FORM U-1A I*ANUFACTURER'S DATA REPORT FOR PRESCURE VESSELS (Alternative F. for Single Chamber, Completely Shop-Fabric Vessels Only) As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

)1.	Manufactured	and cert	tified by C	ALGON CA	RBON CO	RPORATION	(Name and sodress of	rand Ave.	, <u>Neville</u>	Island,	PA 15225
l	Manufactured	forA	rmonk S	Sewer and	d Water	Dept.,	Armonk, N	NY 10504			
3.	Location of in	stallatio	_Armo	nk Sewer	and Wa	ter Dept.	., Armoni	, NY 105	04		
4.	Type Ver	tical	(aok)	ARMONK	A, B	ICRNI	91-97	7-3359	238 - 2	39	1997
1.											
Section 1							ements of mat ASME Rules, Se				R AND PRESSURE
	V = 33EL COD	E. ING Q	esign, const	ruction, and v	ork mansh	ip conform to A	45ME HUI85, 58	ction VIII, DIV	sion I	Year	
١.	to	1996							-		
1	827		Addenda (Date)				Code Case Nos.			Spessal Service per U	
6.	shell: SA	<u>-516-</u>	70		.250"	(in.) Con	0	6' 11.5 Dism.	1	6'8	
							r. Allow, (in.)				neth (overell) (ft. & in.)
7.	Seams:T	vpe 1	M DN	Spot	<u></u> —	85 -	Temp. (°F) Tim		DE 1	Spot R.T. (Sport	Partial. No. of Courses
		Sngt., Lap,	Butt)						Snot., Lag. Buttl	or Fu	
8.	Heads: (a) Ma	tl	SA516) - / U (Spec. N	o., Grade)		(b) Mat	"- <u>24210-</u>	/ U	pec. No., Grade)	
J.	Location (Top. Bottom, Ends)	Minir		Corrosion	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)		1000		0 (1	.8"	12.3"					
(b)	Top Bottom	.19			.8"	12.3"	2:1	22527			Concave
	3.1					114.5	14.1				Colicave
1 17	removable, bo	ts used	(describe ot	her fastenings				(Metl., Spec. No.,	3r., Size, No.1		
l						75				90	150
	MAWP		-20			7 5	at max. temp				113
1	Min. design met			°F at		psi. Hyd	ro., pneu., or co	mb. test pressur	9		psi.
1	Nozzles, inspec	tion and		openings:	_					T	
(Inte	Purpose t. Quilet, Drain)	No	Diam. or Size	Түрө		Matte	Nom. Thk.		orcement Matl	How Attached	Location
Car	bon/Out	1	3 r:	Pad	SA516	-70	1.5"			Welded	
Car	bon/In	1	3''	Pipe/Fl	SAIDE	5B/SAI05	.216"			Welded	
Inf	luent	1	3"	Pad	SA516	5-70	11.5"			Welded	
Eff	luent	1	4"		g SA106	5B/SA105	237"			Welded	
1. 5	Supports: Skirt	No	Lugs	2	Legs 3	Other	Gusset	A	ttached Weld	ied to he	ad/shell
12. 1	Remarks: Manu				operly ider	ntified and sign		oned Inspector	s have been fur	(Where a	following items of
Man	wav	1	14x18"	Ellip.	SA516	5-70	.75"			Welded	Shell
	ple	2	2"	Pipe/Fl		06B/SA105	.154"			Welded	
		este	i in ve				testing		er UG20	(F)	
	117420						SHOP COMPLI		-		
147	a carrifu than	ha ****	mana mad	e in this reco					nerriction	i warkmanahia	of this vessel con-
fa	rm to the ASM	E Code	for Pressure		on VIII, D	ivision 1. "U"	Cartificate of A		0 = 1 = 1	expires 12/	
							SHOP INSPEC	TION	-7	ALL CHICAGOTTI	
Ve	essel constructe	d by	Calgon	<u>Carbon C</u>	orporat	tion	at_4	301 Grand	Ave., No	<u>eville Is</u>	land PA 1522
ļ.	the undersigne Pennsyv]		ing a valid		ssued by the	11 X = 2 ¥ 3/23\	ard of Boiler a right Mut			and/or the Sta	ste or Province of
ha	ve inspected th	e compo	nent descri			's Data Report	on Jaces	la 15	. <u>, 19 5 ></u>	, and state t	hat, to the best of
m	y knowledge a	nd belie	f, the Man	ufacturer has	constructe	d this pressure	vessel in accor	dance with AS	ME Code, Sect	tion VIII, Divis	sion 1. By signing
th	is certificate ni	ither th	e inspector	nor his empl	oyer make:	s any warranty	, expressed or i	mplied, concer	ning the pressu	ire vessel descr	ibed in this Manu-
ac	cturer's Data P	eport. F	urthermore	, neither the	Inspector r	nor hiş employ					property damage
or Da	a loss of any k	ind arisin	ng from or / Signed	N/	110	Sum		Factory M mmissions	3 + 3/1/ A	PADZY	
	/	/			MUINO	ized (nipector)			(Mail I Board Lin	o, engartementu, 340	,

Appendix F

Discharge Requirements

TABLE 01650-1

DHWR Site No.: 3-60-005

Minimum

Grab

Grab

Part 1, Page 1 of __1

Weekly

Weekly⁶

μ**g**/l

μg/l

FLUENT LIMITATIONS	AND MONITORIN	NG REQUIREMENTS
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During the period beginning	May 1, 1996
and lasting until	May 1, 2001

the discharges from the treatment facility to the Wampus River shall be limited and monitored by the operator as specified below:

				Monitoring	Requirements
Outfall Number &	_	Limitations	Units	Measurement Frequency	Sample Type
Effluent Parameter	Daily Avg.	Daily Max.	- Units	Trequency	
Outfall 001 - Treated Groundwater:					
Flow	Monitor	86,400	g pd	Continuous	Recorder
Tetrachioroethylene	Monitor	2.5	μ g /l	Weekly ⁵	Grab
Trichloroethylene	Monitor	10 2	μ g/l	Weekly ⁵	Grab
1,2-cis-Dichloroethylene	Monitor	10	µg/l	Weekly ⁵	Grab
1,2-trans-Dichloroethylene	Monitor	10	µg/l	Weekly ⁵	Grab
	Monitor	10	µg/l	Weekly ⁶	Grab
Vinyl Chloride			//	Manklof	Genta -

750

250

Special Conditions:

Iron, Total

Zinc, Total

- (1) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to the following DHWR contact person:
- (2) Only site generated wastewater is authorized for treatment and discharge.

Monitor

Monitor

- (3) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.
- Both concentration (mg/l or µg/l) and mass loadings (lbs/day) must be reported to the Department for all parameters except Flow.
- (5) Samples and measurements, to comply with the monitoring requirements specified above, shall be taken from polishing carbon unit effluent prior to discharge to the storm sewer tributary to the Wampus River. Class C.
- (6) The minimum measurement frequency for all the parameters (except flow) shall be Monthly following a period of 24 consecutive Weekly sampling events showing no exceedances of the stated discharge limitations. If a discharge limitation for any parameter is exceeded the measurement frequency for all parameters shall again be Weekly, until a period of 8 consecutive sampling events shows no exceedances at which point Monthly monitoring may resume.

Appendix G

Water Treatment Sampling Results

ARMONK PRIVATE WELLS SITE EXTRACTION WELL #1 ANALYTICAL DATA

Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac								
10-Mar	EW1031098	6,600	<500	< 500	<500	<500	3,200	60.0
16-Mar	EW1031698	9,300	<500	<500	<500	<500	390	58.5
17-Mar	EW1031798	8,200	<500	<500	<500	<500	257	28.1
23-Mar	EW1032398	9,400	<500	<500	<500	<500	488	109.0
7-Apr	EW1040798	6,900	<500	<500	1,000	<500	NA	NA
8-Apr	EW1040898	5,900	<500	<500	<100	<500	NA	NA
14-Apr	EW1041498	6,000	<500	<500	<500	<500	NA	NA
15-Apr	EW1041598	5,900	<500	<500	<500	<500	NA	NA
22-Jun	EW1062298	3,500	<500	<500	<500	<500	NA	NA
29-Jun	EW1062998	5,800	<500	<500	<500	<500	2,030	105
8-Oct	EW1100898	2,800	<500	<500	<500	<500	135	16
TAMS Consult	ants, Inc.							
14-Dec	EW1121498	2,200	13	1.3	<0.5	<0.5	NA	NA

ARMONK PRIVATE WELLS SITE EXTRACTION WELL #2

ANALYTICAL DATA

Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac								
10-Mar	EW2031098	7,000	<500	<500	<500	<500	13,000	60
16-Mar	EW2031698	7,900	<500	<500	<500	<500	10,600	69.1
17-Mar	EW2031798	7,300	<500	<500	<500	<500	5,210	202.0
23-Mar	EW2032398	9,100	<500	<500	<500	<500	2,300	30.9
7-Apr	EW2040798	2,700	<500	<500	<500	<500	NA	NA
8-Apr	EW2040898	2,300	<500	<500	<500	<500	NA	NA
14-Apr	EW2041498	2,000	<500	<500	<500	<500	NA	NA
15-Apr	EW2041598	2,100	<500	<500	<500	<500	NA	NA
22-Jun	EW2062298	600	<20	<20	<20	<20	NA	NA
29-Jun	EW2062998	1,100	<50	<50	<50	<50	25,900	90
8-Oct	EW2100898	340	<100	<100	<100	<100	67	20
TAMS Consult	ants, Inc.							
14-Dec	EW2121498	220	5.0	1.5	<0.5	<0.5	NA	NA

ARMONK PRIVATE WELLS SITE EXTRACTION WELL #3 ANALYTICAL DATA

				, ,	_			
Date Sar	mpled SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroT	rac							
10-N	lar EW3031098	320	<10	<10	<10	<10	14,000	70.0
16-N	lar EW3031698	390	<20	<20	<20	<20	2,270	38.4
17- N	lar EW3031798	1,900	<100	<100	<100	<100	5,740	82.0
18-M	lar EW3031898	1,600	<100	<100	<100	<100	3,100	29.9
23-N	lar EW2032398	1,700	<100	<100	<100	<100	2,350	42.5
7-A	or EW2040798	1,500	<100	<100	<100	<100	NA	NA
8-A			<100	<100	<100	<100	NA	NA
14-A		1,500	<100	<100	<100	<100	NA	NA
15-A	pr EW2041598	1,500	<100	<100	<100	<100	NA	NA
22-J	un EW2062298	760	<100	<100	<100	<100	NA	NA
29-J	un EW3062998	750	<100	<100	<100	<100	3,490	88.2
8-0	ct EW3100898	400	<100	<100	<100	<100	<60	40.2
TAMS C	onsultants, Inc.							
14-D	ec EW3121498	380	6.4	2.6	<0.5	<0.5	NA	NA

ARMONK PRIVATE WELLS SITE COMBINED INFLUENT ANALYTICAL DATA

				Concentration (agre)				
Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac								
7-Apr	CIN040798	2	(B)	*	5 .	<u>=</u>	537	107.0
8-Apr	CIN040798	2	≈	•	*	=	88	20.0
14-Apr	CIN041498	÷,		골	<u>#</u>	-	1,320	83.0
15-Apr	CIN041598	≈ 1	22	ন	<u>=</u>	3	912	41.3
20-Apr	CIN042098	3,500	<500	< 500	<500	<500	600	32.1
27-Apr	CIN042798	3,200	<500	<500	<500	<500	1,870	108.0
4-May	CIN050498	2,600	< 500	<500	<500	<500	735	37.5
11-May	CIN051198	2,100	<500	<500	<500	<500	313	62.0
18-May	CIN051898	2,500	<500	<500	<500	<500	626	74.3
4-Jun	CIN060498	2,000	<500	<500	<500	<500	287	65.2
8-Jun	CIN060898	2,400	<500	<500	<500	<500	1,030	77.8
15-Jun	CIN061598	1,700	<500	<500	<500	<500	842	67.2
22-Jun	CIN062298	•		34).	*	20.5	340	15.5
29-Jun	CIN062998	1,800	<200	<200	<200	<200	225	36.8
6-Jul	CIN070698	1,100	<200	<200	<200	<200	544	81.4
13-Jul	CIN071398	1,100	<200	<200	<200	<200	249	20.4
20-Jul	CIN072098	630	<200	<200	<200	<200	2,100	15.9
27-Jul	CIN072798	1,100	<200	<200	<200	<200	258	30.7
3-Aug	CIN080398	980	<200	<200	<200	<200	315	29.3
9-Aug	CIN080998	620	<20	<20	<20	<20	180	26.6
17-Aug	CIN081798	2,500	<100	<100	<100	<100	105	19.4
24-Aug	CIN082498	660	<100	<100	<100	<100	313	28.8
31-Aug	CIN083198	1,100	<100	<100	<100	<100	333	32.1
9-Sep	CIN090998	950	<100	<100	<100	<100	516	14.7
14-Sep	CIN091498	1,200	<100	<100	<100	<100	1,280	41.5
21-Sep	CIN092198	1,200	<200	<200	<200	<200	<60	13.0
28-Sep	CIN092898		<200	<200	<200	<200	<60	43.9
8-Oct	CIN100898		<20	<20	<20	<20	<60	73.0
TAMS Consul								
14-Dec	CIN121498	750	9.4	1.9	<0.5	<0.5	<75	10

ARMONK PRIVATE WELLS SITE AFTER BAG FILTER ANALYTICAL DATA

Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac							₩.	721
20-Apr	ABF042098						76	17
27-Apr	ABF042798						1,170	1,080
4-May	ABF050498						2,240	703
11-May	ABF051198				Ca.		391	861
18-May	ABF051898						227	238
4-Jun	ABF060498						381	2210
8-Jun	ABF060898						365	1410
15-Jun	ABF061598						1,030	708
29-Jun	ABF062998	1300	<500	<500	<500	<500	328	413
6-Jul	ABF070698						791	852
13-Jul	ABF071398	5/					364	421
20-Jul	ABF072098						271	305
20-Jul	AB2072098	870	<100	<100	<100	<100	220	17
27-Jul	ABF072798						444	510
3-Aug	ABF080398						553	432
9-Aug	ABF080998						175	258
17-Aug	ABF081798						<60	15.2
24-Aug	ABF082498					21	202	490
31-Aug	ABF083198						226	302
9-Sep	ABF090998						305	691
14-Sep	ABF091498						594	1150
21-Sep	ABF092198						988	318
28-Sep	ABF092898						179	241
8-Oct	ABF100898						<60	26.8
TAMS Consultar	nts, Inc.							
14-Dec	ABF121498						<75	124

ARMONK PRIVATE WELLS SITE IN CARBON BED (GAC1INBED1) ANALYTICAL DATA

Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total		
EnviroTrac										
29-Jun	GAC1IB1062998	< 0.5	< 1	< 1	< 1	< 1	120	18.6		
8-Oct	GAC1IB1100898	< 0.5	< 1	< 1	< 1	< 1	NA	NA		
TAMS Consultants, Inc.										
14-Dec	GAC1IB1121498	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA		

ARMONK PRIVATE WELLS SITE IN CARBON BED (GAC1INBED2) ANALYTICAL DATA

Date Sampled EnviroTrac	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total	
29-Jun	GAC1IB2062998	< 0.5	< 1	< 1	< 1	< 1	81.5	13.4	
8-Oct	GAC1IB2100898	< 0.5	< 1	< 1	< 1	< 1	NA	NA	
TAMS Consultants, Inc.									
14-Dec	GAC1IB1121498	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	NA	NA	

ARMONK PRIVATE WELLS SITE BETWEEN GAC 1 AND 2 ANALYTICAL DATA

Concentration (ug/L)

Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac				4	4			
20-Apr	AG1042098	<0.5	< 1	< 1	< 1	< 1	NA	NA
27-Apr	AG1042798	<0.5	< 1	< 1	< 1	< 1	NA	NA
4-May	AG1050498	<0.5	< 1	< 1	< 1	< 1	NA	NA
11-May	AG1051198	<0.5	< 1	< 1	< 1	< 1	NA	NA
18-May	AG1051898	< 0.5	< 1	< 1	< 1	< 1	NA	NA
4-Jun	AG1060498	0.9	< 1	< 1	< 1	< 1	NA	NA
8-Jun	AG1060898	<0.5	< 1	< 1	< 1	< 1	NA	NA
15-Jun	AG1061598	0.6	< 1	< 1	< 1	< 1	NA	NA
22-Jun	AG1062298	< 0.5	< 1	< 1	< 1	< 1	NA	NA
29-Jun	AG1062998	0.8	<1	<1	<1	<1	226	619
6-Jul	AG1070698	< 0.5	< 1	< 1	< 1	< 1	NA	NA
13-Jul	AG1071398	< 0.5	< 1	< 1	< 1	< 1	NA	NA
20-Jul	AG1072098	< 0.5	< 1	< 1	< 1	< 1	NA	NA
27-Jul	AG1072798	<0.5	< 1	< 1	< 1	< 1	NA	NA
3-Aug	AG1080398	<0.5	< 1	< 1	< 1	< 1	NA	NA
9-Aug	AG1080998	<0.5	< 1	< 1	< 1	< 1	NA	NA
17-Aug	AG1081798	< 0.5	< 1	< 1	< 1	< 1	NA	NA
24-Aug	AG1082498	<0.5	< 1	< 1	< 1	< 1	NA	NA
31-Aug	AG1083198	<0.5	< 1	< 1	< 1	< 1	NA	NA
9-Sep	AG1090998	< 0.5	< 1	< 1	< 1	< 1	NA	NA
14-Sep	AG1091498	<0.5	< 1	< 1	< 1	< 1	NA	NA
21-Sep	AG1092198	<0.5	< 1	< 1	< 1	< 1	NA	NA
28-Sep	AG1092898	<0.5	< 1	< 1	< 1	< 1	NA	NA
8-Oct	AG1100898	<0.5	< 1	< 1	< 1	< 1	NA	NA

Page 1 of 1

TAMS Consultants, Inc.

ARMONK PRIVATE WELLS SITE IN CARBON BED (GAC2INBED1) ANALYTICAL DATA

Concentration (ug/L)

Date Sampled SampleID Tetrachloroethylene Trichloroethylene 1,2-cis-Dichloroethylene 1,2-trans-Dichloroethylene Vinyl Chloride Iron, total Zinc, total

TAMS Consultants, Inc.

14-Dec GAC2IB1121498 < 0.5 < 0.5 < 0.5 < 0.5 NA NA

ARMONK PRIVATE WELLS SITE IN CARBON BED (GAC2INBED2) ANALYTICAL DATA

Concentration (ug/L)

Date Sampled SampleID Tetrachloroethylene Trichloroethylene 1,2-cis-Dichloroethylene 1,2-trans-Dichloroethylene Vinyl Chloride Iron, total Zinc, total

TAMS Consultants, Inc.

14-Dec GAC2IB2121498 < 0.5 < 0.5 < 0.5 < 0.5 NA NA

ARMONK PRIVATE WELLS SITE EFFLUENT ANALYTICAL DATA

		(Concentration (ug/L	_)				
	Discharge Limits-	2.5	10.0	10.0	10.0	10.0	750	250
Date Sampled	SampleID	Tetrachloroethylene	Trichloroethylene	1,2-cis-Dichloroethylene	1,2-trans-Dichloroethylene	Vinyl Chloride	Iron, total	Zinc, total
EnviroTrac								
10-Mar	EFF031098	< 0.5	< 1	< 1	< 1	< 1	100	10.0
16-Mar	EFF031698	< 0.5	< 1	< 1	< 1	< 1	71	14.7
16-Mar	EFF031698	< 0.5*	< 1*	:≪ 1*	< 1*	< 1*	NA	NA
17-Mar	EFF031798	1.0	< 1	< 1	< 1	< 1	233	42.9
17-Mar	EFF031798	< 0.5*	< 1*	< 1*	< 1*	< 1*	NA	NA
18-Mar	EFF031898	1,0	< 1	<1	< 1	< 1	<60	21.0
18-Mar	EFF031898	< 0.5*	< 1*	< 1*	< 1*	< 1*	NA	NA
23-Mar	EFF032398	< 0.5	< 1	< 1	< 1	< 1	<60	44.9
23-Mar	EFF032398	< 0.5	< 1	< 1	< 1	< 1	NA	NA
30-Mar	EFF033098	< 0.5	< 1	< 1	< 1	< 1	130	37.0
7-Арг	EFF040798	< 0.5	< 1	< 1	< 1	< 1	97	<10
8-Apr	EFF040798	< 0.5	< 1	< 1	< 1	< 1	73	<10
14-Apr	EFF041498	< 0.5	< 1	< 1	< 1	< 1	<60	25.1
15-Apr	EFF041598	< 0.5	< 1	< 1	< 1	< 1	<60	<10
20-Apr	EFF042098	< 0.5	< 1	< 1	< 1	< 1	<60	67.5
27-Apr	EFF042798	< 0.5	< 1	< 1	< 1	< 1	<60	<10
4-May	EFF050498	< 0.5	< 1	< 1	< 1	< 1	<60	18.5
11-May	EFF051198	< 0.5	< 1	< 1	< 1	< 1	<60	<10
18-May	EFF051898	< 0.5	< 1	< 1	< 1	< 1	<60	17.6
4-Jun	EFF060498	< 0.5	< 1	< 1	< 1	< 1	<60	11.1
8-Jun	EFF060898	< 0.5	< 1	< 1	< 1	< 1	<60	14.0
15-Jun	EFF061598	< 0.5	< 1	< 1	< 1	< 1	<60	17.8
22-Jun	EFF062298	< 0.5	< 1	< 1	< 1	< 1	<60	99.7
29-Jun	EFF062998	< 0.5	< 1	< 1	< 1	< 1	75.3	14.1
6-Jul	EFF070698	< 0.5	< 1	< 1	< 1	< 1	<60	18.6
13-Jul	EFF071398	< 0.5	< 1	< 1	< 1	< 1	<60	11.1
20-Jul	EFF072098	< 0.5	< 1	< 1	< 1	< 1	143	20.6
27-Jul	EFF072798	< 0.5	< 1	< 1	< 1	< 1	245	<10
3-Aug	EFF080398	< 0.5	< 1	< 1	< 1	< 1	<60	20.2
9-Aug	EFF080998	< 0.5	< 1	< 1	< 1	< 1	<60	22.3
17-Aug	EFF081798	< 0.5	< 1	< 1	< 1	< 1	115	<10
24-Aug	EFF082498	< 0.5	< 1	< 1	< 1	< 1	92.2	<10
31-Aug	EFF083198	< 0.5	< 1	< 1	< 1	< 1	263	<10
9-Sep	EFF090998	< 0.5	< 1	< 1	< 1	< 1	706	<10
14-Sep	EFF091498	< 0.5	< 1	< 1	< 1	< 1	100	<10
21-Sep	EFF092198	< 0.5	< 1	< 1	< 1	< 1	<60	<10
28-Sep	EFF092898	< 0.5	< 1	< 1	< 1	< 1	<60	<10
8-Oct	EFF100898	< 0.5	< 1	< 1	< 1	< 1	61.3	11.0
TAMS Consu								
21-Nov	EFF112198	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	24.5	7.9
14-Dec	EFF121498	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	75.0	10.0



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New Jersey (201) 703-1324

March 30, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #07098027 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on March 11, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 3/12 and 3/19/98. AJS

Disclaimer: 'The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729

March 27, 1998

RE:

Armonk Private Wells Site, Samples Collected March 10, 1998 Case Narrative for ULI Laboratory Report No. 07098027

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

NY Lab ID 10170 PA Lab ID 68375 NJ Lab ID 73750

Mr. Ted Masters March 27, 1998 Page 2

Volatile Organic Compounds (VOCs)

<u>Test</u>	<u>Batch</u>	Anomaly
Select List	VA3461 VOC401	Criteria were satisfied.

Trace Metals

Test	<u>Batch</u>	Anomaly
Fe	MA9610 MA9626	Criteria were satisfied. Criteria were satisfied.
Zn	MA9610 MA9626	Criteria were satisfied. Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-00.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron	6010	1)
Zinc	6010	1)

Reference:

 New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LINES
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHARGE. INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BLASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE POL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 Mg/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 Mg/L BUT ABOVE 1 Mg/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

DATE: 03/30/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 07098027 Client I.D.: ENVIROTRAC - <u>Lab</u> I.D.: 10170

ID:07098027 Mat:Water ARMONK PRIVATE WEI	LS SITE WELL 1 1331H 03/10/9	8	
PARAMETERS	RESULTS	KEY	FILE#
PARAMETERS			
Total Iron	3.2mg/1		MA9626
Total Zinc	0.06mg/l		MA9626
10002 24110	_		
EPA Method 8010			2 4 6 2
Vinyl Chloride	<500ug/l	05	VA3461
cis-1,2-Dichloroethene	<500ug/l	05	VA3461
trans-1,2-Dichloroethene	<500ug/l	05	VA3461
Trichloroethene	<500ug/l	05	VA3461
Tetrachloroethene	6600ug/l		VA3461
ID:07098028 Mat:Water ARMONK PRIVATE WEI	LS SITE WELL 2 1325H 03/10/9	8	
PARAMETERS	RESULTS	KEY	FILE#
Total Iron	13mg/l		MA9626
Total Zinc	0.06mg/l		MA9626
TOTAL ZINC	3,55		
EPA Method 8010			
Vinyl Chloride	<500ug/l	05	VA3461
cis-1,2-Dichloroethene	<500ug/l	05	VA3461
trans-1,2-Dichloroethene	<500ug/l	05	VA3461
Trichloroethene	<500ug/l	05	VA3461
Tetrachloroethene	7000 u g/l		VA3461
ID:07098029 Mat:Water ARMONK PRIVATE WEI	LS SITE WELL 3 03/10/98		
PARAMETERS	RESULTS	KEY	FILE#
Total Iron	14mg/l		MA9626
Total Zinc	0.07 mg/1		MA9626
.000			
EPA Method 8010			
Vinyl Chloride	<10ug/1	05	VA3461
cis-1,2-Dichloroethene	<10ug/1	05	VA3461
trans-1,2-Dichloroethene	<10ug/l	05	VA3461
Trichloroethene	<10ug/l	05	VA3461
Tetrachloroethene	320ug/1		VA3461
	-		

TATE: 03/30/98

pstate Laboratories, Inc.

Analysis Results

eport Number: 07098027 lient I.D.: ENVIROTRAC APPROVAL: CASS_ QC: PF _ =====

<u>Lab</u> <u>I.D.:</u> 10170

ID:07098030 Mat:Water ARMONK PRIV	VATE WELLS SITE EFF 1340H 03/10/98		
PARAMETERS	RESULTS	KEY	FILE#
Total Iron	0.10mg/1		MA9610
Total Zinc	0.01mg/1		MA9610
EPA Method 8010			
Vinyl Chloride	<lug l<="" td=""><td></td><td>VOC901</td></lug>		VOC901
cis-1,2-Dichloroethene	<pre>< lug/l</pre>		VOC901
trans-1,2-Dichloroethe	ene <lug l<="" td=""><td></td><td>VOC901</td></lug>		VOC901
Trichloroethene	<1ug/l		VOC901
Tetrachloroethene	<0.5ug/1		VOC901
ID:07098031 Mat:Water ARMONK PRIV	VATE WELLS SITE ULI TRIP BLANK 03/10	/98	
PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010			
Vinyl Chloride	<lug l<="" td=""><td></td><td>VOC901</td></lug>		VOC901
cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VOC901</td></lug>		VOC901
trans-1,2-Dichloroethe	ene <lug l<="" td=""><td></td><td>VOC901</td></lug>		VOC901
Trichloroethene	<1ug/1		VOC901
Tetrachloroethene	<0.5ug/1		VOC901

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879

Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle,

Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.

East Syracuse, NY 13057 Contact: Russ Troyato (201) 703-1324

							Contact: F	Russ Trovato (201) 703-1324		-
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
	3/10/98		丁.3	6.w,	(2)	HCL	WELL #1	yoc (8010)	2 weeks.	n
		1:31			V	HN03	WELL # 1	Zn, Fe (6010)		11,
		1:25	1		2	HCL	WELL # 2	VOC (8010)		3/25
		1:25			U	HN03	WELL # 2	Zn, Fe (6010)		
					(2)	HCL	µ€11 # 3	NOC (8010)		
						HN03	WELL #3	2n, Fe (6010)	V	\downarrow
		1:40				HCL	Effluent	VOC (8010)	24hrs	3/14
		1:40			W	HN03	Effluent	Zn, Fe (6010)	24/15	U
31	1	11:40	V	V	0	HCL	(m) Try Blank	VOC (8010)	2 weeks.	
										1
		2.						¥		
Relinquished by:			Received By		Time/Date		Comments: G.W. = ground			
1-17	2:40				Mun Time/Date		VocamTetrachloro ethane	Trichloso estable	a Inde	1
Relinquished by.	Time/Dat	le:	Received By	<i>y</i> : 2	3/11/98 082		Soldanger & NOW Sam Jan Sugar D. C. Fr	and the chief	A.	1
			C Ku	mey '		<u> </u>				_

nstate ratories i

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April 10, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Analysis Report #07798079 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on March 18 and 19, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: report, invoice

cc/encs: N. Scala, ULI

file

Faxed results were given to your office on 3/18, 3/19 and

3/30/98. AJS

The test results and procedures utilized, and laboratory Disclaimer: interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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April 9, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected March 16, 17 and 18, 1998 Case Narrative for ULI Laboratory Report No. 07798079

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch

Anomaly

Select List

VA3480

Criteria were satisfied.

