FIRE	DEPARTMENT
	RDINANCE CHAP. XXIX
COMMISSIONER OF FIRE:	;
NAME Sulf Oil	CITY PROPERTY (CURB) PRIVATE PROPERTY ZONED USE DISTRICT
PURPOSE OF USE: COMMERCIAL PRIVATE	IS LICENSE REQUIRED?
APPLICATION NO. Date:	CONTRACTOR Chinewood Cleatrich 5
PERMIT NO. A 3786	ADDRESS 810 Clavour Ave.
TANKS: Relater	VENT PIPE:
Number of Capacity of Each 2000 4666	Number of
Capacity Total	Terminates Outside /e 5
Above Ground	Ft. above Fill Pipe 14'
Feet Underground / 3 /	Ft. from Bldg. Opening 20
. from Property Line / / /	Weatherproof hood
Ft. from Street Line(Min.10 ft.) Ft. from Cellar or Bldg. / /3	Flame Arrester
U. L. Label Numbers	PUMPS:
NOF 100 151	Number of Pumps 2
Public Assemblage Bldg. within 300 ft. ?	Ft. from Bldg. Line 25
(Sec. 82)	Ft. from Street Line (Min. 10 ft.) 20
Less than 50 ft. from RR & docks? (Sec. 16, Chap./LXX)	U. L. Label Numbers If inside bldg., are pumps protected as
FILL PIPE:	required by Sec. 148?
Size 4/1	TESTS:
Located Outside // 5	(Sec. 91) AP PROVED
Ft. from Bldg. Opening 2	HI THOVED TO FETURE!
Protected against damage 1/2>	DISAPPROVED
ALL TANKS, PUMPS AND PIPING, WILL BE	ARE , ARE NOT, INSTALLED IN
ACCORDANCE WITH THE REQUIREMENTS OF THE	CITY ORDINANCE, I THEREFORE, RECOMMEND
DISAPPROVED X Such hale	TITLE 3 Tack
APPROVED Sichlase	DATE
<i>"/</i>	<i>'</i>

IMPORTANT: Include Remarks, Sketch of Tank and Pump Location on other side. Forward copy to Bureau of Fire Prevention.

PS M: 29

#### BUFFALO FIRE DEPARTMENT VOLATILE FLAMMABLE L QUID TANK STORAGE AND USE

A PLI ATION X IN TALLATION SURVE	Waste Oil KIND OF LIQUID	CLASS	BATTALI N <u>Third</u> COMPANY DATE 11-2-5h	
MAMISSIONER OF FIRE	Charles W. Halloran	····		<b></b>
GOOAT ON 1049 Fillmore	Ave		OPERTY (CURE) PROPERTY	<u>x</u>
NAME Gulf Oil Corp.,		ZONED U	SE DISTRICT	<del></del>
PURPOSE OF USE XXXXXXX	CIAL FILLING STAT ON XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	TYPE OF	SYSTEM:	
APPL CATION UMBER	DATE	I LICEI	NSE REQUIRED <u>yes</u> lectric & Pump Corp.	<u> </u>
PERM T NUMBER	DATE	CONTRAC	TOR	<del></del>
INSTALLATION	A FE	ADDRESS_	810 Elmwood Ave.,	
. NKS:	VENT	PIPE:		· (
number of  550 CAPACITY OF EACE  550 CAPACITY TOTAL  no ABOVE GROUND  FEET UNDERGR UNI  100 FEET FROM BLD  EET FROM STREET  100 EET F OM CEL AF  Ves U DERWRITERS LAF	LINE Y	FEET AL	ATES OUTSIDE BOVE FILL P PE ROM BLDG. O EN NG RPROOF HOOD	
FILL PIPE.	PUMI	PS .		) • ?·
yes Loc T D OU SIDE 5 FEET FROM BLDG. yes PROTECTED GAINS	OPENING ST DAMAGE	FE T FI	ROM BLDG, LINE R M STREET LINE R TERS LAB, LA EL	
REQUIREMENTS OF THE CITOF FIRE UNDERWRITERS, I	<b>ARRXXXX</b> Y ORD ANCE AND STAN		C ORDANCE WITH THE	
APPROVAL	X yin fille que	TITLE_	Third EC	unpresent of a .
DISAPPROVAL		DATE	1 1 64	
COMMISS	IONER OF FIRE		•	

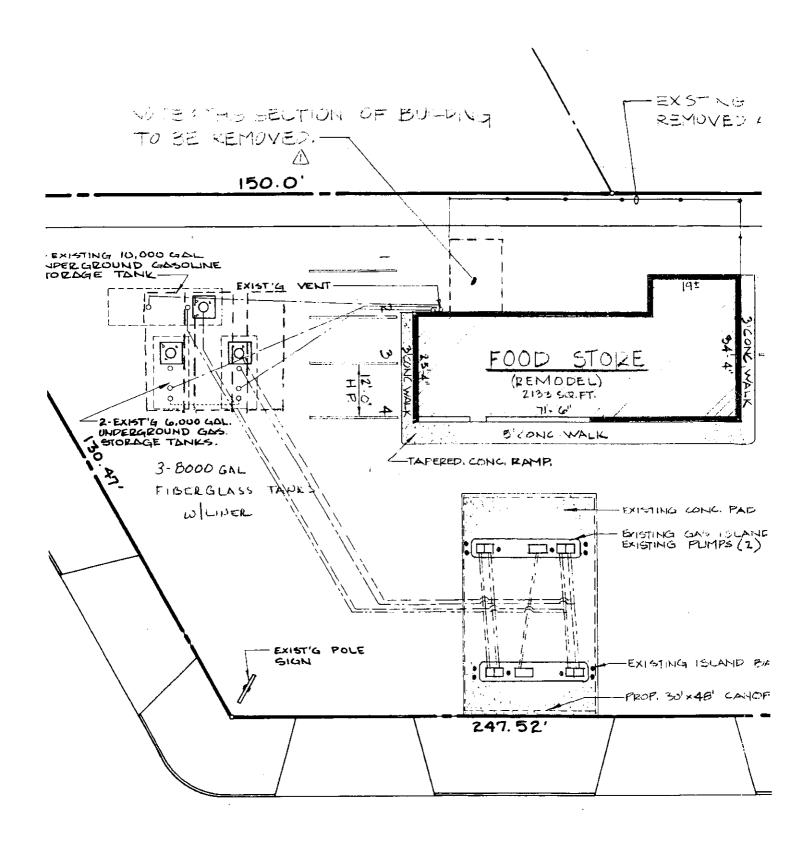
TE: INCLUDE REMARKS, SKET H OF TANK AND PUMP LOCATION ON OTHER SIDE

1 4 143

# DEPARTMENT OF INSPECTIONS & LICENSES DIVISION OF NEW CONSTRUCTION 301 City Hall

Anal	ation No Permit Fee \$ 100.00	
ռիհւ	(This application must be filled out in Quadruplicate; or in Quintuplicate if	
	Board of Appeals action is necessary)  Buffalo, N.Y., 10/1/, 1976	
To th	Director of New Construction 1-4000 -1-10,000 (144	•
1.	the undersigned, propose to erect, enlarge place convert, alter use a transfer (frame or other construction)	
2.	On the front of premises known as No. 1057 GENESEE ST (S.E. COLVES)	
3.	n a Zone District. 5. To be used for 1-4, 200 GALLON CARROLL TOWNS (If a Filling Station, state capacity of all tanks in gallons.)	
4.		
	Remarks NE YEVE EXISTING 1-5000 AND 1-4000 CHE.	
	FASCING TANKS (UNDERGROUND)	
	On lot SE E feet wide feet long. Area of Lot sq. ft.	
	Size of Proposed Building ft. wide ft. long. Area of Bldg sq. ft sq. ft stories high. Contents of Bldg cu. ft.	
8.	What other buildings, are, or will be, located on lot? SERVICE STATION	
9.	Size ft. long ft. high stories Area	
	How many families will be housed on premises? None How many apts.? How	
10.	How many families will be housed on premises? How many apis.: 1000000000000000000000000000000000000	
11.	Depth of front yard	
	Depth of rear yard ft. Is Plumbing work necessary? (yes) (no)	
	Width of N.E.S.W. side yard ft. Is Inflammable liquid stored or used on the premises? (yes) (no)	
10	Area of Accessory Building or Buildings sq. ft., equals % of rear lot	
	Areasq. ft. (Distance from rear of Dwelling to real lot line multiply by width of lot.)	
13.	How much of (Main Building) (Accessory Building) (Lot) is, or will be, used for (a) professional	
	(b) trade (c) business (d) industry purposes sq. ft. of main or accessory buildings, or% of lot?	
14.	How many employees other than domestic, are or will be engaged in such occupation?	
15.	Compensation Certificate Filed (yes or no). Cost of Building \$ £650.00	
16.	CONTRACTOR FLEISCHMANN SERVICE COR	7
	Owner of Lot Address 74 SWILLEN ST STEEL AND	
	Owner of Lot  Owner of Building North Factor State Name  (Print Owner's Name)  Mail Address 157 General State Name  (Print Owner's Address)  Owner of Building North Factor State Name  (Print Agent's Name)  (Print Agent's Name)  (Print Agent's Address)	
	Mail Address Print Owner's Address Print Owner's Address (Print Agent's Address)	
	Home Improvement Lic. # 426	
tha bui	the same correctly describes the character, present and proposed, use and location of the premises or ling which the owner proposes to effect, place, enlarge or use, the the ownership thereof.    Signature   Counter   Counter	
Dai	signature (owner) (contractor)	
	THIS PERMIT DOES NOT INCLUDE PLUMBING, ELECTRICAL AND HEATING WORK.	
	SEPARATE PERMITS ARE REQUIRED	
Аp	roved Disapproved Date	





# FILLMOD

# **APPENDIX E**

#### **NYSDEC RECORDS**



# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

# Petroleum Bulk Storage Program

Facility Information Report

Site status : Active

PYRAMID EXXON S-41

Site:

PBS # : 9-222712

Owner Type : Corporate/Commercial Phone : (716) 833-6626 2440 SHERIDAN DRIVE TONAWANDA, NY Active Capacity : 24,000 gals. Total Active Tanks : 3 BUFFALO, NY 14211 1055 GENESEE ST

14150

Owner : NOCO ENERGY CORPORATION

Last Inspection : 11/26/2002 PFK Reg Expires : 01/07/2008 TOWN : BUFFALO (C) Longitude: County : ERIE Latitude :

700 GRAND ISLAND BLVD Mail : NOCO ENERGY CORP TONAWANDA, NY Cert Printed : 02/14/2003 Owner Error : Complete Site Errors : Complete Operator : PYRAMID MULTITRADE CORP. (716) 894-8343 CBS# : Site Type : Retail Gas Sales SPDES# :

(716) 833-6206 Att : MICHAEL YOUNT

Tank Errors : Complete

Emergency : ART MUELLER (716) 833-6626

14150

OverFil Disp LastTest NextTest TStat CLOSED: CLOSED: CLOSED: CLOSED: 01/07/2003 01/07/2003 01/07/2003 5 5 Sectort Leak 80 80 P i peExt 04 04 **PipeInt** PipeType Pipel.oc Tankint TankExt 40 40 TankType Product Capac (g) 8,000 6,000 8,000 9,000 10,000 8,000 04/01/1988 04/01/1988 04/01/1988 10/01/1966 Stat DateIn 04/01/1977 09/01/1954 04/01/1977 TankLoc TankNo

KEY FOR SECTION B	STATUS	TANK TYPE	INTERNAL PROTECTION: Tunk/Piping	PIPING LOCATION	LIAK DETECTION	SPILL/OVERFILL PREVENTION	
ACTION	1. In-service	). Steel/Curbon Steel	0. None	0. None	0. None	None of	
1. Initial Listing	2. Temporarily aut-of-service	2. Stainless Steel Alloy	1. Epoxy Liner	1. Aboveground	1. Interstitial Monitorina	1. Floor Vent Volva	
2. Add Tank	3. Closed - Removed	3. Concrete	2. Rubber Liner	2. Underground	2. Vouer Well	2 High love Algran	
3. Close/Ramove Tank	4. Closed—In Place	4. Fibergluss Coated Steel	3. Fiberglass tiner (FRP)	3. Aboveground/	3. Groundwater Well	3. Automotic Shut off	
4. Information Correction	5. Tonk Converted to	5. Fiberglass Reinforced	4. Glass Liner	Underground Combination	4 In-Tank System	4 Product Lavel Goune	
5. Recondition/Repair/	Non-Regulated Use	Plastic (FRP)	9. Other*	SECONDARY CONTAINMENT	5 Concrete Port w/channels	5 Cotch Boxin	
Reline Tunk	PRODUCT STORED	6. Equivalent Technology	EXTERNAL PROTECTION: Tank/Piping	0. None	6 Double Rottons	A Vent Whitele	
TANK LOCATION	O. Empty	9. Other	D. None	1. Vavil	9. Other	o Other	
1. Aboveground	1. Leaded Gosoline	PIPING TYPE	1. Painted/Asphalt Couting	2. Double-Walled Tank		#35F1A314	
2. Aboveground on saddles,	2. Undeaded Gasolina	D. Mona	2. Sacrifical Anoda	3. Excuvation Linar		Cubmeralle	
legs, stills, rock, or crodle	3. Nos. 1, 2, or 4 Fuel Oil	1. Steel/Iron	3. Impressed Current	4. Cut-off Walls		C. Journal and C.	
3. Aboveground: 10% or	4. Nos. 5 or 6 fuel Oil	2. Galvanized Stael	4. Fiberalass	5. Impervious Underloyment		1 Growin	
more below ground	5. Keroscne	3. Fiberglass [FRP]	5. Juckeled	6. Earthen Dike		i ciani	
4. Underground	6. Diestel	4. Copper	6. Wapped (Piping)	7. Prefabicated Steel Dike			
5. Underground, vaulted,	A. Lube Oil	9 Other	9. Other*	8. Concrete Dike			
will access	E. Action with party (SCC) (CIII(IIICI) C. Used Oil	iliei)	,	A. Sytelladic Unter		187	
	9. Oilner*	* If other, please list on sepa	. If other, please list on separate sheet including fank Number	9. Other"			

### **Spill Incidents Database Search**

#### More information:

Environmental Remediation Databases Glossary of Spills Database Terms More searches: New Spill Incidents Search

Back to Search Results

Other Links of Interest...

#### Spill Record

#### **Administrative Information**

**DEC Region:** 9

Spill Number: 0275425

#### Spill Date/Time

**Spill Date:** 11/26/2002 **Spill Time:** 02:00 PM

#### Location

**Spill Name:** NOCO EXPRESS #41 **Address:** 1055 GENESEE STREET **City:** BUFFALO **County:** Erie

#### **Spill Description**

**Material Spilled:** 

**Amount Spilled:** 

0.0000 Gal.

Gasoline

Cause: Unknown

**Source:** Gasoline Station

Resource Affected: Groundwater

Waterbody:

**PBS #:** 9-222712

#### **Record Close**

Date Spill Closed: Not closed

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

#### Other Links of Interest

Information about the Spill Response and Remediation Program Phone Numbers for Spill Response and Remediation

# **Spill Incidents Database Search**

#### More information:

Environmental Remediation Databases Glossary of Spills Database Terms More searches: New Spill Incidents Search

Back to Search Results

Other Links of Interest...

#### **Spill Record**

#### **Administrative Information**

**DEC Region:** 9

Spill Number: 0300146

#### Spill Date/Time

**Spill Date:** 04/04/2003 **Spill Time:** 09:17 AM

#### Location

Spill Name: EXXON/MOBIL STATION Address: 1055 GENESEE STREET City: BUFFALO County: Erie

#### **Spill Description**

Material Spilled:

**Amount Spilled:** 

3.0000 Gal.

Gasoline

Cause: Human Error Source: Gasoline Station Resource Affected: Soil

Waterbody:

**PBS #:** 9-222712

#### **Record Close**

Date Spill Closed: 04/04/2003

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

#### **Other Links of Interest**

Information about the Spill Response and Remediation Program
Phone Numbers for Spill Response and Remediation

## **Spill Incidents Database Search**

#### More information:

Environmental Remediation Databases Glossary of Spills Database Terms More searches: New Spill Incidents Search

Other Links of Interest...

## **Spill Record**

## **Administrative Information**

**DEC Region:** 9

Spill Number: 8710706

#### Spill Date/Time

**Spill Date:** 03/22/1988 **Spill Time:** 03:40 PM

#### Location

**Spill Name:** CUMBERLAND FARMS **Address:** GENESEE AND FILMORE **City:** BUFFALO **County:** Erie

## **Spill Description**

#### Material Spilled:

Gasoline

**Amount Spilled:** 

50.0000 Gal.

Cause: Tank Test Failure Source: Gasoline Station

Resource Affected: Groundwater

Waterbody:

PBS #: Tank #: Tank Size: 0

Test Method: Unknown

Leak Rate: 0.00

#### **Record Close**

**Date Spill Closed:** 05/07/1990

"Date Spill Closed" means the date the spill case was closed by the case manager in the Department of Environmental Conservation (the Department). The spill case was closed because either; a) the records and data submitted indicate that the necessary cleanup and removal actions have been completed and no further remedial activities are necessary, or b) the case was closed for administrative reasons (e.g., multiple reports of a single spill consolidated into a single spill number). The Department however reserves the right to require additional remedial work in relation to the spill, if in the future it determines that further action is necessary.

If you have questions about this reported incident, please contact the Regional Office where the incident occurred.

#### Other Links of Interest

Information about the Spill Response and Remediation Program
Phone Numbers for Spill Response and Remediation

## NEW YORK ATE DEPARTMENT OF ENVIRONMENTA ONSERVATION

SPILL RESPO	ONSE FORM
CALLER'S PHONE:  SKIP BORROW  CALLER'S AGENCY: FREISCHMANNS  CALLER'S PHONE:	Onio
SPILL DATE: 3 221 88 TIME: 15 40 hrs. CENT OFF DATE: 312488 TIME: 1557 hrs. REG OFF DATE: 3122188 TIME: 15740 hrs.	FIRST CALL: A, B, C
Petroleum Spilled  - Gasoline	Material Class  - Petroleum 4 - Raw Sewage 2 - NonPetro/NonHaz 5 - Unknown 3 - Hazardous Material
Material No Lesso premium Spilled	QUANTITY SPILLED . 102 (Sals, 1bs)
SPILL NAME: NST / COMMISSELING SPILL LOCATION: GENESEE & PARME  MINICIPALITY: BUXCALO  COUNTY: ERE	SPILLER NAME: Comasciano Fains  STREET:  CITY/ST/ZIP:  PHONE: 7/6-594-5343  Contact Person: "May"
Spill Cause  1 - Human Error 7 - Deliberate 2 - Traffic Accident 8 - Aband. Drums 3 - Equip. Failure 9 - Tank Failure 4 - Vandalism 10 - Tank Overfill 5 - TK Test Fail. 11 - Other (Bulk Stor. Pro.) 12 - Unknown 6 - Housekeeping	Spill Source  1 - Comm./Indust. 7 - Comm. Vehicle 2 - Non Comm/Inst. 8 - Tank Truck 3 - Maj Fac 400,000 gal 9 - Pvt. Dwelling 4 - Non-Maj Fac 1,100 gal 10 - Vessel Gas Station 11 - Railroad Car 6 - Pass. Vehicle 12 - Unknown
Resource Affected  1 - On Land B - Groundwater 2 - In Sewer 4 - Surface Water 5 - Air  Waterbody Drain Basin/Sub Basin PBS #	Notifier:  1 - Resp. Party  7 - Citizen  2 - Affect. Pers.  8 - Health Dept.  3 - Police Dept.  9 - Local Agency  4 - Fire Dept.  10 - Fed. Gov't.  Tank Tester  6 - DEC  (see remarks)
3.4~	HMANS ON 6000 BELOW-
	COMPLETION DATE: 5-7-90 BY: JOC
DIN Hop	

TIME /ACTIVITY

PIN #SP

## NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

#### SPILL RESPONSE FORM

REGION 9	SPILL NO. 8710706
CALLER'S NAME: SKIP BARRON	NOTIFIER'S NAME:
LALLER'S AGENCY: FLETSCHMANN	NOTIFIER'S AGENCY:
CALLER'S PHONE: 116-873-4952	NOTIFIER'S PHONE:
SPILL DATE: 3 124 88 TIME: 1540 hrs.	ANS SVC DATE: // TIME: hr
CENT OFF DATE: 4/4/4 TIME: 1557 hrs.	FIRST CALL: A, R, C
REG OFF DATE: 9/1/1 TIME: 1540 hrs.	COMPUTER: V
Petroleum Spilled	Material Class
O- Gasoline 4 - #6 Fuel 7 - Waste Oil 2 - #2 Fuel 5 - Diesel 8 - Non-PCB Oil 3 - #4 Fuel 6 - Jet Fuel 9 - PCB Oil 10 - Kerosene Other 11 - Unknown	O - Petroleum 4 - Raw Sewage 2 - NonPetro/NonHaz 5 - Unknown 3 - Hazardous Material
Material Spilled	QUANTITY SPILLED (gals, 1bs)
SPILL NAME: Composition From  SPILL LOCATION: GENESCE & FILL MORE	S SPILLER NAME: Same
MUNICIPALITY: Buckeye	CITY/ST/ZIP: CANTEN MASS OZOL)
OUNTY: <u>ERIÉ</u> <u>NR BECK - 617-828-4900 EVT. 3728</u>	PHONE: 1500-524-1701 EXT. 329
STORE NUMBER- 716-894-8343	Contact Person: JOHN DAVIOS 3317
2 - Traffic Accident 8 - Aband. Drums 3 - Equip. Failure 9 - Tank Failure 4 - Vandalism 10 - Tank Overfill  - TK Test Fail. 11 - Other	Spill Source  1 - Comm./Indust. 7 - Comm. Vehicle 2 - Non Comm/Inst. 8 - Tank Truck 3 - Maj Fac 400,000 gal 9 - Pvt. Dwelling 4 - Non-Maj Fac 1,100 gal 10 - Vessel 5 - Gas Station 11 - Railroad Car 6 - Pass. Vehicle 12 - Unknown
Resource Affected  1 - On Land 3 - Groundwater  2 - In Sewer 4 - Surface Water  5 - Air	Notifier:  1 - Resp. Party 7 - Citizen  2 - Affect. Pers. 8 - Health Dept.  3 - Police Dept. 9 - Local Agency
Waterbody Drain Basin/Sub Basin / O/ PBS #	3 - Police Dept.  4 - Fire Dept.  5 - Tank Tester  6 - DEC  9 - Local Agency  10 - Fed. Gov't.  11 - Other  (see remarks)
REMARKS: 6,000 BELOWS ABOURT	CANED TANK TEST @
REISCHMANS TO RETE	
ORSON BEARDSCAY - 863-12-40	2 COMPLETION DATE: 12 /2 / CVDV ~ ~
	COST CENTER LEAD_DEC

## SPILL CONTINUATION SHEET

Date	Comments
	ASSESSON TO DEFINE REMEDIAL ACTIONS
	TO BE REPORMED.
4/12/88	VDC RECIEVED CALL FARM MA BECK
	TANKS TO BE ESMONED BY 4/20/88.
	HE WILL CONFIRM @ A LATER DATE.
<u></u>	
	DE RECIEVED CALL PROM MA BETK-
	TANK TO BE REMOVED ON 4/19/50.
	MR. ORSON BERRESIET IS CONS, SUPER
	for CF. W/ This SAIL SITE. STORE
	PHONE NUMBER 116-1894-8343
1/18/88	De FRON W DON BOOK, TONK PUR
-	on 4/20/8
5/12/88	IN SPOKE GEORG WERROR WASTESTERDONY -
HARRAD)	EXPERIMED TO HIM ALL TRESANDO SONS MOST
·	EMPAIN ON SITE EVERY APPER DEC DETERMINES
0	SOIL TO BE ACCEPTABLE.

Spill Number <u>87/0706</u>

Date <u>6-8-89</u>

#### SPILL CONTINUATION SHEET

Date	Comments
6-8-89	Pero comprimer from resinant
	@ 22 Penseson ST 200000 AOURENT
	TO SAME SIE. SIE EXPRESSO GROW
	COVER DE BRETSEICOSICAL
···	TRUSTHIBUT DU THE CONTRAININGTOS
	SOIL THAT HAD BYTHIND ON TO HER
·	PROPERLY. SINE REQUESTO THE THE
<del></del>	TO Sample Me Sin RX LACTRINE
······································	resince for the present
	CROSS Compressions Reports, WASTER
	THEM BACTURIA JUST.
	IT WAS EXPERIND TO HER THAT THIS
	DEPOSITIENT WORLD NOT TEST FOR THAT
	REASON AND WE USO NO REMSON
-	of the only & mos wars regimes
	TESTING. SHE EXPRESSED DISSENSEROTION
	W/ THE RESPONSE SAID SAID SAIE
	word communicate w/ HER
	CONGRESMAN GOVENER. I, was

Spill	Number	
Date		

#### SPILL CONTINUATION SHEET

Date	Comments
5-7-90	FEVIERO PLE AUD PORNO ALL
	DATA SATISFACTORY AS IT RELATES
	To son demonstrate
	No prosses work a karawap
<del>,</del>	whe be required
	Sin Remains on Site AND
£	HAS BEEN RECEDED WI GRASS
<del></del>	
<u>.</u>	
<u>.</u>	
-	
<u>-</u>	

October 20, 1988

Cumberland Farms
Attn: Mr. Ralph E. Porter
Regional Manager
5144 Sheridan Drive
Williamsville, New York 14221

Dear Mr. Porter:

Spill Number 8710706 Cumberland Farms Fillmore Avenue Buffalo Brie County

I understand the biologically treated soil will remain at the above-mentioned spill site. This Department approves this action dependent on sampling results. Once you receive these results, please forward a copy to this office.

Your cooperation with the remediation of this spill has been appreciated. If you have any questions, please contact me at 847-4590:

Very truly yours.

Robert N. Leary, P.E. Senior Sanitary Engineer

RNL:vu

cc: Wastestream Technology

September 27, 1988

Mr. Donald Beck c/o Cumberland Farms 777 Dedham Street Canton, Massachusetts 02021

Dear Mr. Beck:

Cleanup of Spill Sites

Spill Number 8710705 Genesee/Fillmore Buffalo, Erie County

Spill Number 8802537 French/Campbell Amherst, Brie County

Spill Number 8803519 South Park/Reading Buffalo, Brie County

Spill Number 8804064 2080 Abbott Road Lackawanna, Erie County

This letter serves to request the following of the above-mentioned spill locations:

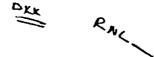
- 1. Provide this Department with the current status to include dates of completion for final disposal and/or treatment.
- 2. Submit receipts for disposal and/or treatment of all contaminated soils.

Please submit all requested information by Monday, October 10, 1988. Your cooperation will be appreciated. If you have any questions, please contact Mr. James Cooke of this office at (716) 847-4590.

Sincerely,

Robert N. Leary, P.E. Senior Sanitary Engineer





Waste Stream Technology Inc. 2211 Main Street **Building B** Buffalo, NY 14214 (716) 838-1044

9710706

BUFFALO

Mr. Robert Leary NYSDEC 600 Delaware Ave. Buffalo, N.Y. 14202 May 2, 1988

Dear Mr. Leary:

The purpose of this letter is to inform your office of the intent of Waste Stream Technology, Inc. to begin bioremediation services on gasoline contaminated soil at the Cumberland Farms station at 1055 Genesee St., Buffalo, N.Y. Treatment is scheduled to begin on or about May 16, 1988.

If you or anyone in your office has any questions in regards to our treatment of this site, please feel free to contact me.

Sincerely,

Gregory Weber Gregory Weber

Project Manager

til

April 28, 1988

Cumberland Farms, Inc. 777 Dedham Street Canton, Massachusetts 02021

Attention: Mr. Donald Beck

Spill Number 8710706 NSI/Cumberland Farms Genesee & Fillmore Streets Buffalo, New York Erie County

Dear Mr. Beck:

This letter is to confirm your telephone conversation with Mr. Lawrence Ross of this Department on Tuesday, April 26, 1988, regarding the above-mentioned spill site.

This Department will allow you to use biological treatment at the site of the contaminated soil that was removed from the tank excavation field. This soil will have to remain on site.

The following laboratory analyses will be required after treatment: petroleum products in soil; gasoline components in soil; and ignitability. If satisfactory results are not obtained, further treatment or disposal will be required.