PA Lab ID 68375

Mr. Ted Masters April 9, 1998 Page 2

Trace Metals

Test	<u>Batch</u>	Anomaly
Fe	MA1246 MA1250	Criteria were satisfied. Criteria were satisfied.
Zn	MA1246 MA1250	Criteria were satisfied. Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-01.doc

Table 1
Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8260	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

DATE: 04/10/98

Upstate Laboratories, Inc.

Tetrachloroethene

Analysis Results

Report Number: 07798079 Client I.D.: ENVIROTRAC APPROVAL:

<u>Lab</u> <u>I.D.:</u> 10170

Sampled by: Client

CITEMO I.D Division			
ID:07798079 Mat:Water ARMONK PRIVATE WELL	S SITE EW2031698 1550H 03/	16/98	
	RESULTS	KEY	FILE#
PARAMETERS			
	10,600ug/l		ME1246
Total Iron	69.lug/l		ME1246
Total Zinc	69.1ug/1		
EPA Method 8010			
Vinyl Chloride	<500ug/l	05	VA3480
cis-1,2-Dichloroethene	<500ug/l	05	VA3480
trans-1,2-Dichloroethene	<500ug/l	05	VA3480
Trichloroethene	<500ug/l	05	VA3480
	7900ug/1		VA3480
Tetrachloroethene	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
TOTAL WELL	S SITE EW1031698 1559H 03/		
ID:07798080 Mat:Water ARMONK PRIVATE WELL			
	RESULTS	KEY	FILE#
PARAMETERS	***		
********	390ug/1		ME1246
Total Iron	58.5ug/l		ME1246
Total Zinc	50.549/1		
EPA Method 8010			
Vinyl Chloride	<500ug/l	05	VA3480
cis-1,2-Dichloroethene	<500ug/l	05	VA3480
C1S-1,2-Dichiolochene	<500ug/l	05	VA3480
trans-1,2-Dichloroethene	<500ug/1	05	VA3480
Trichloroethene	9300ug/1		VA3480
Tetrachloroethene	9300ug/1		
	S SITE EW3031698 1630H 03/	716798	
ID:07798081 Mat:Water ARMONK PRIVATE WELL	B BILE EMSOSIONO TOPOLI CO.		
DA DAMEMED C	RESULTS	KEY	FILE#
PARAMETERS			
	2270ug/l		ME1246
Total Iron	38.4ug/l		ME1246
Total Zinc	30. ±ug/ ±		
EPA Method 8010			
Vinyl Chloride	<20ug/1	05	VA3480
Vinyi Chioride	<20ug/1	05	VA3480
cis-1,2-Dichloroethene	<20ug/1	05	VA3480
trans-1,2-Dichloroethene	<20ug/1	05	VA3480
Trichloroethene		• •	VA3480
Tetrachloroethene	390ug/l		

390ug/l

ATE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

eport Number: 07798079 lient I.D.: ENVIROTRAC APPROVAL:

PARAMETERS RESULTS KEY FILE# Total Iron 71.3ug/l ME1246 Total Zinc 14.7ug/l ME1246 EPA Method 8010	D:07798082 Mat:Water ARMONK PRIVATE	WELLS SITE EFF031698 1635H 03/	16/98	
Total Iron 71.3ug/l ME1246 Total Zinc 14.7ug/l ME1246 EPA Method 8010	PARAMETERS	RESULTS	KEY	FILE#
Total Zinc 14.7ug/l ME1246 EPA Method 8010				
Total Zinc 14.7ug/l ME1246 EPA Method 8010	Total Iron	71.3ug/l		ME1246
	1	14.7ug/l		ME1246
711/1 011201100	Vinyl Chloride	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
cis-1,2-Dichloroethene <lug 1="" td="" va3480<=""><td>cis-1,2-Dichloroethene</td><td></td><td></td><td></td></lug>	cis-1,2-Dichloroethene			
trans-1,2-Dichloroethene <lug 1="" td="" va3480<=""><td>trans-1,2-Dichloroethene</td><td></td><td></td><td></td></lug>	trans-1,2-Dichloroethene			
Trichloroethene <lug 1="" td="" va3480<=""><td></td><td></td><td></td><td></td></lug>				
Tetrachloroethene <0.5ug/l VA3480	Tetrachloroethene	<0.5ug/l		VA3480
ID:07798083 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 03/16/98	ID:07798083 Mat:Water ARMONK PRIVATE	WELLS SITE ULI TRIP BLANK 03/1	6/98	
PARAMETERS RESULTS KEY FILE#	PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010	EPA Method 8010			
Vinyl Chloride <lug l="" td="" va3480<=""><td>Vinyl Chloride</td><td><lug l<="" td=""><td></td><td>VA3480</td></lug></td></lug>	Vinyl Chloride	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
cis-1,2-Dichloroethene <lug l="" td="" va3480<=""><td>cis-1,2-Dichloroethene</td><td><lug l<="" td=""><td></td><td>VA3480</td></lug></td></lug>	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
trans-1,2-Dichloroethene <lug l="" td="" va3480<=""><td>trans-1,2-Dichloroethene</td><td><lug l<="" td=""><td></td><td>VA3480</td></lug></td></lug>	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
Trichloroethene <lug l="" td="" va3480<=""><td></td><td><lug l<="" td=""><td></td><td>VA3480</td></lug></td></lug>		<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
Tetrachloroethene <0.5ug/1 VA3480	Tetrachloroethene	<0.5ug/1		VA3480
D:07798084 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 0945H 03/18/98	D:07798084 Mat:Water ARMONK PRIVATE	WELLS SITE HOLDING BLANK 0945H	$-03/\overline{1}8\overline{/}98$	
PARAMETERS RESULTS KEY FILE#	PARAMETERS	RESULTS	KEY	FILE#

EPA Method 8010	EPA Method 8010			
Vinyl Chloride <lug l="" td="" va3480<=""><td>Vinyl Chloride</td><td><1ug/l</td><td></td><td></td></lug>	Vinyl Chloride	<1ug/l		
cis-1,2-Dichloroethene <lug l="" td="" va3480<=""><td>cis-1,2-Dichloroethene</td><td><lug l<="" td=""><td></td><td></td></lug></td></lug>	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td></td></lug>		
trans-1,2-Dichloroethene <lug l="" td="" va3480<=""><td>trans-1,2-Dichloroethene</td><td><lug l<="" td=""><td></td><td>VA3480</td></lug></td></lug>	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
Trichloroethene <1ug/l VA3480	Trichloroethene	<1ug/l		VA3480
Tetrachloroethene <0.5ug/l VA3480	Tetrachloroethene	<0.5ug/l		VA3480

DATE: 04/10/98

Upstate Laboratories, Inc. Analysis Results

Report Number: 07798079 Client I.D.: ENVIROTRAC

APPROVAL:

<u>Lab</u> <u>I.D.:</u> 10170

ID:07898019	Mat:Water ARMONK PRIVATE	WELLS SITE EW1031798 1600H 03/1	7/98	
P	ARAMETERS	RESULTS	KEY	FILE#
-		22222	₩) ₩ , ₩ 0	MR1250
Total	Iron	257ug/1		ME1250
Total	Zinc	28.1ug/l		MEIZOU
	EPA Method 8010			
	Vinyl Chloride	<500ug/1	05	VA3480
	cis-1,2-Dichloroethene	<500ug/1	05	VA3480
	trans-1,2-Dichloroethene	<500ug/1	05	VA3480
	Trichloroethene	<500ug/1	05	VA3480
	Tetrachloroethene	8200ug/1		VA3480
ID:07898020	Mat:Water ARMONK PRIVATE	WELLS SITE EW2031798 1610H 03/1	7/98	
פ	ARAMETERS	RESULTS	KEY	FILE#
-				
Total	Iron	5210ug/l		ME1250
Total		202ug/1		ME1250
	EPA Method 8010			
	Vinyl Chloride	<500ug/l	05	VA3480
	cis-1,2-Dichloroethene	<500ug/l	05	VA3480
	trans-1,2-Dichloroethene	<500ug/1	05	VA3480
	Trichloroethene	<500ug/1	05	VA3480
	Tetrachloroethene	7300ug/l		VA3480
TD:07898021	Mat:Water ARMONK PRIVATE	WELLS SITE EW3031798 1635H 03/3	17/98	
cr.	ARAMETERS	RESULTS	KEY	FILE#
_				
Total		5740ug/l		ME1250
Total		82.0ug/1		ME1250
IOCAL		2.		
	EPA Method 8010	100 /7	05	VA3483
	Vinyl Chloride	<100ug/1	05	VA3483
	cis-1,2-Dichloroethene	<100ug/1	05 05	VA3483 VA3483
	trans-1,2-Dichloroethene	<100ug/1		
	Trichloroethene	<100ug/l	05	VA3483
	Tetrachloroethene	1900ug/l		VA3483

ATE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

eport Number: 07798079 lient I.D.: ENVIROTRAC

APPROVAL:

TD:0789802	2 Mat:Water ARMONK PRIVATE WELLS	SITE EFF031798 1612H 0	$\frac{1}{3}$ / $\frac{1}{17}$ / $\frac{1}{98}$	-
- }	PARAMETERS	RESULTS	KEY	FILE#
Tota	l Iron	233ug/1		ME1250
Tota	l Zinc	42.9ug/1		ME1250
	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA3480
	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
	trans-1,2-Dichloroethene	<1ug/l		VA3480
1.5	Trichloroethene	<1ug/l		VA3480
	Tetrachloroethene	<0.5ug/l		VA3480
ĪD:0789802	3 Mat:Water ARMONK PRIVATE WELLS	SITE ULI TRIP BLANK 037	717/98	
	PARAMETERS	RESULTS	KEY	FILE#
.1				
1	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA3480
	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
el a	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
1	Trichloroethene	<lug l<="" td=""><td></td><td>VA3480</td></lug>		VA3480
.1	Tetrachloroethene	<0.5ug/l		VA3480
TD: 0789802	4 Mat:Water ARMONK PRIVATE WELLS	SITE EW3031898 1215H 03	3/18/98	
- K	PARAMETERS	RESULTS	KEY	FILE#
Tota		3100ug/l		ME1250
Total	l Zinc	29.9ug/1		ME1250
	EPA Method 8010			
	Vinyl Chloride	<100ug/l	05	VA3483
. }	cis-1,2-Dichloroethene	<100ug/l	05	VA3483
	trans-1,2-Dichloroethene	<100ug/l	05	VA3483
TH.	Trichloroethene	<100ug/l	05	VA3483
	Tetrachloroethene	1600ug/1		VA3483

DATE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 07798079 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

ID:07898025 Mat:Water ARMONK PRIVATE WELLS SITE EFF031898 1205H 03/18/98

PAI	RAMETERS	RESULTS	KEY	FILE#
Total	Iron	<60ug/1		ME1250
Total	Zinc	21.0ug/l		ME1250
1	EPA Method 8010			
	Vinyl Chloride	<1ug/1		VA3480
	cis-1,2-Dichloroethene	<lug 1<="" td=""><td></td><td>VA3480</td></lug>		VA3480
	trans-1,2-Dichloroethene	<1ug/l		VA3480
	Trichloroethene	<1ug/l		VA3480
	Tetrachloroethene	<0.5ug/l		VA3480

3/18

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.
East Syracuse, NY 13057
Contact: Russ Travala (201) 703 1334

"ASP!

				1. Down	3/18/98	0835				-
Relinquished by:	Time/Date	9:	Received By	10	Time/Date					1
1/1/ 1/ 1500/3/11/		1 /	Received By: 3 Time/Dale			249	Comments: VOCS = TCE PCE, CIS + Trans 1, 2 DCE UNYL CHLORIDE			
Relinquished by	Time/D-1		[David-1/2]		71					
84	(3/10/98)	(0945)		(H10)	0		(HOLDING BLANK)	(vocs 2010)	(14 Day)	
73	(3/14/93)			D	0	٧	TIT TOWN	VOCS 8010	14DAY	
	<u> </u>	1635	1	1		<u> </u>	JFF 031698	V	24 hrs	清粉 烷
		1630			1		FW 3031698)
		1554			D		EW1 031698			े भाग
		1550	TM		M	HNOZ	TW 203/698	Infe 6000	14/44	7
		14351	↓		NZV	4	MS/MSD	i	14014	me mid
82		1635			2		EFF 031698		24/13	3 18 40
-81		1630			12		EW3031698		1-1-)
80		1859	1		1	1	EW1031698		1 1	8 41:14
19	3/16/98	1550	m	GW	(2)	HCI	EW2031698	Vacs 2010	14:274	7
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	1

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr. East Syracuse, NY 13057

Russ Trovalo (201) 703-1324 381 2663 Contact: Lab Date Time Sampler No. of EnviroTrac Requested ID Sampled Sampled Initial Matrix Cont. Presrv. Sample ID Analyses Required Turnaround 3/17/98 1600 TM GW 19 HCI EW1031798 VOCs 8010 2 weeks Hub2 ZnFe 6010 610 EW2031798 20 HCI VOC3 8010 HNUE Zn, Fe 6010 HCI PW3031198 21 VOCS 8010 HNO. 7n, Fe 6010 HCI EFF031798 4117 24 hrs 22 VUCS 8010 HNOS ZNFE 6010 MS/MSD HCI VDC5 8010 2 weeks (3/17/98)46 (w) (1) VOCS 8010 23 BLANK Relinguished by: Time/Date: Received By: Time/Date Comments: Relinquished by: Received By: Time/Date Neil TKG

Rec'd at Lab by: HDona 3/18/98 0950

4/2 HOO!

ME PUD DION

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

New York State Superfund Project Town of North Castle, Westchester Co., New York

Sile No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

2 HOI 20 HOS

24 25	Date Sampled 3 Kg 90	- Inninied	Sampler Initial MS	Matrix GW	No. of Cont.	Presrv. HCI HNO3 HCI	EnviroTrac Sample ID EW 3 03 1898 EFF 03 1898 EFF 03 1898 MS MSD Trip Blank	Analyses Required Vocs BOID 2n, Fe 6010 Vocs BOID	Requested Turnaround 14 day 24 hrs 14 day 24hrs 14 day	
inquished by:	Time/Date:	/18/98 Re	eceived By:	==	10	98	omments: GW= Grund w VULS = TCE, PCE, Vinyl Chlu	later Cist Truns-1,2	DCE,	3.

Rec'd at Lob by: #Done- 3/19/98 0950

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		[

Shipping: 6034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

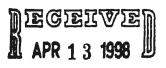
Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478

April 10, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #08498067 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on March 25, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jk

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 3/26 and 3/31 and

4/9/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Shipping: 6034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

April 9, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected March 23, 1998

Case Narrative for ULI Laboratory Report No. 08498067

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

Anomaly

Select List

VA3504

Criteria were satisfied.



Shipping: 6034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

Mailing: Box 289 Syracuse, NY 13206

Albany (518) 459-3134

Binghamton (607) 724-0478

April 2, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters Project Manager EnviroTrac 561 P Acorn Street Deer Park, New York 11729

Re: Armonk Private Wells Site

Discussion Regarding Tetrachloroethene Contamination

Dear Mr. Masters:

In reference to our previous discussion regarding the above, this letter is written as an explanation of the positive Tetrachloroethene value (3ug/1) which was originally reported on March 26th for the Effluent sample (collected on March 23, 1998).

Our quality control department has ascertained that this positive value was the result of contamination which occurred during storage at the lab. This conclusion is based upon test data collected from the Method Blank sample (PERC=<0.5ug/1), which was analyzed on a March 25th run and the Holding Blank sample (PERC=1.3ug/1), which was analyzed on March 27th.

Also, re-analysis was conducted on the sample on March 30, 1998, which yielded a Tetrachloroethene result of <0.5ug/l. This re-analysis was performed on one of the duplicate vials which was stored in a separate refrigerator (ASP storage).

Should you have any questions regarding this matter, or if I can be of any further service to you, please do not hesitate to give me a call.

Sincerely,

UPSTATE LABORATORIES, INC.

Peter F. Fricano

Peter F. Fricano Manager, EPC Division

cc: Allen Burton, TAMS Consultants

Joseph Houser, ULI

File

Trace Metals

Zn

Anomaly Batch Test Criteria were satisfied. MA1266 Fe Criteria were satisfied. MA1266

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-02.doc

Table 1
Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8260	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

DATE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 08498067 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

VA3504

VA3504

VA3504

05

05

Sampled by: Client

ID:08498067 Mat:Water ARMONE	PRIVATE	WELLS SITE	EW1032398	1415H 03/23/98	G
------------------------------	---------	------------	-----------	----------------	---

cis-1,2-Dichloroethene

Trichloroethene

Tetrachloroethene

trans-1,2-Dichloroethene

ID:08498067 Mat:Water ARMONK PRIVATE WEL	LS SITE EWIU32398 1413H 03	/23/30 0	
DA DA MEMERO C	RESULTS	KEY	FILE#
PARAMETERS			
Total Iron	488ug/1		ME1266
Total Iron Total Zinc	109ug/l		ME1266
local armo			
EPA Method 8010	/-	05	VA3504
Vinyl Chloride	<500ug/1	05	VA3504
cis-1,2-Dichloroethene	<500ug/1	05	VA3504
trans-1,2-Dichloroethene	<500ug/1	05	VA3504
Trichloroethene	<500ug/1	. 05	VA3504 VA3504
Tetrachloroethene	9 4 00ug/1		VASSUE
		$\sqrt{23799}$ $=$ $=$ $=$ $=$ $=$	
ID:08498068 Mat:Water ARMONK PRIVATE WEL	LS SITE EW2032398 1420H 03	/23/96 G	
	RESULTS	KEY	FILE#
PARAMETERS	RESULIS		
	2300ug/l		ME1266
Total Iron	30.9ug/l		MR1266
Total Zinc	30.9ug/1		
EPA Method 8010	<500ug/1	05	Va 3504
Vinyl Chloride	<500ug/l	05	VA3504
cis-1,2-Dichloroethene	<500ug/l	05	VA3504
trans-1,2-Dichloroethene	<500ug/1	05	VA3504
Trichloroethene	9100ug/1		VA3504
Tetrachloroethene	÷)		
A DMONY BRIVATE WEI	LS SITE EW3032398 1425H 03	/23/98 G	
ID:08498069 Mat:Water ARMONK PRIVATE WEI			
	RESULTS	KEY	FILE#
PARAMETERS			
1 7	2350ug/l		ME1266
Total Iron	42.5ug/l		ME1266
Total Zinc	*****		
EPA Method 8010			
Vinyl Chloride	<100ug/l	05	VA3504
Vinyi Chloride	<100ug/1	05	VA3504

<100ug/l

<100ug/l

<100ug/l

1700ug/l

Analysis Results

port Number: 08498067 ient I.D.: ENVIROTRAC

APPROVAL:

<u>Lab</u> <u>I.D.:</u> 10170

Sampled by: Client

4				
TD: 08498070	Mat:Water ARMONK PRIVATE	WELLS SITE EFF032398 1410H 03/2	3/98 G	
I	PARAMETERS	RESULTS	KEY	FILE#
-				
Total	Iron	<60ug/l		MR1266
Total	Zinc	44.9 ug/l		MR1266
	EPA Method 8010			Art Track
1:	Vinyl Chloride	<lug 1<="" td=""><td>2011</td><td>VA3504</td></lug>	2011	VA3504
	cis-1,2-Dichloroethene	<1ug/1		VA3504
11.2	trans-1,2-Dichloroethene	<1ug/1		VA3504
	Trichloroethene	<lug 1<="" td=""><td></td><td>VA3504</td></lug>		VA3504
1	Tetrachloroethene	<0.5ug/l		VA3504
ID:08498071	Mat:Water ARMONK PRIVATE	WELLS SITE ULI TRIP BLANK 03/23	/98	
¥ .	ARAMETERS	RESULTS	KEY	FILE#
1 -				
19	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA3504
1	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3504</td></lug>		VA3504
	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3504</td></lug>		VA3504
1	Trichloroethene	<1ug/l		VA3504
-1	Tetrachloroethene	<0.5ug/1		VA3507
ID:08498072	Mat:Water ARMONK PRIVATE	WELLS SITE HOLDING BLANK 1110H	03/25/98	
	PARAMETERS	RESULTS	KEY	FILE#
1	EPA Method 8010			
. 1	Vinyl Chloride	<1ug/l		VA3504
	cis-1,2-Dichloroethene	<1ug/1		VA3504
1	trans-1,2-Dichloroethene	<1ug/1		VA3504
		——————————————————————————————————————		773 2 E O 4
	Trichloroethene	<1ug/1		VA3504

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS)
 PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS)
 PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Conlact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York Site No. 3-60-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.

4 8 400

East Syracuse, NY 13057 Contact: Russ Trovato (201) 703-1324

							Contact:	Russ Trovalo (201) 703-1324		=i
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	ASP
હો હો	32398	1415	M5	GW	12	HCI	EWI 032398	VOCS 8010*	14days	
68		1420			19		EW2032378			
69		1425			E		EW3032398			
70		140	1		12		EFF 0323 98		Zdays	dd = 3 24 H
		1410			1/2	$ \downarrow $	MS /MSD RFF		14'days	ASTACTAL
		1415			13	HNOS	EW1 032398	Zn. fe 6010		
		1420			1	1	EWZ032398			
		1425					EW3 032398		1	
	V	1410	V	1		\downarrow	EFF 032398		2 days	
11	(3/23/98)#	9		(H20)10	Ō	×	Trip Blank	VOCS 8010	14 das -	6
12	(3/25/98)	(1110)		(tho)	0		(HOLDING BLANK)	(vacs 2010)10		
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Relinquished by:	Time/Date	3/24/98	Received By	()	Time/Date	$\overline{\bigcirc}$	Comments: GW = Grou	nd water.		
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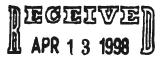
Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478

April 10, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729





Re: Analysis Report #09098015 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on March 31, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 4/1 and 4/9/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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April 9, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected March 30, 1998

Case Narrative for ULI Laboratory Report No. 09098015

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

Anomaly

Select List

VA3504

Criteria were satisfied.

Mr. Ted Masters April 9, 1998 Page 2

Trace Metals

Test Batch Anomaly

Fe MA1285 Criteria were satisfied.

Zn MA1286 The QC Data was referenced to MA1285.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-03.doc

Table 1
Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8260	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

TE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

port Number: 09098015 ient I.D.: ENVIROTRAC

Trichloroethene

Tetrachloroethene

APPROVAL:

Lab I.D.: 10170

VA3504

VA3504

Sampled by: Client

PAI	RAMETERS	RESULTS	KEY	FILE#
Total	Iron	168ug/1		ME128
Total	Zinc	26.0ug/1		ME128
		1.91		70.05
I	EPA Method 8010	-E00/1	05	VA350
	Vinyl Chloride	<500ug/1	05	VA350
	cis-1,2-Dichloroethene	<500ug/l	05	VA350
	trans-1,2-Dichloroethene	<500ug/l	05	VA350
	Trichloroethene	<500ug/1 5700ug/1	05	VA350
	Tetrachloroethene	5/00dg/1		VAC351
098016	Mat:Water ARMONK PRIVATE WELLS	S SITE MIDPOINT 033098 114	ЮН 03/30/98 -	
PAI	RAMETERS	RESULTS	KEY	FILE#
			:	
Total	Iron	2280ug/l		MR128
Total	Zinc	42,000ug/l		ME128
I	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA350
	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA350</td></lug>		VA350
	trans-1,2-Dichloroethene	<1ug/l		VA35
	Trichloroethene	<lug l<="" td=""><td></td><td>VA35</td></lug>		VA35
	Tetrachloroethene	<0.5ug/l		VA350
098017	Mat:Water ARMONK PRIVATE WELLS	S SITE EFF 033098 1150H 03	3/30/98	
PAI	RAMETERS	RESULTS	KEY	FILE
			•••	
Total	Iron	130ug/l		ME128
Total	Zinc	37.0ug/l		ME128
I	EPA Method 8010			
	Vinyl Chloride	<lug l<="" td=""><td></td><td>VA35</td></lug>		VA35
	cis-1,2-Dichloroethene	<1ug/l		VA350
	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA35</td></lug>		VA35
				V235

<1ug/1

<0.5ug/l

DATE: 04/10/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 09098015 Client I.D.: ENVIROTRAC APPROVAL () S_

Lab I.D.: 10170

Sampled by: Client

								- $ -$
ID:09098018	Mat:Water	ARMONK	PRIVATE	WELLS	SITE ULI	TRIP	BLANK	03/30/98

PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l		VA3504 VA3504 VA3504 VA3504 VA3504

ID:09098019 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 0915H 03/31/98

PARAMETERS	RESULTS	KEY	FILE#
		=	
EPA Method 8010			
Vinyl Chloride	<1ug/l		VA3504
cis-1,2-Dichloroethene	<1ug/1		VA3504
trans-1,2-Dichloroethene Trichloroethene	<lug 1<="" td=""><td></td><td>VA3507</td></lug>		VA3507
Tetrachloroethene	<1ug/1		VA3504
retrachroroethene	<0.5ug/l		VA3504

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE 7
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS 16
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS)
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle,

Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr. East Syracuse, NY 13057

Russ Trovalo (201) 703-1324 Contact:

Lab	Date	Time	Sampler		No. of		EnviroTrac	Russ Trovato (201) 703-1324	Requested	i
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	Sample ID	Analyses Required	Turnaround	
6	3/39/38	11:35	T.B.	6W.	(3)	HCL	COMBINED INFlueN 0330518	VOCS 3010	24 hours	
ų.		11:40		1/	2		MID/OINT 033098			
1		11:50			12		Effleat 033098	<u> </u>		ME MSD-
		11:52		$I = I \lor X$	12	Ì	MS/MSD	+		
		11:37				HNOS	COMPINED INFLIENT 053218	2n, Fe 60		
· · · · · · · · · · · · · · · · · · ·		11:42			DI	1	MIDPOINT 033078			١,
		11:54	1	1	10/	\[\frac{1}{2} \]	Efflect 03/098	7	.	V
8	(3/30/98)"			(W)	X	HCL	Trip Blank	UOC, 8010	\ \V	
9	(3 31 98)	(0915)		(w)	Ó		(HOLDING BLANIC)	(vocs 8010) to		
									_	
Relinquished by:	Time/Dat	1:45 3 1 X 1/2	Received B	-	Time/Date		Comments: (VICS 8010 = PERC	, TCE, cis +trans-1,z-D	CE, Viny (Chloride)	
Relinquished by:	Time/Dat	2. 17 312/7/20 e:	Received B	y:	Time/Date					
			CKinn	ey 3/2	89/198					

cc Eastern

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Albany (518) 459-3134 Binghamton (607) 724-0478

April 21, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #09998042 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on April 9, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 4/10 and 4/17/98. AJS

Disclaimer: 'The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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April 21, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected April 7 & 8, 1998

Case Narrative for ULI Laboratory Report No. 09998042

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

Batch

Anomaly

Select List

VA3521

Criteria were satisfied.

PA Lab ID 68375

NV Lab ID 10170

NJ Lab ID 73750

Mr. Ted Masters April 21, 1998 Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1305

Criteria were satisfied.

Zn

ME1305

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-04.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

I TE: 04/21/98

Upstate Laboratories, Inc. Analysis Results

F port Number: 09998042 C_ient I.D.: ENVIROTRAC APPROVAL: QUS_ QC:_fY____

Lab I.D.: 10170

Sampled by: Client

:09998042 Mat:Water ARMONK PRIVATE WELLS	SITE EW-1 040798 0745H 04	707/98	
PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010			
Vinyl Chloride	<500ug/1	05	VA3521
cis-1,2-Dichloroethene	<500ug/1	05	VA3521
trans-1,2-Dichloroethene	1000ug/l		VA3521
Trichloroethene	<500ug/1	05	VA3521
Tetrachloroethene	6900ug/1		VA3521
:09998043 Mat:Water ARMONK PRIVATE WELLS	SITE EW-2 040798 0750H 04	707/98	
PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene	<500ug/l <500ug/l	05 05	VA3521 VA3521
trans-1,2-Dichloroethene	<500ug/1	05	VA3521
Trichloroethene	<500ug/1	05	VA3521
Tetrachloroethene	2700ug/l		VA3521
0.09998044 Mat:Water ARMONK PRIVATE WELLS	SITE EW-3 040798 0755H 04	707/98	
PARAMETERS	RESULTS	KEY	FILE#

EPA Method 8010			
Vinyl Chloride	<100ug/l	05	VA3521
cis-1,2-Dichloroethene	<100ug/l	05	VA3521
trans-1,2-Dichloroethene	<100ug/l	05	VA3521
Trichloroethene	<100ug/l	05	VA3521
Tetrachloroethene	1500ug/l		VA3521

DATE: 04/21/98

Upstate Laboratories, Inc.

Trichloroethene

Tetrachloroethene

Analysis Results

Report Number: 09998042

Client I.D.: ENVIROTRAC

APPROVAL: QJS_ QC:_PF____

Lab I.D.: 10170

VA3521

VA3521

Sampled by: Client

ID:09998045	Mat:Water ARMONK PRIVATE W	ELLS SITE EFF 040798 0740H 04/07	/98	
P	ARAMETERS	RESULTS	KEY	FILE#
Total	Iron	97.1ug/l		ME1305
Total		<10.0ug/l		ME1305
		<u>.</u>		
	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA3521
	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3521</td></lug>		VA3521
	trans-1,2-Dichloroethene	<1ug/l		VA3521
	Trichloroethene	<lug 1<="" td=""><td></td><td>VA3521</td></lug>		VA3521
	Tetrachloroethene	<0.5ug/l		VA3521
			 -	
ID:09998046	Mat:Water ARMONK PRIVATE W	ELLS SITE COMBINED INF 040798 07	20H 04/07/98	3
-	ana acemen d	RESULTS	KEY	FILE#
	ARAMETERS	RESULIS		
		537ug/l		MR1305
Total		107ug/l		ME1305
Total	Zinc	10/49/1		MM2505
ĪD:09998047	Mat:Water ARMONK PRIVATE W	ELLS SITE ULI TRIP BLANK 04/07/9	8	
p	ARAMETERS	RESULTS	KEY	FILE#
	EPA Method 8010			
	Vinyl Chloride	<1ug/l		VA3521
	cis-1,2-Dichloroethene	<1ug/l		VA3521
	trans-1,2-Dichloroethene	<1ug/1		VA3521
	Trichloroethene	<lug l<="" td=""><td></td><td>VA3521 -</td></lug>		VA3521 -
	Tetrachloroethene	<0.5ug/l		VA3521
ID:09998048	Mat: Water ARMONK PRIVATE W	ELLS SITE HOLDING BLANK 04/09/98		
מ	ARAMETERS	RESULTS	KEY	FILE#
	ARAMSIERS			
-		(2004) (2004) (2004) (2004)		
	EPA Method 8010	1/3		VA3521
	Vinyl Chloride	<1ug/1		VA3521 VA3521
	cis-1,2-Dichloroethene	<1ug/1		VA3521 VA3521
	trans-1,2-Dichloroethene	<1ug/1		VA3521
				VMIDAL

<1ug/1

<0.5ug/l

ATE: 04/21/98

Upstate Laboratories, Inc.

Analysis Results

eport Number: 09998042 lient I.D.: ENVIROTRAC APPROVAL:Q_S_

Lab I.D.: 10170

Sampled by: Client

D:09998049 Mat:Water ARMONK PRIVATE WELL	LS SITE EW-1 040898 1022H	04/08/98	
PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010			
Vinyl Chloride	<500ug/l	05	VA3521
cis-1,2-Dichloroethene	<500ug/1	05	VA3521
trans-1,2-Dichloroethene	<100ug/l	05	VA3521
Trichloroethene	<500ug/l	05	VA3521
Tetrachloroethene	5900ug/1		VA3521
D:09998050 Mat:Water ARMONK PRIVATE WELL	S SITE EW-2 040898 1025H	04/08/98	
PARAMETERS	RESULTS	KEY	FILR#
EPA Method 8010	*		
Vinyl Chloride	<500ug/l	· 05	VA3521
cis-1,2-Dichloroethene	<500ug/1	05	VA3521
trans-1,2-Dichloroethene	<500ug/1	05	VA3521
Trichloroethene	<500ug/1	05	VA3521
Tetrachloroethene	2300ug/1		VA3521
D:09998051 Mat:Water ARMONK PRIVATE WELL	S SITE EW-3 040898 1028H	04/08/98	
PARAMETERS	RESULTS	KEY	FILR#
EPA Method 8010			
Vinyl Chloride	<100ug/l	05	VA3521
cis-1,2-Dichloroethene	<100ug/l	05	VA3521
trans-1,2-Dichloroethene	<100ug/1	05	VA3521
Trichloroethene	<100ug/l	05	VA3521
Tetrachloroethene	1600ug/l		VA3521

DATE: 04/21/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 09998042

Client I.D.: ENVIROTRAC

APPROVAL:

<u>Lab</u> <u>I.D.:</u> 10170

Sampled by: Client

ID:09998052 Mat:Water	ARMONK	PRIVATE WE	LLS SITE EFF	040898	1035-1038H 0	4/08/98

P	ARAMETERS			RESULTS		KEY	FILE#	
-								
Total	Iron			73.3ug/l			MR1305	
Total	Zinc			<10.0ug/l			ME1305	
	EPA Method	8010					2 .	
	Vinyl Chl	oride		<lug l<="" td=""><td></td><td></td><td>VA3521</td></lug>			VA3521	
		ichloroethene		<1ug/l		2.3	VA3521	
	trans-1,2	-Dichloroethene		<1ug/1			VA3521	
	Trichloro	ethene		<lug l<="" td=""><td></td><td></td><td>VA3521</td></lug>			VA3521	
	Tetrachlo	roethene		<0.5ug/l			VA3521	
:09998053	Mat:Water	ARMONK PRIVATE	WELLS	SITE COMBINED INF	040898 1039H	04/08/98		
P)	ARAMETERS			RESIT.TS		KRY	FILE#	

ID:

PARAI	METERS	RESULTS	KEY	FILE#
Total :	Iron	87.6ug/l		ME1305
Total 2	Zinc	20.0ug/l		ME1 305

ID:09998054 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 04/08/98

PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010		*	
Vinyl Chloride	<1ug/l		VA3521
cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3521</td></lug>		VA3521
trans-1,2-Dichloroethene	<1ug/l		VA3521
Trichloroethene	<lug 1<="" td=""><td></td><td>VA3521</td></lug>		VA3521
Tetrachloroethene	<0.5ug/l		VA3521

KRY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 POL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BLASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

4/23

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Lab ID	Date	Time	Sampler		No. of		EnviroTrac EnviroTrac	Russ Trovalo (201) 703-1324	Requisted
10	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	Sample ID	Analyses Required	Turnaround
42	4/7/98	7145	T.B.	G.W,	(2)	HCL	Ew 1 040798	Vocs 8010	14 DAY
43		7:50			(2)		EW2 040798	1	
44		7:55			(2)		Ew 3 0407 98		1
45		7:40			(2)		efflich 040798		yehrs
		7140			13/	1	ms/msD'		14 DAY
46		7120				HND3	COMBINED INFluent 040758	21, Fe 6010	1
n	J	7:40	V		(1)	↓	Effect 040798	1	48hrs
47	(4/1/98)				(1)	HLL	TRIP BLANK	VOC 5 8010	14 DAY.
48	(4/9/98)				0	HCL	(HOLDING BLANK)	(VOC'S 8010)	
					-		-		
linquished by:	Time/Date):	Received By	r:	Time/Date		Comments:		
1-12	- 300	4/5/25					G.W. = ground watel		
linquished by:	Time/Date		Received By	r:	Time/Date				
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EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site
New York State Superfund Project
Town of North Castle,
Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Lab	T Bala	T Thurs	T 6 1				Contact;	Russ Trovalo (201) 703-1324		
ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
49	4/8/99	10:22	BM.	6.w.	(3)	HCL	EW-1 040898	Vacs Bolo	14 DAY	
50_		10:25		1	(2)	HC1-	Ew-2 040318	N.	1	
SI		10:28			2	HCL	EU-3 010398			
52)		10:38				HCZ	Efflent 040898		4945	410 HDD
		10:35			3	HC 1	ms/msD !	1	14 DAY	1
53		10:39			(1)	+1 NO3	CombinED Influent	2n, Fe 6010	14 044	
	1	10135		\(\frac{1}{2}\)		H NO3	Effluent 040899		48hr	
54	(4/8/98)				0	HCL	Trip Blank	VOC. 8010	14 047.	
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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478

May 7, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #10598023 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on April 15, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 4/16 and 4/27/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

May 6, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE: Armonk Private Wells Site, Samples Collected April 14, 1998

Case Narrative for ULI Laboratory Report No. 10598023

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>	<u>Batch</u>	<u>Anomaly</u>
Select List	VA3536 VA3545	Criteria were satisfied. Criteria were satisfied.

NY Lab ID 10170 NJ Lab ID 73750 PA Lab ID 68375

Mr. Ted Masters May 6, 1998 Page 2

Trace Metals

<u>Test</u>	<u>Batch</u>	<u>Anomaly</u>
Fe	ME1325 ME1326	Criteria were satisfied. Criteria were satisfied.
Zn	ME1325	Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala

Director

File: JHENV-05.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

D rE: 05/07/98

Upstate Laboratories, Inc. Analysis Results
R port Number: 10598023

C_ient I.D.: ENVIROTRAC

APPROVAL: Q_S_ QC:_PF____=

Sampled by: Client

	Mat:Water ARMONK PRIVAT	E WELLS SITE EW1 041498 1000H 04/1	.4/98	****
_	ARAMETERS	RESULTS	KEY	FILE#
P	ARAMEIERS			
	EPA Method 8010		0.5	VA3536
- 1	Vinyl Chloride	<500ug/1	05 05	VA3536
	cis-1,2-Dichloroethene	<500ug/1	05	VA3536
1	trans-1,2-Dichloroethene	<500ug/1	05	VA3536
.1	Trichloroethene	<500ug/l 6000ug/l	03	VA3536
	Tetrachloroethene	6000dg/1		
):10598024	Mat:Water ARMONK PRIVAT	E WELLS SITE EW2 041498 1005H 04/1	L 4 /98	
-1	ARAMETERS	RESULTS	KEY	FILE#
	ARAMETERS			
T ·				
1	EPA Method 8010		0.5	VA3536
	Vinyl Chloride	<500ug/1	05 05	VA3536
1	cis-1,2-Dichloroethene	<500ug/1	05	VA3536
	trans-1,2-Dichloroethene	<500ug/l	05	VA3536
-1	Trichloroethene	<500ug/1	0.5	VA3536
	Tetrachloroethene	2000ug/1		
):10598025	Mat:Water ARMONK PRIVAT	E WELLS SITE EW3 041498 1010H 04/	14/98	
(1)	PARAMETERS	RESULTS	KEY	FILE#
	EPA Method 8010		05	VA3536
1	Vinyl Chloride	<100ug/l	05	VA3536
	cis-1,2-Dichloroethene	<100ug/l	05	VA3536
	trans-1,2-Dichloroethene	<100ug/l	05	VA3536
	Trichloroethene	<100ug/l 1500ug/l	• • • • • • • • • • • • • • • • • • • •	VA3536
	Tetrachloroethene	1500dg/1		
ID:1059802	6 Mat:Water ARMONK PRIVA	TE WELLS SITE EFF 041498 0955H 04/	14/98	
1	PARAMETERS	RESULTS	KEY	FILE#
		*******	/# # #	
	the Market Construction of the Construction of			
1	EPA Method 8010			VA3545
	Vinyl Chloride	<1ug/1		VA3545 VA3545
	cis-1,2-Dichloroethene	<1ug/1		VA3545
	trans-1,2-Dichloroethen	e <1ug/l		VA3545
7	Trichloroethene	<1ug/l		VA3545
	Tetrachloroethene	<0.5ug/l		
0.00				

DATE: 05/07/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 10598023

Client I.D.: ENVIROTRAC

APPROVAL: QJS

- Tab I.D.: 10170

ID:10598027 Mat:Water ARMONK PRIVATE W	ELLS SITE ULI TRIP BLANK 04/14	/98	
	RESULTS	KEY	FILE#
PARAMETERS			
EPA Method 8010			
Vinyl Chloride	<1ug/l		VA3536
cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
trans-1,2-Dichloroethene	<1ug/1		VA3536
Trichloroethene	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
Tetrachloroethene	<0.5ug/1		VA3536
ID:10598028 Mat:Water ARMONK PRIVATE W	ELLS SITE CIN 041498 1015H 04/	14/98	
DA DA WOMEDO C	RESULTS	KEY	FILE#
PARAMETERS			
	1320ug/1		ME1325
Total Iron	83.0ug/l		ME1325
Total Zinc	03.045/ =		and the second s
ID:10598029 Mat:Water ARMONK PRIVATE W	ELLS SITE AFTER BAG 041498 101	1H 04/14/98	
DADA WOMED C	RESULTS	KEY	FILE#
PARAMETERS			
	85.2ug/1		ME1326
Total Iron Total Zinc	7580ug/l		ME1325
Total Zinc	, 500-57 =	1000 BOV 10000-200-	
ID:10598030 Mat:Water ARMONK PRIVATE W	ELLS SITE EFF 041498 1012H 04/	14/98	
PARAMETERS	RESULTS	KEY	FILE#
Total Iron	<60ug/l		ME1325
Total Zinc	25.1ug/1		MW1325
ID:10598031 Mat:Water ARMONK PRIVATE W	ELLS SITE HOLDING BLANK 0940 0	4/15/98	
PARAMETERS	RESULTS	KEY	FILE#
PARAMETERS			
EPA Method 8010			
Vinyl Chloride	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
Trichloroethene	<lug l<="" td=""><td></td><td>VA3536</td></lug>		VA3536
Tetrachloroethene	<0.5ug/1		VA3536
10014010	-		

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
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- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED
- ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON 35 PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- RESULTS ARE REPORTED ON AN AS REC.D BASIS 41
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

4/29

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Conlact: Ted Maslers

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York

Site No. 3-60-005 Contract No. D003635

105980a3 - 31

Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	1
10598023	4)14/98	1000	TM	CW	2	HOI	EW1 04148	Vics*8010	14 pay	
24		1005			2		EWZ 041498) '	
25		1010			(2)		EW3 041498		1	1
26		0955			(2)		EFF 041498		27275	dd = 4
		0955		1	2		EFF 041498 AS/MSD		14 Duys	dd=4 Ns/N
27		NH		Ti3	20	\downarrow	TRIP BLANK	V	MDays	
28		1015		c.w	1	HNO3	CIN 041498	Zn. Fe 6010	1	1
29		1011					Afra Bag 041498	Ī		
30	L	1012	1	1		1	Afra Bag 041498 EFF041498	1	20075	MS/DI
31	(A) (A) (P)	(0940)			0		(HOLDING BLANK) CC	(voc's 8010)	11-	dd=4
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	/									
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Binghamton (607) 724-0478

DECEIVE A may 0 5 1998

May 1, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters
EnviroTrac
561 P. Acorn St.
Deer Park, NY 11729

Re: Analysis Report #10698017 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your sample which was received on April 16, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 5/1/98. AJS

Disclaimer: 'The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

DATE: 05/01/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 10698017

Client I.D.: ENVIROTRAC

Sampled by: Client

APPROVAL:

ARMONK PRIVATE WELLS

SITE BAG FILTER & SEDIMENT 0950H 04/15/98

ULI I.D.: 10698017	Matrix: Soil		
PARAMETERS	RESULTS	KEY	FILE#
TCLP Volatile Organic Compounds by 8240 TCLP Benzene TCLP Carbon Tetrachloride TCLP Chlorobenzene TCLP Chloroform TCLP 1,4-Dichlorobenzene TCLP 1,2-Dichloroethane TCLP 1,1-Dichloroethene TCLP Methyl Ethyl Ketone TCLP Tetrachloroethene TCLP Trichloroethene TCLP Vinyl Chloride	<0.03mg/1		VM1861 VM1861 VM1861 VM1861 VM1861 VM1861 VM1861 VM1861 VM1861 VM1861

dw = Dry weight

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Conlact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York Site No. 3-60-005 Contract No. D003635

4/30

10698017

Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analys	es Required	Requested Turnaround
17	4/18/98	9:50	T.B.	SED IMEUT	(4)	Nowe	BAG FILTER + SEDIMENT		8240	14 DAT.
		¥								
Relinquished by:	Time/Date		Received By	y:	Time/Date	-	Comments:			
Relinquished by	sires /	3 4/0/18								
Relinquished by:	Time/Date	e;	Received B		Time/Date					
			Ckin	ney 4	1/16/08 09	155				

<u>z</u>		
		ì
		1

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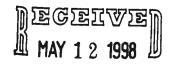
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lbany (518) 459-3134 iinghamton (607) 724-0478

May 7, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #10698011 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on April 16, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jk

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 4/17 and 5/1/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

May 6, 1998

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729

RE: Armonk Private Wells Site, Samples Collected April 15, 1998 Case Narrative for ULI Laboratory Report No. 10698011

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u> <u>Batch</u> <u>Anomaly</u>

Select List VA3536 Criteria were satisfied.

NV 1 36 ID 10170 NJ Lab ID 73750 PA Lab ID 68375

Mr. Ted Masters May 6, 1998 Page 2

Trace Metals

Test

<u>Batch</u>

Anomaly

Fe

ME1328

Criteria were satisfied.

Zn

ME1328

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

Director

File: JHENV-05A.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol 1) Reference: (NYSDEC ASP), 10/95 Revision

TE: 05/07/98

"pstate Laboratories, Inc. alysis Results ...port Number: 10698011 Client I.D.: ENVIROTRAC

APPROVAL: CDS_ QC: PC - - - - -

C110110 117111 11711 117			
0:10698011 Mat:Water ARMONK PRIVATE WELL	S SITE EW-1 041598 0910H	04/15/98	
PARAMETERS	RESULTS	KEY	FILE#
PARAMETERS			

EPA Method 8010			
Vinyl Chloride	<500ug/l	05	VA3536
cis-1,2-Dichloroethene	<500ug/1	05	VA3536
trans-1,2-Dichloroethene	<500ug/l	05	VA3536
Trichloroethene	<500ug/l	05	VA3536
Tetrachloroethene	5900ug/1		VA3536
D:10698012 Mat:Water ARMONK PRIVATE WELI	S SITE EW-2 041598 0900H	04/15/98	
	RESULTS	KEY	FILE#
PARAMETERS			
EPA Method 8010			
Vinyl Chloride	<500ug/1	05	VA3536
cis-1,2-Dichloroethene	<500ug/l	05	VA3536
trans-1,2-Dichloroethene	<500ug/l	05	VA3536
Trichloroethene	<500ug/l	05	VA35 36
Tetrachloroethene	2100ug/l		VA3536
	S SITE EW-3 041598 0905H		
PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010			
Vinyl Chloride	<100ug/l	05	VA3536
cis-1,2-Dichloroethene	<100ug/l	05	VA3536
trans-1,2-Dichloroethene	<100ug/l	05	VA3536
Trichloroethene	<100ug/l	05	VA3536
Tetrachloroethene	1500ug/1		VA3536
160140101010			

DATE: 05/07/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 10698011 Client I.D.: ENVIROTRAC APPROVAL: QJS <u>Lab</u> <u>I.D.:</u> 10170

						_=	0000T 04/1E/00
TD:10698014	Mat:Water	ARMONK	PRIVATE	WELLS	SITE	EFF 041598	0920H 04/15/98

ID:10698014	Mat:Water ARMONK PRIVATE WI	ELLS SITE EFF 041598 0920H 04/15	5/98		
P	ARAMETERS	RESULTS	KEY	file#	
-					
Total	Iron	<60ug/l		ME1328	
Total		<10ug/l		ME1328	
	EPA Method 8010			*** 2526	
	Vinyl Chloride	<1ug/1		VA3536	
	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3536</td><td></td></lug>		VA3536	
	trans-1,2-Dichloroethene	<1ug/1		VA3536	
	Trichloroethene	<1ug/1		VA3536	
	Tetrachloroethene	<0.5ug/l		VA3536	
ID:10698015	Mat:Water ARMONK PRIVATE W	ELLS SITE CIN-041598 0925H 04/15	5/98		=
10	ARAMETERS	RESULTS	KEY	FILE#	
-					
Total	Iron	912ug/1		ME1328	
Total		41.3ug/l		ME1328	
TD:10698016	Mat:Water ARMONK PRIVATE W	ELLS SITE ULI TRIP BLANK 04/15/	98		-
D.	ARAMETERS	RESULTS	KEY	FILE#	

	EPA Method 8010				
	Vinyl Chloride	<1ug/l		VA3536	
	cis-1,2-Dichloroethene	<1ug/l		VA3536	
	trans-1,2-Dichloroethene	<1ug/l		VA3536	
	Trichloroethene	<lug l<="" td=""><td></td><td>VA3536</td><td></td></lug>		VA3536	
	Tetrachloroethene	<0.5ug/l		VA3536	

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS)
 PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York Site No. 3-60-005 Contract No. D003635

4/30

10698011-16

								10648011- 16		
Lab ID	Date Sampled	Time Sampled	Sampler Init at	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
1.1	4/15/98	9:10	7. 6.	G.W.	2	HCL	Ew-1-041548	Voc, 8010	14 DA'I	
12)	1	9:00	1		(3)		EW-2-04159B		11	
13		9:05			2		EW-3-041598		1	
14		9:20			12		EFF - 041598		241/15	4/17 H
		9:20			2	1	MS/MSD!	<u> </u>	14 DAY	1
15		5:25				HNOS	CIN-041598	2n, Fe 6010	<u> </u>	1
	1	9:20	7	1	10	1	TRIP BLAME	\	24 hrs.	
16	(4/15/98)	ck_			0	HCL	TRIP BLAME	VOC, 8010	14 DAY.	
							ļ		-	-
										-
	*			-	· ·					-
Relinquished by:	Time/Da	ile:	Received E	By:	Time/Date		Comments:			***
TEB.	/:00.	4/1/28								
Relinquished by:	Time/Da		Received E		Time/Date					
			Cker	mey '	4/16/98 08	365				



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Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716

May 22, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #11198129 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on April 21, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 5/20/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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May 22, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected April 20, 1998 Case Narrative for ULI Laboratory Report No. 11198129

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch

Anomaly

Select List

VA3561

Criteria were satisfied.

PA Lab ID 68375

Mr. Ted Masters May 22, 1998 Page 2

Trace Metals

Anomaly Batch <u>Test</u>

Criteria were satisfied. ME1404 Fe

ME1404 Criteria were satisfied. Zn

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala

Director

File: JHENV-06.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

DATE: 05/22/98

I state Laboratories, Inc.

Analysis Results

Report Number: 11198129 (ient I.D.: ENVIROTRAC

approval: _ ()S

Lab I.D.: 10170

ÎD:11198129	Mat:Water ARMONK PRIVATE WELLS	SITE CIN042098 1100	H 04/20/98		
-11	RAMETERS	RESULTS	DATE ANAL.	KEY	FILR#
PA	KAMETERS				
m-b-1	Iron	600ug/l	05/18/98		ME1404
Total	Zinc	32.lug/l	05/18/98		ME1404
Total	Zine	5512=3,			
- 1	EPA Method 8010		04/00/00	05	VA3561
	Vinyl Chloride	<500ug/1	04/28/98 04/28/98	05	VA3561
Y	cis-1,2-Dichloroethene	<500ug/1	04/28/98	05	VA3561
1	trans-1,2-Dichloroethene	<500ug/1	04/28/98	05	VA3561
150	Trichloroethene	<500ug/l	04/28/98	03	VA3561
	Tetrachloroethene	3500ug/l	04/28/36		VAJSUI
7:11198130	Mat:Water ARMONK PRIVATE WELLS	SITE AB042098 1115H	04/20/98		
בם	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
1					
Total	Iron	75.5ug/l	05/18/98		ME1404
Total	Zinc	16.5ug/l	05/18/98		ME1404
p:11198131	Mat:Water ARMONK PRIVATE WELLS		20H 04/20/98 DATE ANAL.	KEY	FILE#
PA	RAMETERS	RESULTS	DATE ANAL.		LIMA
	EPA Method 8010				*** 3 5 6 7
	Vinyl Chloride	<lug l<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
	Trichloroethene	<1ug/1	04/28/98		VA3561
13	Tetrachloroethene	<0.5ug/l	04/28/98		VA3561
D:11198132	Mat:Water ARMONK PRIVATE WELLS	SITE EFF042098 1125	H 04/20/98		
- DA	RAMETERS	RESULTS	DATE ANAL.	KEY	filk#
Total	Iron	<60.0ug/l	05/18/98		ME1404
Total	Zinc	67.5ug/l	05/18/98		ME1404
1					
.1:	EPA Method 8010	.9/3	04/28/98		VA3561
	Vinyl Chloride	<1ug/l	04/28/98		VA3561
100	cis-1,2-Dichloroethene	<1ug/1	04/28/98		VA3561
	trans-1,2-Dichloroethene	<lug 1<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
	Trichloroethene	<1ug/1	04/28/98		VA3561
	Tetrachloroethene	<0.5ug/l	U-1/40/30		722334

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
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- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
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- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
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- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

55

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

Laboralory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Lab	Date	Time	Sampler		No. of		Contact:	Russ Trovalo (201) 703-1324		
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
129	(4/20/98)	(1100)		GW	3	VOC-1161 zn, re HNOS	CIN042098	VOC(8010) In, Fe (6010)		
130		(1115)			D	HNO3	AB042098	Zn, Fe (6010)	1	
131		(1120)			(2)	Hel	BG AGAC 1042098	VOC (8010)		1
1321	1 1	(1125)		V	(5)*	Vocaci ZafeHVog	EFF04W18	VOC(8010) ZnjFc(6010)		HE/MSD-
		27				HO	Trip Blank	VOC (2010)		
133	(4/21/98)	(0100)°C			0		(HOLDING BLANK)	(VOC (800))40		1

										1
()		>								
Relinquished by:	Time/Date	1/2/18 2:30 Am	Received By		Time/Date		CIN = Combined 2	Influent - Tall	chloroethone	15
Relinquished by:	Time/Date	a. 1	Received By	10	Time/Date		AB = AFTO Bag AGACI = AFTON GA EFF = EFFLUENT	Filtre Cia - Tax	1,2 DCE	
			C. Kin	ney 4	21 98 08	14	* 2 Voas for Ms/m	Q 31		

atories inc.



5h:pping: 6034 Corporale Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478

Buffalo (716) 649-2533 Rochester (716) 436-9070

New Jersey (201) 703-1324 May 22, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #11898001 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on April 28, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

hony & Ocala Anthony J Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 4/30 and 5/4/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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May 22, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected April 27, 1998 Case Narrative for ULI Laboratory Report No. 11898001

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Te<u>st</u>

<u>Batch</u>

Anomaly

Select List

VA3561

Criteria were satisfied.

Mr. Ted Masters May 22, 1998 Page 2

Trace Metals

Zn

Anomaly Batch <u>Test</u> Criteria were satisfied. ME1347 Fe Criteria were satisfied. ME1347

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

arthony J. Scala Scala

Director

File: JHENV-07.doc

Table 1
Methodologies

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

	Method	Reference		
Parameter	8010	1)		
VOCs Iron	6010	1) 1)		
Iron Zinc	6010			

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

pstate Laboratories, Inc. n lysis Results e ort Number: 11898001 lient I.D.: ENVIROTRAC APPROVAL: US QC: PF _ Lab I.D.: 10170

E 11898	001 Mat:Water ARMONK PRIVATE WELLS S	ITE CIN042798 0800	H 04/27/98		
	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	PARAMETERS				
) ma	tal Iron	1870ug/l	04/29/98		ME1347
		108ug/l	04/29/98		ME1347
To	tal Zinc	-			
- 20	EPA Method 8010	/2	04/28/98	05	VA3561
- 1	Vinyl Chloride	<500ug/1	04/28/98	05	VA3561
J	cis-1,2-Dichloroethene	<500ug/l	04/28/98	05	VA3561
	trans-1,2-Dichloroethene	<500ug/1	04/28/98	05	VA3561
- 4	Trichloroethene	<500ug/l	04/28/98	0.5	VA3561
2.	Tetrachloroethene	3200ug/l	04/28/98		
D:11898	002 Mat:Water ARMONK PRIVATE WELLS	SITE AG1042798 0810	H 04/27/98		
1	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
- 1	PARAMETERS				
1	EPA Method 8010	3/3	04/28/98		VA3561
	Vinyl Chloride	<1ug/l	04/28/98		VA3561
	cis-1,2-Dichloroethene	<1ug/1	04/28/98		VA3561
4.0	trans-1,2-Dichloroethene	<lug l<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
	Trichloroethene	<lug 1<="" td=""><td>04/28/98</td><td></td><td>VA3561</td></lug>	04/28/98		VA3561
. 1	Tetrachloroethene	<0.5ug/l	04/20/30		
_ :1 <u>189</u> 8	003 Mat:Water ARMONK PRIVATE WELLS	SITE EFF042798 0805	5H 04/27/98		
	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	PARAMETERS				
		<60 u g/l	04/29/98		ME1347
		<10ug/1	04/29/98		ME1347
To	otal Zinc	•			
	EPA Method 8010	. /9	04/28/98		VA3561
	Vinyl Chloride	<1ug/1	-		VA3561
II.	cis-1,2-Dichloroethene	<1ug/1	04/28/98		VA3561
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>04/28/98</td><td></td><td>VA3561 VA3561</td></lug>	04/28/98		VA3561 VA3561
Die	Trichloroethene	<1ug/1	04/28/98		VA3561 VA3561
	Tetrachloroethene	<0.5ug/l	04/28/98		VA3301
ĪD:1189	8004 Mat:Water ARMONK PRIVATE WELLS	SITE ABF042798 082	OH 04/27/98	= = = =	
	DA DA MERRED C	RESULTS	DATE ANAL.	KEY	FILE#
. I	PARAMETERS				
	1 7.00	1170ug/l	04/29/98		ME1347
	otal Iron	1080ug/1	04/29/98		ME1347
T	otal Zinc	<u> </u>			
	V.				