If you have any questions, please contact Mr. James Cooke of this office or me at (716) 847-4590.

Very truly yours,

Robert N. Leary, P.E. Senior Sanitary Engineer

LOR: VII

New York State Department of Environmental Conservation 600 Delaware Avenue, Buffalo, New York 14202



April 7, 1988

Cumberland Farms, Inc. Attention: Mr. Donald Beck Environmental Affairs 777 Dedham Street Camden, Massachusetts 02021

Dear Mr. Beck:

Spill Number 8710706 Buffalo Erie County New York

On Tuesday, March 22, 1988, a 6,000 gallon gasoline underground storage tank at the above-mentioned address failed a system tank test. On Thursday, March 24, 1988, this tank failed an isolation tank test.

Since the tank failed the retest, the following must now be done:

- 1. All product must be immediately removed from the tank.
- 2. The tank itself must be removed within thirty days.
- 3. The interior surface of the tank must be cleaned, and all sludge and residue generated by this process must be properly disposed. The tank must be cut open to allow for this work and to ensure proper ventilation of the tank interior.
- 4. All safety precautions regarding the opening, cleaning and entering of the tank must be followed. The interior atmosphere of the tank may be explosive and proper procedures must be followed.
- Once the tank has been cleaned out, it may be disposed as scrap.

Mr. Donald Beck April 7, 1988 Page 2

Mr. Cooke of this Department must be notified when you have a firm date for removal. We must be present when this tank is removed to determine if any groundwater or soil contamination exists. If groundwater or soil contamination is found, further remedial work will be required.

For your use, enclosed is a list of contractors that are known by this Department to do this type of work. This list is by no means complete. Any contractor may be used by you for this work.

If you have any questions, please feel free to call Mr. Cooke at 847-4590. Your cooperation will be appreciated.

Sincerely,

Robert N. Leary, P.E. Senior Sanitary Engineer

Enclosure

# Data Chart for Tank System Tightness Test

			•	Muf -					
Visca	4/21	7	10	ļ					
$\Omega$	121	S Dens	Address	hute					
(See	MAKE		Address	- <del></del>	*** entative	Telephone			
sory soe	LOCEL	ove		Repr	esentative	Telephone			
AND RET	sen !		Address			Telephone			
DRIBINGE	77	Da D	.E.C.						
That In Y	. 10								
That name	NDC								
JESI AND MUCH	<del> </del>		Title	Company or	Attiliation	Date			
C. TANK MINOLOGY	identify by Direction	Capacity	Address Brand/Supplier	Touris .		Telephone			
5. TANK INVOLVED	North	10000		Unleaded	Approx. Age	Steel/Fibergiase			
Use additional fines for manifolded tanks						Shall			
to manufacted faults				-					
	Location	Cover	Filia						
6. INSTALLATION Data	1 1/11	0/	.14	Vente	Siphones	Pumos			
	14th	b/ '		2"		Duckeye			
	North inside driveway, Rear of station, etc.	Concrete, Black Top, Earth, etc.	Size, Thefili make, Drop lubes, Remote Filia	Size, Manifolded		Suction, Remote			
7 UNCERGROUND WATER	-	q	2	GIZE, MENTIORES	Which tanks?	Make if known			
	Depth to the Water table		·		□ves □No				
8. FILL-UP	Tanks to be filled	_ hr	Date Arranged by						
ARRANGEMENTS	Extra product to "top off" an	d run tank tester. How an	d who to provide? Consider	NO Leed.	ne	Telephone			
•	Terminal or other contact								
	for notice or inquiry	Company		Nen	\	· ·			
9. CONTRACTOR	FLEISCHMAN	N SERVICE C	)DD	•	·-	Telephone			
MECHANICS, any other contractor	<del>1940 65 SKI</del>	LLEN STREET	7101 1						
heviouni		EW YORK 1420	7						
10. OTHER	2								
INFORMATION OR REMARKS	Key 2	22712		limber 6	03				
	Additional information on any	llems above. Officials or o	there to be advised when tes	ting is in progress or completed	1 Matter and				
11. TEST RESULTS	I askn mars UISOS DU II	70 above lank avalem:	i lin mooordanaa uutik saa		. Alerone or openions t	present during test, etc.			
<u>:</u>	nk idebitification > -	Tight	et charts with results as	1000ws;		,			
	16th, 10,00	0 7.01	7		Deta Tee	116/00			
,									
10.05									
12. SENSOR CERTIFICATION	13. This is to certify that i National Fire Protection	hese tank systems we on Association Daniel	re tested on the date(s)	shown. Those indicated a	"Tight" meet the co	ritoria establishad he the			
3/16/88	Technicians								
181	1 Z Daran	<u>h.</u>	TIESS.	CHMANN SERVICE	E CORP.				
Serial No. of Thermal Sensor	Cartification # 1160	11443	Dire	65.SKILEN STRE	y. By: Signature				
	2	_ <del>_</del>	- For	FALO, NEW YORK		·			
	<del></del>				-				

Br. /71/5	State  From  O D D O  Callons  Company Engineering Date  10, 0 ≤ 8  Charts supplied with  Gallons  Other	Gallons Total Gallons  at. Pascling  10.058	21. VAPOR RECOVERY SYSTEM Sage I Stage II	24b. COEFFICIENT OF EXPANSION RECIPROCAL METHOD Type of Product Hydrometer Employed Temperature in Tent 296	23 00 1884 (25 d). Modern 18 18 18 18 18 18 18 18 18 18 18 18 18	24C. FOR TESTING WITH WATER DOWN TABLE CALD Wheter Temperature after Circulation Table C. Table D. Table D.	Added Surfaciant? Thes The Transfer CDE to Une 250.  = (C) 6.4304886 or Volume change in this tank per ** 022   42
Address No. and Streets)	15a BRIEF DIAGRAM ON TANK FIELD 16. CAPACITY  10,000  By most accurate 10,005  By most accurate 10,05	!	Water in tank Une is) being tested with LVLLT  High water table in tank excervation  TANK MEASUREMENTS FOR  TSTT ASSEMBLY  153	Add 30° for TT probe many.  Total bubing to assemble — approximate  20. EXTENSION HOSE SETTING  Tank top to grade*  Extend hose on suction tube 8° or more	THE FILE Pice extends above grade, use top of fill.  22. Thermal-Sensor reading after circulation.  23. Digits per °F in range of expected change.  COEFFICIENT OF EXPANSION (Complete after circulation)  24a. Corrected A.P.I. Gravity.	Hydrometer employed	75. (a) (b) (b) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for this last (15 or 17) (contident of expansion for
Name of Supplify Owner or Dealer	15. TANK TO TEST 15a  Very 15a  North 15a  Brand and Grade  17. FILL-UP FOR TEST	Stick Water Bottom  to W  The Line Author  Saltons  18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK	See manual sections applicable. Check below and record procedure in log (Z7).  Use maximum allowable test pressure for all tests.  Four pound rule does not apply to doublewelled tanks.  Complete section below:	1. Is four pound rule required? 2. Height to 12" mark from bottom of tank 3. Pressure at bottom of tank	2 Pressure at top of tank  Depth of burtal  Tank dis.  Water table  Water table	The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound	fulls to compensate for the presence of subsurface water in the tank area.  Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

From  Sation Chart .  Company Engineering Data  Charts supplied with  Context	21. VAPOR RECOVERY SYSTEM Singe II  24b. COEFFICIENT OF EXPANSION  Hydrometer Employed  Temperature in Tank  Temperature of Rample	Reciprocal 425 Pro 1 66 297  Total quantity in Reciprocal Volume change in the tant per 7  Total quantity in Reciprocal Volume change in the tant per 7  That is C. FOR TESTING WITH WATER are Table C & D.  Water Temperature after Circulation  Table D.  Added Surfaciant? The Month of Transfer COE to Line 256.  = (C) 4, 216 4 22 9  Volume change in this tant  Volume change in this tant  This is  This is
15a. BRIEF DIAGRAM OF TANK FIELD  16. CAPACITY  15a. BRIEF DIAGRAM OF TANK FIELD  16. CAPACITY  17.	Tank Diameter  Tank Diameter    Water in lank   Une(s) being tested with LVLT    High weier table in tank excevation  TANK MEASUREMENTS FOR  TSTT ASSEMBLY  Not tank to grade  STENSION HOSE SETTING  EXTENSION HOSE SETTING  Prose on section take 6" or more  Cop to grade  In hose of grade take direction take 6" or more  Cop to grade  In hose on section take 6" or more  Cop to grade  In hose on section take 6" or more  Cop to grade  In hose of grade take 6" or more  Cop to grade  In hose of grade take 6" or more  Cop to grade  In hose of grade take 6" or more  Cop to grade  In hose of grade take 6" or more  Cop to grade ta	23. Digits per "F in range of expected change digits  COEFFICIENT OF EXPANSION (Complete after circulation)  24a. Connected A.P.I. Granty  Observed A.P.I. Granty  Connected A.P.I. Granty  Connected A.P.I. Granty  Gentle and Expansion  For involved Broader  From Table A.  Coefficient of Expansion  for involved Broader  From Table B.  Transfer COE to Une 220.  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient of expansion for Voe Institute (18 or 17)  Transfer To Coefficient (18 or 17)  Transfer To C
15. FANK TO TEST  CALLAR and Grade  17. FILL-UP FOR TEST	Sick Water Bottom  18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK  See maximum allowable test programs for all tests.  Four pound rule required?  19. Complete section below:  Complete section below:  2. Height to 17 mark from bottom of tank  2. Height to 17 mark from bottom of tank  Depth of bursa  1	Tank dia.  The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four round rule to compensate for the presence of subsurface water in the tank area.  Refer to N.F.P.A. 30, Sections 2-3.2.4 and 2-7.2 and the tank manufacturer regarding allowable system test pressures.

Saile Saile		Gallons Godfors Company Engineering Deta County Cou	Gallons ea. Reading inventory	(1004) - 6047	21. VAPOR R	.   	In Hydrometer Employed Hydrometer Employed H Temperature in Tank After Circulation **	Temperature of Bampie  P  Difference (+/-)	Pactorial Pactorial Processor Political Volume change in this tank (18 or 17)	24c. FOR TESTING WITH WATER Table C.A.D.		Added Surlaciant? Twee No Transfer COE to Line 25b.  = (c) Volume change in this lank per *F
Adress / Stree	15a. BRIEF DIAGRAM OF TANK 1, 0 16. CAPACITY	Nominal Capacity  By most accurate  Expectly chart available	then ale	THIS TANK	19. TAN TST Bostom of ta		Tank top to grade" Lets.  Extend hose on suction tube 6" or more before tank top	P.S.L. "If Fill pipe axiends above grade, use top of fill.  22. Thermal-Sensor reading after circulation degree.	23. Digits per 1º în range of expected change COEFFICIENT OF EXPANSION (Complete after circulation) 24a. Corrected A.P.I. Granity Observed A.P.I. Granity	Mydrometer employed  Observed Sample Temperature	Corrected A.P.I. Gravity  @ 60°F, From Table A.  Coefficient of Expansion for Involved Product From Table 8.	25. (a) COOS (b)  Total quantity in Coefficient of expansion for any and take tils or 17)  26. (a)  Volume change b (25 or 24b)  Dights par of in last
	15. ANK TO TEST	Garlin by position	Silet writer Bolton Solds Writer Bolton Solds Fill-up to N to N	18. SPECIAL CONDITIONS AND PROCEDURES TO TEST THIS TANK See manual sections applicable, Check below and record procedure in log (27).	Use maximum allowable test pressure for all tests. Four pound rule does not apply to doublewailed tanks. Complete section below:	1. Is four pound rule required?	2. Helphi to 12" mark from bottom of tank 3. Pressure at bottom of tank	4. Pressure at top of tank  Depth of burlar	Tank die 96 m		The above calculations are to be used for dry soil conditions to establish a positive pressure advantage, or when using the four pound rule to compensate for the presence of subsurface water in the tank area.	Refer to N.F.P.A. 30. Sections 2-3.24 and 2-7.2 and the tank manufacturer regarding sllowable system test pressures.

9 1		<u> </u>	)	11.10 - WD T.110		146	7	1111	111 +:00/ +:0/1	4.0
		-								
		_								
									===	
		-						-		
	_		,					:		
	_									
				<del> </del>						
	-			7	+					
	-			-						
							<del>                                     </del>			
	-						7			
					<del>  -</del>	,		,		
					-		<del> </del>			
-	-				+	1				
ss criteria of ±	1050		·				<u>·</u>	:		
tooden a mothematica										
emperature and other character	£.		<del>-</del> .	·			-			
WI Solling Company (1983)	ස <b>ස</b>		-	-		-			•	
is not allow,	10			-	+	$\dagger$				
go a leak from the tank/sy	stemp					1	-	- <u></u> -	-	
S thin the one and	1000	-	-							: 1
3	r.c.							<del> </del> -		
	-				· -			-	1	
							-			
	<del>-</del> -			   	-	-	+	+	Ç .	
				-	<del> </del>	+	1	·	•	

•

P-T Tank Test Data Chart Additional Info 4.017 1. Net Volume Change at Conclution of Predision Test \_\_\_\_ gph

1989 Signature of Tester;

2. Statement:

Tank and product handling system has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak. Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329. Ö

If is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants Incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank Owner/Operator

					-	=						 							- P. G.				It is the responsibility of the owner and/or operator of this system to immediately advise state and local surbasis.	implied hazard and the possibility of any reportable politrion to the environment as a result of the indicated failure of this system. Heath Consultants incorporated does not assume any	s of product to the	
	-				-		-	=	<u> </u>	= =		 ==					<u> </u>		-	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			ity of the owner ar	he possibility of any a result of the ind	bility for any loss	
									<u>.</u>				·					-					It is the responsible system to immediate	implied hazard and the environment as system. Heath Const	environment.	Tank Owner/Operator
=							=		<del></del>		-	-	-							<del></del> -						
																							2. Statement:  Tank and product handling system has been tested tight according to the Precision Test Critaria as setabilished.	f Intended to indicate	Tank and product handling system has falled the tank tightness test according to the Precision Test Criteria as established by	
·		-		·									-										t handting system Precision Test Crit	on 329. This is no ik.	andling system has in Pracision Test Cr	. 329.
							-							-   -  -							-		Statement: Tank and product according to the	N.F.P.A. publication permission of a lea	Tank and product hitest according to the	N.f.F.A. Pussicans
													+						:	-		Ç.,	4 <u> </u>	} ·		
																	•						P-1 lank Test Data Chart Additional Info	1. Net Volume Change at Conclusion of Precision Tass	isler Land	1
																							<u>.</u>	1. Net Volume Ch.	Signature of Tester:	ia.

CO C	CO C	.340 .790 .790 .790 +.	Land Learn Reading  1 - 2 441 42 .000 .110  2 447 42 .20 .340  5 447 42 .345 .450	The state of the s	Record details of setting up and running test: (Use tuit length of line it needed.)  TIME length of line it needed.)  Rading Restored Reading Restored Reading
	Computation (c) x (2) x (3) x	10 00 00 00 00 00 00 00 00 00 00 00 00 0	120 934 + 18 120 934 + 18 120 934 + 18		Replaced (+) Replaced (+) Thermal Sensor covered (+) Reading

r operator authorities	If is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reports his control of the contro	nsibility of the	the responsion to immediately	It is	tight ed by	as been tested tight is as established by	Statement:  Tank and product handling system has been according to the Precision Test Criteria as est N.F.P.A. publication 329. This is not incorded.	oduct handi the Precision 329.	Statement: Tank and pro- according to N.F.P.A. publi	 S. E. S. Z.	P-T Tank Test Data Chart Additional Info
- -			1								
\.\\				-	= -	-	1		•		
	13				= =	1					
						1				= =	
-		-			-	-					than the .050 gal/hr figure
-								_	_	<u>`</u> i	rete of the leak
+					=		_				does not allow, permit, or
=+-											the rightnes
+						_					Traine or expected
					:	-			<u> </u>		To best ton a mat
= =	- <del></del>							 = =-		6	`.   }
=		_									
<del></del>						-					
=						- -				·	
-									,	:	
-					-	-	<del>  </del>	=			
	=+										
+	- +			İ							
_	-	<u></u>									
											•
·										1	
										-	
=										+	-
_										+	-
		-	-		.						
 		-	+				ı				
				-							

Tank Owner/Operator

It is the responsibility of the owner and/or operator of this aystem to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants incorporated does not assume any responsibility or liability for any loss of product to the environment.

Tank age Tangustan Burne oystem has falled the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329. S

1. Net Volume Change at Conclus

Signature of Testey

1	T		Τ-		<del>-                                    </del>	<u>جا</u> ۔ در	2	: 0		Ť		<u> </u>	,						 	_					
					- 1	1088					١.												6.20	16,00	50.51
		-				#19975-14	לו היי די ד	The state of the s	The change in a	of one occord volume.													Choke Com Church		
		-				1.	(B)				C	7			:									5	4
																٠								15,2	152
																								4	Ž
								Ť.																,/30	8
			· · · · · · · · · · · · · · · · · · ·																				,	260	130-
					- -							.	-	·		<del></del> -								100	8
				:																			- 1	000	1140
	_	1	_																		}			8	1/2
	]	<i>5</i>			   													i					- 1		1/1/
	· •					. •																	;	- 1	てくって
																				*.			10.	111	

;

Tank Owner/Operator

Net Volume Change at Conclusion of Precision Test \_\_\_\_gph
 Cinculus of Taring

Tank and product handling system has failed the tank tightness test according to the Precision Test Criteria as established by N.F.P.A. publication 329.

2. Statement:

Tank emission transling and has been tested tight according to the Precision Test Criteria as established by N.F.P.A. publication 329. This is not intended to indicate permission of a leak.

It is the responsibility of the owner and/or operator of this system to immediately advise state and local authorities of any implied hazard and the possibility of any reportable pollution to the environment as a result of the indicated failure of this system. Heath Consultants incorporated does not assume any responsibility or ilability for any loss of product to the environment.

P-T Tank Test Data Chart Additional Info

\_Signature of Tesjer/

Date:



Waste Stream Technology Inc. 2211 Main Street Building B Buffalo, NY 14214 (716) 838-1044

Hr Bo6 -

Enclosed is a copy of the final report on the Jamesse & Fillmore site for Comberland Farms.

Please call it you have any questions.

Mule Bunhart

File

3 6710706

BLO TREATMENT

BIOREMEDIATION OF SOIL CUMBERLAND FARMS STORE GENESEE & FILMORE BUFFALO, NEW YORK

> PREPARED FOR: CUMBERLAND FARMS 77 DEDHAM STREET CANTON, MA. 02021

PREPARED BY
WASTE STREAM TECHNOLOGY INC.
2211 MAIN STREET, BUILDING B
BUFFALO, NEW YORK 14214

#### TABLE OF CONTENTS

I.	INTRODUCTION	1
	Site Location	1
	Statement of Problem	1
	Site Location Map	2
II.	METHODOLOGY	3
	Placement of Excavated Soil	3
	Sampling Methodology	3
	Nutrient and Bacterial Application	4
III.	DATA	5
	Cotl Wood Demant	
	Soil Test Report	6
	HNu Photoionization Detection Readings	7
	Summary of Work Performed	11
IV.	RESULTS	14
	Plot of Soil Nutrient Levels	16
	Plot of Average PID Readings	19
	Average Bacterial Colony Growth	19
	Closing Laboratory Analysis	20
٧.	DISCUSSION	27

#### I. INTRODUCTION

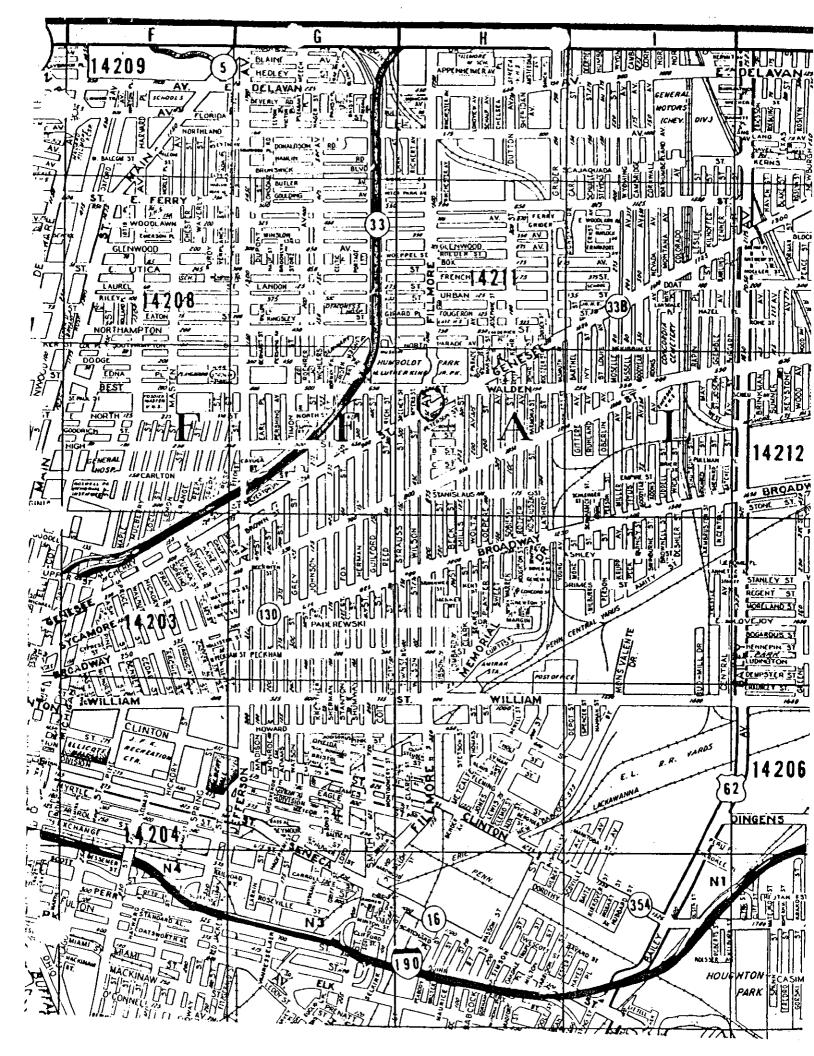
Site Location

The Cumberland Farms location which is the subject of this report is located on the corner of Genesee and Filmore streets in Buffalo, New York (see site map on next page).

Statement of the Problem

Underground gasoline storage tanks were removed for replacement. Approximately 600 cubic yards of gasoline contaminated soil was excavated. The tank field was replaced leaving no excavation in which to replace soil after decontamination. Options for the disposal of the contaminated soil by Cumberland Farms were either, hauling it to a hazardous waste facility or biological treatment on site.

The Department of Environmental Conservation granted permission to use biological treatment at this location. They also specified the criteria that the soil must reach to be considered contaminant free, and also that the soil must remain on the premises after bioremediation.



#### II. METHODOLOGY

#### Placement of Excavated Soil

The excavated gasoline contaminated soil was placed on a plastic liner over a parking area. The outer perimeter of the liner was supported by hay bales to create a bermed containment treatment area. The soil was distributed to a depth of approximately two feet which is the maximum depth to permit proper aeration of soil.

#### Sampling Methodology

A sampling protocol was established for the site. The contaminated staged soil at this particular site lent itself to division into a more highly contaminated half and a less contaminated half. A minimum of two soil samples were collected during the treatment period. These were composite samples of each half of the treatment area which were as representative as is possible.

A portion of the two samples was combined and tested for six macronutrients and pH using a LaMotte Chemical soil test kit. Data is recorded on soil texture, color and moisture content.

 ${\boldsymbol{\lambda}}$  portion of the two samples was analyzed weekly to monitor bacterial population dynamics.

HNu Photoionization Detection readings, which detect the concentration of volatile organic hydrocarbons, were taken periodically to monitor the decrease in contamination as a result of the biodegradation process.

#### Determination of "clean" Soil

When the soil was suspected of being "clean", an intensive sampling effort began. Each highlift bucketfull was checked using the HNu meter. If it passed the criteria of 10 ppm on the meter the soil was deemed "almost clean", segregated, and placed for further unaided biodegradation. If the bucketfull exceeded this limit, the soil was isolated and placed for subsequent treatment.

#### Final Sampling Protocol

Representative composite samples were taken of the remediated soil to ascertain attainment of cleanup criteria. Twenty 300 ml samples were taken at random locations and depths. These sub-samples were combined into a larger container and mixed to assure as homogeneous a mixture as possible. A 300 ml sample was taken from this container and sent for analytic workup. This procedure was repeated again and a second 300 ml sample was

#### Nutrient and Bacterial Application

The excavated soil was prepared for bacterial application by the addition of nutrients. A nitrogen source for bacterial growth was applied to supplant the nutritional requirements of the bacteria being used. This was usually applied by dissolution in 300 gallons of water and sprayed on the soil. Nutrient was applied as dictated by results from soil tests throughout the treatment period.

The bacterial suspension is prepared including nutrients sufficient for their rapid growth. This application is made by either spraying the suspension at high pressure, or by injection into the soil at a depth of about 16 inches.

The soil was tilled to promote aeration as frequently as possible. There was a problem in this regard until WST assumed responsibility for the movement of the soil.