DATE: 05/22/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 11898001

Client I.D.: ENVIROTRAC

APPROVAL: (

Lab I.D.: 10170

ID:11898005 Mat:Water ARMONK PRIVATE WELLS	SITE ULI TRIP BLAN	K 04/27/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene ID:11898006 Mat:Water ARMONK PRIVATE WELLS	<pre><lug 1="" 1<="" <0.5ug="" <lug="" pre=""></lug></pre>	04/28/98 04/28/98 04/28/98 04/28/98 04/28/98		VA3561 VA3561 VA3561 VA3561 VA3561
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	04/28/98 04/28/98 04/28/98 04/28/98 04/28/98		VA3561 VA3561 VA3561 VA3561 VA3561

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE OUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 POL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York Sile No. 3-60-005 Contract No. D003635

5/12

Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
1	4/27/95		Тд.	رن. نن.	(2)	HCL	CIN042750	Voc. 8010*	14 days	
2		8:10		i	(2)		AG1042798 /		1	
3		8.05			2		Eff 042798		24hrs	dd=\$129 H ms/msb-bya
		3:05			12		ms/msD	٧	14 days	MZ MZD - COCA
		8:00)		HNO3	CIN042798 V	ZN.Fe 6010		
Ц		9.23			(D)	l - I	ABF042798 V		7	
	()	9:01	$\sqrt{}$		1	1	Eff042798 /	7	24/103	
5	(4) an (98)					HICL	TRIP BLANK	UOC: 8010	14 days	
lo .	(4/28/98)	(0000)			(1)		(HOLDING BLANK)	(VOC'S 8010)		
							1			1
Relinquished by:	Time/Dat	1 e: d2188	Received B	<u>I</u> y:	Time/Date		Comments: (* Tetrachlomethene, TCE,	Cist trans -1,2-DCE, Vin	yl Chloride	
Relinquisiyed by:	Time/Dat		Received B	y: uniey	Time/Date	0818				



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Albany (518) 459-3134 Binghamton (607) 724-0478

May 22, 1998

Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #12598005 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on May 5, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Cirthony J. Scala, Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 5/20/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

VIII I IN 33350

DA 1 -L ID C037E

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Albany (518) 459-3134 Binghamton (607) 724-0478

May 22, 1998

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected May 4, 1998

Case Narrative for ULI Laboratory Report No. 12598005

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

Anomaly

Select List

VA3595

Criteria were satisfied.

Mr. Ted Masters May 22, 1998 Page 2

Trace Metals

TestBatchAnomalyFeME1362Criteria were satisfied.ZnME1362Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala anthony J. Scala

Director

File: JHENV-08.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol 1) Reference: (NYSDEC ASP), 10/95 Revision

TE: 05/22/98

"pstate Laboratories, Inc. alysis Results Aport Number: 12598005 Client I.D.: ENVIROTRAC

PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	735ug/1	05/07/98		ME1362
Total	Zinc	37.5ug/l	05/07/98		ME136
	EPA Method 8010	/-	05/10/00	25	773.250
	Vinyl Chloride	<500ug/l	05/10/98	05 05	VA359 VA359
	cis-1,2-Dichloroethene	<500ug/1	05/10/98	05 05	VA359
	trans-1,2-Dichloroethene	<500ug/l	05/10/98	05	VA359
	Trichloroethene	<500ug/1	05/10/98	05	VA359
	Tetrachloroethene	2600ug/1	05/10/98		VASSS
:12598006	Mat:Water ARMONK PRIVATE WELL	S SITE AG1050498 065	OH 05/04/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	EPA Method 8010				
	Vinyl Chloride	<lug l<="" td=""><td>05/10/98</td><td></td><td>VA359</td></lug>	05/10/98		VA359
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>05/10/98</td><td></td><td>VA359</td></lug>	05/10/98		VA359
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>05/10/98</td><td></td><td>VA359</td></lug>	05/10/98		VA359
	Trichloroethene	<lug l<="" td=""><td>05/10/98</td><td></td><td>VA359</td></lug>	05/10/98		VA359
	Tetrachloroethene	<0.5ug/l	05/10/98		VA359
5:12598007	Mat:Water ARMONK PRIVATE WELL	S SITE EFF050498 064	OH 05/04/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	<60ug/1	05/07/98		ME136
Total	Zinc	18.5ug/l	05/07/98		ME136
	EPA Method 8010		/ /		*** 2 5 /
	Vinyl Chloride	<1ug/l	05/10/98		VA359
	cis-1,2-Dichloroethene	<1ug/l	05/10/98		VA359
	trans-1,2-Dichloroethene	<1ug/l	05/10/98		VA359
	Trichloroethene	<lug l<="" td=""><td>05/10/98</td><td></td><td>VA359</td></lug>	05/10/98		VA359
	Tetrachloroethene	<0.5ug/l	05/10/98		VA359
0:12598008	Mat:Water ARMONK PRIVATE WELL	S SITE ABF050498 064	5H 05/04/98		
	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
PA	KAMEIEKS				
PA	RAMEIERS		05/07/08		
PA Total	Iron	 2240ug/l 703ug/l	05/07/98 05/07/98	(3.3.3	ME13 ME13

DATE: 05/22/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 12598005 Client I.D.: ENVIROTRAC APPROVAL: US

Lab I.D.: 10170

Sampled by: Client

ID:12598009 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 0830H 05/05/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	05/10/98 05/10/98 05/10/98 05/10/98 05/10/98		VA3595 VA3595 VA3595 VA3595 VA3595

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn SI. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York Sile No. 3-60-005 Contract No. D003635

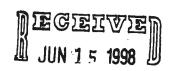
5/19

Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID:	Analyses Required	Requested Turnaround
12598005	5/4/98	6:35	T.B.	\$ 6.4	2	HCL	CINUSUY98 V	yoc, 8010	14 D17
6	l'i	6:50			(2)		AG2050488.	1	1
1		6:40			2		EFF050498		24/10
		6:40			(m)	7,	MS/MSD	1	IY DAY
		(35°				thoos	CIN050498 /	ZN, Fe 6010	<u> </u>
8		6.45					ABF050498	1	7
	1	6:40	1	<u> </u>		7	Efto50478	7	2460
				KLO		HCL	TRIP BLANK	VOC, 8010	1847
9	(5/5/98)	(0830)			0		(HOLDING BLANK)	(yous) ce	
					Ŧ. 15 .				
Relinquished by:	-5/4/9:	5 3:3º			Time/Date		Comments:	ter·	
Relinquished by:	Time/Da	le:	Received B	y: uney 5	Time/Date				

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK 3
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- ADL (AVERAGE DETECTION LIMITS) 10
- PQL(PRACTICAL QUANTITATION LIMITS)
- SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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Binghamton (607) 724-0478

June 12, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #13398042 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on May 13, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

N. Scala, ULI cc/encs:

file

Faxed results were given to your office on 5/22/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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June 11, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected May 11, 1998

Case Narrative for ULI Laboratory Report No. 13398042

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch

Anomaly

Select List

VA3618

Criteria were satisfied.

Mr. Ted Masters June 11, 1998 Page 2

Trace Metals

TestBatchAnomalyFeME1392Criteria were satisfied.ZnME1392Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-09.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

ATE: 06/12/98

upstate Laboratories, Inc.

Analysis Results

eport Number: 13398042 lient I.D.: ENVIROTRAC APPROVAL: QJS

Lab I.D.: 10170

Sampled by: Client

ID:13398042	Mat:Water ARMONK PRIVATE W	ELLS SITE CIN051198 0920H 05/11/98	· :=	
PAI	RAMETERS	RESULTS	KEY	FILE#

Total	Iron	313ug/1		ME1392
Total	Zinc	62.0ug/l		ME1392
]		•		
J	EPA Method 8010			
	Vinyl Chloride	<500ug/l	05	VA3618
	cis-1,2-Dichloroethene	<500ug/1	05	VA3618
- 1	trans-1,2-Dichloroethene	<500ug/l	05	VA3618
	Trichloroethene	<500ug/l	05	VA3618
	Tetrachloroethene	2100ug/l		VA3618
ID:13398043	Mat:Water ARMONK PRIVATE W	ELLS SITE AG1051198 0930H 05/11/98		
PAI	RAMETERS	RESULTS	KEY	FILE#
1	EPA Method 8010	1 77		*** 2.61.0
	Vinyl Chloride	<lug 1<="" td=""><td></td><td>VA3618</td></lug>		VA3618
R	cis-1,2-Dichloroethene	<1ug/1		VA3618
	trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3618</td></lug>		VA3618
	Trichloroethene	<lug 1<="" td=""><td></td><td>VA3618</td></lug>		VA3618
	Tetrachloroethene	<0.5ug/l		VA3618
ID:13398044	Mat:Water ARMONK PRIVATE W	ELLS SITE EFF051198 1000H 05/11/98		
PAI	RAMETERS	RESULTS	KEY	FILE#
Total	Iron	<60ug/l		ME1392
Total	Zinc	<10ug/1		ME1392
	EPA Method 8010			
11	Vinyl Chloride	<1ug/1		VA3618
•	cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3618</td></lug>		VA3618
	trans-1,2-Dichloroethene	<1ug/l		VA3618
	Trichloroethene	<1ug/1		VA3618
1	Tetrachloroethene	<0.5ug/l		VA3618
ID:13398045	Mat:Water ARMONK PRIVATE W	ELLS SITE ABF051198 0940H 05/11/98		
PAI	RAMETERS	RESULTS	KEY	FILE#
Total	Iron	391ug/l		ME1392
Total	Zinc	861ug/1		ME1392
*				

DATE: 06/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 13398042 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

ID:13398046 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 05/11/98

PARAMETERS	RESULTS	KEY	FILE#
		ಶ .ಕೆ <i>ರ</i> ು	
EPA Method 8010			
Vinyl Chloride	<1ug/1		VA3618
cis-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3618</td></lug>		VA3618
trans-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3618</td></lug>		VA3618
Trichloroethene	<lug l<="" td=""><td></td><td>VA3618</td></lug>		VA3618
Tetrachloroethene	<0.5ug/l		VA3618

TATE: 06/12/98

pstate Laboratories, Inc.

Analysis Results

eport Number: 13398042 lient I.D.: ENVIROTRAC APPROVAL: QJS_

Lab I.D.: 10170

Sampled by: Client

ID:13398062 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1100H 05/11/98 G

PARAMETERS	RESULTS	KEY	FILE#
EPA Method 8010			
Vinyl Chloride	<lug l<="" td=""><td></td><td>VA3621</td></lug>		VA3621
cis-1,2-Dichloroethene	<1ug/l		VA3621
trans-1,2-Dichloroethene	<1ug/l		VA3621
Trichloroethene	<lug l<="" td=""><td></td><td>VA3621</td></lug>		VA3621
Tetrachloroethene	<0.5ug/l		VA3621

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
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- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS)
 PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St.
Deer Park, NY 11729
(516) 586-1800 Fax (516) 586-1879
Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., New York

Site No. 3-60-005 Contract No. D003635 5/28

ASP! Cat A

Lab	Date	Time	Sampler		No. of		EnviroTrac			
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv,	Sample ID		Analyses Required	Requested Turnaround
42	5/11/58	9120	T.B.	G.U.	(3)	HLL	CIN051198	$\sqrt{}$	Jocs 8010	iy day
43	1	9130	<u> </u>	1	(2)		A62 051198	/	ı	
44		10:00		$\square \square$	2		Eff051198	1		244
		/5! 03			3/		Ms/msD		<u> </u>	14 DAY
45		9:40	_		10	HNOS	ABF051198		Zn. Fe 6010	14047
	<u> </u>	10:48		$ - -\rangle$	D		Eff051198	V		24 hr
	J	5:20	1		0	1	C. [N 05119B	\checkmark	↓	14097
	(5/11/98)			(W)**	_0_	HCL	TID BLANK,	J	JOCS BOID	14 DAT .
62	(5/13/98)	(1100)110		(w) ^m			(HOLDING BLANK)		(VC: 8010) m	
Relinquished by:	Tlme/Date		Received By		Time/Date		Comments:			
Relinquished by:	7:3;0 Time/Date	5/4/90	Received By	· -	Time/Date					
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June 12, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #13998014 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on May 19, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 6/8/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Albany (518) 459-3134 Binghamton (607) 724-0478 New Jersey (201) 703-1324

Mr. Ted Masters FnviroTrac 561 P. Acom Street Deer Park, New York 11729 June 11, 1998

RE:

Armonk Private Wells Site, Samples Collected May 18, 1998

Case Narrative for ULI Laboratory Report No. 13998014

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch

Anomaly

Select List

VA3637

Criteria were satisfied.

Mr. Ted Masters June 11, 1998 Page 2

Trace Metals

TestBatchAnomalyFeME1419Criteria were satisfied.ZnME1419Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

ashous Scala

Anthony J. Scala

Director

File: JHENV-10.doc

Table 1 Methodologies

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

J state Laboratories, Inc.

A llysis Results Report Number: 13998014 Client I.D.: ENVIROTRAC Sampled by: Client

Client I.D.: MAVINGINIO		/10/09	
I :13998014 Mat:Water ARMONK PRIVATE WELLS	SITE CIN051898 0830H 05		
	RESULTS	KEY	FILE#
PARAMETERS			
	626ug/l	.16	ME1419
Total Iron	74.3ug/1		ME1419
Total Zinc	/4.345/ -		
i i			
EPA Method 8010	<500ug/l	·05	VA3637
Vinyl Chloride	<500ug/1	05	VA3637
cis-1,2-Dichloroethene	<500ug/l	05	VA3637
trans-1,2-Dichloroethene	<500ug/1	05	VA3637
Trichloroethene	2500ug/1		VA3637
Tetrachloroethene			=
	SITE AG1051898 0840H 05	5/18/98	
):13998015 Mat:Water ARMONK PRIVATE WELLS	SILE AGIOSIOS		
1	RESULTS	KEY	FILE#
PARAMETERS			
EPA Method 8010	<lug l<="" td=""><td></td><td>VA3637</td></lug>		VA3637
Vinvl Chloride	<lug 1="" <="" li=""></lug>		VA3637
cis-1.2-Dichloroethene	<1ug/1 <1ug/l		VA3637
trans-1,2-Dichloroethene			VA3637
Trichloroethene	<1ug/1		VA3637
Tetrachloroethene	<0.5ug/l		= =
	= ====================================	5/18/98	
D:13998016 Mat:Water ARMONK PRIVATE WELL	S SITE EFF051898 0850H 0	- ,, -	
.B.13330020	RESULTS	KEY	FILE#
PARAMETERS	KESOLIS		
1			ME1419
Total Iron	<60ug/l		ME1419
Total Zinc	17.6ug/l		
10041			
EPA Method 8010	4 /3		VA3637
vinvl Chloride	<1ug/1		VA3637
gig-1,2-Dichloroethene	<lug l<="" td=""><td></td><td>VA3637</td></lug>		VA3637
trans-1,2-Dichloroethene	<1ug/1		VA3637
Trichloroethene	<lug 1<="" td=""><td></td><td>VA3637</td></lug>		VA3637
Tetrachloroethene	<0.5ug/1		
		75/18/98	==
ID:13998017 Mat:Water ARMONK PRIVATE WEL	LS SITE ABF051898 0845H (33/10/30	
ID: 1333601/ Mac. Hatt		KEY	FILE#
PARAMETERS	RESULTS		
PARAMETERS			ME1419
	227ug/1		ME1419
10041	238ug/l		
Total Zinc			

DATE: 06/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 13998014 Client I.D.: ENVIROTRAC APPROVAL:QUS_

Lab I.D.: 10170

Sampled by: Client

CITEME I.D Zaviano			
ID:13998018 Mat:Water ARMONK PRIVATE	WELLS SITE ULI TRIP BLANK 05/18/98		
PARAMETERS	RESULTS	KEY 	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene ID:13998019 Mat:Water ARMONK PRIVATE	<pre><lug 05="" 18="" 98<="" <0.5ug="" <lug="" <wells="" blank="" holding="" l="" pre="" site=""></lug></pre>		VA3637 VA3637 VA3637 VA3637 VA3637
PARAMETERS	RESULTS	KEY 	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l		VA3637 VA3637 VA3637 VA3637 VA3637

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Casile,

Westchester Co., NY Labora ory Address:

Site No. 3-60-005 Contract No. D003635

6034 Corporate Dr. East Syracuse, NY 13057 43

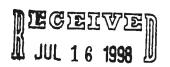
Contact: Russ Trovalo (201) 703-1324 No. of EnviroTrac Date Time Sampler Requested Lab Matrix Sample II) ID Sampled Sampled Initial Cont. Presrv. Analyses Required Turnaround V 5/18/98 TIB 3:30 CINOS 1898 14 6.W. VOC, 8010 HILL 2 \checkmark 8:40 AG1 05 1898 15 MS/MSD Eff 05/898 3,0 16 ms/msD 3:50 8:45 V 2N.Fe 6010 ABF 051898 NONE 17 8.30 HONE CINOS 1898 Eff 05 1998 11003 8:50 (mi) 18 TKIP BLANK VOG 8010 HCL. (5/19/98) (0900) (NOC'S 8010) 19 CHOLDING BLANK Relinguished by: Time/Date: Received By: Time/Date Comments: 1/2/20 Received By: Time/Date Relinquished by: Time/Date: 5/19/98 0829 C Kinney

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
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- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING 17
- THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
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- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- ANALYZED BY METHOD OF STANDARD ADDITIONS
- METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

Upstate Laboratories inc.

5/26/98



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July 13, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #14898088 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on May 28, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 6/16/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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July 10, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE: Armonk Private Wells Site, Samples Collected May 26, 1998

Case Narrative for ULI Laboratory Report No. 14898088

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test <u>Batch</u>

Anomaly

Select List

VA3661

Criteria were satisfied.

Mr. Ted Masters July 10, 1998 Page 2

Trace Metals

<u>Test</u> <u>Batch</u> <u>Anomaly</u>

Fe ME1447 Criteria were satisfied.

Zn ME1447 Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

File: JHENV-11.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

ATE: 07/13/98

Upstate Laboratories, Inc.

nalysis Results

eport Number: 14898088 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

D:14898088	Mat:Water	ARMONK	PRĪVĀTĒ	WELLS	SITE CINO52	698 1	138H 05/26/98		
PI	ARAMETERS				RESULT		DATE ANAL.	KEY	FILE#
Gi -							0.6 (1.0 (0.0		
Total	Iron				131ug		06/10/98		ME1447
Total	Zinc				26.20	ıg/ I	06/10/98		ME1447
1	EPA Method						24/22/22		
	Vinyl Chl				<500u		06/08/98	05	VA3661
el.		Dichloroet			<500u	-	06/08/98	05	VA3661 VA3661
		2-Dichloro	ethene		<500u		06/08/98	05 05	VA3661 VA3661
	Trichlore				<500ช		06/08/98	US	VA3661 VA3661
	Tetrachlo	oroethene			2100u	ıg/ I	06/08/98		VAJOOI
ID:14898089	Mat:Water	ARMONK	PRĪVĀTĒ	WELLS	SITE AG1052	698 11	L50H 05/26/98		
PI	ARAMETERS				RESULI	s	DATE ANAL.	KEY	FILE#
						-			
1	EPA Method	8010							
	Vinyl Chl				<1ug/	1	06/08/98		VA3661
	-	Dichloroet	hene		<1ug/		06/08/98		VA3661
		2-Dichloro			<1ug/		06/08/98		VA3661
	Trichlor				<1ug/		06/08/98		VA3661
1	Tetrachlo				lug/l		06/08/98		VA3661
D:14898090	Mat:Water	- ARMONK	PRĪVĀTĒ	WELLS	SITE ABF052	698 1	157H ⁰⁵ /26/98		
P.1	ARAMETERS				RESULI	:s	DATE ANAL.	KEY	FILE#
						· •			
Total	Iron				447ug		06/10/98		ME1447
Total	Zinc				592ug	_J /1	06/10/98		ME1447
TD:14898091	Mat:Water	ARMONK	PRIVATE	WELLS	SITE EFF052	698 12	200н 05/26/98		
PA	ARAMETERS				RESULT		DATE ANAL.	KEY	FILE#
					*****		06/10/08		ME1447
Total	Iron				226ug	, .	06/10/98		ME1447
Total	Zinc				13.4u	ıg/I	06/10/98		MB144/
	EPA Method					<i>.</i> –			*** 3 6 6 3
T	Vinyl Chl				<1ug/		06/07/98		VA3661
1		Dichloroet			<lug <="" td=""><td></td><td>06/07/98</td><td></td><td>VA3661</td></lug>		06/07/98		VA3661
	trans-1,2	2-Dichloro	ethene		<lug <="" td=""><td></td><td>06/07/98</td><td></td><td>VA3661</td></lug>		06/07/98		VA3661
	Trichlor	oethene			<1ug/		06/07/98		VA3661
	Tetrachlo	oroethene			<0.5u	ıg/l	06/07/98		VA3661

DATE: 07/13/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 14898088 Client I.D.: ENVIROTRAC APPROVAL:

'- Lab I.D.: 10170

Sampled by: Client

	=				DE BATTE 05/26/00
TD:14898092 Mat:Water	ARMONK	PRIVATE	WELLS S.	ITE ULI TRIP	BLANK 05/26/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/07/98 06/07/98 06/07/98 06/07/98 06/07/98		VA3661 VA3661 VA3661 VA3661 VA3661

ID:14898093 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 05/28/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/07/98 06/07/98 06/07/98 06/07/98 06/07/98		VA3661 VA3661 VA3661 VA3661 VA3661

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE OUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
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- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
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- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
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- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

TASP-A

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Conlact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Contact: Russ Trovato (201) 703-1324

							Contact:	Russ Trovato (201) 703-132	24
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround
14898088	5/2494	11:38	R.	H 40	2	HCI	CIN052698	8010	Zweeks
	5/26/98	11:35	Pc.	H20		ниоз	CIN052698	6010	
89	5/2491	11:50	R	1/20	(2)	HCI	AG1052698	8010	
90	5/26/98	11:57	H.	Hio	(1),	НИОЗ	ABF052698	6010	
91	5/26/98	12:00	P.C.	HISO	2	HCI	EFF052698	8010	
	5/26/18	12:08	R.	11/20	2	HCI	EFF052698 (MS/MSD)	8010	
9	5/24/8	12:15	1C.	Hyu	W	HNO3	(USE FOR MS/DUPE) PFF EFF052698	6010	
92).	5/26/99	500	R.	H20	1	HCI	(wi) TRIP BLANK	8010	1
93	[6 a8 98)				0		(HOLDING BLANK)	(8010)	
									-
									
Relinquished by:	Time/Dat	le: 6/98	Received B	y:	Time/Date	1	Comments:		
Relinquished by:	Timé/Dat	1	Received B	y:	Time/Date				
			Ckw	iney 5	28 98 09	120			

6/4/98

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July 14, 1998 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #15698058 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on June 5, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Faxed results were given to your office on 6/25/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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July 13, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected June 4, 1998

Case Narrative for ULI Laboratory Report No. 15698058

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

Batch

Anomaly

Select List

VA3664

Criteria were satisfied.

Mr. Ted Masters July 13, 1998 Page 2

Trace Metals

<u>Test</u> <u>Batch</u> <u>Anomaly</u>

Fe ME1463 Criteria were satisfied.

Zn ME1463 Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

ethory f. Scala

Anthony J. Scala

Director

File: JHENV-12.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

ATE: 07/14/98

Upstate Laboratories, Inc.

, halysis Results

aport Number: 15698058 Client I.D.: ENVIROTRAC Lab I.D.: 10170

Sampled by: Client

D:15698058	Mat:Water	ARMONK PRIVATE WELL	LS SITE CINO60498 0620	DH 06/04/98		
P	ARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron		 287ug/l	06/18/98		ME1463
Total			65.2ug/1	06/18/98		ME1463
4	EPA Method					
	Vinyl Ch		<500ug/1	06/08/98	05	VA3664
2		Dichloroethene	<500ug/l	06/08/98	05	VA3664
		2-Dichloroethene	<500ug/1	06/08/98	05 05	VA3664 VA3664
	Trichlor Tetrachl	oethene oroethene	<500ug/l 2000ug/l	06/08/98 06/08/98	US	VA3664
ID:15698059	Mat:Water	ARMONK PRIVATE WELL	S SITE AG1060498 0625	H 06/04/98		
all p	ARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
1	EPA Method	8010				
di .	Vinyl Ch	loride	<1ug/l	06/08/98		VA3664
	cis-1,2-	Dichloroethene	<lug l<="" td=""><td>06/08/98</td><td></td><td>VA3664</td></lug>	06/08/98		VA3664
1	trans-1,	2-Dichloroethene	<lug l<="" td=""><td>06/08/98</td><td></td><td>VA3664</td></lug>	06/08/98		VA3664
. 1	Trichlor		<lug l<="" td=""><td>06/08/98</td><td></td><td>VA3664</td></lug>	06/08/98		VA3664
	Tetrachl	oroethene	0.9ug/l	06/08/98		VA3664
D:15698060	Mat:Water	ARMONK PRIVATE WELL	S SITE ABF060498 0630	H 06/04/98		
p	ARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
· ·				06/10/00		VD7.4.63
Total			381ug/1	06/18/98		ME1463
Total	Zinc		2210ug/1	06/18/98		ME1463
TD:15698061	Mat:Water	ARMONK PRIVATE WELI	LS SITE EFF060498 0635	H 06/04/98		
_	ARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
			60 /3	06/10/00		ME1463
Total			<60ug/l	06/18/98 06/18/98		ME1463
Total	Zinc		11.1ug/1	06/18/96		WET402
y.	EPA Method		-1u=/1	06/08/98		VA3664
	Vinyl Ch		<1ug/l <1ug/l	06/08/98		VA3664
II.	•	Dichloroethene	<lug 1="" <="" li=""></lug>	06/08/98		VA3664
	trans-1, Trichlor	2-Dichloroethene	<1ug/1 <1ug/1	06/08/98		VA3664
1		oetnene oroethene	<1ug/1 <0.5ug/1	06/08/98		VA3664
l .	Tetracni	Ordernene	\v.Jug/ 1	00/00/50		

DATE: 07/14/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 15698058 Client I.D.: ENVIROTRAC

Lab I.D.: 10170

Sampled by: Client

ID:15698062 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1130H 06/05/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				Hamilton and the
Vinvl Chloride	<lug l<="" td=""><td>06/09/98</td><td></td><td>VA3664</td></lug>	06/09/98		VA3664
cis-1,2-Dichloroethene	<1ug/1	06/09/98		VA3664
trans-1,2-Dichloroethene	<luq 1<="" td=""><td>06/09/98</td><td></td><td>VA3664</td></luq>	06/09/98		VA3664
Trichloroethene	<1ug/1	06/09/98		VA3664
Tetrachloroethene	<0.5ug/1	06/09/98		VA3664

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
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- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
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- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
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- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
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 - 21 UG/KG AS REC.D / UG/KG DRY WT
 - 22 MG/KG AS REC.D / MG/KG DRY WT
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- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

15698058-62

6/19 400

6034 Corporate Dr. East Syracuse, NY 13057

Laboratory Address:

Contact:	Russ			703-1324
- Oomaot.	11000	HOVAIO	(201)	103-1324

===		Russ Trovalo (201) 703-1324			N = -, '			T	I Data	TOPIN
	Requested Turnaround	Analyses Required	EnviroTrac Sample ID	Presrv.	No. of Cont.	Matrix	Sampler Initial	Time Sampled	Date Sampled	Lab ID
	2 weeks	8010	CIN060498	HCI	(2)	Has	T.B.	6:20	6/4/93	5698058
		6010	CIN060498.	HNO3				6:20		
		8010	AG1060498	HCI	(2)			6:25		59
		6010	ABF060498	HNO3	1			6:30		60
μ		8010	EFF060498	HCI	(2)			6:35		61
		8010	EFF060498 (MS/MSD)	HCI	2			6:35		
		6010	(USE FOR MS/DUPE) PFF EFF060498 :	HNO3	<u> </u>	J		6:35	J	
		8010	TRIP BLANK	HCL	1					
		(8010)	(HOLDING BLANK)		_(1)_	(w)		(1130) 02	(6/6/98)	لوما
	-									
-	<u> </u>		Comments: J.J.		Time/Date	<i>/</i> :	Received By	e:	Time/Date	Relinquished by:
7								6 6/4/50	(:0)	-1= B-
					Time/Dato	/: -	Received By	е:	Time/Date	Relinquished by:
-				14	5/98 08-	may 4	CK			

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Buffalo (716) 649-2533 Rochester (716) 436-9070

July 14, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #16198163 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on June 10, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of Samples will be disposed of approximately one month from your sample. final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Circhery J. Scala

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 6/30/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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July 13, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE: Armonk Private Wells Site, Samples Collected June 8, 1998

Case Narrative for ULI Laboratory Report No. 16198163

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

NV 1 - L ID 10170

Test Batch Anomaly

Select List VA3683 The continuing calibration %RSD

for Vinyl Chloride exceeded QC criteria.