#### Table 1 MACRONOTRIENT Soll TEST REPORT

#### GENESEE & FILLMORE\* October 21, 1958

DATE TESTED	CALCIDA	Hg 	NITRATE NITROGEN	PROSPHOROUS	POTASSION	ANNONTA NYROGEN	NITHITE NITHOGEN
4/29/88	2800	6.5	5	87.5	50	; 5 ;	1
5/06/88		€.3	5	35	55	5	1
5/18/88		6.5	10	50	100	7.5	1
6/03/88	-	6.7	20	50	190	10	1
6/16/88	2800	7.6	40	120	130	10	1
6/29/88	2800	8	75	169	130	5	1
7/14/88	2800	7.4	20	100	150	10	1
8/09/88		7.8	20	75	158	5	1
8/23/88	-	6.7	20	100	175	5	1
8/23/88		6.7	169	50 (	110	5 ;	1
8/31/88		7.2	10	100	80	5	1
9/14/88	2802	5.4	;; 5	75	100	5	1
9/28/88	2886	6.4	65	100	110	5 ;	1
	#ESTED  4/29/88  5/06/88  5/18/88  6/03/68  6/16/88  6/29/88  7/14/88  8/09/88  8/23/08  8/23/88  8/31/88	### TESTED CALCIUM  ###################################	TESTED       CALCIDN       pH         4/29/88       2800       6.5         5/06/88       -       6.3         5/18/88       -       6.5         6/03/68       -       6.7         6/16/88       2800       7.6         6/29/88       2800       8         7/14/88       2900       7.4         8/09/88       -       7.3         8/23/88       -       6.7         8/31/88       -       7.2         9/14/88       2800       5.4	TESTED     CALCIDN     pH     Miladen       4/29/88     2800     6.5     5       5/06/88     -     6.3     5       5/18/88     -     6.5     10       6/03/88     -     6.7     20       6/16/88     2800     7.6     40       6/29/88     2800     8     75       7/14/88     2800     7.4     20       8/09/88     -     7.3     20       8/23/88     -     6.7     20       8/23/88     -     6.7     100       8/31/88     -     7.2     10       9/14/88     2800     5.4     5	TESTED         CALCIUM         pH         NIInogen         PROSPHOROUS           4/29/88         2800         6.5         5         87.5           5/06/88         -         6.3         5         35           5/18/88         -         6.5         10         50           6/03/88         -         6.7         20         50           6/16/88         2800         7.6         40         100           6/29/88         2800         8         75         100           7/14/88         2800         7.4         20         100           8/09/88         -         7.8         20         75           8/23/88         -         6.7         20         100           8/23/88         -         6.7         100         50           8/31/88         -         7.2         10         100           9/14/88         2800         5.4         5         75	TESTED         CALCIDN         pH         NITEGEN         PHOSPHOROUS         POTASSION           4/29/88         2800         6.5         5         87.5         50           5/06/88         -         6.3         5         35         55           5/18/88         -         6.5         10         50         100           6/03/68         -         6.7         20         50         100           6/16/88         2800         7.6         40         100         130           6/29/88         2800         8         75         100         130           7/14/88         2800         7.4         20         100         150           8/09/88         -         7.3         20         75         150           8/23/88         -         6.7         20         100         175           8/23/88         -         6.7         100         50         110           8/31/88         -         7.2         10         100         60           9/14/88         2802         5.4         5         75         100	TESTED         CALCIDN         pH         NITEOGEN         PBOSPHOROUS         POTASSIGN         ANTHOGEN           4/29/88         2800         6.5         5         87.5         50         5           5/86/88         -         6.5         10         50         100         7.5           5/18/88         -         6.5         10         50         100         10           6/03/68         -         6.7         20         50         100         10           6/16/88         2800         7.6         40         120         130         10           6/29/88         2800         8         75         160         130         5           7/14/88         2800         7.4         20         100         150         10           8/09/88         -         7.3         20         75         150         5           8/23/88         -         6.7         20         100         175         5           8/23/88         -         6.7         160         50         110         5           8/31/88         -         7.2         10         100         80         5           9/

## Table 2 HNU PHOTOIONIZATION DETECTION REAFINGS CUMBERLAND GENESEE & FILLMORE September 29, 1988

DATE	SAMPLE #	CONCENTRATION OF ORGANIC VOLATILES
5/18/88	1	5
5/18/88	2	3Ø
5/18/88	3	40
5/18/98	4	12
5/18/88	5	Ø
5/18/88	6	Ø
5/18/88	7	40
5/18/88	8	40
5/18/88	9	70
5/18/88	1Ø	220
5/18/88	11	15
6/06/88	1	180
6/06/88	2	15
6/5/6/88	3	9
6/06/88	4	120
6/06/88	5	2.8
6/06/88	6	190
6/96/33	7	5
6/96/88	8	22
6/06/88	9	6
6/06/38	10	48
6/06/88	11	22
6/Ø6/88	12	190
6/Ø6/88	13	240
	:	

DATE	SAMPLE #	CONCENTRATION OF ORGANIC VOLATILES
6/06/88	14	78
6/17/88	1	24
6/17/88	2	34
6/17/88	3	312
6/17/88	4	13Ø
6/17/88	5	8
6/17/88	6	4
6/17/88	7	2Ø
6/17/88	8	12
6/17/88	9	90
6/17/88	1Ø	190
6/24/88	1	3
6/24/88	2	12
6/24/88	3	3
6/24/88	4	4
6/24/88	5	5
6/24/88	6	16Ø
6/24/88	7	5
6/24/88	8	3
6/24/88	9	, ; 8 !
6/24/88	10	16
6/24/88	11	200
6/24/88	12	72
6/24/88	13	2
7/11/88	1	6
7/11/88	2	6
7/11/88	3	3
	;	;

•

DATE	SAMPLE #	CONCENTRATION OF ORGANIC VOLATILES
7/11/88	4	3
7/11/88	5	30
7/11/88	Q	32
7/11/38	7	60
7/11/88	8	65
7/11/88	9	42
7/11/88	10	120
7/11/88	11	76
7/11/88	12	72
7/11/88	13	116
7/11/88	14	124
8/17/88	1	2
8/17/88	2	. 9
8/17/88	. 3	Ø
8/17/88	4	Ø
8/17/88	5	Ø
8/18/88	1	20
8/18/88	2	4
8/18/88	3	35
8/18/98	4	4.5
8/18/88	.,	35
8/18/88	6	Ø.5
8/18/88	7	110
8/18/88	·	6
8/18/88	9	17
8/18/88	10	Ø.5
8/18/83	11	Ø.5
;	:	

.. .

DATE	SAMPLE #	CONCERTRATION OF ORGANIC VOLATILES
8/18/88	12	1.5
8/18/88	13	3.5
8/18/88	14	7
8/18/88	15	5
8/18/88	16	0.5
8/18/88	17	2
8/18/88	18	6.5
8/18/88	19	2
8/18/88	20	25
8/13/88	21	3
8/18/88	22	35
8/18/88	23	1.5
8/18/88	24	15
8/18/88	25	18
	· :	-;;

\*SAMPLES WERE OBTAINED AT A DEPTH OF AFPROXIMATELY 18 INCHES

# Table 3 WORK PERFORMED AT CENESEE AND FILLMORE BUFFALO, NEW YORK October 21, 1988

DSTE	PID READINGS	SAMPLES COLLECTED	BACTERIAL COUNTS	SOIL TESTS	BACTERIAL APPLICATION IN GAL	NUTRIENT APPLICATION IN GAL	TILLING SCHEDOLE
4/27/88	<u> </u>	2	:	1	•	1	:
5/02/88		2	1				1
5/05/88		1		1		600	
5/06/88	1		;		·	900	
5/11/88		; ! !		 	380		1
5/13/88	; ;	; ;	;		4	300	
5/16/88	1 1 1	j			†	300	
5/18/88	11	2	;	;	!	300	]   
5/20/88	1		,	;	300		
5/23/88	] ; ;	!	; · · · · · · · · · · · · · · · · · · ·	;	- <del> </del>	300	 
5/25/88	 			;	369		
5/26/88			; ************************************		363		      
5/27/88		2	1		360		
5/31/88				;		300	
6/01/88				;	300		
6/02/88		2	· · · · · · · · · · · · · · · · · · ·	1	32/8		
6/03/88					302	250	 
6/26/88	14			;			 
6/07/88					300		
6/28/88	· · · · · · · · · · · · · · · · · · ·	2	2		300		
6/09/88	t	; :			388	<del></del> -	
6/10/88		•••	***************************************		360	<u>-</u>	1
6/13/88		B !	8	1	300	550	1
			**				

DATE	PID READINGS	SAMPLES COLLECTED	BACTERIAL COUNTS	SOIL TESTS	BACTERIAL APPLICATION IN GAL	NUTRIENT APPLICATION IN GAL	TILLING Schedule
6/14/88			;	!	# *	; 300	1 1
6/15/88	) 	*	-;		55.7 91.7		-,
6/16/88	; ; ;	;		-;	399	! !	
6/17/88	10	2	2		300	 	
6/20/88	- 1 - 1		3	-	; 300	! 	
6/24/88	13				300		
6/27/88	1	2	2	1	300		
6/28/88			1		300		
6/29/88	-,				599		
6/30/88	·	-;			300		
7/01/88	1 1				300		
7/05/88	; ;	-;	;		380		I
7/06/88		1	;		, 360		
7/07/88	 				360		
7/08/88	4				300	   	
7/11/88	14	2	2	1	300		
7/12/88	f	1			300		
7/13/88	† ************************************			    	300	 	I
7/14/88	; ! !	, , , , , , , , , , , , , , , , , , , ,			300		
7/15/88	;	 			399		
7/18/88		1	1		300		
7/19/88			 !		300	·	
7/20/88		 			300	·	
8/01/88		;; ; ,	3				I
8/02/88							
8/03/88		2	; 2	1			
8/09/88							
							I :

•

DATE	PID Bradings	Samples Collected	BACTERIAL COUNTS	SOIL TESTS	BACTERIAL Application In Gal	NOTRIENT APPLICATION IN GAL	TILLING Schedule
8/89/88	) 1	, ,	i i	!	:	:	; I ;
8/11/88	1	;	;			; 60v	*
8/12/88	;	1			; ; 300	;	
8/17/88	5	2	2	1			
8/18/88	25	2	;	1		600	Υ
8/19/58	;   	† †	;	1	3/49		I
8/22/88		• • • • • • • • • • • • • • • • • • •	,	1	;	; ;	I
8/23/88		; ; ;	;	;	; !	300	I
8/29/88		1 9 1 2	2	1	300		
9/02/88		4#	,	[ 	300		
9/26/88			; <del></del>	; !	   		1
9/07/88		;	,	;			Y
9/08/88			<del></del>	   			I
9/09/99		2	2	1	; • • • • • • • • • • • • • • • • • • •		1
9/21/88					259	   	1
9/22/88						I	
9/23/88		2	2	1			
9/27/88		    			307		
9/29/88					360		
TOTAL	92	46	32	11	42	14	14

#### IV. RESULTS

#### Soil Test Report

Graphs 1-5 represent macronutrient and pH levels over the length of the treatment period. Illustrated are levels of nitrate nitrogen (Graph 1), ammonia (Graph 2), phosphorous (Graph 3), potassium (Graph 4), nitrate nitrogen (Graph 5) and pH (Graph 6). All graphs illustrate nutrient levels within the ranges which are utilizable and which promote bacterial growth and maturation.

The nitrate nitrogen, which ranged from 5 to 75 ppm, and the potassium levels, which ranged from 50 to 175 ppm, best reflect the nutrient loading and subsequent utilization by the bacteria. Bacterial colony growth is also reflected in the graph of pH values. Successfull bacterial populations drive the pH up, in this case to a pH of 8. Moderation of bacterial application and concurrent nutrient application serve to lower the pH slightly past the neutral point (pH 7.0).

#### HNu Photoionization Detection Readings

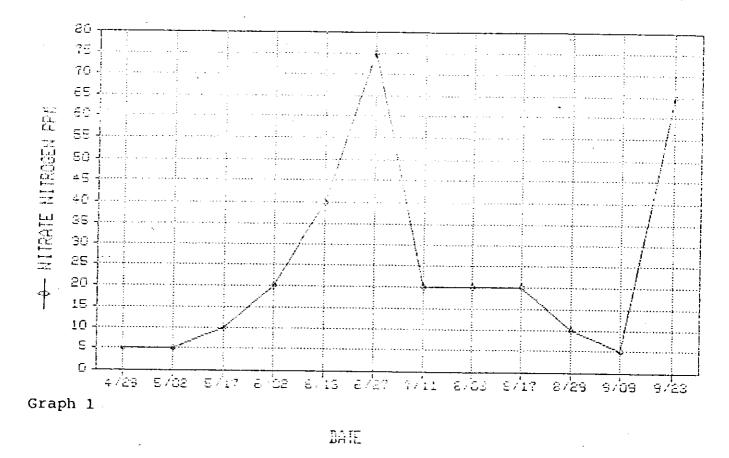
Average PID readings are plotted on Graph 7. The Photoionization Detector detects organic vapors eminating from contaminated soil. Note that the plot is the average of multiple values and that the maximum contamination is much greater than the average. This is due to the sampling of the not so highly contaminated soil.

The graph shows a study decrease in contaminant levels over the treatment period. Levels at the end of the period are well under 5 ppm. In spite of the low levels in mid-August some "hot spots" were isolated and treated into September. Also note that even though low levels were reached in mid-August the soil was stockpiled and microbial action further reduced this level of contaminant to non-detectable levels.

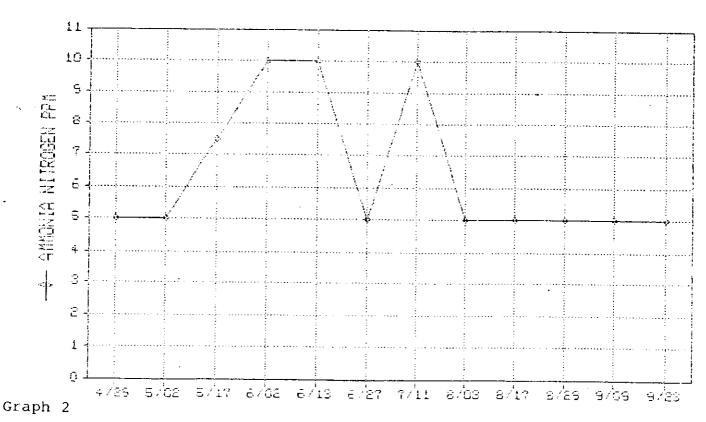
#### Bacterial Colony Growth

Graph 8 illustrates the establishment and subsequent growth of the microbial organisms in the soil matrix. One might note the small indigenous population prior to bacterial application. This graph represents successive additions of bacteria throughout the treatment period. The bacterial population was firmly established by mid-June and remained at high levels throughout July. Given sampling methodology and limited number of colony growth checks this graph is remarkedly similiar to the classic Monod curve for microbial populations.

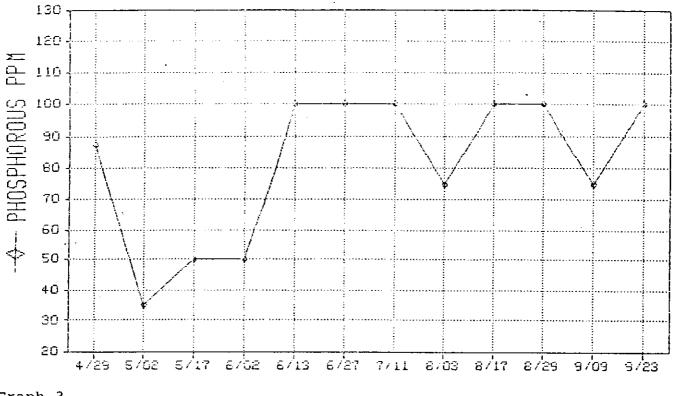
# PATTRATE LEVELS IN GENESEE & FILLMORE SITE



## AMMONIA LEVELS IN GENESEE & FILLMORE SITE

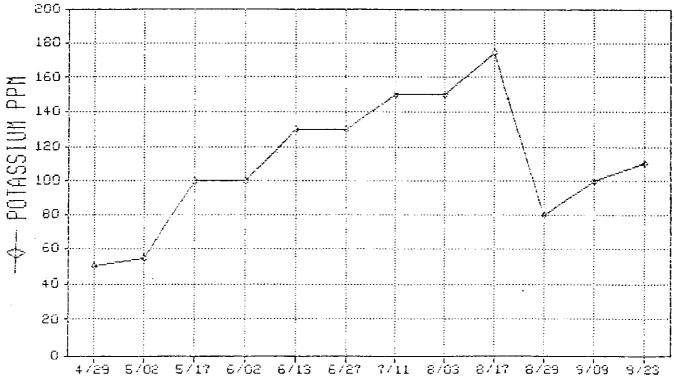


## PHOSPHOROUS LEVELS IN GENESEE & FILLMORE



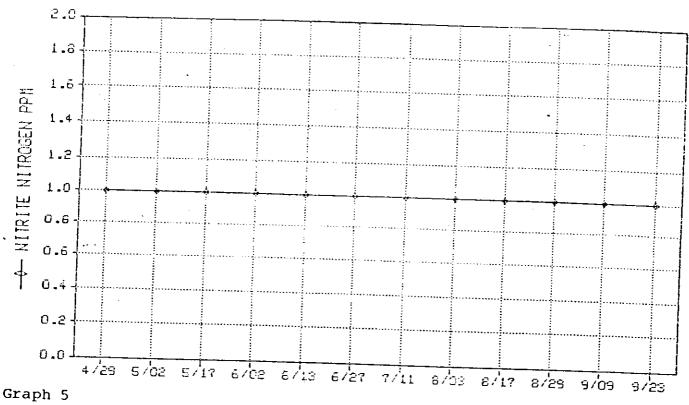
Graph 3

## POTASSIUM LEVELS IN GENESEE & FILLMORE



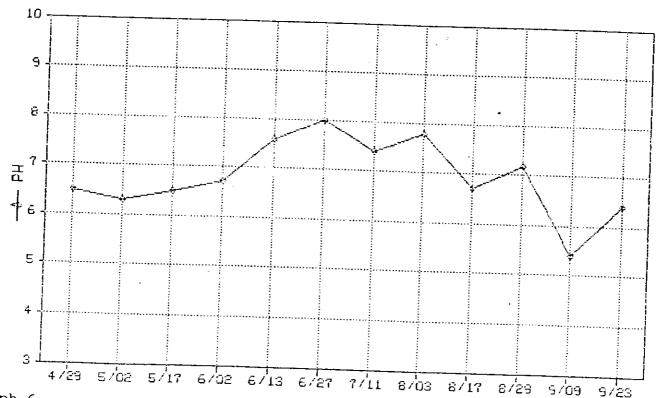
Graph 4

# NITRITE LEVELS IN GENESEE & FILLMORE SITE



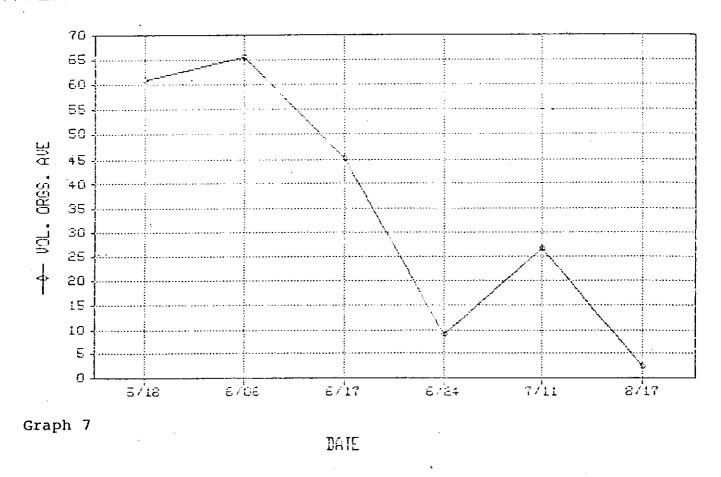
DATE

# PH LEVELS IN GENESEE & FILLMORE SITE

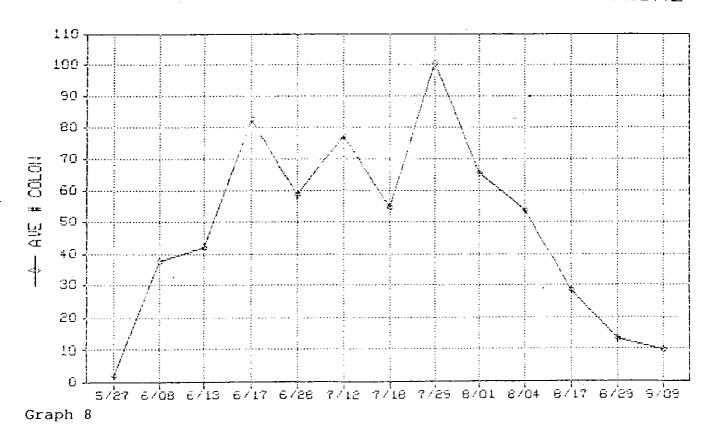


Graph 6

## AVERAGE PID READINGS IN GENESEE & FILLMORE



## AVERAGE COLONY GROWTH IN GENESEE & FILLMORE



#### Closing Analytic Work

Final soil samples were taken as described in the methodology. Two composite samples were tested by Recra Environmental Laboratory. Samples were taken on September 2. One composite was taken of soil that had met the HNu criteria and had been stockpiled. Another composite taken from soil set aside for further bioremediation which exceeded the criteria, was also analyzed.

Three analytic tests were performed on each sample as required for this particular site by the DEC in a letter dated April 28. The lab tested for Benzene, Toluene and Kylene (purgeable aromatics). This was performed using EPA method 8020 for soil analysis. Both composite samples tested below the working detection limit for this method.

The second test performed was for petroleum products in the soil matrix. DOH method 310-13 modified for soils was used and results indicated non-detectable levels of petroleum in these composite samples.

The third test performed at the request of the DEC was for ignitability (U.S. EPA method). This test showed the flash point (temperature at which the sample would ignite) above 200 degrees farenheight, well above the criteria established by the DEC.



#### RECRA ENVIRONMENTAL, INC.

Chemical Waste Analysis, Prevention and Control

September 21, 1988

Ms. Julian Myers Waste Stream Technology 2211 Main Street Buffalo, NY 14214

Re: Analytical Results

Dear Ms. Myers:

Please find enclosed results concerning the analyses of the samples recently submitted by your firm.

Pertinent Information: Quote #:

Matrix: Soil

Samples Received: 9/7/88.

Sample Date: 9/2/88

If you have any questions concerning these data, do not hesitate to  $\sim$  -contact our Customer Service Representative at (716) 691-2600.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Arun K. Bhattacharya, Ph.D.

Senior Vice President/

Laboratory Director

MLD/AKB/jsm Enclosure

> I.D. #88-1400 #8A1439

#### ANALYTICAL RESULTS

Prepared For

Waste Stream Technology 2211 Main Street Buffalo, New York 14214

Prepared By

Recra Environmental, Inc. 10 Hazelwood Drive, Suite 106 Amherst, New York 14150

#### ME THODOL OGIES

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data table. The method numbers presented refer to the following U.S. Environmental Protection Agency reference unless noted otherwise in this report.

 U.S. Environmental Protection Agency "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods". Office of Solid Waste and Emergency Response. July 1982, SW-846, Second Edition.

#### COMMENTS

Comments pertain to data on one or all pages of this report.

The values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.

Petroleum products analysis is performed according to NYS DOH Method 310-13 modified for soils.

Results of the analysis of petroleum products are based on the matching of retention times between the sample and standards on a single gas chromatographic column.

The standards analyzed for comparison include: regular gasoline, white kerosene, fuel oil #2, fuel oil #6, S.A.E. 10, S.A.E. 20, S.A.E. 30 and S.A.E. 40.

Compounds reported as ND are "not detected".



SOIL MATRIX
METHOD 8020 - PURGEABLE AROMATICS AND ADDITIONAL COMPOUNDS

COMPOUND	SAMPLE IDENTIFICATION (DATE)				
(Units of Measure = µg/g )	#1 (9/2/88)	#2 -CLEAN (9/2/88)			
Benzene Toluene	<0.04 <0.1	<0.04 <0.1			
Additional Compounds m-Xylene o-Xylene p-Xylene	<0.1 <0.2 <0.1	<0.1 <0.2 <0.1			
Analysis Date Surrogate Compound Level Added = 30 µg/1	9/15/88	9/16/88			
(% Recovery) a,a,a-Trifluorotoluene	112	91			

### SOIL MATRIX DOH METHOD 310-13

	<u> </u>		
SAMPLE IDENTIFICATION	EXTRACTION DATE	ANAL YS IS DATE	PARAMETER (UNITS OF MEASURE)  PETROLEUM PRODUCTS
#1 #2 CLEAN	9/8/88 9/8/88	9/13/88 9/13/88	ND ND
			<u></u>

#### WASTE MATRIX

PARAMETER *	UNITS OF MEASURE	ANALYSIS DATE	SAMPLE IDENTIS #1 (9/2/88)	ICATION (DATE) #2 CLEAN (9/2/88)
Flash Point	. <b>°</b> F	9/16/88	>200	>200
Oxidizer Spot Test	. <b>-</b>	9/20/88	NE GATI VE	NE GAT I VE

<sup>\*</sup>Methodology taken from the US EPA "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods". July 1982, SW-846, Second Edition.

# QUALITY CONTROL INFORMATION - PRECISION SOIL MATRIX METHOD 8020 - PURGEABLE AROMATICS AND ADDITIONAL COMPOUNDS

SAMPLE IDENTIFICATION #1

COMPOUND (Units of Measure = μg/g )	VAL UE 1	VAL UE 2	MEAN	STANDARD DEVIATION
Benzene Toluene	<0.04 <0.1	<0.04 <0.1	<0.04 <0.1	- -
Additional Compounds	<0.1 <0.2 <0.1	<0.1 <0.2 <0.1	<0.1 <0.2 <0.1	-
Analysis Date Surrogate Compound Level Added = 30 µg/l	9/15/88	9/15/88	-	-
(% Recovery) a,a,a-Trifluorotoluene	115	108	112	4.9

# QUALITY CONTROL INFORMATION - ACCURACY SOIL MATRIX METHOD 8020 - PURGEABLE AROMATICS AND ADDITIONAL COMPOUNDS

SAMPLE IDENTIFICATION #1

COMPOUND	NANOGRAMS OF SPIKE	PERCENT RECOVERY
Benzene Toluene	60 60	85 95
Additional Compounds  m-Xylene o-Xylene p-Xylene	60 60 60	95 95 96
Analysis Date Surrogate Compound Level Added = 30 µg/l (% Recovery) a,a,a-Trifluorotoluene	9/15	5/88



FOR
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

JOB #: U-9146, (115.025)RE: 97410 SAMPLE DATE: 10/4/88 P.O. NO.: D100141 DATE RECEIVED: 10/5/88 SAMPLED BY: NYSDEC SAMPLE TYPE: Soil DELIVERED BY: NYSDEC E & E Lab # 88: 29476 29477 29478 29479 Client 18890KB <del>४१४</del>४४४ 87/06944 48706841 Sample ID: 3 87.00568 PONTIAL ROAD FILLMORE 371070G GOETZ OIL CUMBERLAND FARMS Results in: mg/L unless noted Oil and Grease <1.0 <1.0 . <1.0 <1.0 on E.P. Toxicity Extracts

Analytical References:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, Second Edition, U.S. EPA, 1982.

Supervising Analyst:

Date:

10127/88

#### V. DISCUSSION

Bioremediation of the gasoline contaminated soil was successfull as determined by laboratory analysis. The three month treatment process progressed well in spite of a number of operational obstacles. Cumberland Farms was notified by a letter dated September 1, that field data indicated that the soil had been bioremediated to a clean level. Upon receipt of laboratory analysis of the soil, the DEC was notified on September 28 and a letter was requested certifying closure of this site and ultimate disposal of the soil.

 $LL_{i}$ 

### TRANSMITTAL SLIP

TRANSMI	TTAL SLIP
FRANK PEDUTO	
RE:	DATE 11/15/08
SAMPLE RESULTS - BIOL	OGICAL TREATMENT
SPILL \$ 97 LAD	STILLER AND
·	ERLAND FARMS - BY. DEC
FOR ACTION AS INDICATED:	
Please Handle Prepare Reply	☐ Comments
Prepare Reply for	☐ Signature ☐ File
☐ Information	☐ Return to me
Approval	
Prepare final/draft in Copies	



## ecology and environment, inc.



ANALYTICAL SERVICES CENTER, P.O. BOX D, BUFFALO, NEW YORK 14225, TEL. 716-631-0360 International Specialists in the Environment

> 5700266

EVANS

October 27, 1988

JON018 6

BUFFALO

A WASTESTREAM FILE

Mr. Robert Leary New York State Department of Environmental Conservation 600 Delaware Avenue Buffalo, N.Y. 14202

RE: U-9146, (115.025)

Dear Mr. Leary:

Attached is the laboratory report of the analysis conducted on four samples received at the Analytical Services Center on October 5, 1988. Analysis was performed according to the procedures set forth in State of New York Department of Transportation, "Sampling and Analysis of Petroleum Products," Petroleum Products in Water, D20020317000 and "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, Second Edition, U.S. EPA, 1982.

The accuracy of all analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted. Ecology and Environment, Inc.'s activity and representations with respect to these samples are limited solely to the laboratory analysis of the samples presented to us.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

Very truly yours,

Way Clary Hahn, Manager

Analytical Services Center

GH/kr

Enclosure



FOR
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

JOB #: U-9146, (115.025)RE: 97410 SAMPLE DATE: 10/4/88 P.O. NO.: D100141 DATE RECEIVED: 10/5/88 SAMPLED BY: NYSDEC SAMPLE TYPE: Soil DELIVERED BY: NYSDEC E & E Lab # 88: 29476 29477 29478 29479 Client 12 \$205 AL 4<del>90884</del>1 EP80078 48<del>70684</del>1 Sample ID: 2 3 8700568 PONTIAL ROAD FILLMORE 871070G GOETZ OIL CUMBERLAND Results in: mg/L unless noted Oil and Grease <1.0 <1.0 <1.0 <1.0 on E.P. Toxicity Extracts

Analytical References: "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," SW-846, Second Edition, U.S. EPA, 1982.

Supervising Analyst:

Date: Wary Lam/ch



FOR
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

JOB #: U-9146, (115.025)

RE: 97410

SAMPLE DATE: 10/4/88

P.O. NO.: D100141

DATE RECEIVED: 10/5/88

SAMPLED BY: NYSDEC

SAMPLE TYPE: Soil

**DELIVERED BY:** NYSDEC

			<u></u>	
E & E Lab # 88:	29476	29477	29478	29479
Client	8206841	V8706841	690E8AL	\ <i>8706</i> 841
Sample ID:	1	2 /	3	4
Results	s in: mg/kg a	s received	d unless no	oted .
Petroleum Hydrocarbon	ıs		8010	0700 \$
Gasoline	ND V	ND	ИD	ND
Lube Oil	ND	/ ир	ND	ND
Kerosene	<10	<b>&lt;10</b>	<10	<10
Fuel Oil	<b>×10</b>	<10	<10	<10
	/	-		

ND: None detected

Analytical References:

State of New York Department of Transportation, "Sampling and Analysis of Petroleum Products," Petroleum Products in Water, D20020317000.

Supervising Analyst:

Date:

10/27/88



#### QUALITY CONTROL FOR PRECISION RESULTS OF ANALYSIS OF REPLICATE ANALYSES OF SOIL SAMPLES

U-9146

	(			
Parameter	E & E Laboratory No. 88- 29479	Original Analysis	Replicate Analysis	Relative Percent Difference (RPD)
Gasoline		ND	ND	
Lube Oil		ND	ND	. <b>-</b> -
Kerosene		<10	<10	<u>.</u> -
Fuel Oil		<10	<10	ž



## RESULTS OF SOIL ANALYSIS FOR PRIORITY POLLUTANT PURGEABLE AROMATIC COMPOUNDS BY GC

(all results in mg/kg as received)

•					U- <u>9146</u>
	<u>E &amp; E Lab.</u> No. 88-	29476	29477	29478	29479
	Sample	<del>0706841</del>	~8 <del>76684</del> 1\~	~8706841\	<del>870684</del> 1
Compound	Identity	1	2 /	3	4
Chlorobenzen		<1.0	<1.0	<1.0 <1.0	<1.0 <1.0
1,2-Dichlore		<1.0 <1.0	×1.0 <1.0	<1.0	<1.0
1,4-Dichlord Benzene	benzene	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0	<1.0 <1.0
Total Xylene Toluene	es	<1.0/ <1.0	<1\0 <1.0	<1.0 <1.0	<1.0 <1.0
Ethylbenzene		<1.0	<1.0	<1.0	<1.0



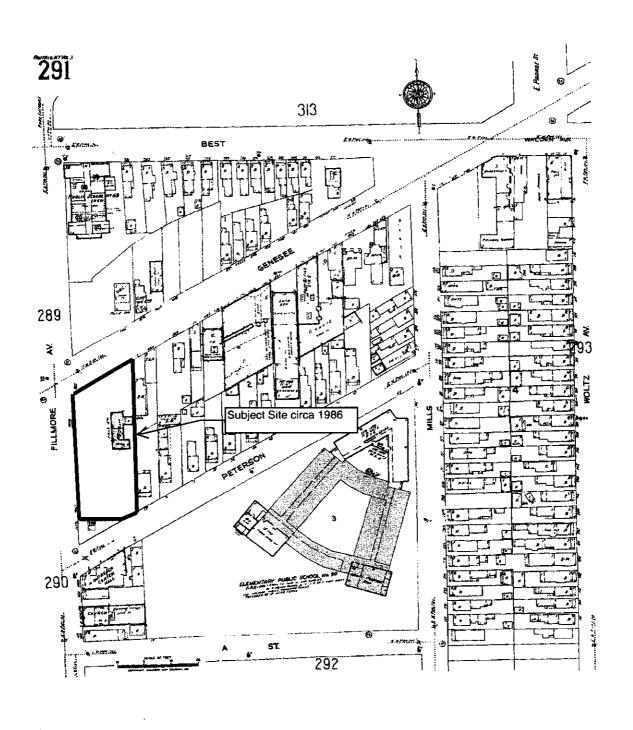
## QUALITY CONTROL FOR ACCURACY: PERCENT RECOVERY FOR SPIKED SOIL SAMPLES

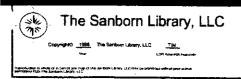
				·	U- <u>9146</u>
	E & E Laboratory No. 88- 29476	Original Value	Amount Added	Amount Determined	Percent Recovery
		(mg/kg)			
Parameter					
Chlorobenzen 1,2-Dichloro 1,3-Dichloro 1,4-Dichloro Benzene Toluene Ethylbenzene	benzene benzene benzene	<1.0 <1.0 <1.0 <1.0 <1.0 <1.0	2.5 2.5 2.5 2.5 2.5 2.5 2.5	2.6 2.7 2.7 2.8 2.7 2.7	104 108 108 112 108 108

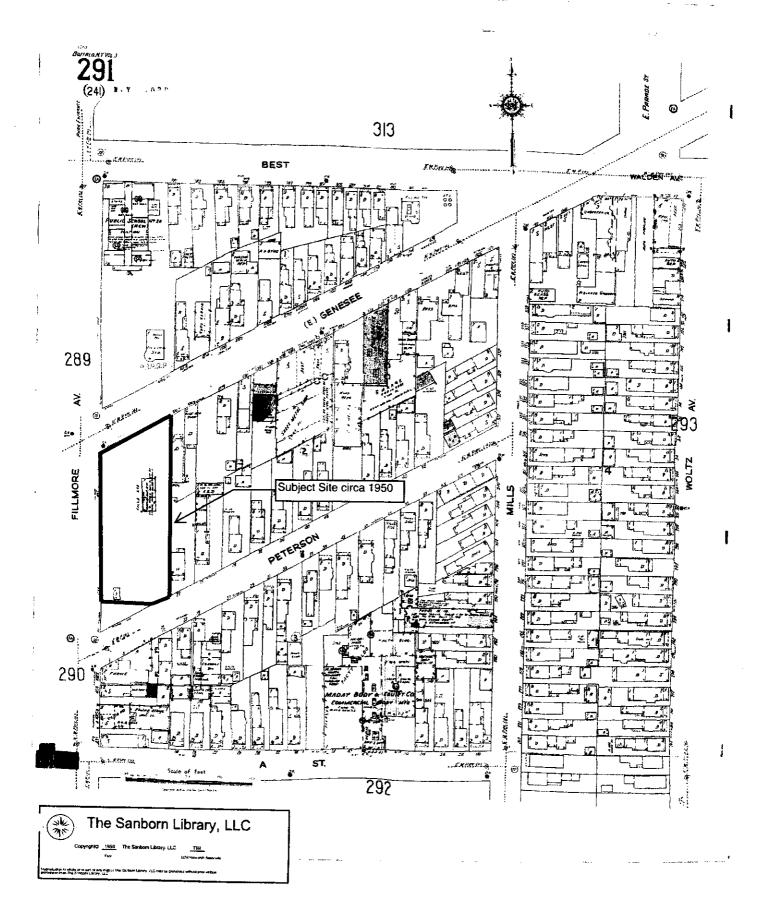
## APPENDIX F

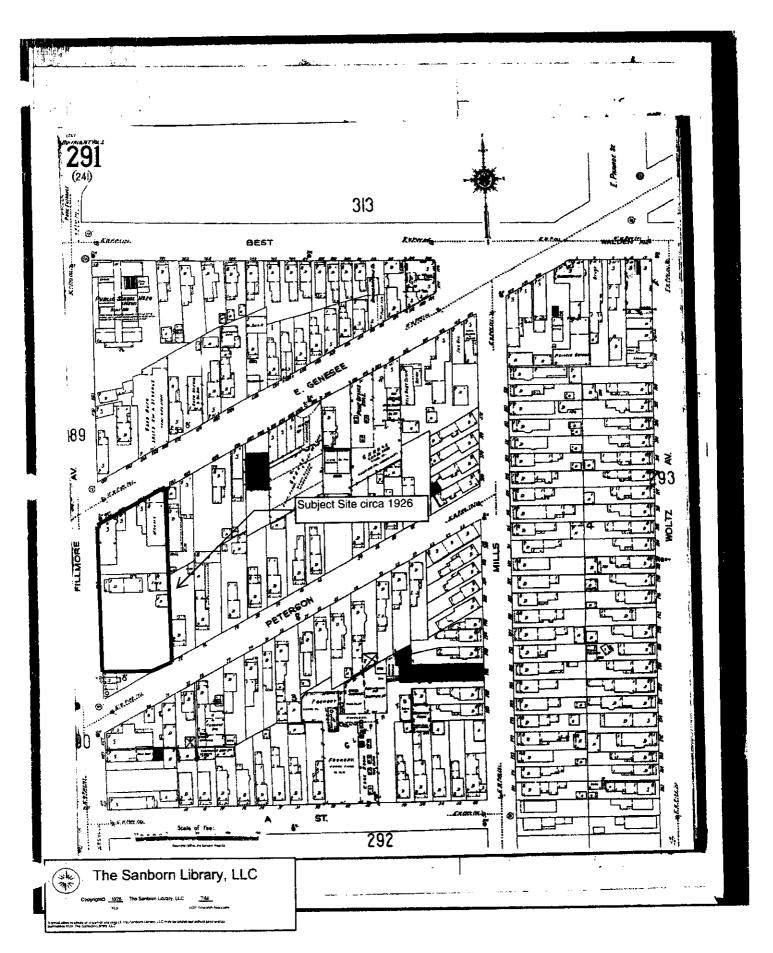
### SANBORN MAPS

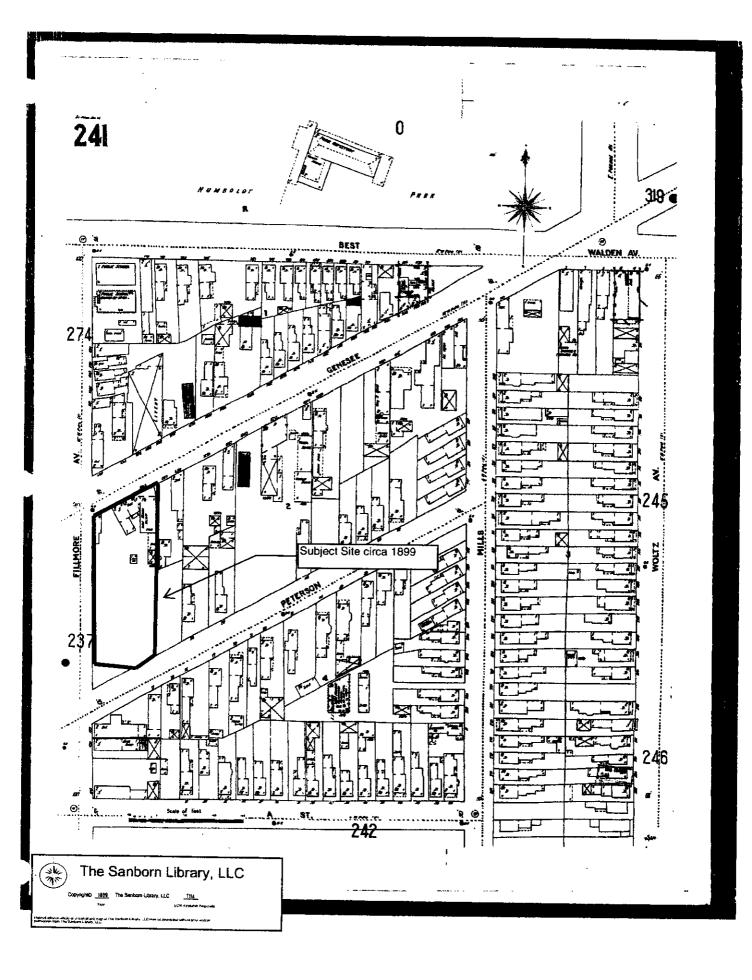


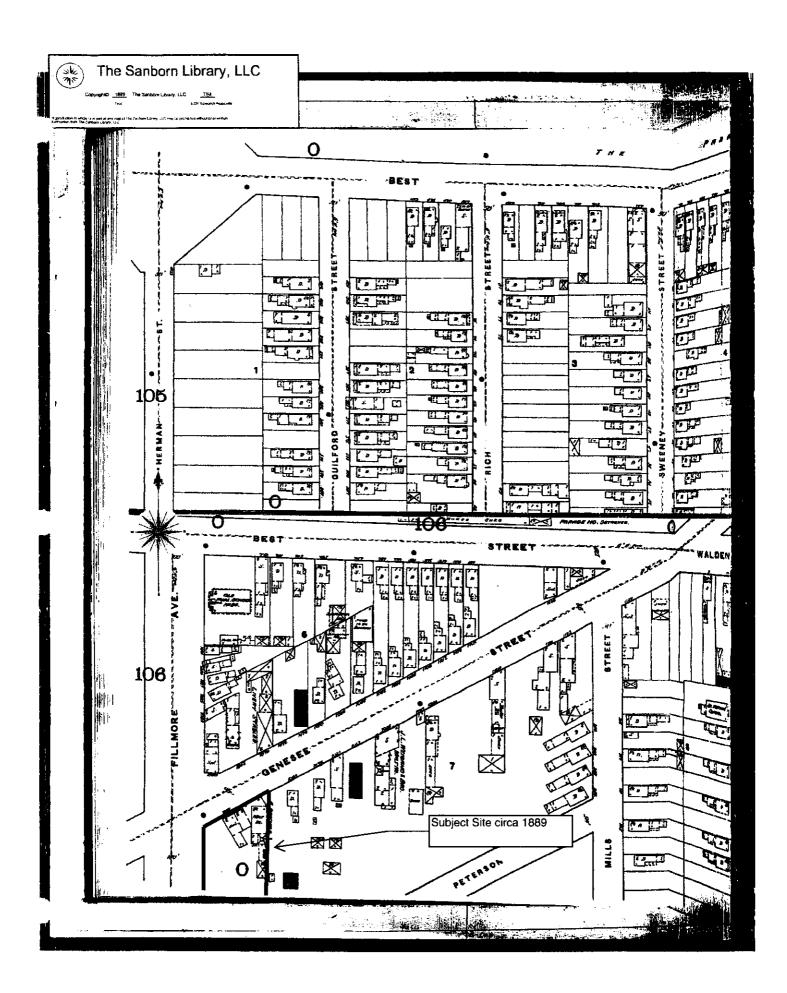












## **APPENDIX G**

**PREVIOUS STUDIES** 



## SUBSURFACE INVESTIGATION REPORT

Site: NOCO Express 1055 Genesee Street Buffalo, New York NYSDEC Spill # 0275425

Prepared By:

SENTINEL Technologies, Inc. 1956 West Henrietta Road Rochester, New York

Prepared For:

NOCO Energy 700 Grand Island Blvd. Tonawanda, New York

October 2004

### TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY		
2.0	INTRODUCTION2		
	2.1	Purpose	
	2.2	Background	
	2.3	Site Description	
3.0	METHODOLOGIES AND PROCEDURES2		
	3.1	Soil Boring Installations	
	3.2	Soil & Groundwater Sampling	
4.0	INVESTIGATION RESULTS3		
	4.1	Geology	
	4.2	Groundwater	
	4.3	Soil Headspace Results	
	4.4	Soil Analyses	
	4.5	Groundwater Analyses	
5.0	CONCLUSIONS5		
6.0	LIMITATIONS6		
APPE	NDICES		
	Append	lix A Figures	
	Appen	ix B Tables	
	Append		
	Append		

#### 1.0 EXECUTIVE SUMMARY

SENTINEL Technologies, Inc. (SENTINEL) conducted a subsurface investigation (SI) at 1055 Genesee Street, at the request of NOCO Energy Corp. The purpose of the SI was to identify and quantify subsurface petroleum impacts that may exist radially from the area of existing and former underground storage tanks (USTs) and pump islands, and an area formerly used by Cumberland Farms to treat impacted soils on-site south of the building. The soil borings were installed as close as practical to the target area, avoiding underground utilities and underground lines and conduits associated with the fuel dispensing equipment and the on-site building. Ten soil borings were installed, with select soil and groundwater samples obtained and analyzed for petroleum contamination. Exceedences in the applicable soil cleanup objectives and groundwater guidance values were indicated north and northwest of the current and historical UST area.

Based on the findings of this investigation remedial actions are required to meet the regulatory cleanup objectives in a timely manner. Sentinel will be preparing a response to the NYSDEC to discuss corrective actions for this site.

#### 2.0 INTRODUCTION

#### 2.1 Purpose

SENTINEL Technologies, Inc. (SENTINEL) conducted a Subsurface Investigation (SI) at the NOCO Express Store (#D-41) property located at 1055 Genesee Street in Buffalo, New York at the request of NOCO Energy. The purpose of the SI was to delineate and quantify subsurface petroleum impacts that may exist radially from the existing underground storage tank (UST) area. The existing UST area is known to have had several historical USTs installed and operated in the same area as the existing USTs, all of which were reportedly removed prior to NOCO's involvement with the site. While on site conducting this investigation, Sentinel completed soil borings in the area of the pump island, which is also the area of historical pump island(s), and south of the pump islands in a grass area that was formerly used by Cumberland Farms to treat contaminated soils on site. The former soil treatment activities were conducted by Cumberland Farms, who is also a former owner and operator of this site.

#### 2.2 Background

The Site (1055 Genesee Street) is a retail gasoline station and convenience store. The Site purportedly has had this similar use for the past several decades, with past site ownership and site operations conducted by Cumberland Farms prior to NOCO's involvement with the Site. It is known that Cumberland Farms encountered subsurface contamination during historical site upgrade activities that pre-dates NOCO's ownership and operation of the Site. A phase I Environmental Site Assessment that included a review of the NYSDEC's and the City of Buffalo's files for this site indicated that contaminated soils were generated by Cumberland Farms during excavation activities, of which all or a portion was treated on-site south of the existing building. However, Sentinel was unable to locate any records indicating that confirmatory soil and groundwater samples were obtained and analyzed subsequent to Cumberland Farms completing the removal of the subsurface contamination.

Recently, the NYSDEC requested that NOCO sample the observation wells within the existing UST area after a sheen was observed within one of these wells. The analysis of these wells indicated the presence of volatile organic compounds exceeding the NYSDEC's groundwater guidance values established in the TOGS 1.1.1 Memorandum. In response to those analytical results this subsurface investigation was completed.

#### 2.3 Site Description

The Site is approximately 1/2 acre in size, with the majority of the Site being paved, and grass areas south of the parking lot and east of the building and UST area. A one-story brick building exists along the east side of the Site, with underground storage tanks (USTs) located north and dispenser pump islands west of the building. The general topography of the Site is flat. Genesee Street and Fillmore Avenue border the Site to the north and west, respectively. Residential and commercial properties border the remainder of the Site. The Site and surrounding area is serviced with a municipal water supply and sanitary sewers.

#### 3.0 METHODOLOGIES AND PROCEDURES

The SI consisted of the installation of six (6) soil borings and was completed in accordance with the August 18, 2004 Subsurface Investigation Proposal, which was submitted to and approved of by the NYSDEC. Four (4) additional soil borings were completed to investigate possible subsurface contamination in the areas of the current and former pump islands as well as in the grass area south of the parking lot, where aboveground, on-site soil treatment activities were conducted by Cumberland Farms. All soil boring locations are presented in Appendix A.

#### 3.1 Soil Boring Installations

The soil borings were installed with a Power Probe™, a direct-push subsurface soil probe unit equipped with steel, dual-tube tooling. As the probes were advanced, continuous soil samples were obtained in 4-foot intervals, with the sampler being driven by a hydraulic ram/hammer. Each 4-foot sample was obtained using a new, clean acetate liner contained within the dual-tube tooling. All tooling was properly decontaminated using an alconox wash and rinse.

Immediately upon retrieval, the soils were classified, headspace readings were obtained, and observations were made of any apparent impacts. Sample descriptions are based on a modified, Unified Soil Classification System. Subsurface Logs are presented in Appendix C.

All soil samples were screened for the presence of volatile organic compounds (VOC's). Screening was performed by placing a representative soil sample directly from the sampler into a sealed plastic bag where the headspace was then analyzed using a calibrated Hnu photo-ionization detector. Where observations of the 4-foot soil core samples indicated more precise vertical delineation was possible, soil headspace readings were obtained at two-foot intervals, or at the interval where a significant vertical delineation of soil impacts was suspected. Select soil and groundwater samples were obtained from the soil borings. The analytical results of the soil and groundwater samples are discussed in Section 4, with summary tables included in Appendix B. All soil borings were sealed prior to demobilizing from the site.

#### 3.2 Soil & Groundwater Sampling

Soil and groundwater samples were obtained from select locations based on the field data gathered at the time of each soil boring's installation, and, in the case of groundwater, where quantities were sufficient to facilitate sample collection. Soil samples were collected from the acetate liners using clean tooling and/or new nitrile gloves, and placed into new, clean, glass sample jars with Tefion lined lids provided to Sentinel by Eastern Laboratory Services (ELS). Soil samples were collected from several of the soil borings exhibiting the most significant headspace concentrations. Each soil boring selected for sampling had a sample obtained from the depth interval exhibiting the most significant soil headspace concentration.

Groundwater samples were obtained by placing new, clean 1-inch diameter PVC well screen and riser within the soil boring. A clean bailer was then used to retrieve the groundwater, when present, which was slowly poured into new, clean sample containers

provided by ELS. Care was taken to minimize agitating the groundwater and the creation of bubbles. Upon completion of the groundwater sampling the PVC was removed and the boring sealed.

#### 4.0 INVESTIGATION RESULTS

#### 4.1 Geology

The soil type identified during the subsurface probing primarily consisted of a stiff, clay and silt, with the near surface soil conditions consisting of sand and gravel with red brick debris. Refusal during the soil boring work was encountered between 7 feet and 8 feet below ground surface due to the stiff, dense soil conditions.

#### 4.2 Groundwater

Groundwater was encountered and sampled at soil borings B-3, B-5, and B-6. Temporary wells were also installed at B-1, B-2, and B-4; however, no groundwater was encountered.

#### 4.3 Soil Headspace Results

Soil headspace readings were recorded on the Subsurface Logs, and can be found in Appendix C. Soil headspace readings ranged from below background concentrations (1.1 ppm to 5.5 ppm) to 342 ppm. Soil headspace readings greater than 25 ppm were indicated at B-3, B-5, B-6, and B-8, all of which had a soil sample obtained.

#### 4.4 Soil Analyses

Soil samples were obtained from soil borings B-3, B-5, B-6, and B-8 from depth intervals exhibiting the highest headspace readings for that particular boring, and analyzed using EPA method 8260 for the STARS list of compounds. Of these soil analyses, soil boring locations B-5 and B-6 were indicated to have volatile organic compound (VOC) impacts above the NYSDEC TAGM 4046 Recommended Soil Cleanup Objectives (RSCOs). No other soil analyses indicated RSCO exceedences. Summary tables of these analytical results are attached in Appendix B.

#### 4.5 Groundwater Analyses

Groundwater was sampled at soil borings B-3, B-5, and B-6, and analyzed using EPA method 8260 for the STARS list of compounds. The results indicate exceedences at each sampling location for the groundwater guidance values and standards established in the NYSDEC TOGS 1.1.1 Memorandum. Sample location B-5 had several analytes exceeding those guidance values, while exceedences at locations B-3 and B-6 were limited to the analyte Methyl t-butyl ether (MTBE).

An attempt was made to obtain a groundwater sample from B-1, B-2, and B-4. However, no groundwater was indicated within each of those temporary wells. Furthermore, upon observing the soil core samples for the remaining soil borings, it was determined that groundwater was either not present or would not be present in sufficient quantities to facilitate sample collection. A table summarizing the analytical results is

attached in Appendix B, with the laboratory report for the groundwater and soil samples included in Appendix D.

#### 5.0 CONCLUSIONS

The subsurface investigation has identified volatile organic compound (VOC) impacts within the soils and groundwater north and northwest of the UST area. Soil impacts exceeding the applicable RSCOs appear to be limited to shallow soils at depths that could range from around 2 feet BGS to 4.5 feet BGS. The aforementioned depth interval was also indicated to have sandy and gravelly soils not encountered at lower depths, which may be a migration pathway for impacted groundwater. The investigation indicated groundwater, in sufficient quantities for sampling, was limited to those same aforementioned sandy and gravelly soit conditions. A cursory review of sensitive receptors in the immediate vicinity of the Site identified utility trenches along the norther and western property boundaries as the only potential sensitive receptors to the impacts indicated by this investigation. The area is supplied with municipal water and sanitary sewer systems.

Based on the findings of this investigation remedial actions are required to meet the regulatory cleanup objectives in a timely manner. Sentinel will be preparing a response to the NYSDEC to discuss corrective actions for this site.

#### 6.0 LIMITATIONS

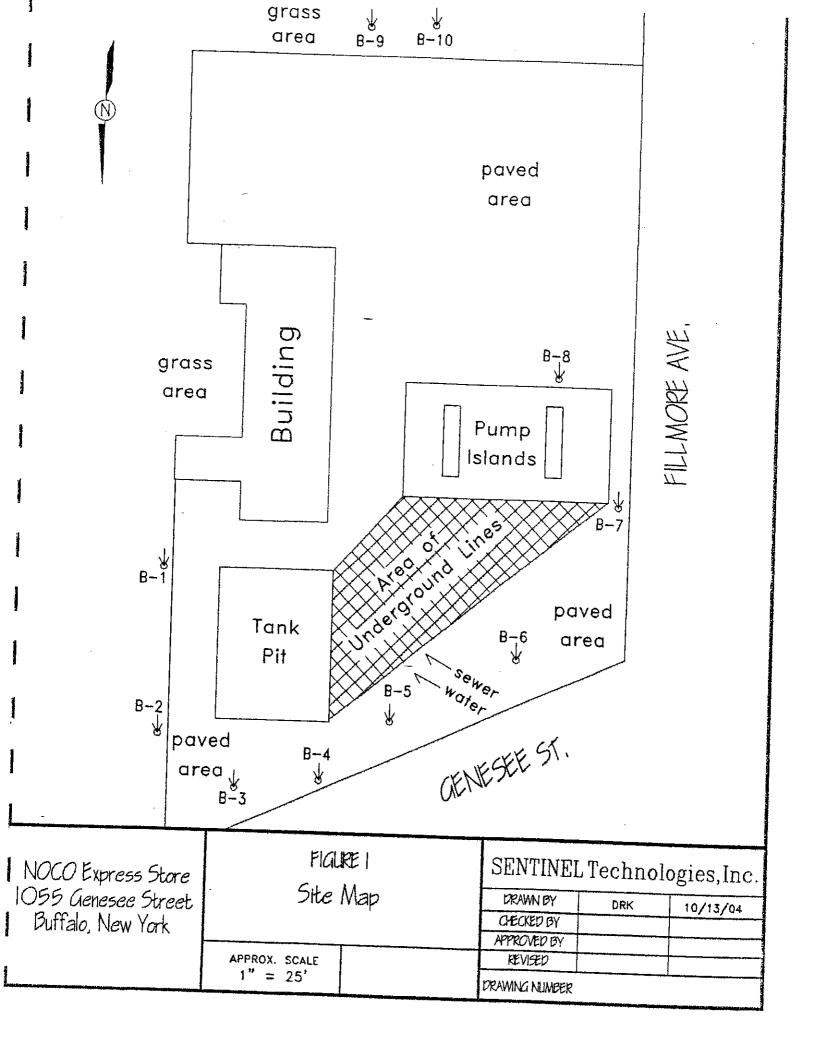
This report has peen prepared for the exclusive use of NOCO Energy Corp. and is a professional opinion and judgment dependent upon Sentinel's knowledge and a limited number of test points. SENTINEL cannot certify, guarantee, or warranty that the study/work site is or is not free of environmental impairment. Further investigation and testing of the site could better define the actual environmental condition of the property, but would be limited to the actual testing locations from which samples were analyzed and may not apply to the site as a whole. While the scope and limitations of this investigation did not find any significant environmental impact, certain hidden conditions could be present at the site.

In performing professional services, SENTINEL uses the degree of care and skill exercised under similar circumstances by members of the environmental profession practicing in the same or similar locality under similar conditions. The standard of care shall be judged exclusively as of the time these services are rendered, and not according to later standards. SENTINEL makes no express or implied warranty beyond its conformance to this standard.

SENTINEL shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed for this report. SENTINEL believes that all information contained in this report to be factual, however no guarantee is made or implied. SENTINEL shall not be responsible for any loss, damage, or liability arising from any negligence of the client or others in the interpretation or use of the results of this assessment.

The facts and conditions referenced in this report may change over time. The conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

APPENDIX A (Figures)



APPENDIX B

(Tables)

#### GROUNDWATER ANALYTICAL SUMMARY

#### 1055 Genesee Street Buffalo, New York

# EPA Method 8260 for the STARS List of Compounds (PPB)

#### September 22, 2004

	NYS			<u> </u>
Compound	Groundwater	B-3	B-5	B-6
	Guidance			J 5-0
	Values		1	
Benzene	1	<10	194	<10.0
n-Butyl-Benzene	5	<10	41.3	<10.0
sec-Butylbenzene	5	<10	<25	<del></del>
Ethylbenzene	5	<10	1,040	<10.0
Isopropylbenzene	5	<10	70.2	<10.0
p-lsopropyltoluene	5	<10	<25	<10.0
Naphthalene	10	<10		<10.0
n-Propylbenzene	5	<10	1,160	<20.0
Toluene	5		141	<10.0
1,2,4-Trimethylbenzene	5	<10	394	<10.0
1,3,5-Trimethylbenzene		<10	2,040	<10.0
p/m Xylenes	5	<10	1,070	<10.0
o-Xylenes	5	<10	2,990	<10.0
	5	<10	2,040	<10.0
Methyl t-butyl ether	10	416	3,290	318
tert-Butylbenzene	5	<10	<25	<10.0

Total BTEX	0.0	6,658.0	0.0

#### NOTES:

Bold values exceed guidance values.