NII -LIN 77750 DAI -LIN 68375

Mr. Ted Masters July 13, 1998 Page 2

Trace Metals

Test Batch Anomaly

Fe ME1473 Criteria were satisfied.

Zn ME1473 Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala Scala

Director

File: JHENV-13.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

DATE: 07/14/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 16198163 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

ID:16198163 Mat:Wat	er ARMONK PRIVATE WEL	LS SITE CIN060898 0715	H_06/08/98		
PARAMETER	S	RESULTS	DATE ANAL.	KEY	FILE#
	3 ≟ 9				
Total Iron		1030ug/l	06/25/98		ME1473
Total Zinc		77.8ug/l	06/25/98		ME1473
EPA Met	hod 8010				
Vinyl	Chloride	<500ug/1	06/16/98	05	VA3683
cis-1	,2-Dichloroethene	<500ug/l	06/16/98	05	VA3683
trans	-1,2-Dichloroethene	<500ug/l	06/16/98	05	VA3683
Trich	loroethene	<500ug/l	06/16/98	05	VA3683
Tetra	chloroethene	2400ug/1	06/16/98		VA3683
ID:16198164 Mat:Wate	er ARMONK PRIVATE WEL	LS SITE AG1060898 07251	T 06/08/98	-x-x-x-	
PARAMETER	S	RESULTS	DATE ANAL.	KEY	FILE#
	-				
7	h - 3 0010				
	hod 8010	<lug l<="" td=""><td>06/16/98</td><td></td><td>VA3683</td></lug>	06/16/98		VA3683
	Chloride	- '	06/16/98		VA3683
	,2-Dichloroethene	<1ug/l <1ug/l	06/16/98		VA3683
al .	-1,2-Dichloroethene				
	loroethene	<1ug/1	06/16/98		VA3683
Tetra	chloroethene	<0.5ug/l	06/16/98		VA3 683
ID:16198165 Mat:Wate	er ARMONK PRIVATE WEL	LS SITE ABF060898 07201	106/08/98		
PARAMETER	S	RESULTS	DATE ANAL.	KEY	FILE#
	=				
Total Iron		365ug/l	06/25/98		ME1473
Total Zinc		1410ug/1	06/25/98		ME1473
ID:16198166 Mat:Wate	er ARMONK PRIVATE WEL	LS SITE EFF060898 0730	T 06/08/98	-0-0-0-0-	
PARAMETERS	S	RESULTS	DATE ANAL.	KEY	FILE#
	=:				
Total Iron		<60ug/l	06/25/98		ME1473
Total Zinc		14.0ug/1	06/25/98		ME1473
EPA Metl	hod 8010				
	Chloride	<1ug/l	06/16/98		VA3683
-	,2-Dichloroethene	<lug l<="" td=""><td>06/16/98</td><td></td><td>VA3683</td></lug>	06/16/98		VA368 3
	-1,2-Dichloroethene	<1ug/1	06/16/98		VA3683
	loroethene	<lug l<="" td=""><td>06/16/98</td><td></td><td>VA3683</td></lug>	06/16/98		VA3683
1	chloroethene	<0.5ug/l	06/16/98		VA3683
10014			- •		

DATE: 07/14/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 16198163

Client I.D.: ENVIROTRAC

Sampled by: Client

				=======================================
TD:16198167 Mat:Water	ADMONTE D	DDTWATE WELLS	! STTE ITH TRIP	BLANK 06/08/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/16/98 06/16/98 06/16/98 06/16/98		VA3683 VA3683 VA3683 VA3683 VA3683

ID:16198168 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1015H 06/10/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#

EPA Method 8010	190 1484	//		*** 2 602
Vinyl Chloride	<1ug/l	06/16/98		VA3683
cis-1,2-Dichloroethene	<lug l<="" td=""><td>06/16/98</td><td></td><td>VA3683</td></lug>	06/16/98		VA3683
trans-1,2-Dichloroethene	<lug l<="" td=""><td>06/16/98</td><td></td><td>VA3683</td></lug>	06/16/98		VA3683
Trichloroethene	<1ug/1	06/16/98		VA3683
Tetrachloroethene	<0.5ug/l	06/16/98		VA3683

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 POL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- CALCULATION BASED ON DRY WEIGHT 19
- 20 INDICATES AM ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LINITS
- UG/KG AS REC.D / UG/KG DRY WT 21
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED 24
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE POL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- FIELD MEASURED PARAMETER TAKEN BY CLIENT 31
- TARGET ANALYTE IS RIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED 32
- NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 35 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) 40 PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TOLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armon'x Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY Site No. 3-60-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.

6/24

bordiory riddress.

East Syracuse, NY 13057
Contact: Russ Trovato (201) 703-1324

	1/21 :	Russ Trovato (201) 703-1324	Contact: R							
	Requested Turnaround	Analyses Required	EnviroTrac Sample ID	Presrv.	No. of Cont.	Matrix	Sampler Initial	Time Sampled	Date Sampled	Lab ID
	2 wecks		CIN060898	HCI	(2)	1/20	T.B.	2:15	6/8/18	16698163
		6010 · (T-2,FL)	CIN06089B	HNO3	(1)	ĺ	Â/I	7:15		
		, 8010	AG1060898	HCI	(2)			7:25		164
		6010	ABF060898	HNO3	0			7.20		165
ms/msp-bus		8010	EFF060898	HCI	(2)			7:30		Ildo
		8010	EFF060898 (MS/MSD)	HCI	2			7:30		
		6010	EFF060838 PFF	HNO3			V	7.30	\downarrow	
	J	8010	(W) TRIP BLANK		(1)		J		(48/98/W)	167
		(8010) 40	(HOLDING BLANK)"		0_	(w)	.,,	(1015)	(6/10/18)	168
_			Comments:		Time/Date	<u> </u>	Received B	D.	Time/Dal	Relinquished by:
852					• • • • • • • • • • • • • • • • • • • •	,	11000.102		1 .	T. By
					Time/Date	cia.	Received B			Relinquished by:

ratories inc.



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July 14, 1998

Buffalo (716) 649-2533

Rochester (716) 436-9070

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #16898166 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on June 17, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Director

AJS/jk

Enclosures: narrative, report, invoice

N. Scala, ULI cc/encs:

file

Note: Faxed results were given to your office on 7/9/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

July 13, 1998

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected June 15, 1998

Case Narrative for ULI Laboratory Report No. 16898166

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch

Anomaly

Select List

VA3700

The continuing calibration %RSD for Vinyl Chloride and trans-1,2-Dichloro-

ethene exceeded QC criteria.

Mr. Ted Masters July 13, 1998 Page 2

Trace Metals

TestBatchAnomalyFeME1490Criteria were satisfied.ZnME1490Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala, Anthony J. Scala

Director

File: JHENV-14.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

ATE: 07/14/98

Upstate Laboratories, Inc.

nalysis Results

aport Number: 16898166 client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

D:1689	8166	Mat:Water ARMONK	PRĪVĀTĒ WELL	S SITE CINO 60898 0715	1 06/15/98		
J	PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
T	otal	Iron		842ug/1	07/02/98		ME1490
T	otal	Zinc		67.2ug/l	07/02/98		ME1490
	;	EPA Method 8010					
		Vinyl Chloride		<500ug/l	06/22/98	05	VA3700
		cis-1,2-Dichloroe	thene	<500ug/l	06/22/98	05	VA3700
		trans-1,2-Dichlore	oethene	<500ug/l	06/22/98	05	VA3700
1.0		Trichloroethene		<500ug/l	06/22/98	05	VA3700
. 1		Tetrachloroethene		1700ug/1	06/22/98		VA3700
ID:1689	8167	Mat:Water ARMONK	PRIVATE WELL	S SITE AG1060898 0725	06/15/98		
	PΔ	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
- 1							
- 1	1	EPA Method 8010		-1/1	06/22/98		VA3700
- P		Vinyl Chloride	•	<1ug/1	06/22/98		VA3700
		cis-1,2-Dichloroe		<1ug/l	06/22/98		VA3700
4.3		trans-1,2-Dichlor	oethene	<lug l<="" td=""><td></td><td></td><td>VA3700</td></lug>			VA3700
		Trichloroethene		<1ug/1	06/22/98		
- F.		Tetrachloroethene		0.60ug/l	06/22/98		VA3700
D:1689	8168	Mat:Water ARMONK	PRIVATE WELL	S SITE ABF060898 07201	1 06/15/98		
, J	PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
T	otal	Iron		1030ug/l	07/02/98		ME1490
T	otal	Zinc		708ug/l	07/02/98		ME1490
ĪD:1689	8169	Mat:Water ARMONK	PRIVATE WELL	S SITE EFF060898 0730	T 06/15/98	- (=):=	
J	PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
-(); T -	otal	Iron		<60ug/1	07/02/98		ME1490
T	otal	Zinc		17.8ug/l	07/02/98		ME1490
	:	EPA Method 8010					
10		Vinyl Chloride		<lug l<="" td=""><td>06/22/98</td><td></td><td>VA3700</td></lug>	06/22/98		VA3700
I.		cis-1,2-Dichloroe	thene	<lug l<="" td=""><td>06/22/98</td><td></td><td>VA3700</td></lug>	06/22/98		VA3700
		trans-1,2-Dichlor		<lug l<="" td=""><td>06/22/98</td><td></td><td>VA3700</td></lug>	06/22/98		VA3700
		Trichloroethene		<1ug/l	06/22/98		VA3700
T		Tetrachloroethene		<0.5ug/l	06/22/98		VA3700
				-			

DATE: 07/14/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 16898166 Client I.D.: ENVIROTRAC APPROVAL: _ OS QC: PF _ _

Lab I.D.: 10170

Sampled by: Client

								06/15/00
TD:16898170 M	lat:Water	ARMONK	PRIVATE	WELLS	SITE ULI	TRIP	BLANK	06/15/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				
Vinyl Chloride	<1ug/l	06/22/98		VA3700
cis-1,2-Dichloroethene	<lug l<="" td=""><td>06/22/98</td><td></td><td>VA3700</td></lug>	06/22/98		VA3700
trans-1,2-Dichloroethene	<lug l<="" td=""><td>06/22/98</td><td></td><td>VA3700</td></lug>	06/22/98		VA3700
Trichloroethene	<1ug/l	06/22/98		VA3700
Tetrachloroethene	<0.5ug/1	06/22/98		VA3700

ID:16898171 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1800H 06/17/98

PARAMETERS	RESULTS	DATE ANAL.	KEY 	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/22/98 06/22/98 06/22/98 06/22/98 06/22/98		VA3700 VA3700 VA3700 VA3700 VA3700

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL(PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS)
 PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acom St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Slle No. 3-60-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.

East Syracuse, NY 13057 Duce Troyalo (201) 703-1324

	ab D	Date Sampled	Time Sampled	Sampler Inilial	Malıix	No. of Cont.	Presiv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
		6/8/18	2115	T.B.	1120	2	HCI	CIN060898	8010	2 weeks	
		l l	7:15				1INO3	CIN060898	6010 ``		
			7:25			2	HCI	AG1060898	8010		
			7.20			_①	HN03	ABF060898	6010	_	ı
			7:30	!		2	HCI	EFF060898	8010		ľ
			7:30			2	HCI	EFF060898 (MS/MSD)	8010		
			7.30	1		1	1INO3	EFF060898 (M3/bure)	6010		
		(6/15/92)				(i)		(WI) TRIP BLANK	8010	J J	
		(4)1198)	(1800)		(w)	0		(HOLDING BLANK)	(8010)		
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Reling	uished by:	Time/Da		Received 8	By:	Time/Date	1	Comments:			
TE-	B2	- 6	10/93								1
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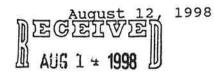
Upstate Laboratories inc.

Shipping: ∂034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209 _

Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #17598063 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on June 24, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 7/17/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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Buffalo (716) 649-2531 Rochester (716) 436-9070 New Jersey (201) 703-1324

August 10, 1998

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected June 22, 1998

Case Narrative for ULI Laboratory Report No. 17598063

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Batch

Anomaly

Select List

VA3714

The continuing calibration %RSD exceeded criteria for trans-1,2-Dichloroethene

however, the reference sample and all remaining batch QC were satisfied.

VA3717

Criteria were satisfied.

atories inc.

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Albany (518) 459-3134 Binghamion (607) 724-0478

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

FAX TRANSMISSION

Ted Masters

OF:

EnviroTrac

FAX NO.:

(914)-273-0238/(516)-586-1879

RE:

Analytical Results

Armonk Private Wells Site

{Samples collected on June 22, 1998}

FROM:

Peter Fricano

DATE:

July 17, 1998

TIME:

9:20 AM

NUMBER OF PAGES (including this sheet):

MESSAGE:

Please find attached results for the above project.

Should you have any questions, please feel free to call me.

Thank you,

Peter Fricano.

If you do not receive all pages or if portions are illegible, please call (315) 437-0255 for Retransmission

DATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 17598063 Client I.D.: ENVIROTRAC

Lab I.D.: 10170

Client I.D Envincerale								
					-05/50705	 	 _	
	ARMONK PRIVATE	WELLS SI	TE EW1062298	1030H	06/22/98			
TD:17598063 Mat:Water	WIGHOUY EVILLE							

ID:17598063 Mat:Water ARMONK PRIVATE HEEDE				
DA DANGERER G	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS				
EPA Method 8010	/3	06/29/98	05	VA3714
Vinyl Chloride	<500ug/l	•	05	VA3714
cis-1,2-Dichloroethene	<500ug/l	06/29/98	05	VA3714
trans-1,2-Dichloroethene	<500ug/l	06/29/98		VA3714
Trichloroethene	<500ug/l	06/29/98	05	
Tetrachloroethene	3500ug/l	06/29/98		VA3714
	S SITE EW2062298 103	5H 06/22/98		
D:17598064 Mat:Water ARMONK PRIVATE WELLS	S SITE EW2002270 103.			· · ·
	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS				
EPA Method 8010		06/30/98	05	VA3717
Vinyl Chloride	<20ug/1		05	VA3717
cis-1,2-Dichloroethene	<20ug/l	06/30/98	05	VA3717
trans-1,2-Dichloroethene	<20ug/l	06/30/98		VA3717
Trichloroethene	<20ug/l	06/30/98	05	
Tetrachloroethene	600ug/l	06/30/98		VA3717
	S SITE EW3062298 104	OH 06/22/98		
ID:17598065 Mat:Water ARMONK PRIVATE WELL	D 222 = 110 = 1		Vestablica	
	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS				
EPA Method 8010	100 -/7	06/29/98	05	VA3714
Vinyl Chloride	<100ug/l	06/29/98	05	VA3714
cis-1,2-Dichloroethene	<100ug/l	06/29/98	05	VA371
trans-1,2-Dichloroethene	<100ug/l	06/29/98	05	VA3714
Trichloroethene	<100ug/l		03	VA3714
Tetrachloroethene	760ug/l	06/29/98		VAJ / 1-3
ID:17598066 Mat:Water ARMONK PRIVATE WELI	S SITE CINO62298 104	15H 06/22/98		
ID: 1/3/0000 audum=1	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS	RESCUIS			
	100000000000000000000000000000000000000	07/09/98		ME149
Total Iron	340ug/1	07/09/98		ME1499
Total Zinc	15.5ug/l	3.7.5275		

DATE: / /

pstate Laboratories, Inc.

APPROVAL:____

9 t	atories, Inc.	0.7.				
halysis Resu	lts	QC:				
Report Number	17598063	Sampled by: Client				
lient I.D.:	ENVIROTRAC	Sampled D	sampled by: Cilent			
D.17598063 M	at: Water ARMONK PRIVA	TE WELLS SITE EW1062298 1030	H 06/22/98			
DAG	AMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
)						
E	PA Method 8010	700 /1	05/00/05	05	VA3714	
1	Vinyl Chlorida	<500ug/1	06/29/98 06/29/98	05	VA3714	
	cis-1,2-Dichloroethene	<500ug/l		05	VA3714	
	trans-1,2-Dichloroethen	e <500ug/l	06/29/98 06/29/98	05	VA3714	
	Trichloroethene	<500ug/1		ŲĐ	VA3714	
	Tetrachloroethene	3500ug/l	06/29/98		VM3 / 14	
ID:17598064 R	at:Water ARMONK PRIVA	TE WELLS SITE EW2062298 1035	H 06/22/98			
- nat	AMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
1						
E	PA Method 8010		06/50/00	05	VA3717	
	Vinyl Chloride	<20ug/1	06/30/98	05 05		
	cis-1,2-Dichloroethene	<20ug/l	06/30/98		VA3717	
	trans-1,2-Dichloroethen	e <20ug/1	06/30/98	05	VA3717	
	Trichlorcethene	<20ug/l	06/30/98	05	VA3717	
	JET GHT OF CROWN				*** 2 2 4 4	
	Tetrachloroethene	600ug/1	06/30/98		VA3717	
ID:17598065 P	Tetrachloroethene		0.000		VA3717	
GI.	Tetrachloroethene	600ug/1	0.000	 Кеч	VA3717	
PAF	Tetrachloroethene	600ug/l TE WELLS SITE EW3062298 1040	H 06/22/98	. — — — Кеч		
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA	600ug/l TE WELLS SITE EW3062298 1040	H 06/22/98 DATE ANAL.		 FILE#	
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA MAMETERS MPA Method 8010	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL.		FILE#	
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA MAMETERS MPA Method 8010 Vinyl Chloride	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL.	05	FILE#	
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA MAMETERS MPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98	05 05	FILE# VA3714 VA3714	
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98	05 05 05	FILE# VA3714 VA3714 VA3714	
PAF	Tetrachloroethene Mat:Water ARMONK FRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen Trichloroethene	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98	05 05	FILE# VA3714 VA3714 VA3714 VA3714	
PAF	Tetrachloroethene Mat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98	05 05 05	FILE# VA3714 VA3714 VA3714 VA3714	
PAF	Tetrachloroethene Nat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen Trichloroethene Tetrachloroethene	600ug/l TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98	05 05 05	FILE# VA3714 VA3714 VA3714 VA3714	
PAF 	Tetrachloroethene Nat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen Trichloroethene Tetrachloroethene	600ug/1 TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 DATE ANAL.	05 05 05 05 05	FILE# VA3714 VA3714 VA3714 VA3714 VA3714 VA3714	
PAF ID:17598066 N	Tetrachloroethene Mat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethen Trichloroethene Tetrachloroethene Mat:Water ARMONK PRIVA	600ug/1 TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 DATE ANAL.	05 05 05 05	FILE# VA3714 VA3714 VA3714 VA3714 VA3714	
PAF ID-17598066 N	Tetrachloroethene Mat:Water ARMONK PRIVA LAMETERS LPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene Mat:Water ARMONK PRIVA	600ug/1 TE WELLS SITE EW3062298 1040 RESULTS	DATE ANAL. 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 06/29/98 DATE ANAL.	05 05 05 05 05	FILE# VA3714 VA3714 VA3714 VA3714 VA3714 VA3714	

DATE: / /

Upstata Laboratories, Inc. Analysis Results

APPROVAL:____

QC:_ - - Lab I.D.: 10170

Report Number: 17598063 Client I.D.: ENVIROTRAC	Sampled by: Client			
ID:17598067 Mat:Water ARMONK PRIVATE WELLS	SITE AG1062298 1050	H 06/22/98		
	RESULTS	DATE ANAL.	KEY	FILE#
Parameters				

EPA Method 8010		05 (22 /05		VA3714
Vinyl Chloride	<1ug/1	06/29/98		
cis-1,2-Dichloroethene	<1ug/l	06/29/98		VA3714
trans-1,2-Dichloroethens	<1 ug /l	06/29/98		VA3714
Trichloroethene	<lug l<="" td=""><td>06/29/98</td><td></td><td>VA3714</td></lug>	06/29/98		VA3714
Tetrachloroethene	<0.5ug/1	06/29/98		VA3714
ID: 17598068 Mat: Water ARMONK PRIVATE WELLS	SITE EFF062298 1055	H 06/22/98		
be a the second CO	RESULTS	DATE ANAL.	KEY	PILE#
Parameters				
	<60ug/1	07/09/98		MB1499
Total Iron	99.7ug/1	07/09/98		ME1499
Total Zinc	•••	·		
era Method 8010		06/29/98		VA3714
Vinyl Chloride	<1ug/l			VA3714
cis-1,2-Dichloroethene	<1ug/1	06/29/98		VA3714 VA3714
trans-1,2-Dichloroethene	<1ug/l	06/29/98		
Trichloroethene	<lug l<="" td=""><td>06/29/98</td><td></td><td>VA3714</td></lug>	06/29/98		VA3714
Tetrachloroethene	<0.5ug/l	06/29/98		VA3714
ID:17598069 Mat:Water ARMONK PRIVATE WELLS	SITE ULI TRIP BLAN	K 06/22/98		
ID:1/598069 Mac: Nace:			KEY	FILE#
parameters	results	DATE ANAL.		E THEM
EPA Method 8010	<1ug/1	06/29/98		VA3714
Vinyl Chlorida	<1ug/1	06/29/98		VA3714
cis-1,2-Dichloroethene	<lug 1<="" td=""><td>06/29/98</td><td></td><td>VA3714</td></lug>	06/29/98		VA3714
trans-1,2-Dichloroethene	<lug 1="" <lug="" l<="" td=""><td>06/29/98</td><td></td><td>VA3714</td></lug>	06/29/98		VA3714
Trichloroethene	<1ug/1	06/29/98		VA3714
Tetrachloroethene	_		- .	
ID:17598070 Mat: Water ARMONK PRIVATE WELLS	SITE HOLDING BLANK	06/24/98		
	RESULTS	DATE ANAL.	KEY	PILE#
PARAMETERS				****

EPA Method 8010		06/29/98		VA3714
Vinyl Chloride	<lug l<="" td=""><td></td><td></td><td>VA3714</td></lug>			VA3714
cis-1,2-Dichloroethene	<1ug/l	06/29/98		
trans-1,2-Dichloroethene	<1ug/l	06/29/98		VA3714
- "				

DATE: / /

Upstate Laboratories, Inc. inalysis Results Report Number: 17598063 Client I.D.: ENVIROTRAC

APPROVAL:_ _ _ _

QC:_ - - Lab I.D.: 10170

Sampled by: Client

ID:17598070 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 06/24/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	file#
Trichloroethene	<1ug/l	06/29/98		VA3714
Tetrachloroethene	<1ug/1	06/29/98		VA3714

DATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 17598063 Client I.D.: ENVIROTRAC APPROVAL:

<u>Lab</u> <u>I.D.:</u> 10170

Client I.D.: ENVIROTRAC			
TD-17598067 Mat:Water ARMONK	PRIVATE WELLS SITE AG1062298	1050H 06/22/98	

ID:17598067 Mat:Water ARMONK PRIVATE WELLS	SITE AG1062298 1050)H 06/22/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/29/98 06/29/98 06/29/98 06/29/98		VA3714 VA3714 VA3714 VA3714 VA3714
ID:17598068 Mat:Water ARMONK PRIVATE WELLS	SITE EFF062298 1055	5H 06/22/98		
PARAMETERS	RESULTS	DATE ANAL. 07/09/98	KEY 	FILE# ME1499
Total Iron Total Zinc	<60ug/l 99.7ug/l	07/09/98		ME1499
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<pre><lug 1="" 1<="" <0.5ug="" <lug="" pre=""></lug></pre>	06/29/98 06/29/98 06/29/98 06/29/98		VA3714 VA3714 VA3714 VA3714 VA3714
ID:17598069 Mat:Water ARMONK PRIVATE WELLS	SITE ULI TRIP BLAN	R 06/22/98	KEY	FILE#
PARAMETERS	VIII 0772			

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/29/98 06/29/98 06/29/98 06/29/98 06/29/98		VA3714 VA3714 VA3714 VA3714 VA3714

TATE: 08/12/98

pstate Laboratories, Inc.

Analysis Results

eport Number: 17598063 lient I.D.: ENVIROTRAC APPROVAL:

						TO F B STIP	AC/21/00
	3 DMONTE	שייי מיזי מיזי סכר	WE'T.T.C	STTE	HOLD ING	BTWNY	00/43/30
D-17598070 Mat:Water	ARMUNK	ELT AWIN	MELLE		770		,,

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	06/29/98 06/29/98 06/29/98 06/29/98 06/29/98		VA3714 VA3714 VA3714 VA3714 VA3714

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
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- 16 AN INEIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
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- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- UG/KG AS REC.D / UG/KG DRY WT
- MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS 23
- 24 SAMPLE DILUTED/BLANK CORRECTED
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- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
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- FIELD MEASURED PARAMETER TAKEN BY CLIENT
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- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
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- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
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- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
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- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac 561 P. Acorn St.

Deer Park, NY 11729

Contact: Ted Masters

(516) 586-1800 Fax (516) 586-1879

UPSTATE LABORATORIES CHAIN OF CUSTODY

Westchester Co., NY

Armonk Private Wells Site Site No. 3-60-005

New York State Superfund Project Town of North Castle,

Laboratory Address:

Contract No. D003635

6034 Corporate Dr.

ASP! . Category A:

East Syracuse, NY 13057

								Russ Trovalo (201) 703-1324		==
Lab ID	Date Sampled	Time Sampled	Sampler InItial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
17598063	6/22/98	10:30	т.в.	H20	2	HCI	EW1062298	8010	2 weeks	1/2
64	6/22/98	10:35	Т.В.	1120	(2)	HCI	EW2062298	6810 (8010)		
45	6/22/98	10:40	T.B.	H20	(2)	HCI	EW3062298	8010		
ble	6/22/98	10:45	Т.В.	H20	<u>(1)</u>	HNO3	CIN062298	6010		
67	6/22/98	10:50	Т.В.	H20	(2)	HCI	AG1062298	8010		
68	6/22/98	10:55	T.B.	H20	2	HCI	EFF062298	8010		ms ms =
	6/22/98	10:55	T.B.	H20	1	HNO3	(12)** EFF060898	6010		Dupt
	6/22/98	10:55	T.B.	H20	2	HCL.	EFF062298 (MS/MSD)	8010		
69	(6/22/98)			(w)	0		(WA) TRIP BLANK	8010	J.	
20	(6/24/98)			(w)	0		(HOLDING BLANK) HO	(8010)		
Relinquished by:	Time/Date		Received By	/:	Time/Date		Comments:			
Relinquished by:	Time/Dat	/55 5110 e:	Received By Huther	y: Dove	Time/Date	0820				

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Upstate Laboratories inc.

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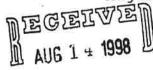
Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478

noust 12 1998 New J

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

August 12, 1998



Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #18298072 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on July 1, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 7/23/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

August 11, 1998

RE:

Armonk Private Wells Site, Samples Collected June 29 and July 1, 1998

Case Narrative for ULI Laboratory Report No. 18298072

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC)-samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

Batch

Anomaly

Select List

VA3725

Criteria were satisfied.

Mr. Ted Masters August 11, 1998 Page 2

Trace Metals

Test Batch Anomaly

Fe ME1517 Criteria were satisfied.