# SOIL ANALYTICAL SUMMARY

# 1055 Genesee Street Buffalo, New York

# EPA Method 8260 for the STARS List of Compounds (PPB)

# September 22, 2004

	TAGM 4046	TAGM 4046	TAGM 4046				
	Recommended	Recommended	Recommended				
Compound	Soil Cleanup	Soil Cleanup	Soil Cleanup	B-3	B-5	B-6	α
	Objective	Objective	Objective	(4'-8', top 6-inches)	(4'-8' top 8-inches)	(4'-8' ton 5-inches)	0-0
	шdd	PPB	PPB		(2000)	(appointed a)	(4.0, top /-inches)
			[*Adjusted for GW]				
Benzene	0.08	80	32	<10.4	C38.7	0 077	1 1 1
n-Butyl-Benzene	12	12,000	4.800	<10.4	2007	0.047	411.4
sec-Butylbenzene	11	11,000	4,400	<10.4	- 22 - 73 - 7	45.0	4.1.4
Ethylbenzene	5.5	5,500	2.200	<10.4	863	0.547	4.1.7
Isopropylbenzene	2.3	2,300	920	×10.4	143	743.0	<11.4 244.4
p-Isopropyltoluene	11	11,000	4 400	V 04.7	26.2	45.0	4,11,4
Naphthalene	13	13,000	000 4	1 0	5.04	<43.8	<11.4
n-Pronydhenzene	3.7	2,000	002'6	<20.8	1,390	<87.6	<22.8
Tolione	/ 0	3,700	1,480	<10.4	414	<43.8	<11.4
	0.	1,500	900	<10.4	76.1	<43.8	<11.4
1,2,4-Trimethylbenzene	13	13,000	5,200	<10.4	3,150	<43.8	<11.4
1,3,5-Trimethylbenzene	3.3	3,300	1,320	<10.4	1.690	125	7 7 7 7
Methyl t-butyl ether	0.12	120	48	<10.4	1.200	528 528	t
tert-Butylbenzene	11	11,000	4,400	<10.4	<36.2	243 B	t
Xylenes	1.2	1,200	480	<10.4	5.970	<43.B	211.4
						2	1.11

Max. Total VOCs = 10 ppm

Soil Headspace Reading (ppm)

\*Recommended Soil Cleanup Objectives multiplied by a factor of 0.4 when contamination is within 5 feet of groundwater.

27

BOLD values indicate RSCO Exceedences

#### SENTINEL Technologies, Inc. SUBSURFACE LOG PROJECT/ LOCATION: 1055 Genesee St., Buffalo, NY PROJECT No. CLIENT: NOCO WELL/BORING No. B-2 DATE STARTED: 9/22/04 DATE COMPLETED: 9/22/04 RECORDED BY: DRK GROUNDWATER DEPTH WHILE DRILLING: none AFTER COMPLETION: WEATHER: Cool, sunny DRILL RIG: PowerProbe DRILLER: DS & AG DRILL SIZE/TYPE: PowerProbe SAMPLE HAMMER: WEIGHT N/A FALL MATERIAL CLASSIFICATION Sample PID Depth Type Blows/6" Recovery f-fine m-medium c-coarse No. (Feet) (ppm) (inches) "and" = 35-50% "some" = 20-35% "little" = 10-20% "trace" = 1-10% 2-1 <BG MC Brown topsoil to 4", then black cmf sand and gravel and red brick debris to 26 12". Changing to brown, stiff clay and silt. Moist in sandy zone, dry elsewhere. No hydrocarbon (HC) odor. 2-2 <BG 4-8 MC Brown, stiff clay and silt. Slightly moist. No HC odor. Refusal @ 7.25 feet 26 Set temporary well. Dry, no groundwater present.

NOTES BG = 1.1-5.5 ppm

LB - Large Bore MC - Macro Core \*SS - SPLIT-SPOON SAMPLE U - UNDISTURBED TUBE P - PISTON TUBE C - CORE

PROJE	CT/ LOCAT	10N:	<del></del>	1055 Gen	esee S	St., Buffalo,	NY	PROJECT No.	
CLIENT								WELL/BORING No.	B-3
DATE S	STARTED:	9/2	2/04	DATE CO	MPLE	TED:	9/22/04	RECORDED BY:	DRK
							AFTER COM		
								DS & AC	<del></del>
	SIZE/TYPE:							N/A FALL	
		1	T	<u> </u>			<u> </u>		
Sample No.	PID (ppm)	Depth (Feet)	Туре	Blows/6"	N	Recovery	,	MATERIAL CLASSIFICATION f-fine m-medium c-coar 6 "some" = 20-35% "little" = 10-2	se
3-1	<bg< td=""><td>0-4</td><td>МС</td><td></td><td></td><td>16</td><td>Brown/gray gravel (HC) odor.</td><td>and cmf sand and concrete debris</td><td>. Dry. No hydrocarbon</td></bg<>	0-4	МС			16	Brown/gray gravel (HC) odor.	and cmf sand and concrete debris	. Dry. No hydrocarbon
		4-8	МС			36	Top 6-inches is dar and clay, dry. No I-	k gray cmf sand and gravel, moisi iC odor. Refusal @ 7.9 feet BGS	, then brown stiff silt
3-2	27	Top 6"						•	
3-3	<bg< td=""><td>bottom</td><td><u> </u></td><td></td><td></td><td>-</td><td></td><td></td><td>·</td></bg<>	bottom	<u> </u>			-			·
		-			<del></del> ,				
					<del></del>		Set temporary well.	Sampled groundwater.	
-		-		<del></del>					
									•
<u></u>					_		·		
· · · · · ·			-						
			<del>                                     </del>						
					-				
<u> </u>									
									1
		·							
-									
<del></del>									
NOTES	BG = 1.1-5.	5 ppm	•						
LB – Large	e Bore	MC – Macro	Core	*SS - SPLIT	-SP00	N SAMPLE	U - UNDISTURBE	D TUBE P - PISTON TUBE	C - CORE

#### SENTINEL Technologies, Inc. SUBSURFACE LOG PROJECT/ LOCATION: 1055 Genesee St., Buffalo, NY PROJECT No. CLIENT: NOCO WELL/BORING No. B-4 DATE STARTED: 9/22/04 DATE COMPLETED: 9/22/04 RECORDED BY: DRK GROUNDWATER DEPTH WHILE DRILLING: none AFTER COMPLETION: WEATHER: Cool, sunny DRILL RIG: PowerProbe DRILLER: DS & AG DRILL SIZE/TYPE: PowerProbe SAMPLE HAMMER: WEIGHT N/A FALL MATERIAL CLASSIFICATION Sample PID Depth Type Blows/6" Ν Recovery No. f-fine m-medium c-coarse (Feet) (ppm) "and" = 35-50% "some" = 20-35% "little" = 10-20% "trace" = 1-10% (inches) 4-1 <BG Brown/gray gravel and cmf sand and red brick debris. Dry. No hydrocarbon 4-8 MC Gravel to 1" at top 1", then brown stiff silt and clay, dry. No HC odor. Refusal @ 7.8 feet BGS. Set temporary well. No groundwater present.

NOTES BG = 1.1-5.5 ppm

LB - Large Bore MC - Macro Core

\*SS - SPLIT-SPOON SAMPLE

U - UNDISTURBED TUBE P - PISTON TUBE C - CORE

			<del></del>						LOU
PROJEC	CT/ LOCA	TION:		1055 Ge	nesee	St., Buffalo,	NY	PROJECT No.	
				NOU	JU			MELLINGSHALL	
DATE ST		912	22/04	DATE CO	MPLE	TFD.	0/22/0 <i>A</i>	DECORPOS	
GROUN	DWATER	DEPTH W	HILE DE	RILLING:		none	AFTER COM	PLETION:	DRK
WEATH	ER:	Cool, sun	iny .	DRILL RIG:		PowerProb	MILK COM	DS &	
DRILL SI	ZE/TYPE	·	Powe	erProbe	S	AMPLE HAI	MMED: WEIGHT	N/A FALL	AG
	-	1			·	1	WINIER. WEIGHT	N/A FALL _	N/A
Sample No.	PID (ppm)	Depth (Feet)	Туре	Blows/6"	N	Recovery (inches)	i	MATERIAL CLASSIFICATION f-fine m-medium c-co "some" = 20-35% "little" = 10-	arsa
5-1	<bg< td=""><td>0-4</td><td>мс</td><td></td><td></td><td>13</td><td>Brown/dark gray gra (HC) odor.</td><td>vel and cmf sand, trace of clay</td><td>Dry. No hydrocarbon</td></bg<>	0-4	мс			13	Brown/dark gray gra (HC) odor.	vel and cmf sand, trace of clay	Dry. No hydrocarbon
		4-8	МС			34	Gray silt and clay, tra	ace of coarse sand, saturated, brown stiff silt and clay, dry, at	and HC odor top 8-
5-2	342	Top 8- inches					@ 7.8 feet BGS.		The second rectagg
5-3	<bg< td=""><td>bottom</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></bg<>	bottom							
							Set temporary well. S odor present.	Sampled groundwater, recovery	/ very slow. Sheen and
	-								
								-	
				<del></del>					

	<del></del>	<del></del>		hnologi			SUBSURFACE LOG
PROJEC	T/ LOCAT	ΓΙΟΝ:		1055 Ge	nesee	St., Buffalo,	NY PROJECT No.
				NOC	CO		WELLIDODING
P C .	marieb.		42/04	DATE CO	OMPLE.	TED:	9/22/04 PECODDED DV
01.00112		DEFILITY	AUIFE DE	RILLING:		none	AFTER COMPLETION:
	-	Cool, Suit	IIIy .	DRILL RIG:		PowerProb	De DRILLER DO CAR
DRILL SIZ	ZE/TYPE:		Powe	:rProbe	S/	AMPLE HAN	MMER: WEIGHT N/A FALL N/A
Sample No.	PID (ppm)	Depth (Feet)	Туре	Blows/6"	N	Recovery (inches)	MATERIAL CLASSIFICATION f-fine m-medium c-coarse "and" = 35-50% "some" = 20-35% "little" = 10-20% "trace" = 1-10%
6-1	7.8	0-4	МС			20	Brown cmf sand and gravel with red brick debris. Dry. No hydrocarbon (HC) odor.
		4-8	МС			36	Top 5-inches gray gravel and cmf sand, saturated, and HC odor. Then brown stiff clay and silt, dry, and no HC odor. Refusal @ 7.85 feet BGS.
6-2	118	Top 5- inches					77 TO SEEM HOLDER & 7.00 IEEL DOG.
6-3	17	bottom					
-			<del>  </del>				
			-+				Set temporary well. Sampled groundwater.
					-+		
-+							
-							
				+	-+		
_							
					+		•
OTES BO	G = 1.1-5.5	ppm			<del></del>	<del></del>	
– Large Bo	ore Mo	IC – Macro C	>ore	*SS - SPLIT-S	 SPOON	SAMPLE	U - UNDISTURBED TUBE P - PISTON TUBE C - CORE

PROJE	CT/ LOCAT	ION:		1055 Ge	nesee	St., Buffalo.	NY	PRO IECT		
				NO	CO			MARTIN CO.		
DATE S	TARTED:	9/2	22/04	DATE CO	MPLE	TED:	9/22/04	MECODO:	ING No.	B-7
GROUN	IDWATER I	DEPTH W	HILE DI	RILLING:		none	AFTER COM	KECOKDE	D BY:	DRK
<b>VE</b> ATH	ER:	Cool, sun	iny .	DRILL RIG:		PowerProh	DRILLER:	PLETION:		<u> </u>
ORILL S	SIZE/TYPE:		Powe	erProbe		AMPLE HAI	MMER: WEIGHT		DS & A	\G
— <u>≐— <del>'</del></u>	<del> </del>	1	<del></del>		°	1 =	VIVIER: VVEIGHT	N/A	_ FALL	N/A
Sample No.	PID (ppm)	Depth (Feet)	Туре	Blows/6"	N	Recovery (inches)		f-fine m-	CLASSIFICATIO medium c-coa 35% "little" = 10-2	150.0
7-1		0-4	МС			0	No recovery. Grave		<del></del>	1 10 70
					i		,, ,,	on carring stic	Je.	
7-2	<bg< td=""><td>4-8</td><td>MC</td><td></td><td></td><td>22</td><td>Red brick debris to 4 odor. Refusal @ 7.5</td><td>-inches then t feet BGS.</td><td>prown stiff clay, litt</td><td>le silt, dry, and no Ho</td></bg<>	4-8	MC			22	Red brick debris to 4 odor. Refusal @ 7.5	-inches then t feet BGS.	prown stiff clay, litt	le silt, dry, and no Ho
							No well			
							No well set dry soil.			
							·			
		<del></del>			$-\!\!\!\perp$					
	<del></del>									
TES B	G = 1.1-5.5	ppm					· · · · · · · · · · · · · · · · · · ·			
			•							· — <del>• •</del>
Large B	ore MC	– Macro C	ore	*SS - SPLIT-S	POON	SAMPLE	U - UNDISTURBED T	IIDC 5 -	PISTON TUBE	C - CORE

PROJEC	CT/ LOCA	TION:		1055.04	00000	et nurri	ANA
CLIENT:				NO	CO	ot., Buffalo,	NY PROJECT No.
DATE S	TARTED:	9/2	22/04	DATE CO	MDIE	TED.	WELL/BORING No. B-8
GROUN	DWATER	DEPTH W	HILF DE	- DATE CO	NALLE	TED:	9/22/04 RECORDED BY: DRK
WEATH	ER:	Cool. sun	inv	DRILL PIG:		none	AFTER COMPLETION:
DRILL S	IZE/TYPE:		Powe	rProhe		PowerProd	e DRILLER: DS & AG
<del></del> -	<del>-&gt;</del>	<del></del>	·		3/	AWIPLE HAI	MMER: WEIGHT N/A FALL N/A
Sample No.	PID (ppm)	Depth (Feet)	Туре	Blows/6"	N	Recovery (inches)	MATERIAL CLASSIFICATION f-fine m-medium c-coarse "and" = 35-50% "some" = 20-35% "little" = 10-20% "frace" = 1-10%
8-1	38	0-4	МС			22	Dark gray gravel and cmf sand, some clay to 10" then brown silt and clay moist, no HC odor.
		4-8	мс			21	Top 7-inches is dark gray/light brown stiff clay and silt, slightly moist. Slig HC odor. Refusal @ 7.33 feet BGS.
8-2	70.2	Top 7- inches					- 1.55 feet 5G5.
8-3	32	bottom					
						<del></del>	
			<del> -</del>				
				<del></del>			
	<u> </u>						
							<del>-</del>
-							•
TES BO	G = 1.1-5.5	ppm					

PROJEC	CT/ LOCAT	ON:		1055 Ger	iesee S	t., Buffalo, I	NY	PROJECT No.	
								WELL/BORING No.	
								RECORDED BY:	
GROUN	DWATER D	EPTH WI	HILE DE	RILLING:		none	AFTER COM	MPLETION:	
								DS & /	
								N/A FALL	
Sample No.	PID	Depth (Feet)	Туре	Blows/6"	N	Recovery	, , , , , , , , , , , , , , , , , , ,	MATERIAL CLASSIFICATION of the fine m-medium c-co	1
NO.	(ppm)	(Feet)				(inches)	"and" = 35-50%	% "some" = 20-35% "little" = 10-	
9-1	<bg< td=""><td>0-4</td><td>MC</td><td></td><td></td><td>28</td><td>Topsoil and straw t HC odor.</td><td>to 9-inches then gray silt and cla</td><td>y, trace of gravel. Dry, no</td></bg<>	0-4	MC			28	Topsoil and straw t HC odor.	to 9-inches then gray silt and cla	y, trace of gravel. Dry, no
					-				
	<u></u>								
					· · · · · ·				
	<del> </del>								
						<del></del>			
									_
				· · · · · · · · · · · · · · · · · · ·					
		-							
_									
NOTES	BG = 1.1-5.	5 ppm	<u></u>						
LB – Large	e Bore	MC – Macro	Core	*SS - SPLIT	-SPOO	N SAMPLE	U - UNDISTURBE	ED TUBE P - PISTON TUBE	C - CORE

PROJECT/ LOCATI	ON:	<del>*</del>	1055 Gene	esee St	, Buffalo, N	IY	PROJECT No.	
THENT:			NOC	_ <del>_</del> _	· · · · · · · · · · · · · · · · · · ·		WELL/BORING No.	B-10
DATE STARTED:	9/22	/04	DATE COI	MPLETI	ΞD:	9/22/04	RECORDED BY:	DRK
							IPLETION:	13
							DS	LI
							N/AFALL	
JRIEL SIZE/TTT E.								
Sample PID No. (ppm)	Depth (Feet)	Type *	Blows/6"	N	Recovery (inches)		MATERIAL CLASSIFIC  f-fine m-medium  "some" = 20-35% "little" =	c-coarse
10-1 <bg< td=""><td>0-4</td><td>MC</td><td></td><td></td><td>28</td><td>Topsoil to 3-inches</td><td>s then gray/light brown silt ar</td><td>nd clay, trace of gravel. Dry,</td></bg<>	0-4	MC			28	Topsoil to 3-inches	s then gray/light brown silt ar	nd clay, trace of gravel. Dry,
·					<u> </u>			
						•		
						_		
		<u> </u>				-		
						1		:
						_		
		1				_		
		-	<u> </u>			1		
"				<del>                                     </del>		1		
	<del></del>					1		-
	1_							
NOTES BG = 1.1	-5.5 ppm							
LB – Large Bore	MC - Mac	ro Core	*SS - SPL	IT-SPO	ON SAMPLE	U - UNDISTUR	BED TUBE P - PISTON	TUBE C-CORE

#### APPENDIX D

(Laboratory Analytical Results)

Eastern Laboratory Services Ltd

quality m accuracy m reliability

390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717

#### Certificate of Analysis

Sentinel Technologies, Inc. 5505 Route 19A

Castile NY, 14427

Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

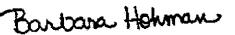
Reported:

10/13/04 10:40

#### ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID -	- Matrix	Date Sampled	Date Received	
B-3(4-8', top 6")	4I24103-01	Soil	09/22/04 11:40	09/24/04 16:00	
B-3	4124103-02	Water	09/22/04 12:44	09/24/04 16:00	
B-6(4-8', top 5")	4I24103-03	Soil	09/22/04 14:14	09/24/04 16:00	
B-5(4-8', top 8")	4I24103-04	Soil	09/22/04 13:25	09/24/04 16:00	
B-8(4-8', top 7")	4I24103-05	Soil	09/22/04 15:05	09/24/04 16:00	
B-5	4124103-06	Water	09/22/04 14:20	09/24/04 16:00	
B-6	4I24103-07	Water	09/22/04 14:50	09/24/04 16:00	

Eastern Laboratory Services, Ltd.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717



reliability accuracy

#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A

Castile NY, 14427

Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

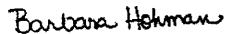
Reported:

10/13/04 10:40

B-3(4-8', top 6'') 4I24103-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	34.1.1	
( inventional Chemistry Parameters by	APHA/EP	A Methods			- Outen	гтератец	Analyzed	Method	Notes
9 Solids	87.3	0.100	%	1	4100122	09/30/04	09/30/04	EPA 160.3	
5 V846/8260B Volatile Organic Compou	ınds								
r nzene	ND	10.4	ug/kg	1	4092827	09/28/04	09/28/04	SW846/8260B	
ı-Butylbenzene	ND	10.4		u	a		U)/20/04	3*************************************	
s^-Butylbenzene	ND .	10.4		и .	H	п	н	н	
* -Butylbenzene	ND	10.4	**	10	н		a	D	
Etnylbenzene	ND	10.4	н	*	u	II.	н	*1	
Isopropylbenzene	ND	10.4	11	,	u	н	**	н	
= sopropyltoluene	ND	10.4	н	•	n	n	li	H	
phthalene	ND	20.8	91	10	и	н	7*		
n-Propylbenzene	ND	10.4	H	**	**		н	II.	
7 uene	ND	10.4	Ħ	н	н	п	,,	<b>w</b>	
_ ,4-Trimethylbenzene	ND	10.4	н	"	10	н	17	N	
1,3,5-Trimethylbenzene	ND	10.4	)+	н	*	D	н		
r ¬-Xylene	ND	10.4	н	н	10	11	**		
∪ (ylene	ND	10.4	17	•	**	u	If		
Methyl tert-butyl ether	ND	10.4		н	н	I <del>I</del>	'n	er e	
"rrogate: 1,2-Dichloroethane-d4		102 %	80-1.	20	"	"			
5 rogate: Toluene-d8		92.8 %	81-1.		n	"	"	н	
Surrogate: Bromofluorobenzene		96.0 %	74-1.	21	"	#	"	"	

Eastern Laboratory Services, Ltd.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216

Page 2 of 8



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717



accuracy . reliability

#### Certificate of Analysis

Sentinel Technologies, Inc.

5505 Route 19A Castile NY, 14427 Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

Reported:

10/13/04 10:40

**B-3** 4I24103-02 (Water)

Апајуте	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
W846/8260B Volatile Organic C	ompounds								TTOREST
enzene	ND	10.0	ug/l	l	4092829	09/28/04	09/28/04	SW846/8260B	
1-Butylbenzene	ND	0.01	"	н	и	#	# #	3 14 040/82000	
c-Butylbenzene	ND	10.0	II.		**	n n	**	я	
hylbenzene	ND	10.0	н	*	**	11	11	÷	
sopropylbenzene	ND	10.0	H	и	н ,	"	**	10	
n-Isopropyltoluene	ND	10.0	h	#		а	11		
aphthalene	ND	20.0	**	и	н	10	10	н	
-Propylbenzene	ND	10.0	u	**	#	**	н	*	
Toluene	ND	10.0	н	*		n	11		
2,4-Trimethylbenzene	ND	10,0	**	н	н	μ	**	 H	
3,5-Trimethylbenzene	ND	10.0	u		41	**	н ,		
m,p-Xylene	ND	10.0	11	*		н	14		
Xylene	ND	10.0	n	u	н	10	**	и	
ethyl tert-butyl ether	416	10.0	н	"	"	•			
tert-Butylbenzene	ND	10.0	н	**	"			 H	
rrogate: 1,2-Dichloroethane-d4		107 %	80-1	20	,,			"	
rrogate: Toluene-d8		93.2 %	88-1		,,	"	,,	# #	
Surrogate: Bromofluorobenzene		100 %	86-1		"	"	,,	"	

Eastern Laboratory Services, Ltd.

Barbara Hohman

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717



#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A Castile NY, 14427 Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

Reported:

10/13/04 10:40

B-6(4-8', top 5") 4I24103-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	
myentional Chemistry Parameters by	APHA/EP	A Methods						Triculog	Notes
' Solids	90.1	0.100	%	1	4100122	09/30/04	09/30/04	EPA 160.3	<del>-</del>
₹ V846/8260B Volatile Organic Compou	nds								
I nzene	ND	43.8	ug/kg		4092827	00/20/04	00/20/4		<del></del>
1-Butylbenzene	ND	43.8	"		#U34027	09/28/04	09/28/04	SW846/8260B	
sec-Butylbenzene	ND	43.8	"	и	11		H D	41	•
* :-Butylbenzene	ND	43.8	44	и	10	н	и	<b>.</b>	
⊐tnylbenzene	ND	43.8	н	H	п		11	11	
Isopropylbenzene	ND	43.8	<b>&gt;</b>	**	"		и	U	
* sopropyltoluene	ND	43.8		11	19	11	н	N	
phthalene	ND	87.6	**	n .	19	н	**	10	
n-Propylbenzene	ND	43.8	II.	,,	"		"	**	
C luene	ND	43.8	rı .	19		н	n n	Ji-	
,4-Trimethylbenzene	ND	43.8	и .	н		**	,	u	
1,3,5-Trimethylbenzene	125	43.8	н		**	**		**	
רת ייי-Xylene	ND	43.8		н	,,	и	,, M	le .	
_ (ylene	ND	43.8	"	н	н		19	н	
Methyl tert-butyl ether	528	43.8	н	,,	н	11	10	**	
Turrogate: 1,2-Dichloroethane-d4		106 %	80-12	<u> </u>					<del></del>
rogate: Toluene-d8		97.6 %	81-11		"	"		,,	
Surrogate: Bromofluorobenzene		99.2 %	74-12		"	"	**	N	

Eastern Laboratory Services, Ltd.

Barbara Hohman

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717

# Eastern Laboratory Services Ltd

quality accuracy reliability

#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A

Castile NY, 14427

Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

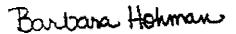
Reported:

10/13/04 10:40

B-5(4-8', top 8'') 4I24103-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Ргерагед	Analyzed	Mashad	
onventional Chemistry Paramete	ers by APHA/EPA	Methods		<u></u>		pared	2 charyzeu	Method	Notes
Solids	92.6	0.100	%	1	4100122	09/30/04	09/30/04	EPA 160.3	
~W846/8260B Volatile Organic Co	mpounds								
пгеле	ND	36.2	ug/kg	1	4092827	09/28/04	00/29/04	Olympia	
ı-Butylbenzene	221	36.2	-5.1.5		1074061	09/26/04 IF	09/28/04	SW846/8260B	
sec-Butylbenzene	55.5	36.2	<b>31</b>	11	14	**	"		
t-Butylbenzene	ND	36.2	11	"	n	II	n	PF	
Lihylbenzene	863	36.2	•	"	11	"		<b></b>	
Isopropylbenzene	143	36.2	10		11				
(sopropyltoluene	46.3	36.2		**	11	*	**	14 14	
phthalene	1390	72.4	H	H	11	п	н	**	
n-Propylbenzene	414	36.2	и	a	**	**			
luene	76.1	36.2	19	19	н	#1	19	<b>"</b>	
4.4-Trimethylbenzene	3150	36.2	D .	••	**	н	,,	"	
1,3,5-Trimethylbenzene	1690	36.2	\$1	16	н	u.	**		
∾ p-Xylene	3740	36.2	It	**	H	н	H	**	
√ylene	2230	36.2	н	н		,,		,,	
viethyl tert-butyl ether	1200	36.2	n	<b>t</b> 7	н	n	" "		
'urrogate: 1,2-Dichloroethane-d4		111%	80-1	20	· "			**	
rogate: Toluene-d8		95.2 %	81-1		,,	n	"	"	
urrogate: Bromofluorobenzene		92.0 %	74-1.		n	"	"	"	

Eastern Laboratory Services, Ltd.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216

Page 5 of 8





390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717

, - .....,

#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A

Castile NY, 14427

Project: 1055 Genesee

Project No: [none]

Project Manager: Don Seymour

Reported:

10/13/04 10:40

B-8(4-8', top 7'') 4I24103-05 (Soil)

Analyte	Result	Reporting - Limit	- Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
myentional Chemistry Parame				- 1144011	Canal.	repared	. commy zeco	Method	tvores
Solids	78.9	0.100	%	1	4100122	09/30/04	09/30/04	EPA 160.3	
SV846/8260B Volatile Organic C	Compounds								
nzene	ND	11.4	ug/kg	ι	4092827	09/28/04	09/28/04	SW846/8260B	
1-Butylbenzene	ND	11.4	н	H	н	н	И	19	
sec-Butylbenzene	ND	11.4	н	н	н	n n	и	17	
-Butylbenzene	ND	11.4	D	D		н	41	H	
Luylbenzene	ND	11.4	R		11	н	и	н	
Isopropylbenzene	ND	11.4	11	14	•	10	#1	н	
- sopropyltoluene	ND	11.4	11	n	**	и	**	ď	
hthalene	ND	22.8	н	н	*	10	**	n	
n-Propylbenzene	ND	11.4	н		**	**	**	. #	
T 'uene	ND	11.4		#	n	11	11	**	
,4-Trimethylbenzene	ND	11.4	44		"	11	11	at .	
1,3,5-Trimethylbenzene	ND	11.4	н	11		11	14	11	
n.p-Xylene	ND	11.4	н	11	•	11	14	31	
J lylene	ND	11.4	н	н	**	11	11	н	
Nicthyl tert-butyl ether	ND	11.4	н	"		19	11	п	
'urrogate: 1,2-Dichloroethane-d4		101%	80-	120	н	и	"		
3 rogate: Toluene-d8		91.2 %	81-		n	"	"	"	
Sogate: Bromofluorobenzene		91.2 %	74-		#	•	"	н	

Eastern Laboratory Services, Ltd.