Zn ME1517 Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

JHENV-16.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

ATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

eport Number: 18298072 Lient I.D.: ENVIROTRAC

Tetrachloroethene

APPROVAL:

Lab I.D.: 10170

VA3725

07/02/98

Sampled by: Client

TD:182980	72 Mat:Water ARMONK PRIVATE WEI	LS SITE EW1062998 1100H	$06/\overline{2}9/98$		
	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	PARAMETERS				
ma.h	al Iron	2030ug/l	07/21/98		ME1517
Tot Tot		105ug/1	07/21/98		ME1517
,	EPA Method 8010		07/00/00	0.5	*** 2725
1	Vinyl Chloride	<500ug/1	07/02/98	05	VA3725
	cis-1,2-Dichloroethene	<500ug/1	07/02/98	05	VA3725
3	trans-1,2-Dichloroethene	<500ug/l	07/02/98	05	VA3725
	Trichloroethene	<500ug/l	07/02/98	05	VA3725
	Tetrachloroethene	5800ug/1	07/02/98		VA3725
ID:182980	73 Mat:Water ARMONK PRIVATE WEI	LS SITE EW2062998 1110H	06/29/98		
1	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
81		-			
Tot	al Iron	(25,900ug/1/	07/21/98		ME1517
Tot		90_0ug/1	07/21/98		ME1517
	EPA Method 8010		4 4		
	Vinyl Chloride	<50ug/l	07/02/98	05	VA3725
7	cis-1,2-Dichloroethene	<50ug/l	07/02/98	05	VA3725
	trans-1,2-Dichloroethene	<50ug/l	07/02/98	05	VA3725
	Trichloroethene	<50ug/l	07/02/98	05	VA3725
- i	Tetrachloroethene	1100ug/l	07/02/98		VA3725
D:182980	74 Mat:Water ARMONK PRIVATE WE	LLS SITE EW3062998 1120H	06/29/98		. – – –
	PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Tot	al Iron	3490ug/l	07/21/98		ME1517
Tot		88.2ug/l	07/21/98		ME1517
Tot	ai Zinc	.			
.1	EPA Method 8010	100 /3	07/02/98	05	VA3725
	Vinyl Chloride	<100ug/l		05	VA3725
	cis-1,2-Dichloroethene	<100ug/1	07/02/98	05	VA3725
1	trans-1,2-Dichloroethene	<100ug/1	07/02/98		VA3725
. I	Trichloroethene	<100ug/l	07/02/98	05	
		75000/1	07/02/98		VA3725

750ug/l

DATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 18298072 Client I.D.: ENVIROTRAC

- 	THE THE WELL	S SITE CIN062998 11301	$\frac{1}{106/29/98} =$		
ID:18298075 M	at: water ARMONN THINAIL WALL		DATE ANAL.	KEY	FILE#
PARAMETERS		RESULTS	DATE MULL.		
		225ug/l	07/21/98		ME1517
Total	Iron	36.8ug/1	07/21/98		ME1517
Total	Zinc	36.049/1	3 , 7 = =, -		
E	PA Method 8010	<200ug/l	07/02/98	05	VA3725
	Vinyl Chloride	<200ug/1 <200ug/1	07/02/98	05	VA3725
	cis-1,2-Dichloroethene	<200ug/1 <200ug/1	07/02/98	05	VA3725
	trans-1,2-Dichloroethene		07/02/98	0.5	VA3725
	Trichloroethene	<200ug/1	07/02/98		VA3725
	Tetrachloroethene	1800ug/1			
	at:Water ARMONK PRIVATE WELL	S SITE ABF062998 1200	H 06/29/98		
		RESULTS	DATE ANAL.	KEY	FILE#
PAF	AMETERS				
		328ug/l	07/21/98		ME1517
Total	Iron	413ug/l	07/21/98		ME1517
Total	Zinc	<u> </u>			
I	PA Method 8010	<500ug/1	07/02/98	05	VA3725
	Vinyl Chloride	<500ug/1	07/02/98	05	VA3725
	cis-1,2-Dichloroethene	<500ug/1	07/02/98	05	VA3725
	trans-1,2-Dichloroethene	<500ug/1	07/02/98	05	VA3725
	Trichloroethene		07/02/98		VA3725
	Tetrachloroethene	1300ug/1			
ID:18298077	Mat:Water ARMONK PRIVATE WELL	LS SITE INBED1062998 1	210H 06/29/98		
		RESULTS	DATE ANAL.	KEY	FILE#
PA	RAMETERS				
		120ug/1	07/21/98		ME1517
Total	Iron	18.6ug/l	07/21/98		ME1517
Total	Zinc	10.0497			
	EPA Method 8010	.1 /1	07/02/98		VA3725
	Vinvl Chloride	<1ug/1	07/02/98		VA3725
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	Trichloroethene	<1ug/1	07/07/98		VA3725
	Tetrachloroethene	<0.5ug/l	0//0//30		

ATE: 08/12/98

Upstate Laboratories, Inc.

nalysis Results

eport Number: 18298072 client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

D:18298078 M	Mat:Water ARMONK PRIVATE WELLS	SITE INBED2062998 1	220H 06/29/98		
PAR	AMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	81.5ug/l	07/21/98		ME1517
Total	Zinc	13.4ug/l	07/21/98		ME1517
E	PA Method 8010	9	4 4		
	Vinyl Chloride	<1ug/1	07/02/98		VA3725
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	trans-1,2-Dichloroethene	<1ug/l	07/02/98		VA3725
	Trichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	Tetrachloroethene	<0.5ug/l	07/02/98		VA3725
ID:18298079 N	Mat:Water ARMONK PRIVATE WELLS	SITE AG1062998 1150	H 06/29/98 =		
PAR	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	226ug/l	07/21/98		ME1517
Total	Zinc	619ug/l	07/21/98		ME1517
. I	EPA Method 8010		4 4		
	Vinyl Chloride	<1ug/l	07/02/98		VA3725
	cis-1,2-Dichloroethene	<1ug/l	07/02/98		VA3725
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	Trichloroethene	<1ug/1	07/02/98		VA3725
1	Tetrachloroethene	0.80ug/1	07/02/98		VA3725
ID:18298080	Mat:Water ARMONK PRIVATE WELLS	SITE EFF062998 1140	H 06/29/98		
TÎ PAI	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
744					
Total	Iron	73.5ug/l	07/21/98		ME1517
Total	Zinc	14.1ug/l	07/21/98		ME1517
J 1	EPA Method 8010	4. – /3	07/02/98		VA3725
	Vinyl Chloride	<1ug/1	07/02/98		VA3725
1	cis-1,2-Dichloroethene	<1ug/1			VA3725
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td>VA3725</td></lug>	07/02/98		VA3725
	Trichloroethene	<lug l<="" td=""><td>07/02/98</td><td></td><td></td></lug>	07/02/98		
Tetrachloroethene		<0.5ug/l	07/02/98		VA3725

DATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 18298072 Client I.D.: ENVIROTRAC APPROVAL:QUS

Lab I.D.: 10170

Sampled by: Client

ID:18298081 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 06/29/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	07/02/98 07/02/98 07/02/98 07/02/98 07/02/98		VA3725 VA3725 VA3725 VA3725 VA3725	

ATE: 08/12/98

Upstate Laboratories, Inc.

palysis Results eport Number: 18298072 lient I.D.: ENVIROTRAC

Sampled by: Client

 			=======================================	TATO DE ANTE	07/01/98
 ARMONK	PRIVATE	WELLS	SITE HOLD.	TMG PITWAY	01/01/00

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/1 <1ug/1 <1ug/1 <1ug/1 <0.5ug/1	07/02/98 07/02/98 07/02/98 07/02/98 07/02/98		VA3725 VA3725 VA3725 VA3725 VA3725

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED 6
- HEAD SPACE PRESENT IN SAMPLE 7
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
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- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
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- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Sile New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

1/14

Laboratory Address:

6034 Corporate Dr. East Syracuse, NY 13057

Contact: Russ Trovato (201) 703-1324

			***					Russ 110valo (201) 703-1324		47
Lab ID	Date Sample	Time d Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	Category A
18298072	6/29/98	1100	T.B.	H2O	(3)	HCI/HNO3	EW1062998	8010/6010	2WKS	
13		1110			(3)	HCI/HNO3	EW2062998	8010/6010		ė.
74		1120			(3)	HCI/HNO3	EW3062998	8010/6010		
75		1130			(3)	HCI/HNO3	CIN062998	8010/6010		HAC .
76		1700			(3)	HCI/HNO3	ABF 062998	8010/6010		
77		1210			_(3_	HCI/HNO3	INBED1062998	8010/6010	V	
78		1270			_(3)_	HCI/HNO3	INBED2062998	8010/6010		
79		1150				HCI/HNO3	AG1062998	8010/6010		
80		1140	1 1		0	HCI/HNO3	EFF062998	8010/6010		ms mso - Dupe
8780					-3	·HGI/HNO3	EFF062998	8010/6010		
80					¥-2)	HCMHNO3-	EFF062998 (MS/MSD)	8010/6 010 -		
81		/	V	L_U	007	HCL	(W) TRIP BLANK	8010	V	
18298148	(7/1/0	18)		(w)			(HOLDING BLANK)	(5010)		
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August 12, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Re: Analysis Report #18998085 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on July 8, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-253, Rochester (716) 436-9070 New Jersey (201) 703-132.

August 11, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected July 6, 1998

Case Narrative for ULI Laboratory Report No. 18998085

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA3748

The continuing calibration %RSD exceeded criteria for trans-1,2-Dichloroethene however, the reference sample and all remaining batch QC were satisfied.

TE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

port Number: 18998085 Lient I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

TD:18998085	Mat:Water ARMONK PRIVATE WELLS	SITE EFF070698 0715	5H 07/06/98		
ומס	RAMETERS	RESULTS	DATE ANAL.	KEY	FILR#
Total	Iron	<60ug/l	07/23/98		ME1522
Total	Zinc	18.6ug/l	07/23/98		ME1522
10041					
1	EPA Method 8010		- 4 4		
11	Vinyl Chloride	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
- 1	trans-1,2-Dichloroethene	<1ug/l	07/14/98		VA3748
	Trichloroethene	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
	Tetrachloroethene	<0.5ug/l	07/14/98		VA3748
ID:18998086	Mat:Water ARMONK PRIVATE WELLS	SITE CIN070698 0730	OH 07/06/98		
PAI	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	544ug/l	07/23/98		ME1522
Total	Zinc	81.4ug/l	07/23/98		ME1522
J.	EPA Method 8010				
	Vinyl Chloride	<200ug/l	07/14/98	05	VA3748
41	cis-1,2-Dichloroethene	<200ug/l	07/14/98	0.5	VA3748
	trans-1,2-Dichloroethene	<200ug/l	07/14/98	05	VA3748
	Trichloroethene	<200ug/l	07/14/98	05	VA3748
161	Tetrachloroethene	1100ug/1	07/14/98		VA3748
D:18998087	Mat:Water ARMONK PRIVATE WELLS	SITE AG1070698 0720	OH 07/06/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
_1	EPA Method 8010				
1	Vinyl Chloride	<lug/l	07/14/98		VA3748
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
	Trichloroethene	<lug l<="" td=""><td>07/14/98</td><td></td><td>VA3748</td></lug>	07/14/98		VA3748
T	Tetrachloroethene	<0.5ug/l	07/14/98		VA3748
ID:18998088	Mat:Water ARMONK PRIVATE WELLS	SITE ABF070698 072	5H 07/06/98		
DA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	79lug/l	07/23/98		ME1522
Total	Zinc	852ug/l	07/23/98		ME1522
TOTAL	1110	-			

DATE: 08/12/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 18998085 Client I.D.: ENVIROTRAC

Lab I.D.: 10170

07/14/98

07/14/98

07/14/98

07/14/98

VA3748

VA3748

VA3748

Sampled by: Client

				22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	T- THOUTH DR	TTTN TE WELLS	CTTE III.I TRIP	BITWINK 01/00/20
TTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTTT	ARMONK PR	(TAWIF METHS	DITE OFF	

cis-1,2-Dichloroethene

Trichloroethene

Tetrachloroethene

trans-1,2-Dichloroethene

ID:18998089 Mat:Water ARMONK PRIVATE WELLS	D112 022 2002				
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE# 	
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<pre><lug <0.5ug="" <lug="" l="" l<="" pre=""></lug></pre>	07/14/98 07/14/98 07/14/98 07/14/98 07/14/98		VA3748 VA3748 VA3748 VA3748 VA3748	
ID:18998090 Mat:Water ARMONK PRIVATE WELLS	SITE HOLDING BLANK	1100H 07/08/98			
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
EPA Method 8010 Vinyl Chloride	<lug 1<="" td=""><td>07/14/98 07/14/98</td><td></td><td>VA3748 VA3748</td><td></td></lug>	07/14/98 07/14/98		VA3748 VA3748	

<1ug/1

<lug/l

<lug/l

< 0.5 ug/1

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK 3
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- POL (PRACTICAL QUANTITATION LIMITS) 11
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING 17
- THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS 23
- SAMPLE DILUTED/BLANK CORRECTED
- ND (NON-DETECTED) 25
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYSED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS RIDDEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NOM-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO REGULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / FOUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- RESULTS ARE REFORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr. East Syracuse, NY 13057 1/22

Conlact: Russ Trovato (201) 703-1324

							Comaci,	Russ 110valo (201) 103-132	7/
Lab	Date Sampled	Time Sampled	Sampler InItial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround
1672		Sampled	Hillidi	IVIAUIX		riesiv.	Sample ID	Arialyses Required	
18998089	7/6/98	7:15	T.B.	H2O	/3/	HCI/HNO3	EFF070698	8010/6010	2 weeks
85		7:15	T.B.	H2O	2/8	HCI/HNO3	MS/MSD	8010/6010	
86		7:30	T.B.	H2O	3	HCI/HNO3	CIN070698	8010/6010	
87		7:20	Т.В.	H2O	(2)	HCI	AG1070698	8010	
88 87	<u> </u>	7:25	т.в.	H2O	<u> </u>	HN03	ABF070698	6010	
89				H2O	1	HCL	(யு) Trip Blank	8010	↓
	(1/8/98)	(1100)		(w)	0		(HOLHNG BLANK)"	(3010)	
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Relinquished by:	Time/Dal	e:	Received B	y:	Time/Date	16	Comments:		
TEB-	6.30	7/1/52							
Relinquished by:			Received B	ly:	Time/Date				
			Heathe	- Dia	7/8/99	0820			

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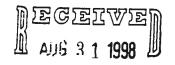
August 26, 1998

Rochester (716) 436-9070

Buffalo (716) 649-2533

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729



Analysis Report #19698041 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on July 15, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J (Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 8/6/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729 August 25, 1998

RE:

Armonk Private Wells Site, Samples Collected July 13, 1998

Case Narrative for ULI Laboratory Report No. 19698041

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA3768

Criteria were satisfied.

PA Lab ID 68375

Mr. Ted Masters August 25, 1998 Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1543

Criteria were satisfied.

Zn

ME1543

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Unthony J. Scala.
Anthony J. Scala.

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

ATE: 08/26/98

Upstate Laboratories, Inc.

Analysis Results

eport Number: 19698041 lient I.D.: ENVIROTRAC APPROVAL:

 $\overline{\mathbf{Lab}}$ $\overline{\mathbf{I.D.:}}$ 10170

Sampled by: Client

TD:19698041	Mat:Water	ARMONK PRIVATE WEL	LS SITE EFF071398 0650	107/13/98		
PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron		<60ug/l	08/03/98		ME1543
Total	Zinc		11.1ug/1	08/03/98		ME1543
A			<u> </u>			
-	EPA Method 8	010				
	Vinyl Chlo	ride	<1ug/l	07/22/98		VA3768
	cis-1,2-Di	chloroethene	<lug l<="" td=""><td>07/22/98</td><td></td><td>VA3768</td></lug>	07/22/98		VA3768
7	trans-1,2-	Dichloroethene	<lug l<="" td=""><td>07/22/98</td><td></td><td>VA3768</td></lug>	07/22/98		VA3768
1.9	Trichloroe	thene	<lug l<="" td=""><td>07/22/98</td><td></td><td>VA3768</td></lug>	07/22/98		VA3768
	Tetrachlor	oethene	<0.5ug/l	07/22/98		VA3768
ID:19698042	Mat:Water	ARMONK PRIVATE WELL	S SITE CIN071398 0705H	07/13/98		
PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILR#
37.7						
Total	Iron		249ug/1	08/03/98		ME1543
Total	Zinc		20.4ug/l	08/03/98		ME1543
1	EPA Method 8	010				
	Vinyl Chlo		<200ug/l	07/22/98	05	VA3768
	-	chloroethene	<200ug/1	07/22/98	05	VA3768
	·	Dichloroethene	<200ug/l	07/22/98	05	VA3768
	Trichloroe		<200ug/1	07/22/98	05	VA3768
. 5	Tetrachlor		1100ug/1	07/22/98		VA3768
			, _	0.,22,00		
D:19698043	Mat:Water	ARMONK PRIVATE WELI	S SITE AG1013698 0655H	07/13/98		
II PA	RAMETERS		RESULTS	DATE ANAL.	KKY	FILE#
11						
	EPA Method 8	010				
	Vinyl Chlor	ride	<lug l<="" td=""><td>07/22/98</td><td></td><td>VA3768</td></lug>	07/22/98		VA3768
	cis-1,2-Die	chloroethene	<1ug/l	07/22/98		VA3768
	trans-1,2-1	Dichloroethene	<1ug/1	07/22/98		VA3768
	Trichloroe	thene	<1ug/1	07/22/98		VA3768
	Tetrachlor	oethene	<0.5ug/l	07/22/98		VA3768
ID:19698044	Mat:Water	ARMONK PRIVATE WELL	S SITE ABF071398 0700H	07/13/98	***	
PA	RAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
J						
Total	Iron		364ug/l	08/03/98		ME1543
Total	Zinc		421ug/1	08/03/98		ME1543

KEY FAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- AMALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 FARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIBATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- UG/KG AS REG.D / UG/KG DRY WI
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION STIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS RIODEGRACED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NOM-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Sile New York State Superfund Project Town of North Casile, Westchester Co., NY Site No. 3-60-005 Contract No. D003635

Laboratory Address: 6

6034 Corporate Dr.

7/29 ASP!

East Syracuse, NY 13057 act: Russ Trovato (201) 703-13

Category A
ms/mso-dupe!

								Russ Trovato (201) 703-1324	
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Droppy	EnviroTrac Sample ID	Andrew Bresteri	Requested
Ж.	7/13/55	6:50	T.B.	H2O	(3)	Presrv. HCI/HNO3	Sample ID EFF071398	Analyses Required (Sulut) (T-22, Fe) 8010/6010	Turnaround
¥ ×		6:50	T.B.	H2O	2,00	HCI/HNO3	MS/MSD	8010/6010	(
籽		7:05	T.B.	H2O	<u>3</u>	HCI/HNO3	CIN071398	8010/6010	
		6:55	T.B.	H2O	(2)	HCI	AG1013698	8010	
		7:00	T.B.	H2O	0	HN03	ABF071398	6010	
	(7/13/98)			H2O	<u></u>	HCL	(WI) Trip Blank	8010	\downarrow
	(1)15/98)	(1030)		(w)	<u> </u>		(HOLDING BLANK)10	(8010)	
				-					-
Relinquished by	/: Time/Dal	e:	Received B	<u> </u>	Time/Dale		Comments:		
		4/56 9:40	1	, .					
Relinquished by	7: Time/Da	e:	Received B	y: L Done-	Time/Date				
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Shipping: 6034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

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Albany (518) 459-3134 Blnghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070

August 26, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #20398076 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on July 22, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 8/12/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, New York 11729 August 25, 1998

Dear Mr. Masters:

RE:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Armonk Private Wells Site, Samples Collected July 20, 1998

Case Narrative for ULI Laboratory Report No. 20398076

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u> Select List	Batch VA3775	Anomaly The continuing calibration %RSD exceeded criteria for trans-1,2-Dichloroethene however, the reference sample and all remaining batch QC were satisfied.
	VA3779	The continuing calibration %RSD exceeded criteria for trans-1,2-

Dichloroethene however, the reference sample and all remaining batch QC were satisfied.

Mr. Ted Masters August 25, 1998 Page 2

Trace Metals

<u>Test</u>	Batch	Anomaly
Fe	ME1543 ME1544	Criteria were satisfied. Criteria were satisfied.
Zn	ME1543 ME1544	Criteria were satisfied. Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Contrary J. Scala.

Director

KMENV-2.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

ATE: 08/26/98

Upstate Laboratories, Inc.

Analysis Results

sport Number: 20398076 Lient I.D.: ENVIROTRAC Sampled by:

D:20398076	Mat:Water ARMONK PRIVATE WELLS	SITE EFF072098 0610	H 07/20/98		
Pai	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	143ug/l	08/03/98		ME1544
Total	Zinc	20.6ug/l	08/03/98		ME1544
	ZPA Method 8010				
1	Vinyl Chloride	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
125	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
	Trichloroethene	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
	Tetrachloroethene	<0.5ug/l	07/26/98		VA3775
ID:20398077	Mat:Water ARMONK PRIVATE WELLS	SITE CIN072098 0630	H 07/20/98		
PAJ	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	2100ug/1	08/03/98		ME1543
Total	Zinc	15.9ug/l	08/03/98		ME1543
J.	SPA Method 8010				
-	Vinyl Chloride	<200ug/l	07/26/98	05	VA3775
1	cis-1,2-Dichloroethene	<200ug/1	07/26/98	05	VA3775
1	trans-1,2-Dichloroethene	<200ug/1	07/26/98	05	VA3775
	Trichloroethene	<200ug/1	07/26/98	05	VA3775
Ī	Tetrachloroethene	630ug/1	07/26/98		VA3775
iD:20398078	Mat:Water ARMONK PRIVATE WELLS	S SITE AG1072098 0615	SH 07/20/98		
) PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	EPA Method 8010				
}	Vinyl Chloride	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
1	cis-1,2-Dichloroethene	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
. P.	trans-1,2-Dichloroethene	<lug l<="" td=""><td>07/26/98</td><td></td><td>VA3775</td></lug>	07/26/98		VA3775
	Trichloroethene	<1ug/l	07/26/98		VA3775
1	Tetrachloroethene	<0.5ug/l	07/26/98		VA3775
ID:20398079	Mat:Water ARMONK PRIVATE WELL	S SITE ABF072098 0620	DH 07/20/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
T					
Total	Iron	271ug/l	08/03/98		ME1543
Total	Zinc	305ug/l	08/03/98		ME1543

DATE: 08/26/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 20398076 Client I.D.: ENVIROTRAC APPROVAL: _ C S QC: _ C F _ Lab I.D.: 10170

Sampled by:

ID:20398080 Mat:Water	ARMONK	PRIVATE	WELLS	SITE	AB2072098	0625H	07/20/98
-----------------------	--------	---------	-------	------	-----------	-------	----------

PAI Total Total	RAMETERS Iron Zinc	RESULTS 220ug/l 17.0ug/l	DATE ANAL. 08/03/98 08/03/98	KEY 	FILE# ME1543 ME1543
1	EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<100ug/l <100ug/l <100ug/l <100ug/l 870ug/l	07/27/98 07/27/98 07/27/98 07/27/98 07/27/98	05 05 05 05	VA3779 VA3779 VA3779 VA3779 VA3779
0398081	Mat:Water ARMONK PRIVATE WELLS	SITE HOLDING BLANK	1050H 07/22/98	_:	

ID:20

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	07/26/98 07/26/98 07/26/98 07/26/98 07/26/98		VA3775 VA3775 VA3775 VA3775 VA3775	

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID 9
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS 16
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED
- ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Armonk Private Wells Sile New York State Superfund Project Town of North Castle,

Site No. 3-60-005 Contract No. D003635

Russ Trovalo (201) 703-1324

8/5

Contact: Ted Masters

Westchester Co., NY

6034 Corporate Dr. Laboratory Address: East Syracuse, NY 13057

Contact:

Requested Turnaround Category A

Zure S Zns msD-Dupe! EnviroTrac Date Time Sampler No. of Lab Sample ID Analyses Required Matrix Cont. Presry. Sampled Initial Sampled ID 3 8010/6010 HCI/INO3 EFF072098 20398076 1120 7/20/98 6:10 T.B. HCI MS/MSD 8010 H20 6:10 T.B. X (3) 1120 HCM INO3 CIN072098 8010/6010 77 6:30 T.B. (2) 78 8010 HCI AG1072098 6:15 T.B. 1120 (1) 6010 ABF072098 1120 HNO3 79 6:20 T.B. 6010 (8010) AB2072098 80 HNO3 6:25 T.B. 1120 Trip Blank 100 8010 1120 HCL (HOLDING BLANK)" (7/22/98) (1050)" (1) (8010) (W) Received By: Time/Date Comments: Time/Date: Relinquished by: (locio = T- En, Fe) Time/Date Relinquished by: Heather Dra 122/98 0840

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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 August 26, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

DEGELVE A AUG 3 1 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #21098129 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on July 29, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 8/12/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

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Mr. Ted Masters
EnviroTrac
561 P. Acom Street
Deer Park, New York 11729

August 25, 1998

RE:

Armonk Private Wells Site, Samples Collected July 27, 1998

Case Narrative for ULI Laboratory Report No. 21098129

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

Anomaly

Select List

VA3799

The continuing calibration %RSD exceeded criteria for Vinyl Chloride and trans-1,2-Dichloroethene however, the reference sample and all remaining batch QC were satisfied.

NY Lab ID 10170 NJ Lab ID 73750 PA Lab ID 68375

Trace Metals

<u>Test</u>	<u>Batch</u>	Anomaly
Fe	ME1543 ME1544	Criteria were satisfied. MS %Recovery ran biased low for location EFF072098 however, the post spike ran within QC limits at 113%.
Zn	ME1543 ME1544	Criteria were satisfied. Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

anthony J. Scala,

Director

KMENV-3doc

DATE: 08/26/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 21098129 Client I.D.: ENVIROTRAC

Sampled by: ULI

ID:21098129	Mat:Water	ARMONK F	PRIVATE	WELLS	SITE	EFF072098	0630H	07/27/98	
ID. EIGSTIN						1 1			

ID:21098129	Mat:Water ARMONK PRIVATE WELL	LS SITE EFF072098 0630F	1 07/27/98		
ъ	ARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
£.	ACAMILIANS				
Total	Iron	245ug/l	08/03/98		ME1544
Total		<10ug/l	08/03/98		ME1544
IOCAL	2110				
	EPA Method 8010	.1	08/05/98		VA3799
	Vinyl Chloride	<1ug/1	08/05/98		VA3799
	cis-1,2-Dichloroethene	<1ug/l	08/05/98		VA3799
	trans-1,2-Dichloroethene	<1ug/1	08/05/98		VA3799
	Trichloroethene	<lug 1<="" td=""><td>08/05/98</td><td></td><td>VA3799</td></lug>	08/05/98		VA3799
	Tetrachloroethene	<0.5ug/l	08/03/30		
ID:21098130	Mat:Water ARMONK PRIVATE WELL	LS SITE CIN072098 06501	H_07/27/98		
		7/4	DATE ANAL.	KEY	FILE#
P	ARAMETERS	RESULTS	DATE ANAL.		
-		252/3	08/03/98		MR1543
Total	Iron	258ug/1	08/03/98		ME1543
Total	Zinc	30.7ug/l	08/03/90		
	EPA Method 8010				0.7.00
	Vinyl Chloride	<200ug/l	08/05/98	05	VA3799
	cis-1,2-Dichloroethene	<200ug/l	08/05/98	05	VA3799
	trans-1,2-Dichloroethene	<200ug/l	08/05/98	05	VA3799
	Trichloroethene	<200ug/l	08/05/98	05	VA3799
	Tetrachloroethene	1100ug/l	08/05/98		VA3799
	Mat:Water ARMONK PRIVATE WEL	LS SITE AG1072098 0635	H 07/27/98		
10.2103010		7 TM		******	FILE#
F	PARAMETERS	RESULTS	DATE ANAL.	KEA	FILE
=					
	EPA Method 8010				
	Vinyl Chloride	<1ug/l	08/05/98		VA3799
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>08/05/98</td><td></td><td>VA3799</td></lug>	08/05/98		VA3799
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>08/05/98</td><td></td><td>VA3799</td></lug>	08/05/98		VA3799
		<lug l<="" td=""><td>08/05/98</td><td></td><td>VA3799</td></lug>	08/05/98		VA3799
	Trichloroethene Tetrachloroethene	<0.5ug/l	08/05/98		VA3799
		T.S STTE ABF072098 0640	h 07/27/98		

ID:21098132 Mat:Water ARMONK PRIVATE WELLS SITE ABF072098 0640H 07/27/98 7 Tm

	A ACCIMIED O	RESULTS	DATE ANAL.	KEY	FILE#	
PARAMETERS						
Total	Iron	444ug/l	08/03/98		ME1543 ME1543	
Total	Zinc	510ug/l	08/03/98		WEIDED	

KEY PAGE

- 1 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- 2 MATRIX INTERFERENCE
- 3 PRESENT IN BLANK
- 4 ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- 5 THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- 6 BLANK CORRECTED
- 7 HEAD SPACE PRESENT IN SAMPLE
- 8 QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- 9 THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
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- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
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- 22 MG/KG AS REC.D / MG/KG DRY WT
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- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
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- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Tod Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Wostchester Co., NY

Site No. 3-60-005 Contract No. D003635 8/12

Laboratory Address: 6034 Corporate Dr.