Barbara Hohman

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216

Page 6 of 8



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717



#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A Castile NY, 14427 Project: 1055 Genesee

Project No: [none]
Project Manager: Don Seymour

Reported:

10/13/04 10:40

B-5 4I24103-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	
N846/8260B Volatile Organic C	ompounds							Ivictilod	Notes
inzene	194	25.0	ug/l	<del></del>	4002020	001000			<del></del>
1-Butylbenzene	41.3	25.0	# #	l H	4092829	09/28/04	09/28/04	SW846/8260B	
: :-Butylbenzene	ND	25.0	14	н	"	,	"	н	
¹ hylbenzene	1040	25.0	.,	*		**	**	II .	
sopropylbenzene	70.2	25.0	lf.	#		,,	4	н	
p-Isopropyltoluene	ND	25.0	11	10	**	"	"	l <del>y</del>	
1 :phthalene	1160	50.0	**		., Is	"	tt	н .	
Propylbenzene	141	25.0	н	11			"	H	
Toluene	394	25.0	н				••	"	
4-Trimethylbenzene	2040	25.0		14	,,		41	п	
5,5-Trimethylbenzene	1070	25.0	10	н	"	if	**	14	
m,p-Xylene	2990	25.0	п	ю.		10		u	
· Xylene	2040	25.0	ц	10	н	и	31	ч	
ethyl tert-butyl ether	3290	25.0	**	н		**	11	10	
tert-Butylbenzene	ND	25.0	"			11	10	**	
rogate: 1,2-Dichloroethane-d4								ri	
rogate: Toluene-d8		110%	80-1.		"	"	"		<del></del>
Surrogate: Bromofluorobenzene		95.8 %	88-1		"	"	"	#	
Sime. Bromojiwor obenzene		94.0 %	86-1	15	"	"			

Eastern Laboratory Services, Ltd.

Barbara Hohman

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216



390 N. Pennsylvania Ave. South Waverly, PA 18840-2826 Phone (570) 888-0169 FAX (570) 888-0717



quality accuracy reliability

#### **Certificate of Analysis**

Sentinel Technologies, Inc.

5505 Route 19A Castile NY, 14427 Project: 1055 Genesee

Project No: [none] Project Manager: Don Seymour

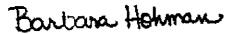
Reported: 10/13/04 10:40

**B-6** 

4I24103-07 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
½ V846/8260B Volatile Organic C	<u>ompo</u> unds								Tiotes
l nzene	ND	10.0	ug/l		4092829	09/28/04	09/28/04	CHIPACIONANA	<u> </u>
ı-Butylbenzene	ND	10.0	"		H	U) 101 (J-4	U9120/U4	SW846/8260B	
s ::-Butylbenzene	ND	10.0		**	*	11	н		
I tylbenzene	ND	10.0		11		н	**		
sopropylbenzene	ND	10.0	le .	n	ęs	о.			
p-Isopropyltoluene	ND	10.0	н	11	10	N	,,		
7 phthalene	ND	20.0	10 -	"	м	**	11		
· · · ropylbenzene	ND	10.0	н	11	10	н	11	**	
Toluene	ND	10.0	10	"	N	,,			
1 ,4-Trimethylbenzene	ND	10.0	11	н	10		n	 H	
,5-Trimethylbenzene	ND	10.0	10	**	н	,,	**	"	
m,p-Xylene	ND	10.0	н	и	10	н		)r	
~ Kylene	ND	10.0	10	**	le .	11	n	,	
ethyl tert-butyl ether	318	10.0	н	11	11	,,	,		
tert-Butylbenzene	ND	10.0	н	#	t <del>e</del>	н	**	*1	
""rogate: 1,2-Dichloroethane-d4		103 %	80-1	20	#	"		·- ·- ·	
vogate: Toluene-d8		96.2 %	88-1		,,	,,	,,	"	
Surrogate: Bromosluorobenzene		99.0 %	86-1		"	,,	n	n	

Eastern Laboratory Services, Ltd.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

PA 08380

NY 11216

# SENIEL iechnologies, inc.

Billing: 5505 Route 194, Castile, NY 14427

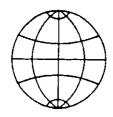
Report To: 1956 W. Henrietta Rd., Rochester, NY 14623

Phone: 585.750.2414 Fax: 585.272.770

Date Due: 10/6 /04

Chain of Custody

-0.5/A,B -c+/4,6 -<7 p. B 4224143-014,B 8,43 2 HSD 100 A Time Time Time Time 0071 Dan: 10/c/of 9/24/POF Date Date Date Date Analysis Requested Received at Laboratory By (Signature) Relinquished By (Signature) Relinquished By (Signature) Received By (Signature) メ X ×  $\times$ **ज्रहार** second of 20C X 2 WIE 2, w/Ha Number of Containers 1. 1/4CL Laboratory 所い Time Time Time Time 8-5 (4-8, 408") P6 (4-8 405") 8-3 (4-8) hop6" B-8 (4-8, 407") Sample Description Post only produced enough western for 1 vot SENTINEL Project Manager: OK Date Date Date 22 B6 B-5 SENTINEL Project No: Grab Comp Sampled/Relinquished By (Signature) 13:25 Project Name: [055 benegee 9/22/04 14:14 140 POLICIA 12-A 15:05 Time 9/24/4150 9/22/04 1A:20 Relinquished By (Signature) A 224 0/22/04 9/2/4 Received By (Signature) Received By (Signature) Date Comments: 1 A KILLY Sample Number Client:



# WORLDWIDE GEOSCIENCES, INC.

6100 Corporate Drive Suite 320 Houston, Texas 77036 Phone: 713 / 988-9401 FAX: 713 / 988-8784

October 20, 2004

## ATTORNEY WORK PRODUCT PRIVILEGED & CONFIDENTIAL

Craig Slater, Esq. Harter, Secrest & Emery Twelve Fountain Plaza Buffalo, NY 14202-2228

Dear Mr. Slater:

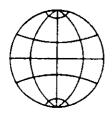
Reference: 1055 Genesee St. Project

Enlaced is our report on the B-5 water sample submitted from this site. Please refer to the report summary for a condensed statement of our findings.

If there are any questions please do not hesitate to contact me. We appreciate being of service.

Sincerely yours,

Neil F. Petersen



# WORLDWIDE GEOSCIENCES, INC.

6100 Corporate Drive Suite 320 Houston, Texas 77036 Phone: 713 / 988-9401 FAX: 713 / 988-8784

#### CHARACTERIZATION OF A WATER SAMPLE 1055 GENESEE STREET

PREPARED FOR HARTER, SECREST & EMERY OCTOBER, 2004

#### CHARACTERIZATION OF A WATER SAMPLE 1055 GENESEE STREET

#### **SUMMARY**

A water sample, identified as B-5, was analyzed by high resolution, capillary gas chromatography to determine the type or types of parent products associated with this sample and to provide any indications of parent product age. The hydrocarbon assemblage found to be present in the B-5 sample was derived from a highly weathered gasoline produced no later than 1985. The MTBE reported to be present in the protocol 8260 volatile analysis represents an overprint from a more recent, fresher gasoline loss event.

#### **INTRODUCTION**

A water sample from the 1055 Genesee Street site was received at the offices of Worldwide Geosciences, Inc. on September 24, 2004 via Federal Express overnight delivery. The sample was contained in a 40 ml, clear glass V.O.A. vial that was shipped in an insulated cooler with blue ice used as a preservative. Sample identification as per the attached chain of custody form and its assigned laboratory number is as follows:

Sample ID	La <u>b No.</u>
B-5	100715-02

40 milliliters of the water sample were extracted with 90 milliliters of methylene chloride solvent. The extraction was carried out by agitation in a separatory funnel. After separating the solvent and water, the solvent was reduced in volume to two milliliters to increase the concentration level of the extracted hydrocarbons in the solvent. The solvent was spiked with NC14 as an internal standard. The concentration level of the internal standard relative to the amount of water extracted is 3.0 parts per million. The spiked solvent containing the extracted hydrocarbons was then analyzed by high resolution, capillary gas chromatography using a 30-meter DB1 column and a flame ionization detector. A Perkin-Elmer Autosystem was utilized. The analysis procedure can be viewed as a modification of The modifications allow for the analysis of ASTM method D-3328. hydrocarbons in solvent and improve the resolution of the lighter hydrocarbons. Two procedural methods are routinely used for product in solvent characterization. One provides better resolution of the gasoline range hydrocarbons but has a more limited carbon number range. This is Method 3 as defined in the procedural description provided in Appendix II. The second method is routinely used to characterize product in solvents heavier than gasoline. The gasoline range hydrocarbons are compressed as a result of a more rapid increase in column temperature. This is Method 4 as described in Appendix II.

The extract obtained on the B-5 water sample was analyzed under Method 3 conditions on October 17, 2004.

The only difference in operating conditions between Methods 1 and 2, which are used for actual product samples, and between Methods 3 and 4 is in the injection conditions. When products are run neat, or as received, a split injection method is used and if the hydrocarbons are in solvent phase a splitless injection system is used.

Display copies of the chromatograms, both labeled and unlabeled, are incorporated into the report as Appendix I. A full-scale display in which all the peaks have been kept onscale for accurate visualization of the relative proportions of the hydrocarbons present is provided. Also included in Appendix I is a table listing the abbreviations used to identify peaks on the chromatograms and their corresponding names.

#### RESULTS

In discussing the compositional characteristics of the sample analyzed and analog signatures, the various peaks present in the chromatograms will be referred to in terms of the hydrocarbons they represent. As a general aid to visualizing the types of hydrocarbons involved, the structural characteristics of the main classes of hydrocarbons are illustrated in Figure 1.

Figure 2 compares the chromatographic signatures of the MW-5 water sample and a recent gasoline. The recent gasoline signature shown is that of a 2000, midgrade, reformulated gasoline dissolved in methylene chloride solvent. The MTBE peak that would be associated with this gasoline is masked by the methylene chloride solvent peak.

The very low proportions of the benzene and toluene peaks compared to the C8 aromatic and C9 aromatic peaks indicate the gasoline from which these dissolved phase hydrocarbons were derived was a highly weathered gasoline. Benzene and toluene would dominate in dissolved phase hydrocarbon assemblages derived from fresh gasolines. The C8 aromatic peaks are represented by the ethylbenzene and the xylene peaks. The C9 aromatic peaks are represented by the trimethylbenzene, methylethylbenzene, and propylbenzene peaks.

Additionally, the dissolved phase assemblage associated with the B-5 water sample shows compositional characteristics that would limit the age of the parent gasoline associated with this sample to a 1985 or older gasoline. The B-5 sample signature shows high proportions of the most prominent C10+ hydrocarbon peaks compared to the normal propyl benzene (NPBZ) peak. The peaks eluting after, or to the right, of the 124trimethylbenzene (124TMBZ) peak are referred to as the C10+ hydrocarbon peaks. In gasolines produced since 1985, the most prominent of the C10+ hydrocarbon peaks are present at approximately equal

#### FIGURE I TYPES OF HYDROCARBONS

#### **SATURATES**

#### CARBON ATOMS CONNECTED BY SINGLE BONDS

#### PARAFFINS OR ALKANES

NORMAL PARAFFINS OR ALKANES STRAIGHT CHAINS

**NORMAL HEXANE (NC6)** 

ISO-PARAFFINS OR ALKANES BRANCHED CHAIN PARAFFINS

2METHYL PENTANE (2MP)

#### NAPTHENES OR CYCLOPARAFFINS OR CYCLOALKANES

RING OR CYCLIC STRUCTURE

CYCLOPENTANE (CCP)

CYCLOHEXANE (CH)

METHYLCYCLOHEXANE (MCH)

### FIGURE 1 (CONT.) TYPES OF HYDROCARBONS

#### UNSATURATES

HAVE ONE OR MORE CARBON DOUBLE BONDS

#### **OLEFINS OR ALKENES**

CAN BE STRAIGHT CHAIN, BRANCHED CHAIN, OR CYCLIC

NORMAL HEXENE

#### **AROMATICS**

**BENZENE** 

**NAPHTHALENE** 

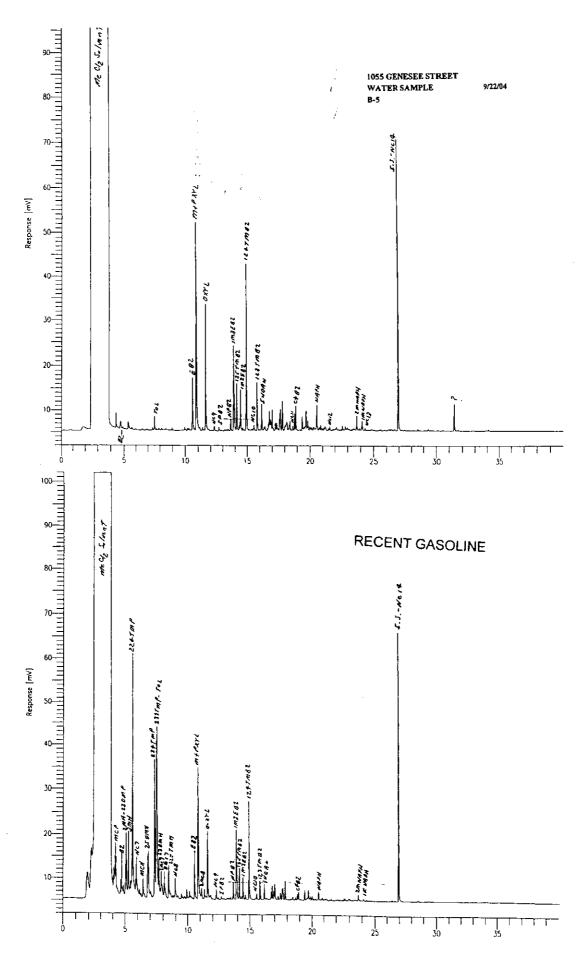


FIGURE 2: COMPARISON OF THE CHROMATOGRAPHIC SIGNATURES OF THE B-5 WATER SAMPLE AND A RECENT GASOLINE

proportions to the NPBZ peak. In the B-5 sample signature, the most prominent of the C10+ hydrocarbon peaks exceed the NPBZ peak by factors of two to five. This is a characteristic restricted to gasolines produced no later than 1985.

It is our understanding that the protocol analysis associated with this sample found MTBE to be present at a concentration level considerably greater than the benzene and toluene concentrations. MTBE is 28 times more soluble in water than benzene and 90 times more soluble in water than toluene. The dissolved hydrocarbon characteristics of the B-5 water sample indicate these hydrocarbons were derived from a gasoline that had already nearly completely lost all the benzene and toluene associated with the parent gasoline. If MTBE had been associated with the same gasoline, it also would have already been lost, as it is much more soluble and volatile than benzene and toluene. An overprint of a loss of MTBE from a more recent and fresher gasoline than the gasoline associated with the hydrocarbons dissolved in the B-5 water sample is indicated.

Billing: 5505 Route-194, Castile, NY-14427

Chain of Custody

Date Due:

Fax: 585.272.7705 Phone: 585.750.2414 Report To: 1956 W. Henrietta Rd., Rochester, NY 14623

Time Тіте Time Time Date Date Analysis Requested Date Date Received at Laboratory By (Signature) Relinquished By (Signature) Relinquished By (Signature) Received By (Signature) Comments: Invotce & all regults to go to: Havter, secrest & Swery, CLP of the Mina then WW Gas Date Number of Containers 1-40ml Laboratory 1:00 Time Time Time Time SENTINEL Project Manager: () RX Sample Description Date Date 8-S Project Name: 1055 Gerresee 4 | SENTINEL Project No: Grab P Comp Client: Lartac, Gerest, & Griery Sampled/Relinq**ņ**ish**9∳**By (Signature) 4:20 Time Relinquished By (Signature) 922/04 Received By (Signature) Receiyed By (Signature) Date Sample Number

### APPENDIX I DISPLAY CHROMATOGRAMS

#### ABBREVIATIONS USED TO IDENTIFY PEAKS

<u>ABBREVIATION</u> <u>HYDROCARBON</u>

C1 METHANE
C2 ETHANE
C3 PROPANE
IC4 ISOBUTANE

NC4 NORMAL BUTANE

ETH ETHANOL

22C3 2 DIMETHYL PROPANE

IC5 ISOPENTANE

NC5 NORMAL PENTANE
MeCl2 METHYLENE CHLORIDE
22DMB 22 DIMETHYL BUTANE
23DMB 23 DIMETHYL BUTANE
2MP 2 METHYLPENTANE
3MP 3 METHYLPENTANE
NC6 NORMAL HEXANE

22DMP 2,2 DIMETHYLPENTANE
MCP METHYLCYCLOPENTANE
24DMP 2,4 DIMETHYLPENTANE

BZ BENZENE

CH CYCLOHEXANE
2MH 2 METHYLHEXANE
23DMP 2,3 DIMETHYLPENTANE
3MH 3 METHYLHEXANE

T13DMCP T13DIMETHYLCYCLOPENTANE C13DMCP C13DIMETHYLCYCLOPENTANE

224TMP 2,2,4 TRIMETHYLPENTANE (PRINCIPAL ISO-OCTANE)

NC7 NORMAL HEPTANE

234TMP 2,3,4 TRIMETHYLPENTANE (ISO-OCTANE) 233TMP 2,3,3 TRIMETHYLPENTANE (ISO-OCTANE)

MCH METHYLCYCLOHEXANE

TOL TOLUENE

23DMH 2,3,DIMETHYLHEXANE 2MC7 2METHYLHEPTANE 3MC7 3METHYLHEPTANE

224TMH 2,2,4 TRIMETHYLHEXANE 223TMH 2,2,3 TRIMETHYLHEXANE

NC8 NORMAL OCTANE EBZ ETHYL BENZENE

M+P XYL META AND PARA XYLENES

2MC8
3MC8
3METHYLOCTANE
O XYL
NC9
IPBZ
ISOPROPYLBENZENE

NPBZ NORMAL PROPYL BENZENE 1M3EBZ 1METHYL3ETHYLBENZENE 135TMBZ 1,3,5 TRIMETHYLBENZENE

### ABBREVIATIONS USED TO IDENTIFY PEAKS (cont.)

ABBREVIATION HYDROCARBON

1M2EBZ 1METHYL2ETHYLBENZENE 124TMBZ 1,2,4 TRIMETHYLBENZENE

NC10 NORMAL DECANE

123TMBZ 1,2,3 TRIMETHYLBENZENE (TERT BUTYL BENZENE

CO-ELUTES AT THIS POSITION)

C4BZ TETRAMETHYLBENZENE

NAPH NAPHTHALENE

2M. NAPH 2METHYL NAPHTHALENE 1M. NAPH 1METHYL NAPHTHALENE

NC ( ) Normal paraffin with number of carbon atoms in molecule shown

IP () Isoprenoid iso-paraffin with number of C atoms in molecule shown

#### WORLD WIDE GEOSCIENCES - I

Sample Name : J 4150 B-5

FileName : C:\TC4\05WW\05WW026.RAW

Method : WWG1\_10.MTH

Start Time :  $0.00\,\mathrm{min}$  End Time :  $40.00\,\mathrm{min}$  Scale Factor: 0.0 Plot Offset:  $2\,\mathrm{mV}$ 

Sample #: 100715-02

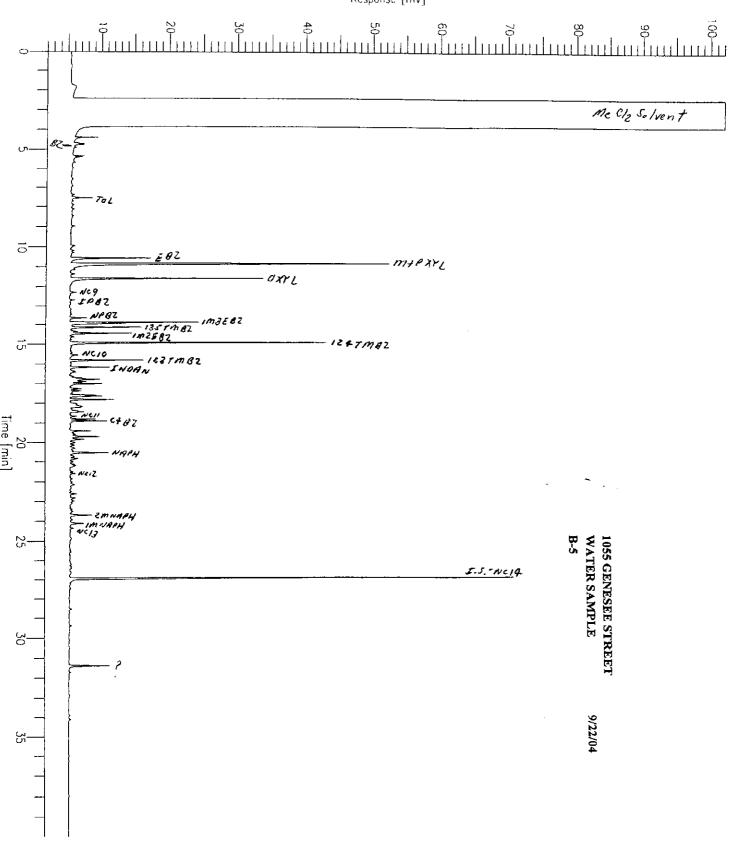
Page 1 of 1

Date : 10/20/04 10:50 AM

Time of Injection: 10/17/04 08:52 AM

Low Point : 2.00 mV Plot Scale: 100.0 mV High Point : 102.00 mV





### WORLD WIDE GEOSCIENCES

Sample Name : J 4150 B-5 FileName

: C:\TC4\05WW\05WW026.RAW

Method : WWG1\_\_10.MTH

Start Time : 0.00 min Scale Factor: 0.0

: 40.00 min End Time

Plot Offset: 2 mV

Sample #: 100715-02 Date : 10/20/04 10:50 AM

Time of Injection: 10/17/04

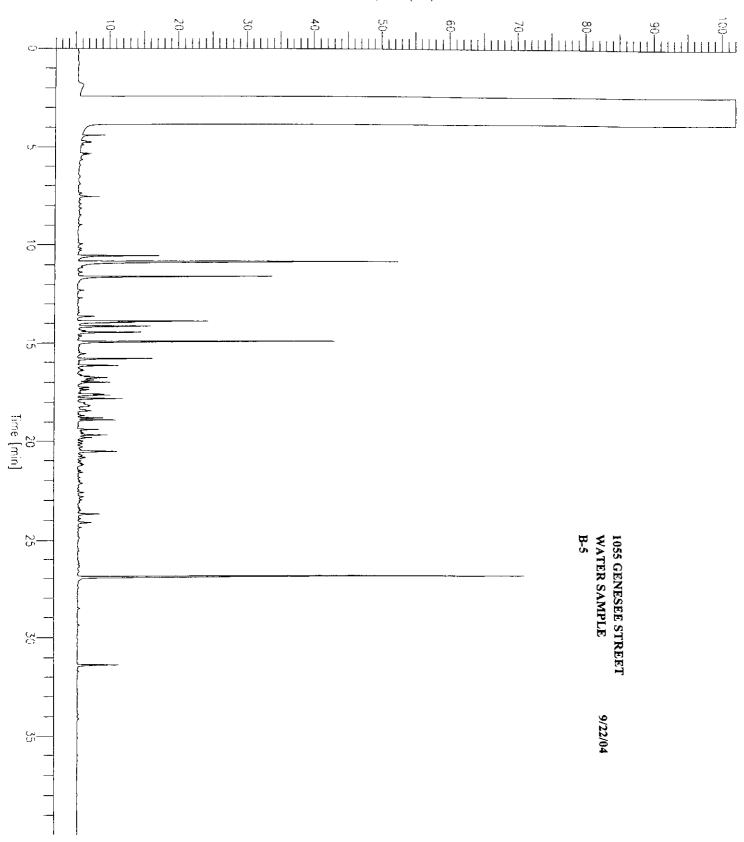
Low Point : 2.00 mV

08:52 AM High Point : 102.00 mV

Page 1 of 1

Plot Scale: 100.0 mV





# **ATTACHMENT 6**

LISTING OF PREVIOUS SITE OWNERS

#### Attachment 06

#### **Listing of Previous Site Owners**

### NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### **INTRODUCTION**

The following table lists the previous property owners as described in the attached Chain of Title.

Previous Owner(s)						
Name	Date(s)	Relationship to Applicant				
NOCO	1992 to present	Applicant				
Cumberland Farms, Inc. 777 Dedham Street Canton, MA 02021 Phone: 800-225-9702	1986-1992	None				
Northeast Stations and Services, Inc. (merged with Cumberland Farms in 1986)	1983-1986	None				
Gulf Oil Company (merged with Chevron Corporation in 1984) Chevron Corporation Headquarters 6001 Bollinger Canyon Rd. San Ramon, CA 94583, U.S.A. Phone: 925-842-1000	1953-1983	None				
George Hambleton and Frank Carr (address and phone number unknown)	1953	None				
Hambleton Terminal Corporation (address and phone number unknown)	1947-1953	None				
Eton Petroleum Corporation (address and phone number unknown)	1945-1947	None				
Private individuals (address and phone number unknown)	1839-1945	None				



Property: 1055 Genesee Street, Buffalo, New York

## **Abstract of Title**

No.: 500000449

bу



## TICOR TITLE INSURANCE COMPANY

420 MAIN STREET, SUITE 200 BUFFALO, NEW YORK 14202-3501 (716) 854-2982 FAX: (716) 852-7346

The established leader in quality, service and value.

# TICOR TITLE INSURANCE COMPANY 420 MAIN STREET - STE 200, BUFFALO, NY 14202

TAX SEARCH

SEARCH NO.5000-00449

TITLE INSURANCE NO.: 5000-25044

#### Property Information

CITY OF BUFFALO

Dist. 4 130.04' x 250' (#1055) Genesee E cor Fillmore

SBL Number: 100.76-5-1
Assessed Value: \$180,000

TICOR TITLE INSURANCE COMPANY, a California corporation, for a valuable consideration to it paid, hereby guarantees to the record owners and successors in interest of record, that there are no STATE TAX SALES, CITY or COUNTY TAXES, LOCAL ASSESSMENTS or TAX SALES for taxes, now payable, levied and assessed against the real estate described as above on the tax rolls of the City of Buffalo or County of Erie, (Sewer Rents based on water consumption of water charges not included), except as follows:

Date of Sale

For What Tax or Tax Sale

Number of Roll

Name of Purchaser

Amount of Tax Sale/Remarks

NO SEARCH IS MADE FOR OCCUPANCY TAXES OR USER FEES FOR REFUSE PICKUP

County Tax 2000

100.76-5-1

\$1,033.47



TICOR TITLE INSURANCE COMPANY

By Candley A Koch

Dated FEBRUARY 1, 2000

kaf

# TICOR TITLE INSURANCE COMPANY 420 MAIN STREET - STE 200, BUFFALO, NY 14202

SEARCH NO. 5000-00449

A California corporation, for a valuable consideration to it paid, GUARANTEES to the record owners of an interest in or a specific lien upon the premises particularly described below on the date hereof and their successors in interest of record, that the SET-OUTS designated herein by marginal numbers One to 67 inclusive, are all the references affecting title to said premises, which appear upon

- (a) INDICES to records, papers, files and documents in the office of the CLERK of the COUNTY wherein said premises are situate, and
- (b) INDICES to wills and administration of decedent's estates in the office of the SURROGATE of the COUNTY wherein said premises are situate, and
- (c) INDICES to bankrupts in the office of CLERK of the UNITED STATES BANKRUPTCY COURT for the WESTERN DISTRICT OF NEW YORK

against the names of the parties appearing in the within abstract during the periods in which it appears there was a record interest in said premises under said names from November 15, 1816 to the date hereof, and upon

- (d) JUDGMENT DOCKETS for ten years last past, and
- (e) DOCKETS of FEDERAL LIENS for ten years and thirty days last past

against the names of the parties in such ownership in the office of the Clerk of the County wherein said premises are situate and the corporation GUARANTEES FURTHER that the SET-OUTS HEREIN are correct statements as to such records and indices.

(f) Inactive Hazardous Waste Disposal Site Registry Index maintained in the County Clerk's Office for the County in which the Subject Premises is located against the tax map parcel number of the section, block and lot number of the Subject Premises.

The Guaranty under this Certificate shall not be limited by time.

Dated this 17th day of March, 2000 and executed under seal.

TICOR TITLE INSURANCE COMPANY

By Candow L Koch
Authorized Signature



## TICOR TITLE GUARANTEE COMPANY

A New York corporation, for a valuable consideration to it paid, GUARANTEES to the record owners of an interest in or a specific lien upon the premises particularly described below on the date hereof and their successors in interest of record, that the SET-OUTS designated herein by inclusive, are all the references affecting title to said premises, One to 61 marginal numbers which appear upon INDICES to records, papers, files and documents in the office of the CLERK of the COUNTY wherein said premises are situate, and INDICES to wills and administration of decedent's estates in the office of the SURROGATE of the COUNTY wherein said premises are situate, and INDICES to bankrupts in the office of CLERK of the UNITED STATES BANKRUPTCY COURT for the WESTERN DISTRICT of NEW YORK against the names of the parties appearing in the within abstract during the periods in which it appears there was a record interest in said premises under said names from to the date hereof, and upon November 15 1816 (d) JUDGMENT DOCKETS for ten years last past, and (e) DOCKETS of FEDERAL LIENS since October 4, 1984. against the names of the parties in such ownership in the office of the Clerk of the County wherein said premises are situate and the corporation GUARANTEES FURTHER that the SET-OUTS HEREIN are correct statements as to such records and indices. No search is made for filings made pursuant to the requirements of Chapter 579 of the Laws of 1990. The Guaranty under this Certificate shall not be limited by time. o'clock ---- M. 19 92 21st day of October Dated this and executed under seal. No. 92-16365 By Upon continuation from the date and hour last above this GUARANTEE, for a valuable consideration, is reissued to the record owners of an interest in or a specific lien upon the premises particularly described in the within abstract, including search against below since the date of the deed, showing all references affecting title to said premises to the date hereof that appear upon the indices and dockets particularly detailed as (a) to (e) above, designated by marginal numbers 62 to 64 at 3:38 o'clock 19 92 day of December Redated this 2nd TICOR TITLE GUARANTEE COMPANY



No. 92-16365 By:

Upon continuation from the date and hour last above this GUARANTEE for a valuable consideration is reissued to the record owners of an interest in or a specific lien upon the premises particularly described

the grantee in marginal naffecting title to said premis detailed as (a) to (e) above, Redated this	es to the date hereof tha	since the d at appear u	ithin abstract, late of the deep pon the indices at	d, showing all	references
*****************			, , , , , , , , , , , , , , , , , , ,		
,					
		1	FICOR TITLE GU	ARANTEE COM	PANY
	No	Ву .			Signature
Upon continuation from the reissued to the record owner					
the grantee in marginal n affecting title to said premis detailed as (a) to (e) above, Redated this	es to the date hereof tha	since the dat appear up	ithin abstract, late of the deep pon the indices at	d, showing all	references
					,
		1	FICOR TITLE GU	ARANTEE COM	PANY
	No	Ву		Authorized	

Certificate of neger by Nachart Stations

+ Civicus Sur! d. 1/28/86.

Elizabeth Bretty

Conveys subdivision lots Nos. 1 and 2 of the west part of Lot No. 5, Township 11, Range 8, described as follows:- Beginning on the southerly side of Genesee

where the same intersects a road running on the west side of said Lot No. 5: thence easterly along the southerly lands of said street 100 feet: thence south parallel with said road 150 feet: thence northerly parallel with said street 100 feet to said road: thence north along said road 150 feet to beginning

Same

to

Stephen Osborn

W Deed dated March 22 1839 recorded in liber 53 of Deeds page 366 March 23 1839 Conveys subdivision lot No. 18 according to a subdivision of the west 1/2 of Lot No. 5,

Township 11, Range 8, described as follows:- Beginning 100 feet easterly from the westerly line of Lot No. 5 and 150 feet southerly from Genesee Street: thence easterly 50 feet parallel to Genesee: thence southerly parallel to Holland Land Company's road or west line of Lot No. 5: thence westerly parallel and on the margin of a street 3 rods wide 50 feet: thence northerly and parallel to said line of Lot No. 5, 150 feet to beginning

Same

to

Theodore Hequemborg

W Deed dated January 30 1839
recorded in liber 53 of Deeds
page 391 April 10 1839
Conveys subdivision lot No. 16
of a subdivision of the west
1/2 of Lot No. 5, Township 11,
Range 8, described as follows:Beginning on the west line of

said Lot No. 5, 150 feet from
Genesee Street: thence south
150 feet to a street 3 rods
wide: thence easterly 50 feet
parallel to Genesee: thence north
parallel with line of said Lot
No. 150: thence westerly parallel
to Genesee 50 feet to beginning

Theodore Hequembourg

3

Э

to

George W. Hequembourg

W Deed dated May 8 1839
recorded in liber 56 of
Deeds page 43 June 20 1839
Conveys same premises as
conveyed by last above deed

Elisha Ensign and Olive his wife

to

Sylvanus O. Gould

W Deed dated February 1 1839
recorded in liber 63 of Deeds
page 334 May 7 1839
Conveys part of Lot No. 5,
Township 11, Range 8, described
as follows:- Beginning 150 feet
southerly from Genesee Street
50 feet easterly from the

westerly line of Lot No. 5: thence easterly 50 feet: thence south-easterly parallel to Holland Land Company's Road on line of said Lot No. 5, 150 feet to a street 3 rods wide: thence westerly 50 feet parallel to said street: thence northerly parallel to said southerly line 150 feet to beginning and being subdivision lot No. 17 on a subdivision of the west 1/2 of Lot No. 5

Same

10 to

Margaret Smith

W Deed dated April 2 1840 recorded in liber 66 of Deeds page 288 June 21 1842 Conveys subdivision lot No. 3 on a subdivision of the westerly part of Lot No. 5, Township 11, Range 8, described as follows:-

Beginning at a point in the southerly line of Genesee 100 feet northeasterly from the intersection of said line of Genesee with the northerly line of said Lot No. 5: thence northeasterly along said line of Genesee 50 feet: thence south 150 feet: thence southwesterly parallel with said south line 50 feet: thence north 150 feet to beginning

Lorenzo Brown, Sheriff

\_----

11

Noah P. Sprague

to

Sheriff's Deed dated October 13 1843
recorded in liber 70 of Deeds
page 407 October 13 1843
Conveys all interest Elisha
Ensign had in the west 1/2 of
Lot No. 5, Township 11, Range 8
in pursuance of above certificate
of sale No. 4
Recites that Noah P. Sprague
redeems same as subsequent
judgment creditor

Noah P. Sprague and Abiah H. his wife

12 to Elijah Ford

Q C Deed dated October 13 1843 recorded in liber 70 of Deeds page 410 October 13 1843 Conveys same premises as conveyed by last above deed

Elijah Ford and
Louisa J. his wife

Bradford A. Manchester

W Deed dated October 1 1844
recorded in liber 78 of Deeds
page 217 February 1 1845
Conveys part of Lot No. 5,
Township 11, Range 8, described

as follows:- Beginning in the northerly line of Peterson 100 feet easterly from the intersection with the east bounds of

a road running on the west side of said lot No. 5: thence easterly on the northerly line of Peterson 100 feet: thence northerly parallel with lands of said Lot No. 5, 150 feet: thence westerly parallel with Peterson 100 feet: thence southerly parallel with lands of said Lot No. 5, 150 feet to beginning

Elijah Ford and
Louisa J. his wife
to

14

Charles C. Germain and Elizabeth Germain

W Deed dated January 8 1844
recorded in liber 78 of Deeds
page 335 March 24 1845
Conveys part of Lot No. 5,
Township 11, Range 8, described
as follows:- Beginning in the
easterly line of a road running
on the northerly side of said

Lot No. 5 at the distance of 150 feet southerly from the intersection of the easterly line of said road with the southerly line of Genesee: thence southerly on the easterly line of said road, 150 feet to Peterson: thence easterly on northerly line of Peterson 100 feet: thence northerly parallel with line of said Lot No. 5, 150 feet to lands now owned by second parties: thence westerly parallel with Genesee 100 feet to beginning

Same

Charles C. German and
Elizabeth his wife

W Deed dated October 14 1843
recorded in liber 79 of Deeds
page 83 March 24 1845
Conveys subdivision lots Nos. 1
and 2 of the subdivision of Lot
No. 5, Township 11, Range 8,
described as follows:- Beginning

northerly parallel with Walden Street, 150 feet to Genesee Street: thence westerly along the southerly line of Genesee Street, 100 feet to the place of beginning

John G. Bickel

19 to
Charles C. Germain and
Elizabeth Germain his
wife

Mortgage for \$2000.00 dated

March 15 1866 recorded in

Liber 191 of Mortgages page

534 March 20 1866

Covers same premises as

conveyed by last above deed

Recites this mortgage is acknowledged
but not signed by said John G.

Bickel

20 In re
 Charles C. Germain,
 deceased

Surrogate's Court Erie County Letters Testamentary issued to Louisa Keller March 30 1875 recorded in liber 7 of Letters page 361

21 In re
 Elizabeth Germain,
 deceased

Surrogate's Court Erie County
Letters of Administration granted
to Louisa Keller April 1 1876
recorded in liber 6 of Letters
page 235

Margaret Smith
22 to
Louis Bergdorf

Mortgage for \$160.00 dated
October 26 1857 recorded in
liber 124 of Mortgages page
145 October 31 1857
Covers Lot No. 3 on a subdivision
of the westerly part of Lot
No. 5, Township 11, Range 8,

described as follows:- Beginning at a point in the southerly line of Genesee Street, 100 feet northeasterly from the inter-

section of said line of Genesee Street with the westerly line of said Lot No. 5: thence northeasterly along said line of Genesee Street, 50 feet: thence south 150 feet: thence southwesterly parallel with said street, 50 feet: thence north 150 feet to the place of beginning

Margaret Smith

23 to

Jacob Brock

W Deed dated March 19 1858
recorded in liber 194 of Deeds
page 43 January 14 1859
Conveys lot No. 3 on a subdivision
of the westerly part of Lot No. 5,
Township 11, Range 8, described as

follows:- Beginning at a point in the southerly line of Genesee Street, 145 feet northeasterly from the intersection of said line of Genesee Street with the westerly line of said Lot No. 5: thence northeasterly along said line of Genesee Street, 5 feet: thence south 150 feet: thence southwesterly parallel with said Street, 5 feet: thence north 150 feet to the place of beginning

Elijah Ford and

Louisa J. his wife

24 to

Margaret Smith

Q C Deed dated January 1 1855
recorded in liber 209 of
Deeds page 474 October 15 1862
Conveys same premises as
covered by above mortgage No. 22

Margaret Smith

25 to

Louis Bergdorf

Affidavit's of Sale on foreclosure of above mortgage No. 22 recorded in liber 155 of Mortgages page 339 October 15 1862 Sells same premises as covered

by above mortgage No. 22 to said Louis Bergdorf for \$200.00

The State of New York

Johanes D. Gros

26

Comptroller's Deed dated March
17 1862 recorded in liber 188
of Deeds page 70 July 3 1867
Conveys that part of Lot No. 5
on the south side of Genesee
Street, commencing 103 feet
east of Adams Street, being
47 feet front by 150 feet
deep and more for non-payment
of taxes
Sale of 1859

J. Daniel Gros

To

Louis Bergdorf

Q C Deed dated July 14 1862
recorded in liber 217 of Deeds
page 135 October 15 1862
Conveys all that certain house
and lot situate in City of
Buffalo, being part of Lot No. 5
on the south side of Genesee

Street, commencing 100 feet east of Adams Street, now Walden Street, bieng 50 feet front by 150 feet deep

Louis Bergdorf and Louisa his wife to

John George Bickel

28

Deed (full covenant) dated

April 21 1866 recorded in

liber 234 of Deeds page 509

May 15 1866

Conveys same premises as

covered by above mortgage No. 22

Wife signs Mary Ann L. Bergdorf

John G. Bickel and Anna Syvilla his wife

to

Anna Maria Bilz

W Deed dated November 11 1867 recorded in liber 270 of Deeds page 262 November 12 1867 Conveys part of Lot No. 5, Township 11, Range 8, described as follows:- Beginning at the intersection of the southerly line of Genesee Street with

the easterly line of Walden Street: thence southerly along said easterly line of Walden Street, 300 feet to the ortherly line of Peterson Street: thence easterly along the northerly line of Peterson Street, 200 feet: thence northerly parallel with Walden Street, 150 feet: thence westerly parallel with Genesee Street, 100 feet: thence northerly parallel with Walden Street, 150 feet to Genesee Street: thence westerly along the southerly line of Genesee Street, 150 feet to the place of beginning, also same premises as covered by above mortgage No. 22

NOTE: - This certificate includes an examination against the name Anna Maria Baetzhold since November 11 1867

Anna M. Baetzhold,

(formerly Anna Maria

Bilz)

Erie County Savings

Bank

Mortgage for \$5500.00 dated

May 22 1896 recorded in liber

750 of Mortgages page 276

May 25 1896 RANTEE

Covers Telle following described

intersection of the

southeasterly line of Genesee Street with the easterly line

of Fillmore Parkway: thence

northeasterly along said line of Genesee Street, 130 feet, more or less, to the easterly line of premises conveyed by John G. Bickel and wife to Anna Maria Bilz, by deed recorded in liber 270 of Deeds page 262:

thence southerly along said easterly line of premises conveyed by last aforesaid deed, 150 feet: thence southwesterly parallel with Genesee Street, 130 feet, more or less, to said line of Fillmore Avenue: thence northerly thereon 150 feet to the place of beginning

Will

Anna Maria Baetzhold

of

Will dated June 6 1902
recorded in Erie County Surrogate's Office in liber 68 of
Wills page 632 April 15 1904
Directs the payment of her
just debts and funeral expenses,
if any. Gives, devises and

bequeaths all her real and personal property as follows:- One equal fourth part absolutely and unconditionally to her son, George Bilz: One equal fourth part absolutely and unconditionally to her son, John G. Bilz: one equal fourth part absolutely and unconditionally to her daughter, Amelia Catharine Miller, one equal fourth part she gives, devises and bequeaths unto her son, John G. Bilz and her daughter, Amelia Catharine Miller, in trust for the use and benefit of her grandson, Harry King, until he arrives at the age of 21 years, at which time whatever may remain of said estate, her said trustees shall turn over to her said grandson, absolutely and unconditionally. She grants unto her said trustees power to invest said share during the minority of said grandchild and use so much of the income and principal as in the judgment of said trustees shall be for the benefit of said grandson. In case of the death of her said grandson before he arrives at the age of 21 years, said share or whatever may remain of same, she gives and devises unto her children or the survivor or survivors in equal parts absolutely and unconditionally. Appoints her son, John G. Bilz, sole executor, giving unto him full power and authority to sell and convey or lease her real estate at such time and upon such terms and conditions as to him seem best

Petition for Probate recites that decedent died on or about April 9

1

1904 leaving her surviving, Christian August Baetzhold, husband, Amelia C. Miller, daughter and George C. Bilz and John G. Bilz, sons, all of full age and Harry King, grandson, aged 16 years
Letters Testamentary issued to John G. Bilz April 25 1904 recorded in liber 27 of Letters page 592

John G. Bilz, executor of the last will and testament of Anna Maria Baetzhold, deceased

to

August Aichinger and Mary Aichinger Executor's Deed dated December 10
1910 recorded in liber 1170 of
Deeds page 102 December 21 1910
Conveys premises and more
Recites it is understood that
Walden Street above referred
to, is at present called Fillmore
Avenue and that the easterly line
of Walden Street as designated
in said deed refers to the
easterly line thereof before
the street was widened
Subject to a mortgage held by

the Erie County Savings Bank on which is due and unpaid the sum of \$5500.00 which second parties assume and agree to pay, since discharged

Anna M. Baetzhold, formerly

Anna M. Bilz

to

John G. Bilz, George C. Bilz and Amelia C. Miller

Q C Deed dated June 6 1902

acknowledged June 6 1902

recorded in liber 1187 of

Deeds page 314 January 31 1911

Conveys premsies and more,

subject to a mortgage to the

Erie County Savings Bank in

the sum of \$5500.00, since discharged

Recites except so much of the

above described premises as was

taken by the City of Buffalo for

a Park Roadway

Will

of

Christian August

Will dated January 30 1907
recorded in Erie County Surrogate's Office in liber 89 of
Wills page 102 January 20 1911
Devises his estate &c.
Petition for Probate filed
January 20 1911 recites decedent
died on or about January 11 1911 &c.

John G. Bilz,
George C. Bilz, Amelia
Miller and Rose Bilz,
wife of John G. Bilz

+0

August Aichinger

Q C Deed dated May 10 1911
recorded in liber 1187 of Deeds
page 600 May 11 1911
Conveys premises and more,
with same recital as in above
deed No. 33

Harry King, unmarried, one of the heirs at law of Anna Maria Baetzhold, deceased

t

5

7

August Aichinger

Q C Deed dated August 30 1916
recorded in liber 1343 of Deeds
page 515 September 5 1916
Conveys premises and more,
except so much of above described
premises as was taken by the
City of Buffalo for the Park Roadway

August Aichinger and
Mary his wife
to

L

John Schwabl

W Deed dated September 28 1922
recorded in liber 1623 of Deeds
page 342 September 28 1922
Conveys the following described
premises:- Beginning at the point
of intersection of the southerly
line of Genesee Street with the
easterly line of Fillmore Avenue
as now laid out: running thence

southerly along the easterly line of Fillmore Avenue 86.35 feet: thence easterly at right angles with Fillmore Avenue,

32.21 feet: thence northerly parallel with Fillmore Avenue 104.57 feet to the southerly line of Genesee Street and thence westerly along said line of Genesee Street 37 feet to the place of beginning

Will

of

August Aichinger (Case No. 68994)

Will dated January 8 1923
recorded in Erie County Surrogate's Office in liber 107 of
Wills page 377 February 26 1923
Directs that all his just debts
and funeral expenses be paid
Gives, devises and bequeaths

all of his estate, both real and personal, of whatsoever name, nature or kind, the same may be and wheresoever the same may be situate unto his wife, Mary Aichinger, to have and hold the same unto her, his said wife, her heirs and assigns, absolutely and forever

Appoints his wife, Mary Aichinger, executor

Petition for Probate filed February 14 1923 recites that decedent died on or about February 9 1923 leaving him surviving Mary Aichinger, widow, August Aichinger, John Aichinger and George Aichinger, sons and Frances Aichinger, daughter, all of full age and Mary Aichinger, daughter, aged 13 years, Katherine Schwanekamp, granddaughter, aged 5 years and Valentine Schwanekamp, grandson, aged 4 years Letters Testamentary issued to Mary Aichinger February 26 1923 recorded in liber 55 of Letters page 32

Will

of

Mary Aichinger, also known as Marie Aichinger (Case No. 118647) Will dated August 15 1935
recorded in Erie County Surrogate's Office in liber 128 of
Wills page 233 October 18 1937
She gives, devises and bequeaths

all of her estate, both real and personal, of whatsoever name, nature or kind, the same may be and wheresoever the same

may be situated, unto her executors hereinafter named, for the uses and purposes hereinafter particularly mentioned hereby giving and granting unto her said executors full power and authority to sell and convey any and all of her real estate, at such times and terms as her said executors shall, in their discretion deem for the most beneficial interest of her said estate, either at probate sale or at public auction She further directs that her said executors, as soon as convenient after her decease to convert all of her said estate into money and directs to distribution of said money. All the rest, residue and remainder of the proceeds and avail of her estate, she directs her said executors to pay to her following named children:- August Aichinger, Frances Aichinger Hill, John Aichinger, George Aichinger and Mary Aichinger, share and share alike

Appoints her son, John Aichinger and her daughter, Frances Aichinger Hill, executors

Petition for Probate filed October 5 1937 recites that decedent died on or about September 29 1937 leaving her surviving no husband but the following: August Aichinger, John Aichinger and George Aichinger, sons, Mary Aichinger and Frances Aichinger Hill, daughters, all of full age and others

Letters Testamentary issued to John Aichinger and Frances Aichinger October 18 1937 recorded in liber 96 of Letters page 249

Affidavit

of

Frances Aichinger Hill

Affidavit sworn to April 6 1943 recorded in liber 3367 of Deeds page 207 April 7 1943 Recites that deponent is upwards of the age of twenty-one years and resides at No. 101 Leonard Street in the City of

Buffalo, County of Erie and State of New York: that she is a daughter of Mary Aichinger Estate, deceased, whose will is

No. 39 above: that the said Mary Aichinger is the same person named as Maria Aichinger in a certain deed from Myrtis Page to August Aichinger and Maria Aichinger, his wife dated March 9 1899 and recorded in liber 867 of Deeds page 224 and that the said Mary Aichinger was also sometimes known as Marie Aichinger

John Aichinger, individually and as executor of the last will and testament of Mary Aichinger (also known as Marie Aichinger), deceased and Helen Mary Aichinger his wife and Frances Aichinger Hill, indivdually and as executrix of said last will and testament of Mary Aichinger, deceased and August Aichinger and Florence Katherine Aichinger his wife and George Aichinger and Anna Aichinger his wife and Mary Aichinger

to

Henry V. Morelewicz

W Deed dated June 19 1944 recorded in liber 3560 of Deeds page 284 June 30 1944 Conveys part of Lot No. 5, Township 11, Range 8, described as follows: - Beginning at a point in the easterly line of Fillmore Avenue as now laid out at the distance of 50 feet northerly from the northerly line of Peterson Street as measured along said easterly line of Fillmore Avenue: running thence northerly along the said easterly line of Fillmore Avenue 60 feet: running thence easterly at right angles to said easterly line of Fillmore Avenue 113.43 feet to the westerly line of land conveyed by August Aichinger and Mary his wife, to Joseph Stoll by deed dated June 1 1911 and recorded June 8 1911 in liber 1204 of Deeds page 66:

running thence southerly at right angles and along said westerly line of said land so conveyed to Joseph Stoll as

aforesaid 45.57 feet to the northerly line of Peterson Street: running thence westerly along the northerly line of Peterson Street 47.65 feet to the easterly line of land conveyed by August Aichinger and Mary his wife to Central Oil Company Inc. by deed dated August 24 1916 and recorded September 5 1916 in liber 1355 of Deeds page 405: running thence northerly along said easterly line of said land so conveyed to Central Oil Company Inc., as aforesaid and parallel with the easterly line of Fillmore Avenue 9.10 feet to the northerly line of said lands so conveyed to Central Oil Company Inc., as aforesaid: running thence westerly along said northerly line of said lands so conveyed to Central Oil Company Inc. as aforesaid, (said lands so conveyed to Central Oil Company Inc. as aforesaid, (said line being at right angles to the easterly line of Fillmore Avenue) 72 feet to the east line of Fillmore Avenue at the point or place of beginning

Henry V. Morelewicz

42

to

Hambleton Terminal
Corporation, a
domestic corporation

W Deed dated May 15 1947
recorded in liber 4112 of
Deeds page 32 May 15 1947
Conveys part of Lot No. 5,
Township 11, Range 8, described
as follows:- Beginning at a point
in the easterly line of Fillmore
Avenue (as now laid out), distant
50 feet northerly from its inter-

section with the northerly line of Peterson Street, (which point of beginning is also the northwest corner of lands conveyed to Central Oil Company Inc. by deed recorded in liber 1355 of Deeds page 405): running thence northerly along the easterly line of Fillmore Avenue 60 feet: thence easterly at right angles to the said easterly line of Fillmore Avenue 113.41 feet to the westerly line of lands conveyed to

Joseph J. Stoll by deed recorded in liber 1204 of Deeds page 66: running thence southerly along the westerly line of lands so conveyed to Joseph J. Stoll 45.53 feet to the northerly line of Peterson Street: thence southwesterly along the northerly line of Peterson Street 47.63 feet to the easterly line of lands so conveyed to the Central Oil Company Inc.: thence northerly along the easterly line of lands so conveyed to the Central Oil Company Inc. 9.07 feet to the northeast corner of lands so conveyed to the Central Oil Company Inc.: thence westerly along the northerly line of lands so conveyed to the Central Oil Company Inc.: Avenue at the point or place of beginning

43 In re
Hambleton Terminal
Corporation
(Case No. 21160)

Certified Copy of Certificate
of Incorporation
Dated January 3 1936
Filed January 10 1936

John Aichinger and
Frances Aichinger Hill,
as executors of the last
will and testament of
Mary Aichinger (also
known as Marie Aichinger),
deceased

i4 to

Eton Petroleum Corporation,
a corporation organized and
existing under and pursuant
to the laws of the State
of New York

Executor's Deed dated December 29 1944 recorded in liber 3649 of Deeds page 423 December 30 1944 Conveys part of Lot No. 5, Township 11, Range 8, described as follows:- Beginning at a point in the southerly line of Genesee Street distant 37 feet easterly, as measured along the said southerly line of Genesee Street, from the point of intersection of said southerly line of Genesee Street with the easterly line of Fillmore Avenue, as now laid out, said point of beginning being at the northeast corner of the lands conveyed by August Aichinger and

Mary his wife, to John Schwabl by deed dated September 28 1922 and recorded in liber 1623 of Deeds page 342: running thence

eastterly along the said southerly line of Genesee Street 93.47 feet to the northeast corner of the lands secondly described in a certain deed from John G. Bilz, as executor of the last will and testament of Anna Maria Baetzhold, deceased, to August Aichinger and Mary his wife, dated December 10 1910 and recorded in liber 1170 of Deeds page 102: running thence southerly along the easterly line of the said lands so described in sad deed to August Aichinger and Mary his wife, as aforesaid, 150 feet to the northerly line of the lands conveyed by August Aichinger and Mary his wife to Joseph J. Stoll by deed dated June 1 1911 and recorded in liber 1204 of Deeds page 66: running thence westerly along the northerly line of said lands so conveyed to Joseph J. Stoll, as aforesaid, .17 of a foot more or less to the westerly line of the lands so conveyed to Joseph J. Stoll, as aforesaid: running thence southerly along the said westerly line of said lands so conveyed to Joseph J. Stoll, as aforesaid, 101.68 feet more or less to the northerly line of lands conveyed to Henry V. Morelewicz by deed dated June 19 1944 and recorded in liber 3560 of Deeds page 284: running thence westerly along the said northerly line of said land so conveyed to Henry V. Morelewicz, as aforesaid, 113.41 feet more or less to the easterly line of Fillmore Avenue, as now laid out: running thence northerly along the said easterly line of Fillmore Avenue, as now laid out, 101.17 feet more or less to the southwest corner of said lands so conveyed to John Schwabl, as aforesaid: running thence easterly along the south line of said lands so conveyed to John Schwabl, as aforesaid, 32.21 feet to the southeast corner thereof: running thence northerly along the easterly line of said lands so conveyed to John Schwabl, as aforesaid, 104.57 feet to the southerly line of Genesee Street at the point or place of beginning

45 In re
Eton Petroleum
Corporation
(Case No. 21234)

Certified Copy of Certificate
of Incorporation
Dated March 12 1936
Filed March 20 1936

Will

John Schwabl
(Case No. 97697)

Will dated September 17 1931
recorded in Erie County Surrogate's Office in liber 119 of
Wills page 463 November 13 1931
Directs payment of all just
debts and funeral expenses
Makes certain personal bequests
All the rest, residue and remainder

of his property, both real and personal, he gives, devises and bequeaths to his mother, Mary Schwabl, his sisters, Katherine Schwabl and Mary Zeitler, his brothers, Andrew Schwabl, Frank Schwabl and William F. Schwabl, in equal shares. Makes provision should any of them predecease him

Appoints his brother, William F. Schwabl and M & T Trust Company as executors with full power to sell and convey

Petition for Probate filed November 13 1931 recites death of decedent on or about November 9 1931 leaving him surviving no widow but Mary Schwabl, mother, Katherine Schwabl and Mary Zeitler, sisters and Andrew Schwabl, Frank Schwabl and William F. Schwabl, brothers, all of full age

Letters Testamentary issued to M & T Trust Company and William F. Schwabl November 13 1931 recorded in liber 71 of Letters page 168

M & T Trust Company and
William F. Schwabl, as
executors of the last
will and testament of
John Schwabl, deceased

Executor's Deed dated July 13 1932
recorded in liber 2205 of Deeds
page 191 July 18 1932
Conveys unto each of the
parties of the second part an

47 to

Mary Schwabl,
Katherine Schwabl,
Mary Zeitler, Andrew
Schwabl, Frank Schwabl
and William F. Schwabl,
as tenants in common
and not as joint tenants

undivided 1/6 interest in and to same premises as conveyed by above deed No. 37

A8 In re

Mary Zeitler,

deceased

(Case No. 102756)

Surrogate's Court Erie County
Petition for Administration
filed May 15 1933 recites
death of decedent intestate
on May 3 1933 leaving her
surviving her husband, John
Zeitler, of full age and
Mary Ann Zeitler and Jean

Zeitler, daughters and John Zeitler Jr., son, all infants
Letters of Administration granted to John Zeitler May 15 1933
recorded in liber 80 of Letters page 234

49 In re
 Katherine Schwabl,
 deceased
 (Case No. 109342)

Petition for Administration
filed April 19 1935 recites
death of decedent intestate
on April 1 1935 leaving her
surviving no husband but
Mary Schwabl, mother and
Andrew Schwabl, Frank Schwabl
and William F. Schwabl, brothers,
all of full age

Letters of Administration granted to William F. Schwabl April 19 1935 recorded in liber 84 of Letters page 9

Will

50 of

Mary Schwabl

(Case No. 115195)

Will dated April 8 1935
recorded in Erie County Surrogate's Office in liber 127
of Wills page 17 December 11 1936
Directs payment of all just
debts and funeral expenses
Makes certain cash bequests

All the rest, residue and

remainder of her estate, both real and personal, she gives, devises and bequeaths to her three sons, Andrew Schwabl, Frank Schwabl and William F. Schwabl, share and share alike. Makes provision should any of them predecease her

Appoints her son, William F. Schwabl, executor

Petition for Probate filed December 3 1936 recites death of decedent on or about November 25 1936 leaving her surviving no husband but William F. Schwabl, Andrew Schwabl and Frank Schwabl, sons, all of full age and others

Letters Testamentary issued to William F. Schwabl December 11 1936 recorded in liber 90 of Letters page 95

Will

51 of

Andrew Schwabl

(Case No. 122992)

Will dated December 2 1936
recorded in Erie County Surrogate's Office in liber 130 of
Wills page 2 December 16 1938
Directs payment of all just
debts and funeral expenses
Gives, devises and bequeaths
all of his estate, both real

and personal, to his two brothers, William F. Schwabl and Frank Schwabl, share and share alike

Appoints his brother, William F. Schwabl, executor

Petition for Probate filed December 6 1938 recites death of decedent on or about October 5 1938 leaving him surviving no widow but William F.