East Syracuse, NY 13057

Lab	Date	Time	Sampler		No. of		Contact: R EnviroTrac	tuss Trovato (201) 703-1324	Requested	1
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	Sample ID	Analyses Required	Turnaround	
1098129	7/27/98	6:30	T.B.	H2O	(3)	HCI/HNO3	EFF072\$98 ~	8010/6010		3:nst inst
'x		6:30	т.в.	H2O	2 fin	HCI/HNO3	MS/MSD TY	8010/6010		Sins ms
130		6:50	T.B.	H2O	(3)	HCI/HNO3	CIN072\\$98	8010/6010		
131		6:35	T.B.	H2O	(2)	HCI	7 m AG1072098	8010		
132		6:40	T.B.	H2O	0	HNO3	7 KM ABF072098	(6010)		
(33	1			H2O	(i)	HCL	(m) Trip Blank	8010		
134	(7/29/98)	(1100)		(w)			(HOLDING BLANK)	(8010)		
		U								
										1
	+		-							1
					1					-
			-	-	1	-				-
									-	-
Relinquished by	: Time/Da	le:	Received B	l By:	Time/Dale		Comments:		<u> </u>	-
S alsales ma							(6010 = T- Zz, Fe) = (8010 = vingle duride, Perc, TCE, Cis-1,2-0CE, trav-1,2-1			
relinquished by		Received By: Time/Date Herthe Dra 7/24/98 0814				(8010 : Amill	MY MU, PERC, TCE, Ci	J-1, 1- DCE, ty	-1,2. VCE	
0			Hent	4 Dra	7/29/98	0814				

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ECEIVEN November 18, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St.

561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #21798065 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on August 5, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

....

TAMS Consultants, Inc.
Bloomfield, NJ

FFO 0 2 **1998**

Note: Faxed results were given to your office on 10/7/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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November 18, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn Street Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected August 3, 1998 Case Narrative for ULI Laboratory Report No. 21798065

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

.... ID 10170

<u>Test</u>

Batch

<u>Anomaly</u>

Select List

VA3813

CCI criteria for all select compounds were

outside control limits.

NJ Lab ID 73750

PA Lab ID 68375

Mr. Ted Masters
November 18, 1998
Page 2

Trace Metals

<u>Test</u> <u>Batch</u> <u>Anomaly</u>

Fe ME1639 Duplicate RSD was outside of ± 20% range

all other QC was acceptable.

Zn ME1639 Duplicate RSD was outside of ± 20% range

all other QC was acceptable.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

ATE: 11/18/98

Upstate Laboratories, Inc. 'palysis Results

port Number: 21798065 lient I.D.: ENVIROTRAC

APPROVAL: () S QC: VF _ Lab I.D.: 10170

Sampled by: Client

D:21798065 Mat:Water	ARMONK PRIVATE WEL	LS SITE EFF080398 0635	5H-08/03/98		=
PARAMETERS		RESULTS	DATE ANAL.	KEY	FILR#
Total Iron		<60ug/1	08/29/98		ME1639
Total Zinc		20.2ug/l	08/29/98		ME1639
EPA Method					
Vinyl Chl	loride	<1ug/l	08/10/98		VA3813
cis-1,2-I	Dichloroethene	<lug l<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
	2-Dichloroethene	<lug l<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
Trichloro	pethene	<lug l<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
Tetrachlo	roethene	<0.5ug/1	08/10/98		VA3813
ID:21798066 Mat:Water	ARMONK PRIVATE WELI	S SITE CINO 80398 0650	н-08/03/98		
PARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
_ Total Iron		315ug/l	08/29/98		ME1639
Total Zinc		29.3ug/1	08/29/98		ME1639
EPA Method	8010				
Vinyl Chl	.oride	<200ug/l	08/10/98	05	VA3813
_	ichloroethene	<200ug/1	08/10/98	05	VA3813
	-Dichloroethene	<200ug/1	08/10/98	05	VA3813
Trichloro		<200ug/1	08/10/98	05	VA3813
Tetrachlo		980ug/1	08/10/98	03	VA3813
1D:21798067 Mat:Water	ARMONK PRIVATE WELL	S SITE AG1080398 0640	H 08/03/98		
PARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#

EPA Method	8010				
Vinyl Chl	oride	<lug l<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
•	ichloroethene	<lug 1<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
•	-Dichloroethene	<lug 1="" <="" li=""></lug>	08/10/98		VA3813
Trichloro		<1ug/1 <1ug/1	08/10/98		VA3813
Tetrachlo:		<0.5ug/1	08/10/98		
			, , ,		VA3813
ID:21798068 Mat:Water	ARMONK PRIVATE WELL	S SITE ABF080398 06451	1 08/03/98		
PARAMETERS		RESULTS	DATE ANAL.	KEY	FILE#
			(-,-)		
Total Iron		553ug/l	08/29/98		ME1639
Total Zinc		432ug/l	08/29/98		ME1639
I.					

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results Report Number: 21798065 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

							DT ANTE	00/03/09
ID:21798069 Mat:	Water A	ARMONK	PRIVATE	WELLS	SITE	TI TRIP	PLANK	08/03/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug <0.5ug="" <lug="" l="" l<="" td=""><td>08/10/98 08/10/98 08/10/98 08/10/98 08/10/98</td><td></td><td>VA3813 VA3813 VA3813 VA3813 VA3813</td></lug>	08/10/98 08/10/98 08/10/98 08/10/98 08/10/98		VA3813 VA3813 VA3813 VA3813 VA3813
ID:21798070 Mat:Water ARMONK PRIVATE WELLS	SITE HOLDING BLANK	1105H 08/05/98		
	משפחו שפ	DATE ANAL.	KEY	FILR#

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				000000000000000000000000000000000000000
Vinyl Chloride	<lug l<="" td=""><td>08/10/98</td><td></td><td>VA3813</td></lug>	08/10/98		VA3813
cis-1,2-Dichloroethene	<1ug/1	08/10/98		VA3813
trans-1,2-Dichloroethene	<1ug/l	08/10/98		VA3813
Trichloroethene	<1ug/1	08/10/98		VA3813
Tetrachloroethene	<0.5ug/l	08/10/98		VA3813

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Wostchostor Co., NY

Site No. 3-60-005 Contract No. D003635 8/19

Laboratory Address:

6034 Corporato Dr.

East Syracuse, NY 13057
Russ Troyalo (201) 703-1324

Contact: Russ Trovalo (201) 703-1324 Lab Date Time Sampler No. of EnviroTrac Requested ID Sampled Sampled Initial Matrix Cont. Presrv. Sample ID Analyses Required Turnaround 21748065 8/3/98 6:35 T.B. H20 HCI/HNO3) weeks EFF080398 8010/6010 ms mio-pupe! 6:35 T.B. H20 MS/MSD NO HCI/HNO3 8010/6010 ماما 6:50 T.B. H20 HCI/HN03 CIN080398 8010/6010 67 6:40 T.B. H20 HCI AG1080398 8010 68 6:45 T.B. H20 HNO3 ABF080398 6010 (ULI) Trip Blank H20 HCL 8010 (8/5/92) (1105) (HOLDING BLANK) (w) 0 10 (8010) Relinquished by: Time/Date: Received By: Time/Date Comments: CC/ECD Relinquished by Time/Date 0903 3/5/18

ASP! Cotogor

KEY FAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE DRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- POST-DICESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE 15 RIODEGRACED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- 34 THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REFORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLF REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

tories inc.

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November 18, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #22398032 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on August 11, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

TAMS Consultants, Inc.

TO 0 2 1998

Note: Faxed results were given to your office on 10/7/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected August 9, 1998

Case Narrative for ULI Laboratory Report No. 22398032

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

Anomaly

Select List

VA3834

CCI selected compounds were outside of

criteria due to bad solution.

NY Lab ID 10170 NJ Lab ID 73750 PA Lab ID 68375

Mr. Ted MastersNovember 18, 1998
Page 2

Trace Metals

 Test
 Batch
 Anomaly

 Fe
 ME1639
 Duplicate RSD was outside ± 20% range all other QC was acceptable.

 Zn
 ME1639
 Duplicate RSD was outside ± 20% range

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

all other QC was acceptable.

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

FT.TE: 11/18/98

opstate Laboratories, Inc.

Analysis Results

port Number: 22398032 ient I.D.: ENVIROTRAC Sampled by:

PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
			08/29/98		ME163
Total	Iron	<60ug/1			
Total	Zinc	22.3ug/1	08/29/98		ME163
	EPA Method 8010		22/22/22		
	Vinyl Chloride	<lug l<="" td=""><td>08/18/98</td><td></td><td>VA383</td></lug>	08/18/98		VA383
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>08/18/98</td><td></td><td>VA383</td></lug>	08/18/98		VA383
	trans-1,2-Dichloroethene	<1ug/1	08/18/98		VA383
	Trichloroethene	<lug l<="" td=""><td>08/18/98</td><td></td><td>VA383</td></lug>	08/18/98		VA383
	Tetrachloroethene	<0.5ug/1	08/18/98		VA383
:22398033	Mat:Water ARMONK PRIVATE WELLS	SITE CIN080998 0700	<u>он 08/09/98</u> — — .		:- :- :
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	ATAPTAS.	100/1	08/29/98		ME163
Total	Iron	180ug/1	08/29/98		ME163
Total	Zinc	26.6ug/l	08/29/98		WETOS
	EPA Method 8010		/ /		
	Vinyl Chloride	<20ug/1	08/19/98	05	VA383
	cis-1,2-Dichloroethene	<20ug/l	08/19/98	05	VA383
	trans-1,2-Dichloroethene	<20ug/1	08/19/98	05	VA383
	Trichloroethene	<20 u g/l	08/19/98	05	VA383
	Tetrachloroethene	620ug/l	08/19/98		VA383
22398034	Mat:Water ARMONK PRIVATE WELLS	SITE AG1080998 0650	OH 08/09/98	***	
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	EPA Method 8010				
	EPA Method 8010 Vinyl Chloride	<1ug/1	08/18/98		VA383
	EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene		08/18/98		
(1.0	Vinyl Chloride cis-1,2-Dichloroethene	<1ug/1			VA383
(1.0	Vinyl Chloride	<1ug/1 <1ug/1	08/18/98		VA383 VA383
	Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene	<1ug/1 <1ug/1 <1ug/1	08/18/98 08/18/98		VA383 VA383 VA383 VA383
	Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/1 <1ug/1 <1ug/1 <1ug/1	08/18/98 08/18/98 08/18/98 08/18/98		VA383 VA383 VA383
o: 22398035	Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	08/18/98 08/18/98 08/18/98 08/18/98	KEY 	VA383 VA383 VA383
o: 22398035	Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene Mat:Water ARMONK PRIVATE WELLS	<1ug/1 <1ug/1 <1ug/1 <1ug/1 <0.5ug/1 SITE ABF080998 065	08/18/98 08/18/98 08/18/98 08/18/98 5H 08/09/98 DATE ANAL.	KEY	VA383 VA383 VA383 VA383
o: 22398035	Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene Mat:Water ARMONK PRIVATE WELLS	<pre><1ug/1 <1ug/1 <1ug/1 <1ug/1 <1ug/1 <0.5ug/1 5 SITE ABF080998 0659</pre>	08/18/98 08/18/98 08/18/98 08/18/98 5H 08/09/98		VA383 VA383 VA383 VA383

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 22398032 Client I.D.: ENVIROTRAC APPROVAL:

Sampled by:

	=					====		
TD - 22398036	Mat:Water	ARMONK	PRIVATE	WELLS	ULI	TRIP	BLANK	08/09/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#

EPA Method 8010				
Vinyl Chloride	<lug l<="" td=""><td>08/18/98</td><td></td><td>VA3834</td></lug>	08/18/98		VA3834
cis-1,2-Dichloroethene	<1ug/1	08/18/98		VA3834
trans-1,2-Dichloroethene	<1ug/1	08/18/98		VA3834
	<1ug/1	08/18/98		VA3834
Trichloroethene Tetrachloroethene	<0.5ug/1	08/18/98		VA3834

ID:22398037 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 0935H 08/11/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	08/18/98 08/18/98 08/18/98 08/18/98 08/18/98		VA3834 VA3834 VA3834 VA3834 VA3834

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

				,	,		Russ Trovalo (201) 703-132	4	
Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
8/9/98	6:45	T.B.	H2O	(3)	HCI/HNO3	EFF080998	8010/6010	Zweeks	me ms D
	6:45	т.в.	H2O	12 %	HCI/HNO3	-MS/MSD-¥9	8010/6010		Du
	7:00	T.B.	H2O	(3)	HCI/HNO3	CIN080998	8010/6010		
	6:50	T.B.	H2O	(2)	HCI	AG1080998	8010		
V	6:55	T.B.	H2O	0	HNO3	ABF080998	6010		
1			H2O	<u>(1)</u>	HCL	(س۱) _{Trip Blank}	8010		
(8/11/98)	(0935)		(w)	Ö		(HOLDING BLANK)"	(8010)		1
									1
									1
								 	-
		Received B	y:	Time/Date		Comments:			
19/30/1	:30	D	w.			Cr/Easte	M Connection	ב	
rime/Dat	e:	Half.	y:						-
	8/9/98 (8/1/98) Time/Date 4/3/30	8/9/98 6:45 6:45 7:00 6:50	Sampled Sampled Initial	Sampled Sampled Initial Matrix 8/9/98 6:45 T.B. H2O 6:45 T.B. H2O 7:00 T.B. H2O 6:50 T.B. H2O H2O (장ボイタック (つろうち) (い) Time/Date: Received By: Time/Date: Received By:	Sampled Sampled Initial Matrix Cont.	Sampled Sampled Initial Matrix Cont. Presrv. 8/9/98 6:45 T.B. H2O 3 HCI/HNO3 6:45 T.B. H2O 2 HCI/HNO3 7:00 T.B. H2O 2 HCI/HNO3 6:50 T.B. H2O 1 HNO3 6:55 T.B. H2O 1 HNO3 H2O 1 HCL (장 い/역장) (クタ35) (ພ) 1 Time/Date Time/Date: Received By: Time/Date	Date Sampled Sample	Oate Sampled Sampled Sampled Initial Sampler Initial Matrix No. of Cont. Presiv. EnviroTrac Sample ID Analyses Required 8/9/98 6:45 T.B. H2O 3 HCI/HN03 EFF080998 8010/6010 6:45 T.B. H2O H2/HN03 HCI/HN03 CIN080998 8010/6010 7:00 T.B. H2O (2) HCI/HN03 CIN080998 8010/6010 6:50 T.B. H2O (1) HN03 ABF080998 8010 6:55 T.B. H2O (1) HCL (ш) Trip Blank 8010 (2/LN/4) (0935) (ш) Tille/Date (Hack) N G BLANK)** (2016) Time/Date: Received By: Time/Date Comments:	Sampled Sampled Initial Malrix Cont. Presry. Sample ID Analyses Required Trunaround 8/9/98 6:45 T.B. H2O 3 HCI/HNO3 EFF080998 8010/6010 2 wceks 6:45 T.B. H2O (3) HCI/HNO3 MS/MSD № 8010/6010 7:00 T.B. H2O (3) HCI/HNO3 CIN080998 8010/6010 6:50 T.B. H2O (1) HCI AG1080998 8010 6:55 T.B. H2O (1) HCI (ш) Trip Blank 8010 (2/1/42) (Q35) (ш) Time/Date (HoLDING BLANK)** (2016) Time/Date: Received By: Time/Date Conuments: Conuments:

KEY PAGE

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
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- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 FARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
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- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
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- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REFORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

Upstate Laboratories inc.

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Albany (518) 459-3134 Binghamton (607) 724-0478 HOY 5 3 1998

November 18, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #23098068 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on August 18, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

TAMS Consultants, Inc. Bloomfield, NJ

. EC 0 2 1998

Note: Faxed results were given to your office on 10/13/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected August 17, 1998

Case Narrative for ULI Laboratory Report No. 23098068

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA3849

Criteria were satisfied.

Mr. Ted MastersNovember 18, 1998
Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1709

Duplicate did not satisfy criteria due to

sample matrix.

Zn

ME1709

Duplicate did not satisfy criteria due to

sample matrix.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

Upstate Laboratories, Inc. A-alysis Results
F port Number: 23098068
Client I.D.: ENVIROTRAC

Sampled by: Client

ī :23098068 i	Mat:Water ARMONK PRIVATE WELLS	SITE EFF081798 0645	H 08/17/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	115ug/l	10/08/98		ME1709
Total	Zinc	<10ug/1	10/08/98		ME1709
IOCAL	1110	2.			
120	EPA Method 8010				
	Vinyl Chloride	<1ug/l	08/22/98		VA3844
. 1	cis-1,2-Dichloroethene	<lug l<="" td=""><td>08/22/98</td><td></td><td>VA3844</td></lug>	08/22/98		VA3844
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>08/22/98</td><td></td><td>VA3844</td></lug>	08/22/98		VA3844
1140	Trichloroethene	<1ug/l	08/22/98		VA3844
	Tetrachloroethene	<0.5ug/l	08/22/98		VA3844
ID:23098069	Mat:Water ARMONK PRIVATE WELLS	SITE CIN081798 0700	H ⁰⁸ /17/98		
PAI	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	105ug/l	10/08/98		ME1709
Total	Zinc	19.4 ug/1	10/08/98		ME1709
}					
1	EPA Method 8010	100 /7	00/04/09	05	VA3849
13.	Vinyl Chloride	<100ug/l	08/24/98	05	VA3849
	cis-1,2-Dichloroethene	<100ug/1	08/24/98	05	VA3849
: 1	trans-1,2-Dichloroethene	<100ug/l	08/24/98	05	
	Trichloroethene	<100ug/l	08/24/98	US	VA3849
1	Tetrachloroethene	2500ug/l	08/24/98		VA3849
בט: 23098070	Mat:Water ARMONK PRIVATE WELLS	SITE AG1081798 0650	н ⁻ 08/17/98		
- I - DA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
1 10	EPA Method 8010		00/00/00		*** 2044
	Vinyl Chloride	<1ug/1	08/23/98		VA3844
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>08/23/98</td><td></td><td>VA3844</td></lug>	08/23/98		VA3844
	trans-1,2-Dichloroethene	<1ug/1	08/23/98		VA3844
1.5	Trichloroethene	<lug l<="" td=""><td>08/23/98</td><td></td><td>VA3844</td></lug>	08/23/98		VA3844
	Tetrachloroethene	<0.5ug/l	08/23/98		VA3844
ID:23098071	Mat:Water ARMONK PRIVATE WELLS	SITE ABF081798 0655	H 08/17/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
. 3					
Total	Iron	<60ug/1	10/08/98		ME1709
Total	Zinc	15.2ug/1	10/08/98		ME1709
IOCAI	M 200 4	-			

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results Report Number: 23098068 Client I.D.: ENVIROTRAC

APPROVAL:QSS _ QC:_PS__ = = =

Sampled by: Client

ID:23098072 Mat:Water ARMONK PRIVATE WELL	S SITE ULI TRIP BLANK	08/17/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010	- 49	08/22/98		VA3844
Vinyl Chloride	<lug 1<="" td=""><td></td><td></td><td>VA3844</td></lug>			VA3844
cis-1,2-Dichloroethene	<lug l<="" td=""><td>08/22/98</td><td></td><td></td></lug>	08/22/98		
trans-1,2-Dichloroethene	<lug l<="" td=""><td>08/22/98</td><td></td><td>VA3844</td></lug>	08/22/98		VA3844
Trichloroethene	<1ug/1	08/22/98		VA3844
Tetrachloroethene	<0.5ug/l	08/22/98		VA3844
ID:23098073 Mat:Water ARMONK PRIVATE WELL	S SITE HOLDING BLANK	08/18/98	* = = =	
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS				
EPA Method 8010				2000 to 30 to 0
Vinyl Chloride	<1ug/1	08/22/98		VA3844
cis-1,2-Dichloroethene	<1ug/l	08/22/98		VA3844
	<1ug/1	08/22/98		VA3844
trans-1,2-Dichloroethene	<lug l<="" td=""><td>08/22/98</td><td></td><td>VA3844</td></lug>	08/22/98		VA3844
Trichloroethene	<0.5ug/1	08/22/98		VA3844
Tetrachloroethene				

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Site No. 3-60-005 Contract No. D003635

Westchester Co., NY Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057 Russ Trovato (201) 703-1324

Contact: Date Time Sampler No. of EnviroTrac Requested Lab ID Sampled Sampled Initial Cont. Sample ID Analyses Required Turnaround Matrix Presry. 23098068 8010/6010 M5/14517-1 3 8/17/98 6:45 O.L. H20 HCI/HNO3 EFF081798 2 weeks 80 10/60 10 Dipe 1120 6:45 O.L. LICI/I INO3 MS/MSD 2 wocks 3/ 7:00 O.L. H20 HCI/HNO3 CIN081798 8010/6010 2 weeks (2) 6:50 O.L. H20 HCI AG1081798 8010 2 weeks 6:55 O.L. H20 HNO3 ABF081798 6010 2 weeks (wi) HCL Trip Blank H20 8010 2 weeks 8/18/28 8010) Time/Date: Relinquished by: Received By: Time/Date Comments: 2:30 Time/Date: Received By: Relinquished by: Time/Date / 8/18/78 0831

Asp.

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
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- 12 SAMPLE ANALYZED OVER HOLDING TIME
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- 39 ANALYSED BY METHOD OF STANDARD ADDITIONS
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- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
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- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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Buffalo (716) 649-2533 Rochester (716) 436-9070

Binghamton (607) 724-0478

November 18, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #23898076 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on August 26, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Scala

Anthony J. Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

TAMS Consultants, Inc. Bloomfield, NJ

- EC 0 2 **1998**

Faxed results were given to your office on 10/13/98.

The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected August 24, 1998 Case Narrative for ULI Laboratory Report No. 23898076

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

Batch 1 8 1

<u>Anomaly</u>

Select List

VA3869

Criteria were satisfied.

Mr. Ted Masters November 18, 1998 Page 2

Trace Metals

Test

<u>Batch</u>

Anomaly

Fe

ME1709

Duplicate did not satisfy criteria due to

sample matrix.

Zn

ME1709

Duplicate did not satisfy criteria due to

sample matrix.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

TE: 11/18/98

upstate Laboratories, Inc.

Analysis Results

port Number: 23898076 ient I.D.: ENVIROTRAC Sampled by: Client

ID:23898076 Mat:Water ARMONK PRIVATE W	ELLS SITE EFF082498 0830	H 08/24/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	92.2ug/l	10/08/98		ME1709
Total Zinc	<10ug/1	10/08/98		ME1709
A .				
EPA Method 8010				
Vinyl Chloride	<1ug/l	09/01/98		VA3869
cis-1,2-Dichloroethene	<lug l<="" td=""><td>09/01/98</td><td></td><td>VA3869</td></lug>	09/01/98		VA3869
trans-1,2-Dichloroethene	<1ug/l	09/01/98		VA3869
Trichloroethene	<lug l<="" td=""><td>09/01/98</td><td></td><td>VA3869</td></lug>	09/01/98		VA386 9
Tetrachloroethene	<0.5ug/l	09/01/98		VA3869
ID:23898077 Mat:Water ARMONK PRIVATE W	ELLS SITE CINO82498 08451	H 08/24/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	272/1	10/08/08		1021700
Total Iron	313ug/1	10/08/98		ME1709
Total Zinc	28.8ug/l	10/08/98		ME1709
EPA Method 8010				
Vinyl Chloride	<100ug/l	09/01/98	05	VA3869
cis-1,2-Dichloroethene	<100ug/1	09/01/98	05	VA3869
trans-1,2-Dichloroethene	<100ug/1	09/01/98	0.5	VA3869
Trichloroethene	<100ug/1	09/01/98	0.5	VA3869
Tetrachloroethene	660ug/l	09/01/98		VA3869
0:23898078 Mat:Water ARMONK PRIVATE W		$\frac{108}{24} = \frac{108}{24} = 1$		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				
Vinyl Chloride	<1ug/1	09/01/98		VA3869
cis-1,2-Dichloroethene	<1ug/1	09/01/98		VA3869
trans-1,2-Dichloroethene	<1ug/1	09/01/98		VA3869
Trichloroethene	<lug 1<="" td=""><td>09/01/98</td><td></td><td>VA3869</td></lug>	09/01/98		VA3869
Tetrachloroethene	<0.5ug/1	09/01/98		VA3869
	3.			
ID:23898079 Mat:Water ARMONK PRIVATE WI	ELLS SITE ABF082498 0840	108/24/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#

Total Iron	202ug/l	10/08/98		ME1709
Total Zinc	490ug/1	10/08/98		ME1709
10001 1110		,,		"

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 23898076 Client I.D.: ENVIROTRAC APPROVAL: (1)5_

Lab I.D.: 10170

Sampled by: Client

ID:23898080 Mat:Water	ARMONK P	RIVATE	WELLS	SITE ULI	TRIP	BLANK	08/24/98
10.2303000 11001							

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	09/01/98 09/01/98 09/01/98 09/01/98 09/01/98		VA3869 VA3869 VA3869 VA3869 VA3869

ID:23898081 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1045H 08/26/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
EPA Method 8010 Vinyl Chloride	<lug l<="" td=""><td>09/01/98</td><td></td><td>VA3869</td><td></td></lug>	09/01/98		VA3869	
<pre>cis-1,2-Dichloroethene trans-1,2-Dichloroethene</pre>	<1ug/l <1ug/l	09/01/98 09/01/98		VA3869 VA3869	
Trichloroethene Tetrachloroethene	<1ug/1 <0.5ug/1	09/01/98 09/01/98		VA3869 VA3869	

ULI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle. Westchester Co., NY

Sile No. 3-60-005 Contract No. D003635

919

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Russ Trovalo (201) 703-1324 Contact: Lab Date Time Sampler No. of EnviroTrac Requested ID Sampled Sampled Initial Matrix Cont. Presry. Sample ID Analyses Required Turnaround 23898076 8/24/98 8:30 T.B. H20 HCI/HNO3 EFF082498 8010/6010 2 weeks 8:30 T.B. H20 HCI/HN03 MS/MSD 8010/6010 2 weeks 8:45 T.B. H20 HCI/HN03 CIN082498 8010/601Q 2 weeks (2) 8:35 T.B. H20 HCI AG1082498 8010 2 weeks 1 8:40 T.B. H20 HNO3 ABF082498 6010 2 weeks (8/24/98) (uu) Trip Blank 1) H20 HCL 8010 2 weeks (1045) (w) 1 (HOLDING BLANK) (8010)0 Relinquished by: Time/Date: Received By: Time/Date Comments:

Relinquished by:

Received By:

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI 14
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- MG/KG AS REC.D / MG/KG DRY WT 22
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABKORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AS ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-1154); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- FIELD MEASURED PARAMETER TAKEN BY CLIENT 31
- TARGET ANALYTE IS RIDDEGRADED AND/OR ENVIRONMENTALLY WEATHERED 32
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 35 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / PCUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REFORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLF REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TOLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

ratories inc.

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Rochester (716) 436-9070

Albany (518) 459-3134 Binghamton (607) 724-0478

November 18, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac

561 P. Acorn St.

Deer Park, NY 11729

Analysis Report #24498020 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on September 1, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of Samples will be disposed of approximately one month from your sample. final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J.

Director

AJS/jd

IC 0 2 1998

Enclosures: narrative, report, invoice

N. Scala, ULI cc/encs:

file

TAMS Consultants, Inc. Bloomfield, NJ

Note: Faxed results were given to your office on 10/13/98.

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

Upstate Laboratories inc.

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November 18, 1998

Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

RE:

Armonk Private Wells Site, Samples Collected August 31, 1998

Case Narrative for ULI Laboratory Report No. 24498020

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA388

CC gas compounds did not meet criteria. RS criteria and all other criteria were met.

DA I AL ID ERRTE

Mr. Ted Masters
November 18, 1998
Page 2

Trace Metals

Test

<u>Batch</u>

Anomaly

Fe

ME1705

Duplicate was outside of control limits due

to sample matrix.