Schwabl and Frank Schwabl, brothers, of full age and others

Letters Testamentary issued to William F. Schwabl December 16 1938

recorded in liber 99 of Letters page 68

Frank Schwabl,
William Schwabl,
John B. Zeitler and
Mary Ann Zeitler
to

2

to
Eton Petroleum
Corporation, a
domestic corporation

W Deed dated January 30 1945
recorded in liber 3660 of
Deeds page 444 February 2 1945
Conveys same premises as
conveyed by above deed No. 37

Jean Zeitler and
John Zeitler, infants
under the age of
twenty-one years by
John B. Zeitler, their
Special Guardian

53 to

Same

Guardian's Deed dated January 30
1945 recorded in liber 3660 of
Deeds page 440 February 2 1945
Conveys same premises as
conveyed by above deed No. 37,
pursuant to an order dated
January 30 1945

54 In re
Eton Petroleum
Corporation
(Case No. 21160)

Certified Copy of Certificate
of Merger of Eton Petroleum
Corporation with Hambleton
Terminal Corporation
Dated September 29 1947
Filed September 26 1947
Resolved that Hambleton Terminal
Corporation merge with Eton
Petroleum Corporation and
assume all its obligations etc.

Hambleton Terminal
Corporation, a corporation
organized under the laws
of New York

George K. Hambleton and
Frank J. Carr, as tenants
in common and not as

joint tenants

Q C Deed dated January 10 1953 recorded in liber 5261 of Deeds page 273 January 26 1953 Conveys premises and more, together with all other real and mixed property of first party located in County of Erie

George K. Hambleton and
Frank J. Carr, as tenants
in common and not as
joint tenants

56 to
Gulf Oil Corporation, a
Pennsylvania corporation

W Deed dated January 26 1953 recorded in liber 5261 of Deeds page 346 January 26 1953 Conveys premises and more, together with same etc. as in last above deed

37 In re
 Gulf Oil Corporation
 of Pennsynvania
 (Case No. 23172)

Certificate of Authority
Dated January 10 1936
Filed October 9 1941
Authorizes said foreign
corporation to do business
in New York State

58 In re
 Gulf Oil Corporation
 of Pennsylvania
 (Case No. 23172)

Certified Copy of Certificate
of Change of Name
Dated June 4 1936
Filed in Office of Secretary
of State June 11 1936 and
filed in Erie County Clerk's
Office January 7 1954
Changes name of said

corporation to Gulf Oil Corporation

Gulf Oil Corporation

9

to

M. A. Bean

Power of Attorney dated October
20 1975 recorded in liber 75
of Powers of Attorney page 123
August 4 1976
Grants power to execute deeds,
mortgages, leases etc. as
relates to real property

Gulf Oil Corporation,
a corporation organized
under the laws of the
Commonwealth of
Pennsylvania

60

to

Northeast Stations &
Services Inc., a
Delaware Corporation

Q C Deed dated May 31 1983
recorded in liber 9243 of
Deeds page 35 July 15 1983
Conveys premises, subject to
any state of acts and conditions
that an accurate survey and
personal inspection of the
premises would disclose,
easements, conditions, restrictions
and reservations of record or
which may have been imposed
thereon, existing tenancies,
if any, zoning ordinances, if
any and taxes and assessments

both general and special, if any, which shall fall due and payable following the date of closing

Recites this conveyance is made during the normal course of business as conducted by the Gulf Oil Corporation

Recites this conveyance is made during the normal course as conducted by the Gulf Oil Corporation

Signs and acknowledges by M. A. Bean, attorney-in-fact

NOTE:- We find no Certificate of Incorporation for Northeast Stations & Services Inc. on record

Affidavit

l of

Lily H. Bentas

Affidavit sworn to April 1 1992 recorded in liber 10422 of Deeds page 333 April 6 1922 Recites that she is the President of Cumberland Farms Inc., a Delaware corporation with its principal offices

located at 777 Dedham Street, Canton, Massachusetts 02021 and in such capacity has knowledge of the matters set forth herein:— that Cumberland Frams Inc. was incorporated on the 14th day of September 1984, pursuant to the General Corporation Law of the State of Delaware: that Northeast Stations & Services Inc., a Delaware corporation was merged with Cumberland Farms Inc. pursuant to Section 253 of the General Corporation Laws of the State of Delaware by Certificate of Merger filed with the Secretary of State on May 28 1986 (a certified copy of said Certificate of Merger is attached hereto)

NOTE: - This certificate includes an examination against the name Cumberland Farms Inc. since May 28 1986

, ---

21-92

Affidavit

62 of

Allan Afrow

Affidavit sworn to November 27 1992 recorded in liber 10566 of Deeds page 166 December 2 1992 Recites that affiant is the General Counsel for Cumberland Farms, Inc., Debtor-in-Possession, having its principal office at 777 Dedham

Street, Canton, Massachusetts 02021: that by agreement dated June 3
1992 (the "Purchase Agreement") Cumberland Farms, as seller, contracted
with NOCo Motor Fuels, Inc., a New York Corporation, having its principal
office at 700 Grand Island Boulevard, Tonawanda, New York ("NOCO"), as buyer,

to sell, transfer and convey certain real property and inventory and equipment, free and clear of liens, claims and encumbrances at 37 locations in upstate New York (the "Locations"): that the Purchase Agreement provides for the sale, transfer and conveyance of Cumberland Farms' fee title to the 35 Locations which are briefly identified on Exhibit A annexed hereto and made a part hereof: that the Purchase Agreement also provides for the sale transfer and conveyance of all of Cumberland Farms' leasehold interest in and to the 2 locations which are briefly identified on Exhibit B, annexed hereto and made a part hereof: that attached as Exhibit C hereto is a true copy of an Order entered on August 31 1992, by the United States Bankruptcy Court for the District of Massachusetts, Western Division, authorizing the sale, transfer and conveyance, free and clear of liens, claims and encumbrances, of Cumberland Farms' feet title to said 35 owned Locations and Cumberland Farms' leasehold interest with respect to said 2 leased locations as well as certain inventory and equipment at the Locations pursuant to the terms of the Purchase Agreement: that attached as Exhibit D hereto is a true copy of an Order entered on August 31 1992, by the United States District Court for the District of Massachusetts, Western Division, authorizing Cumberland Farms' assumption and assignment of its leases of said 2 leased Locations upon the consummation of the sale to NOCO or an affiliate of NOCO, of Cumberland Farms' fee title to said 35 owned Locations and Cumberland Farms' leasehold interest with respect to said 2 leased Locations, pursuant to the terms of the Purchase Agreement.

63 In re
Allan Afrow

Certificate dated November 30 1992
recorded in liber 10566 of Deeds
page 194 December 2 1992
Allan Afrow, being the Secretary of
Cumberland Farms, Inc., Debtorin-Possession, does hereby Certify

that attached herewith are true copies of the two Orders entered on August 31 1992 by the United States Bankruptcy Court for the District of Massachusetts, Western Division in a proceeding entitled "In Re Cumberland Farms", Inc., Case No. 92-41305-JFQ.

Cumberland Farms, Inc.,
Debtor-in-Possession
a Delaware Corporation
to

Deed dated November 25 1992
recorded in liber 10566 of Deeds
page 432 December 2 1992
Conveys premises

Noco Motor Fuels,

Inc.

, 4

).M.

NO SEARCH VS GRANTEE

All that tract or parcel of land situate in the City of Buffalo, County of Erie and State of New York, being part of Lot No. 5, Township 11, Range 8 of the Holland Land Company's Survey, described as follows:

Beginning at a point in the easterly line of Fillmore Avenue (as now laid out) distant fifty (50) feet northerly from its intersection with the northerly one of Peterson Street, (which point of beginning is also the northwest corner of lands conveyed to Central Oil Company Inc. by deed recorded in Erie County Clerk's Office in liber 1355 of Deeds page 405): running thence northerly along the easterly line of Fillmore Avenue two hundred forty-seven and fifty-two hundredths (247.52) feet to its intersection with the southerly line of Genesee Street: running thence easterly along the southerly line of Genesee Street one hundred thirty and forty-seven hundredths (130.47) feet to the northeast corner of the lands secondly described in a certain deed from John G. Bilz as executor of the last will and testament of Anna Maria Baetzhold, deceased, to August Aichinger and Mary his wife dated December 10 1910 and recorded in said Clerk's Office in liber 1170 of Deeds page 102: running thence southerly along the easterly line of said land so described in said deed to August Aichinger and Mary his wife, as aforesaid, one hundred fifty (150) feet to the northerly line of lands conveyed by August Aichinger and Mary his wife to Joseph J. Stoll by deed dated June 1 1911 and recorded in said Clerk's Office in liber 1204 of Deeds page 66: running thence westerly along the northerly line of said lands so conveyed to Joseph J. Stoll, as aforesaid, seventeen hundredths (.17) of a foot more or less to the westerly line of the lands so conveyed to Joseph J. Stoll,

westerly line of said lands so conveyed to Joseph Stoll, as aforesaid one hundred forty-seven and twenty-one hundredths (147.21) feet to the northerly line of Peterson Street: thence southwesterly along the northerly line of Peterson Street forty-seven and sixty-three hundredths (47.63) feet to the easterly line of lands so conveyed to the Central Oil Company Inc.: thence northerly along the easterly line of lands so conveyed to the Company Inc. nine and seven hundredths (9.07) feet to the northeast corner of lands so conveyed to the Central Oil Company Inc.: thence westerly along the northerly line of lands so conveyed to the Central Oil Company Inc.: thence westerly along the northerly line of lands so conveyed to the Central Oil Company Inc.: thence westerly along the northerly line of lands so conveyed to the Central Oil Company Inc., seventy-lands so conveyed to the easterly line of Fillmore Avenue at the point or place of beginning

A4-16-32,32-1 & 44

### TICOR TITLE INSURANCE COMPANY

SEARCH NO. 5000-00449

65. In re Security Gas, Inc.

rity Gas, Inc.

Case No. 43201

Dated: February 26, 1966 Filed in the Office of Secretary of State March 2, 1966 and filed in Erie County Clerk's

Certificate of Incorporation

Office April 7, 1966

66. In re Security Gas, Inc. Case No. 43201 Restated Certificate of Incorporation Dated: May 21, 1984 Filed in the Office of Secretary of State May 30, 1984 and filed in Eric County Clerk's Office June 22, 1984

Changes the name of the corporation to Noco Motor Fuels, Inc.

67. In re
Noce Motor Fuels, Inc.
Q49 3068

Certified Copy of Certificate of Merger Dated: November 25, 1997 Filed in the Office of Secretary of State November 26, 1997 and filed in Brie County Clerk's Office June 12, 1998

Merges Noco Motor Fuels, Inc. into Noco Energy Corp. and the surviving corporation shall be Noco Energy Corp.

JEW March 17, 2000 JAB/DPJ

LISTING OF PREVIOUS SITE OPERATORS

# **Listing of Previous Site Operators**

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

The following table lists the previous known site operators.

Previous Operator(s)				
Name	Date(s)	Relationship to Applicant		
Pyramid Multitrade Corporation	2001 to present	None		
Helmi Agha	1			
1055 Genesee Street				
Buffalo, NY 14212				
716-894-8343				
NOCO Express	1992 to 2001	Applicant		
(same address as applicant)				
Cumberland Farms, Inc.	1986-1992	None		
777 Dedham Street				
Canton, MA 02021				
Phone: 800-225-9702				
Northeast Stations and Services, Inc.	1983-1986	None		
(merged with Cumberland Farms in				
1986)				
Gulf Oil Company	1953-1983	None		
(merged with Chevron Corporation in 1984)				
Chevron Corporation Headquarters				
6001 Bollinger Canyon Rd.				
San Ramon, CA 94583, U.S.A.				
Phone: 925-842-1000				
George Hambleton and Frank Carr	1953	None		
(address and phone number unknown)				
Hambleton Terminal Corporation	1947-1953	None		
(address and phone number unknown)				
Eton Petroleum Corporation	1945-1947	None		
(address and phone number unknown)				
Private individuals	1839-1945	None		
(address and phone number unknown)				



# **Listing of Previous Site Operators**

NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application



**CONTACT LIST INFORMATION** 

#### **Contact List Information**

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### **CONTACT LIST**

The following is the contact list information for the subject property.

#### **New York State Contacts:**

Director Abby Snyder N.Y.S. D.E.C., Region 9 270 Michigan Avenue Buffalo, NY 14203

Mr. Chad Staniszewski N.Y.S. D.E.C., Region 9 270 Michigan Avenue Buffalo, NY 14203

Ms. Megan Gollwitzer N.Y.S. D.E.C., Region 9 270 Michigan Ave. Buffalo, N.Y 14203

Mr. Cameron O'Connor N.Y.S. D.O.H. 584 Delaware Avenue Buffalo, NY 14202

Senator William Stachowski 58th District, N.Y.S. Senate 2030 Clinton Street Buffalo, NY 14206

The Honorable Brian M. Higgins Congressional District 27 726 Exchange Street, Suite 601 Buffalo, NY 14210 Mr. Martin Doster N.Y.S. D.E.C., Region 9 270 Michigan Avenue Buffalo, NY 14203

Ms. Meaghan Boice-Green N.Y.S. D.E.C., Region 9 270 Michigan Ave. Buffalo, N.Y 14203

Community Outreach File N.Y.S. D.E.C., Region 9 270 Michigan Ave. Buffalo, N.Y 14203

Mr. Matt Forcucci N.Y.S. D.O.H. 584 Delaware Avenue Buffalo, NY 14202

Senator Charles Schumer U.S. Senate, Suite 660 130 South Elmwood Avenue Buffalo, NY 14202

0112-010-100

#### **Contact List Information**

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

Assemblyman Mark J.F. Schroeder District 145 2019 Seneca St. Buffalo, NY 14210 Assemblyman Jack Quinn District 146 3812 South Park Ave. Buffalo, NY 14219

## **Erie County Contacts:**

Honorable Joel Giambra Erie County Executive 95 Franklin Street Buffalo, NY 14202

Commissioner Andrew Eszak Erie Co. Environment & Plan. 95 Franklin Street Buffalo, NY 14202

Commissioner Anthony Billittier Erie Co. Health Dept., Rm 931 95 Franklin Street Buffalo, NY 14202 Ms. Barbara Williams-Miller

Legislator-District 3 427 William Street

Buffalo, New York 14204

Tel: (716) 842-0490

Mr. Paul Kranz

Erie Co. Environment & Plan.

95 Franklin Street Buffalo, NY 14202

Mr. Peter Camaratta Erie County Industrial Development Agency 275 Oak Street Buffalo, NY 14203

# City of Buffalo Contacts:

Mayor Byron W. Brown City Hall Buffalo, NY 14202

#### **Zoning Board:**

James Lewis, III Chairman Room 1801, City Hall Buffalo, NY 14202

0112-010-100 2

#### **Contact List Information**

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### Supplier of Potable Water:

Erie County Water Authority 350 Ellicott Square Building 295 Main Street Buffalo, NY 14203

#### **Local News Media:**

The Buffalo News 1 News Plaza Buffalo, NY 14240

WBEN News Radio 930 Entercom Radio of Buffalo 500 Corporate Pkwy Suite 200 Buffalo, NY 14226 WKBW-TV 7 Broadcast Plaza Buffalo, NY 14202

# **Document Repository (see Attachment 10):**

Buffalo & Erie County Public Library Central Branch 1 Lafayette Square Buffalo, NY 14203

## **Nearby School:**

M.L.K. Multicultural Institute 167 East Utica Street Buffalo, NY 14208 816-3130 Principal- Elzie Fisher King Center Charter School 938 Genesee Street Buffalo, NY 14211 891-7912 Principal- Claity Massey

## **Contact List Information**

NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application



# AREA PROPERTY OWNERS

## NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

Pr	operty Address	Owner 1	Owner 2
No.	Street	Name	Name
1076	Genesee Street	9274 Group, Inc.	None
1067	Genesee Street	City of Buffalo Perfecting	None
1048	Genesee Street	Darlene Hunter	None
1047	Genesee Street	Chad T. Enterprises, Inc.	C/O Doug Magavern
1042	Fillmore Street	Willie Price	None
1038	Fillmore Street	Eugene Belton	None
1035	Fillmore Street	Dwayne Rodgers	None
22	Peterson Street	Richard Mullen	None

**DOCUMENT REPOSITORY CONFIRMATION LETTER** 



March 23, 2007

Michael C. Mahaney Library Director Buffalo & Erie County Public Library Central Branch 1 Lafayette Square Buffalo, New York 14203

Re: Document Repository for Brownfield Cleanup Program

NOCO Energy Corporation 1055 Genesee Street Site

Dear Mr. Mahaney:

Per our telephone conversation, thank you for agreeing to the Central Library acting as the document repository for the above-referenced Site. In the future, we will be sending various documents related to the referenced site that should be made available for public review upon request.

Please contact Mr. Michael Lesakowski or me at 856-0599 if you have questions or require additional information.

Sincerely,

Benchmark Environmental Engineering & Science, PLLC

Nathan T. Munley

Environmental Scientist

c: File: 0112-010-100

# ENVIRONMENTAL FACTORS AND HISTORIC LAND USE CONSIDERATIONS

#### **Environmental Factors & Historic Land Use Considerations**

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### **INTRODUCTION**

The following provides a brief summary of the site:

- There are no State or Federal wetlands or floodplains on the site (see attached figure).
- The site is located within a predominantly urban-developed area.
- The site is not adjacent to a Significant Coastal Fish and Wildlife Habitat.
- There are no threatened or endangered species, nor important plant habitats listed at the site.



NEARBY LAND USE MAP

# Attachment 11 Surrounding Land Use Description

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

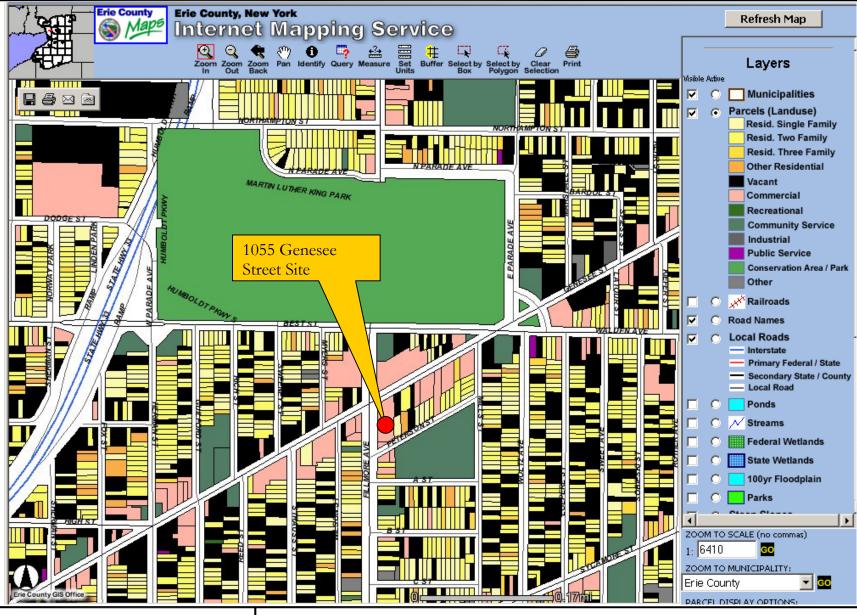
#### SURROUNDING LAND USE DESCRIPTION

The Site, addressed at 1055 Genesee Street, is located in an urban setting at the corner of Genesee Street and Fillmore Avenue in the City of Buffalo, Erie County, New York. The site is partially border by Peterson Street to the southeast.

Properties adjacent to the Site include several commercial properties, two vacant parcels, and one residential property (see Figure 11-1).

The surrounding land-use is mixed use, including commercial, residential, and vacant parcels. Martin Luther King Park is located approximately 0.1 miles north of the Site (see Figure 11-1).







726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO.: 0112-010-100

DATE: MARCH 2007

DRAFTED BY: NTM

## **NEARBY LAND USE MAP**

**BROWNFIELD CLEANUP PROGRAM APPLICATION** 

1055 GENESEE STREET SITE BUFFALO, NEW YORK

PREPARED FOR

NOCO ENERGY CORPORATION

GROUNDWATER VULNERABILITY ASSESSMENT

#### Groundwater Vulnerability Assessment

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### POTENTIAL VULNERABILITY OF GROUNDWATER TO CONTAMINATION

The analytical results collected to date indicate that the perched groundwater is contaminated with petroleum volatile organic compounds (VOCs). Currently, there are no deed restrictions on the use of groundwater at the site and groundwater supply wells are not present on the site. Regionally, groundwater in the area has not been developed for industrial, agriculture, or public supply purposes. Potable water service is provided offsite and onsite by the local municipal water authority.

#### GROUNDWATER FLOW/RECHARGE

During the previous site investigation, shallow groundwater was determined to flow in a northwest direction. Regional groundwater, however, appears to flow west towards Lake Erie and the Niagara River (see Attachment 1).

#### **RECOMMENDATIONS**

Further work is required to supplement the existing groundwater quality data. Additional wells to refine the groundwater flow patterns; discharge rates and the water quality will be needed.



**DESCRIPTION OF SITE GEOGRAPHY/GEOLOGY** 

## Description of Site Geography/Geology

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

#### **ECOLOGICAL SETTING**

A majority of the site is asphalt covered with the exception of manicured lawn area along the southern property border.

The Site is located within the Erie-Niagara River basin. Viable aquatic habitats in the vicinity of the Site include the Niagara River (approximately 3 miles west) and Lake Erie (approximately 3 miles southwest).

#### **DEMOGRAPHY AND LAND USE**

The Site is located in highly developed urbanized area of the City of Buffalo, Erie County, NY. The Site is currently owned by NOCO Energy Corporation. Land use surrounding the Site includes commercial, residential, and some vacant properties (see Figure 11-1).

#### REGIONAL GEOLOGY/HYDROGEOLOGY

The Site is located within the Erie-Ontario lake plain physiographic province, which is typified by little topographic relief and gentle slope toward Lake Erie, except in the immediate vicinity of major drainageways (USDA, 1978). The surficial geology of the Lake Erie Plain consists of a thin glacial till (if present), glaciolacustrine deposits, recent alluvium, and the soils derived from these deposits.

Surface soils within the City are characterized as urban land with level to gently sloping land in which 80 percent or more of the soil surface is covered by asphalt, concrete, buildings, or other impervious structures (USDA, 1978) typical of an urban environment. The presence of overburden fill material is widespread and common throughout the City of Buffalo

Based on the bedrock geologic map of Erie County (Buehler and Tesmer, 1963), the Site is situated over Onondaga Formation of the Middle Devonian Series. The Onondaga Formation is comprised of a varying texture from coarse to very finely crystalline with a dark gray to tan color and chert and fossils within. The unit has an approximated thickness of 110 to 160 feet.



#### Description of Site Geography/Geology

# NOCO Energy Corporation 1055 Genesee Street Site Brownfield Cleanup Program Application

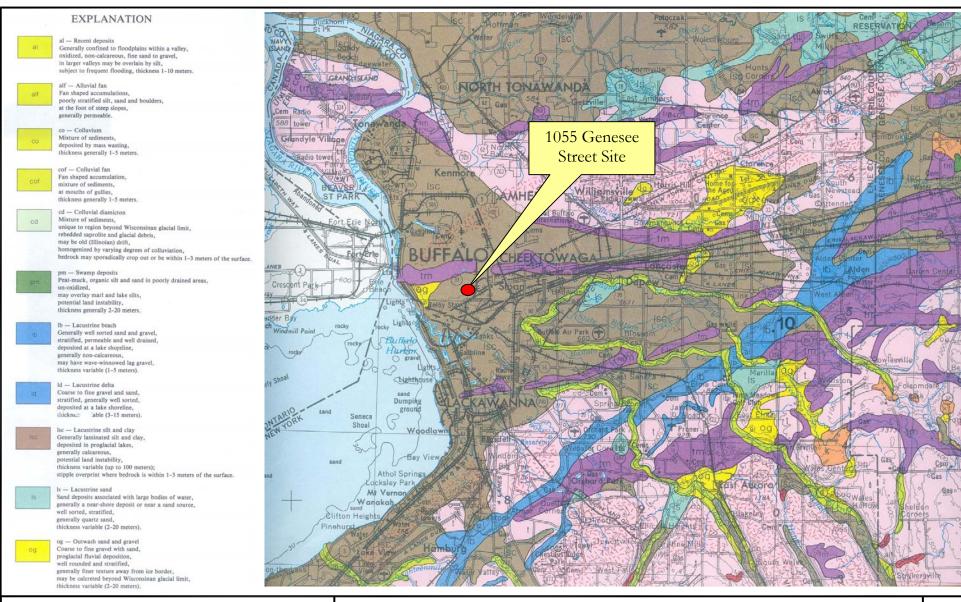
#### SITE GEOLOGY/HYDROGEOLOGY

The geology at the site is generally described as fill materials overlying dense brown clay. The fill materials consist of silt, sand, and gravel with varying amounts of brick fragments at depths ranging from 1.5 to 8 fbgs. Native materials consist of dense clay with varying amounts of sand and gravel to depths up to 12 fbgs.

Based on the groundwater gauging, groundwater appears to generally flow in northwestern direction.









726 EXCHANGE STREET SUITE 624 BUFFALO, NEW YORK 14210 (716) 856-0599

PROJECT NO.: 0112-010-100

DATE: APRIL 2007

DRAFTED BY: NTM

### **SOIL TYPE MAP**

BROWNFIELD CLEANUP PROGRAM APPLICATION

1055 GENESEE STREET SITE BUFFALO, NEW YORK

PREPARED FOR

NOCO ENERGY CORPORATION