Zn

ME1705

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

1 TE: 11/18/98

Upstate Laboratories, Inc.

lalysis Results
port Number: 24498020 Client I.D.: ENVIROTRAC

Sampled by: Client

):24498020	Mat:Water ARMONK PRIVATE WELLS	SITE EFF082498 0630	OH 08/31/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total	Iron	263ug/l	10/06/98		ME1705
Total	Zinc	<10ug/1	10/06/98		ME1705
1	EPA Method 8010		/ /		*** 2.05.0
	Vinyl Chloride	<1ug/1	09/06/98		VA3878
	cis-1,2-Dichloroethene	<lug l<="" td=""><td>09/06/98</td><td></td><td>VA3878</td></lug>	09/06/98		VA3878
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>09/06/98</td><td></td><td>VA3878</td></lug>	09/06/98		VA3878
TY.	Trichloroethene	<lug l<="" td=""><td>09/06/98</td><td></td><td>VA3878</td></lug>	09/06/98		VA3878
	Tetrachloroethene	<0.5ug/l	09/06/98		VA3878
	Mat:Water ARMONK PRIVATE WELLS	SITE CIN082498 064	5H 08/31/98		
PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
					1000
Total	Iron	333ug/1	10/06/98		ME1705
Total	Zinc	32.lug/l	10/06/98		ME1705
J	EPA Method 8010				
	Vinyl Chloride	<100ug/l	09/06/98	05	VA3878
	cis-1,2-Dichloroethene	<100ug/l	09/06/98	05	VA3878
. 1	trans-1,2-Dichloroethene	<100ug/l	09/06/98	05	VA3878
	Trichloroethene	<100ug/l	09/06/98	05	VA3878
1	Tetrachloroethene	1100ug/1	09/06/98		VA3878
D:24498022	Mat:Water ARMONK PRIVATE WELLS	SITE AG1082498 063	5H 08/31/98		
PA PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	EPA Method 8010				
1.8	Vinyl Chloride	<1ug/l	09/06/98		VA3878
	cis-1,2-Dichloroethene	<1ug/1	09/06/98		VA3878
	trans-1,2-Dichloroethene	<lug l<="" td=""><td>09/06/98</td><td></td><td>VA3878</td></lug>	09/06/98		VA3878
	Trichloroethene	<1ug/l	09/06/98		VA3878
	Tetrachloroethene	<0.5ug/l	09/06/98		VA3878
ID:24498023	Mat:Water ARMONK PRIVATE WELLS	SITE ABF082498 064	OH 08/31/98		
10.8	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
PA .					
Total	Iron	226ug/l	10/06/98		ME1705
Total	Zinc	302ug/l	10/06/98		ME1705
Total	2 IIIC		S A1		

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 24498020 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

Sampled by: Client

ID:24498024 Mat:Water	ARMONK	PRIVATE	WELLS	SITE ULI	TRIP	BLANK	08/31/98
ID:24450024 Mac: nace1	711111111111111111111111111111111111111			7 7			

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	09/06/98 09/06/98 09/06/98 09/06/98		VA3878 VA3878 VA3878 VA3878 VA3878

ID:24498025 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 09/01/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	09/06/98 09/06/98 09/06/98 09/06/98 09/06/98		VA3878 VA3878 VA3878 VA3878 VA3878

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

Lab ID	Date Sampled	Time Sampled	Sampler	Page 1979	No. of		Contact: EnviroTrac	East Syracuse, NY 13057 Russ Trovalo (201) 703-132	
4498020			Initiat	Matrix	Cont.	Presrv.	Sample ID	Analyses Required	Requester Turnaroun
1111020	8/31/98	6:30	T.B.	H2O	(3)	HCI/HNO3	EFF082498	8010/6010	
01		6:30	T.B,	H2O	2/8	HCI/HNO3	MS/MSD	8010/6010	2 weeks
21		6:45	T.B.	H2O	3	HCI/HNO3	CIN082498	8010/6010	2 weeks
22	-1/	6:35	T.B.	H2O	2	HCI	AG1082498	8010	2 weeks
23		6:40	T.B.	H2O	1	HNO3	ABF082498		2 weeks
24	(8/34/47)			H2O	0	HCL	(ULI)Trip Blank	6010	2 weeks
25	3/1/18)				0		(Holding Blenk)	(8010)	2 weeks
							(Solding them)	(0010)	
								V	
linquished by: Time/Date: Style 2,			Received By: Time/Date			C	omments:		
			Received By: Time/Date ;			0850 CC/Eastern Conn.			

Cod

ms/ D

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- AMALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACEED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 FARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL 18 INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
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- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYTED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED FARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 35 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (NG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- RESULTS ARE REPORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TOLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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Albany (518) 459-3134 Binghamton (607) 724-0478 ECELVE NOV 2 - 1998

November 18, 1998

New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #25498057 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on September 11, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

FEC 0 2 1998

AJS/jd

Enclosures: narrative, report, invoice

TAMS Consultants, Inc. Bleemfield, NJ

N. Scala, ULI cc/encs:

file

Faxed results were given to your office on 10/13/98.

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

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Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected September 9, 1998

Case Narrative for ULI Laboratory Report No. 25498057

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA3895

Criteria were satisfied, for all but the CCI

Mr. Ted Masters November 18, 1998 Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1706

Criteria were satisfied.

Zn

ME1706

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 25498057

Client I.D.: ENVIROTRAC

APPROVAL:

Sampled by: Client

CITER I.D.: ENVIROTRAC	Sampred by	y. Client		
ID:25498057 Mat:Water ARMONK PRIVAT	re Wells Site eff090998 06301	H_09/09/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	706ug/1	10/07/98		ME170
Total Zinc	<10ug/1	10/07/98		ME170
EPA Method 8010				
Vinyl Chloride	<lug l<="" td=""><td>09/17/98</td><td></td><td>VA389!</td></lug>	09/17/98		VA389 !
cis-1,2-Dichloroethene	<1ug/1	09/17/98		VA389!
trans-1,2-Dichloroethene	e <lug l<="" td=""><td>09/17/98</td><td></td><td>VA389!</td></lug>	09/17/98		VA389!
Trichloroethene	<1ug/l	09/17/98		VA38 9!
Tetrachloroethene	<0.5ug/l	09/17/98		VA389!
ID:25498058 Mat:Water ARMONK PRIVAT	TE WELLS SITE CINO9/09/98 064	Бн 09/09/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	516ug/l	10/07/98		ME170€
Total Zinc	14.7ug/l	10/07/98		ME1706
EPA Method 8010				
Vinyl Chloride	<100ug/l	09/17/98	05	VA3895
cis-1,2-Dichloroethene	<100ug/1	09/17/98	05	VA3895
trans-1,2-Dichloroethene		09/17/98	05	VA3895
Trichloroethene	<100ug/l	09/17/98	05	VA3895
Tetrachloroethene	950ug/1	09/17/98		VA3895
ID:25498059 Mat:Water ARMONK PRIVAT	E WELLS SITE AG109/09/98 063	5H 09/09/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				
Vinyl Chloride	<lug l<="" td=""><td>09/17/98</td><td></td><td>VA3895</td></lug>	09/17/98		VA3895
cis-1,2-Dichloroethene	<lug l<="" td=""><td>09/17/98</td><td></td><td>VA3895</td></lug>	09/17/98		VA3895
trans-1,2-Dichloroethene	·	09/17/98		VA3895
Trichloroethene	<lug l<="" td=""><td>09/17/98</td><td></td><td>VA3895</td></lug>	09/17/98		VA3895
Tetrachloroethene	<0.5ug/1	09/17/98		VA3895
ID:25498060 Mat:Water ARMONK PRIVAT	E WELLS SITE ABF09/09/98 064	он 09/09/98	- 22 (21 (21	
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	305ug/l	10/07/98		ME170€
Total Zinc	69lug/l	10/07/98		ME170€
		= - , ,		= =

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 25498057 Client I.D.: ENVIROTRAC APPROVAL:

F - - Lab I.D.: 10170

Sampled by: Client

ID:25498061 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 1400H 09/11/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/l <1ug/l <1ug/l <1ug/l <0.5ug/l	09/17/98 09/17/98 09/17/98 09/17/98 09/17/98		VA3895 VA3895 VA3895 VA3895 VA3895

9/25

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

SIte No. 3-60-005 Contract No. D003635 ASP! Category. A

Laboratory Address: 6034 Corporate Dr.

East Syracuse, NY 13057

Lab	Date	Time	Sampler		No. of		Contact:	Russ Trovato (201) 703-1324		
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
25498057	9/9/98	6:30	T.B.	H2O	(3)	HCI/HNO3	EFF090998	8010/6010	2 weeks	MIMIN
	-	6:30	T.B.	H2O	(2/8	HCI/HNO3	MS/MSD	8010/6010	2 weeks	d '
58		6:45	T.B.	H2O	(3)	HCI/HNO3	CIN09/09/98	8010/6010		
59		6:35	T.B.	H2O	(2)	HCI	AG109/09/98	8010	2 weeks	1
bo		6:40	T.B.	H2O	1	HNO3	ABF09/09/98	6010	2 weeks	
	100			H2O	at the	HCL	Trip Blank	8010	2 weeks	
61	(9)11/98)	(1400)60		(w)	0		(HOLDING BLANC)	(3010)	2 weeks	
				3			n	17		
_										
elinquished by:	Time/Dat									
15	3	8.8	Received By	:	Time/Date		Comments:	!		
elihquished by:	Time/Dat	= <i>\$\/\$\/9</i> 8 e:	Received By	il	Time/Date,				•	
			5/1	SOM	9/11/9	8 084	cc/ Eas	forn Conn		
			1	b'	11	00701				

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS 1.5
- PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING 17
- THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL 18 INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- CALCULATION BASED ON DRY WEIGHT 19
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KJ AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED 24
- ND (NON-DETECTED)
- MATRIX INTERPERENCE PRECLIDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE 27
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYSED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 32 TARGET ANALYTE IS RIDDEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NOM-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON
- PETROLEUM DISTILLATES 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (NG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

atories inc.

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Albany (518) 459-3134 Binghamton (607) 724-0478 ECELLA EL

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

November 18, 1998

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Analysis Report #25998071 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on September 16, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of Samples will be disposed of approximately one month from your sample. final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J.

Director

AJS/jd

ied 0 2 1998

Enclosures: narrative, report, invoice

N. Scala, ULI cc/encs:

file

TAMS Consultants, Inc. Bloomfield, NJ

Note: Faxed results were given to your office on 10/13/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

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Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected September 14, 1998

Case Narrative for ULI Laboratory Report No. 25998071

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

Batch

Anomaly

Select List

VA3897

Criteria were satisfied.

Mr. Ted Masters November 18, 1998 Page 2

Trace Metals

<u>Test</u>

Batch

Anomaly

Fe

ME1705

Duplicate was outside control limits due to

sample matrix.

Zn

ME1705

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

Jpstate Laboratories, Inc. 1 lysis Results Report Number: 25998071 Client I.D.: ENVIROTRAC

Sampled by: Client

Ī: [259	998071 A	Mat:Water ARMONK PRIVATE WELL	LS SITE EFF091498 0600H	09/14/98	-2		
- 1	DAI	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
	FAI	CAMETERS					
1	Total	Iron	100ug/l	10/06/98		ME1705	
	Total	Zinc	<10ug/l	10/06/98		ME1705	
- 1	Total	21110					
1]	EPA Method 8010	<1ug/1	09/18/98		VA3897	
		Vinyl Chloride	2.	09/18/98		VA3897	
c.k		cis-1,2-Dichloroethene	<1ug/1	09/18/98		VA3897	
		trans-1,2-Dichloroethene	<1ug/1	09/18/98		VA3897	
1		Trichloroethene	<1ug/1	09/18/98		VA3897	
		Tetrachloroethene	<0.5ug/1	M Committee			
	998072 i	Mat:Water ARMONK PRIVATE WEL	LS SITE CIN09/14/98 061	5H 09/14/98		,	
	PA	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
118						ME1705	
	Total	Iron	1280ug/1	10/06/98		ME1705	
1	Total	Zinc	41.5ug/l	10/06/98		MEI/US	
1	100						
		EPA Method 8010		00/10/00	05	VA3897	
		Vinyl Chloride	<100ug/1	09/18/98	05	VA3897	
		cis-1,2-Dichloroethene	<100ug/l	09/18/98		VA3897	
		trans-1,2-Dichloroethene	<100ug/1	09/18/98	05		
		Trichloroethene	<100ug/l	09/18/98	05	VA3897	
4		Tetrachloroethene	1200ug/l	09/18/98		VA3897	
ID:25	5998 0 7 3		LS SITE AG109/14/98 060	5H 09/14/98	- (-):-::=		
Ty	~-		RESULTS	DATE ANAL.	KEY	FILE#	
		RAMETERS					
1.2		EPA Method 8010	1/1	09/18/98		VA3897	
		Vinyl Chloride	<1ug/1	09/18/98		VA3897	
		cis-1,2-Dichloroethene	<1ug/1	09/18/98		VA3897	
		trans-1,2-Dichloroethene	<1ug/1	09/18/98		VA3897	
77		Trichloroethene	<lug 1<="" td=""><td>09/18/98</td><td></td><td>VA3897</td><td></td></lug>	09/18/98		VA3897	
A.		Tetrachloroethene	<0.5ug/l	03/10/30			
	5998074	Mat:Water ARMONK PRIVATE WEI	LS SITE ABF09/14/98 061	LOH 09/14/98			
	-	RAMETERS	RESULTS	DATE ANAL.	KEY	FILE#	
		RAMETERS					
			594ug/l	10/06/98		ME1705	
7.0	Total	Iron	1150ug/l	10/06/98		ME1705	
	Total	Zinc	220 - 22,				

DATE: 11/18/98

Upstate Laboratories, Inc.

Tetrachloroethene

Analysis Results

Report Number: 25998071 Client I.D.: ENVIROTRAC APPROVAL:

<u>Lab</u> <u>I.D.</u>: 10170

Sampled by: Client

ID:25998075 Mat:Water ARMONK PRIVATE WELLS	SITE ULI TRIP BLANK	09/14/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
FARAMETERS				
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<1ug/1 <1ug/1 <1ug/1 <1ug/1 <0.5ug/1	09/18/98 09/18/98 09/18/98 09/18/98		VA3897 VA3897 VA3897 VA3897 VA3897
ID:25998076 Mat:Water ARMONK PRIVATE WELLS	SITE HOLDING BLANK	1230H 09/16/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug l<br=""><lug l<br=""><lug l<br=""><lug l<br=""><0.5ug/l</lug></lug></lug></lug>	09/18/98 09/18/98 09/18/98 09/18/98		VA3897 VA3897 VA3897 VA3897 VA3897

IJLI Computer Input Form

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Sile New York State Superfund Project Town of North Castle, Westchesler Co., NY

SIte No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

Fast Syracuse, NY 13057

							Contact:	East Syracuse, NY 13057 Russ Trovalo (201) 703-1324	A	A two 92,
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround	
25998071	9/14/98	6:00	T.B.	H2O	(3)	HCI/HNO3	EFF091498	8010/6010	2 weeks	} .
42		6:00	T.B.	H2O	2/8	HCI/HNO3	MS/MSD	8010/6010	2 weeks	ms mso-
72		6:15	T.B.	H2O	(3)	HCI/HNO3	CIN09/14/98	8010/6010	2 weeks	
73		6:05	T.B.	H2O	3	HCI	AG109/14/98	8010	2 weeks	
74	1	6:10	T.B.	H2O	0	HNO3	ABF09/14/98	6010	2 weeks	1
75	(9/14/98)			H2O	1	HCL	(uu) Trip Blank	8010	2 weeks	1
76	(9/14/98)	(1230)		(w)	0		(HOLDING BLANK)	(8010)		1
										1
										1
								14		
							(),			1
										1
										1
										1
Relinquished by:	Time/Dat	120	Received By	y:	Time/Date		Comments:			1
Relinguispoer by:	Time/Dal	5/15/51~	Received By		Tiles of No. 1		a/Easto	svi Cenn.		
January Oy.	Timeroat	G, E	Herst	Dona	Time/Date	0821				
			1 / Marc	3270-	7.0					1

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN IMHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 FARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- 20 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- UG/KG AS REC.D / UG/KG DRY WT 21
- 22 MG/KG AS REC.D / MG/KG DRY WT
- INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- 27 SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYIED BY METHOD OF STANDARD ADDITIONS
- BO METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS RIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NOM-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- 35 MATRIX INTERFERENCE CAUSING SPIKES TO REGULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REFORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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Albany (518) 459-3134 Binghamton (607) 724-0478 PECEIVE Nov 2 - 1998

November 18, 1998

Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters -----EnviroTrac
561 P. Acorn St.
Deer Park, NY 11729

Re: Analysis Report #26798042 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on September 24, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

TAMS Consultants, Inc. Sloomfeld, NJ

10 0 2 1998

Note: Faxed results were given to your office on 10/13/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mailing: Box 289 • Syracuse, NY 13206

Albany (518) 459-3134 Binghamton (607) 724-0478 Buffalo (716) 649-253. Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn Street Deer Park, New York 11729 November 18, 1998

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Armonk Private Wells Site, Samples Collected September 21, 1998

Case Narrative for ULI Laboratory Report No. 26798042

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Test

<u>Batch</u>

<u>Anomaly</u>

Select List

VA3916

CCI had several compounds outside of

control limits.

Mr. Ted MastersNovember 18, 1998
Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1705

Duplicate was outside control limits due to

sample matrix.

Zn

ME1705

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

Reference: 1) New York State Department of Conservation Analytical Services Protocol (NYSDEC ASP), 10/95 Revision

Analysis Results
R port Number: 26798042
C ient I.D.: ENVIROTRAC

APPROVAL QS__ QC: PF _ Lab I.D.: 10170

Sampled by: Client

ID: 26798042 Mat: Water ARMONK PRIVATE WELLS	SITE EFF092198 0800	H 09/21/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	<60ug/1	10/06/98		ME1705
Total Zinc	<10ug/l	10/06/98		ME1705
EPA Method 8010				
Vinyl Chloride	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
cis-1,2-Dichloroethene	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
trans-1,2-Dichloroethene	<1ug/1	09/29/98		VA3916
Trichloroethene	<1ug/1	09/29/98		VA3916
Tetrachloroethene	<0.5ug/l	09/29/98		VA3916
ID:26798043 Mat:Water ARMONK PRIVATE WELLS	SITE CIN09/21/98 08	15H 09/21/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
Total Iron	<60ug/1	10/06/98		ME1705
Total Zinc	13.0ug/l	10/06/98		ME1705
EPA Method 8010				
Vinyl Chloride	<200ug/l	09/29/98	05	VA3916
cis-1,2-Dichloroethene	<200ug/l	09/29/98	05	VA3916
trans-1,2-Dichloroethene	<200ug/l	09/29/98	05	VA3916
Trichloroethene	<200ug/l	09/29/98	05	VA3916
Tetrachloroethene	1200ug/1	09/29/98		VA3916
: 26798044 Mat:Water ARMONK PRIVATE WELLS	SITE AG109/21/98 08	05H 09/21/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010				
Vinyl Chloride	<1ug/l	09/29/98		VA3916
cis-1,2-Dichloroethene	<1ug/l	09/29/98		VA3916
trans-1,2-Dichloroethene	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
Trichloroethene	<1ug/l	09/29/98		VA3916
Tetrachloroethene	<0.5ug/l	09/29/98		VA3916
ID:26798045 Mat:Water ARMONK PRIVATE WELLS	SITE ABF09/21/98 08	10H 09/21/98	- :- :- :- :-	
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
A				
Total Iron	988ug/1	10/06/98		ME1705
Total Zinc	318ug/l	10/06/98		ME1705

DATE: 11/18/98

Upstate Laboratories, Inc.

Trichloroethene

Tetrachloroethene

Analysis Results

Report Number: 26798042 Client I.D.: ENVIROTRAC APPROVAL:

Lab I.D.: 10170

09/29/98

09/29/98

VA39:

VA3916

Sampled by: Client

ID:26798046 Mat:Water ARMONK PRIVATE WEL	LS SITE ULI TRIP BLANK	09/21/98		
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE;
				2
EPA Method 8010				*1
Vinyl Chloride	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA39:</td></lug>	09/29/98		VA39:
cis-1,2-Dichloroethene	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
trans-1,2-Dichloroethene	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
Trichloroethene	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA391</td></lug>	09/29/98		VA391
Tetrachloroethene	<0.5ug/1	09/29/98		VA39:
ID:26798047 Mat:Water ARMONK PRIVATE WEL	LS SITE HOLDING BLANK	000H 09/24/98		· · · · · · · · · · · · · · · · · · ·
PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE:
			-	
EPA Method 8010				{
Vinyl Chloride	<lug l<="" td=""><td>09/29/98</td><td></td><td>VA3916</td></lug>	09/29/98		VA3916
cis-1,2-Dichloroethene	<1ug/1	09/29/98		VA3916
trans-1,2-Dichloroethene	<1ug/l	09/29/98		VA39:
CI dillo I / Z - DI Children		00/00/00		

<lug/l

< 0.5 ug/1

10/8

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Site No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

ASP! Category A

Lab	Date	Time	Sampler		No. of		Contact:	Russ Trovato (201) 703-1324	ASP!
ID	Sampled	Sampled	Initial	Matrix	Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround
26798042	9/21/98	8:00	T.B.	H2O	(3)	HCI/HNO3	EFF092198	8010/6010	2 weeks
		8:00	T.B.	H2O	3/3	HCI/HNO3	MS/MSD	8010/6010	2 weeks
43	_ \	8:15	T.B.	H2O	(3)	HCI/HNO3	CIN09/21/98	8010/6010	2 weeks
44		8:05	T.B.	H2O	0	HCI	AG109/21/98	8010	2 weeks
45		8:10	T.B.	H2O	0	HNO3	ABF09/21/98	6010	2 weeks
46	V			H2O	①	HCL	(யா) Trip Blank	8010	2 weeks
47	(9/24/98)	(1000)		(w)	0		(HOLDING BLANK)"	(8010)	_ T WOONS
Nation 1 1 11									
Relinquished by:	Time/Date	e: 9/12/58.	Received By	:	Time/Date		Comments:		
delinquished by:	Time/Date		Received By	;	,Time/Date				
			Received By Heather	Dona 9	24/98 0	7845	CC Eastern Conrection		

KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL: HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- AN IMHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- CALCULATION BASED ON DRY WEIGHT
- 23 INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- SAMPLE DILUTED/BLANK CORRECTED
- ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE 27
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE POL
- 29 ANALYJED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- 31 FIELD MEASURED PARAMETER TAKEN BY CLIENT
- 52 TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-WATCH WITH COMMON PETROLEUM DISTILLATES
- 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (NG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS)
- PER DAY OF CL2 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (NG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REFORTED ON AN AS REC.D BASIS
- 42 THE SAMPLE WAS ANALYZED ON A TOTAL BASIS: THE TEST RESULT CAN BE COMPARED TO THE TOLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TOLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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PEGETVE

November 18, 1998

New Jersey (201) 703-1324

Mr. Ted Masters
EnviroTrac
561 P. Acorn St.
Deer Park, NY 11729

Re: Analysis Report #27398057 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on September 30, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

TAMS Consultants, Inc.

· c0 0 2 1998

Bloomfield, NJ

Note: Faxed results were given to your office on 10/16/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.

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Mr. Ted Masters
EnviroTrac
561 P. Acorn Street
Deer Park, New York 11729

November 18, 1998

RE:

Armonk Private Wells Site, Samples Collected September 28, 1998

Case Narrative for ULI Laboratory Report No. 27398057

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

<u>Test</u>

<u>Batch</u>

Anomaly

Select List

VA3949

Criteria were satisfied.

Mr. Ted Masters November 18, 1998 Page 2

Trace Metals

<u>Test</u>

<u>Batch</u>

Anomaly

Fe

ME1705

Duplicate was outside control limits due to

sample matrix.

Zn

ME1705

Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J. Scala

Director

KMENV-1doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

Ipstate Laboratories, Inc.

malysis Results

ort Number: 27398057 ent I.D.: ENVIROTRAC

Sampled by: Client

### PARAMETERS Total Iron	ME ME VA VA VA VA	112# 11705 11705 13949 13949 13949 13949
PARAMETERS	ME ME VA VA VA VA	1705 1705 13949 13949 13949 13949 13949
Total Iron	ME VA VA VA VA	1705 13949 13949 13949 13949 13949
Total Iron Total Zinc	VA VA VA VA	A3949 A3949 A3949 A3949
Total Zinc EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Tetrachloroethene Ving/1 Ving/1 10/12/98 10/12/98 10/12/98	VA VA VA —————	A3949 A3949 A3949 A3949
Vinyl Chloride <1ug/1	VA VA VA —————	A3949 A3949 A3949 A3949
Vinyl Chloride <1ug/1	VA VA VA	A3949 A3949 A3949
cis-1,2-Dichloroethene clug/1 10/12/98 trans-1,2-Dichloroethene clug/1 10/12/98 Trichloroethene clug/1 10/12/98 Tetrachloroethene clug/1 10/12/98	VA VA VA	A3949 A3949 A3949
trans-1,2-Dichloroethene <pre></pre>	AV AV 	A3949 A3949
Trichloroethene <pre></pre>	AV 	A3949
Tetrachloroethene <0.5ug/1 10/12/55		
	EY FI	
ID:27398058 Mat:Water ARMONK PRIVATE WELLS SITE CIN09/28/98 0615H 09/28/98	EY FI	
PESHLTS DATE ANAL. K		ILE#
PARAMETERS		
<60ug/l 10/06/98		E17 05
Total Iron 43.9ug/1 10/06/98	ME	E17 05
Total Zinc 43.949/1		
EPA Method 8010 10/12/98	05 VA	A3949
Vinyl Chloride 2200g/1 10/12/98		A3949
cis-1,2-Dichloroethene <2000g/1		A3949
trans-1.2-Dichloroethene <200ug/1		A3949
Trichloroethene <2000g/1		A3949
Tetrachloroethene 1100ug/1 10/12/30		
):27398059 Mat:Water ARMONK PRIVATE WELLS SITE AG109/28/98 0605H 09/28/98		
RESULTS DATE ANAL.		ILE#
PARAMETERS		
EPA Method 8010 <1ug/l 10/12/98	V.	7 A394 9
Vinvl Chloride	V.	7 A 3949
cis-1,2-Dichloroethene	v	7 A 3949
trans-1,2-Dichloroethene 10/12/98	v	7A3949
Trichloroethene 10/12/98	V	7A3949
Tetrachloroethene		
ID:27398060 Mat:Water ARMONK PRIVATE WELLS SITE ABF09/28/98 0610H 09/28/98		
RESULTS DATE ANAL.	KEY F	FILE#
		ME1705
179ug/l 10/06/98	- -	
Total Iron 241ug/l 10/06/98	D.	ME1705
Total Zinc		

DATE: 11/18/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 27398057

Client I.D.: ENVIROTRAC

APPROVAL: QJS_

Sampled by: Client

ID:27398061 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 09/28/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
	,==			
EPA Method 8010				
Vinyl Chloride	<lug l<="" td=""><td>10/12/98</td><td></td><td>VA3949</td></lug>	10/12/98		VA3949
cis-1,2-Dichloroethene	<lug l<="" td=""><td>10/12/98</td><td></td><td>VA3949</td></lug>	10/12/98		VA3949
trans-1,2-Dichloroethene	<1ug/1	10/12/98		VA3949
Trichloroethene	<1ug/1	10/12/98		VA3949
Tetrachloroethene	<0.5ug/1	10/12/98		VA3949

"ATE: 11/18/98

opstate Laboratories, Inc.

Analysis Results

port Number: 27398057 Lient I.D.: ENVIROTRAC

Sampled by: Client

								= _ = _ = =	- /= - 7 - = "-
TD:27398176	Mat:Water	ARMONK	PRIVATE	WELLS	SITE	HOLDING	BLANK	1200H 09	/30/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010		40/40/00		
Vinyl Chloride	<lug l<="" td=""><td>10/12/98</td><td></td><td>VA3949</td></lug>	10/12/98		VA3949
cis-1,2-Dichloroethene	<1ug/l	10/12/98		VA3949
trans-1,2-Dichloroethene	<1ug/1	10/12/98		VA3949
Trichloroethene	<1ug/1	10/12/98		VA3949
Tetrachloroethene	<0.5ug/1	10/12/98		VA394 9

10/28

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn St. Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters

Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY

Sile No. 3-60-005 Contract No. D003635

Laboratory Address:

6034 Corporate Dr.

East Syracuse, NY 13057

Lab	Date	Time	Sampler		T		Contact:	Russ Trovato (201) 703-1324	
ID ID	Sampled	Sampled	Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested
7398057	9/28/98	6:00	T.B.	H2O	(3)	HCI/HNO3	EFF092898	8010/6010	2 weeks
		6:00	T.B.	H20	13/8	HCI/HNO3	MS/MSD	8010/6010	2 weeks
58		6:15	T.B.	H2O	3	HCI/HNO3	CIN09/28/98	8010/6010	2 weeks
59		6:05	T.B.	H2O	(2)	HCI	AG109/28/98	8010	2 weeks
60	V	6:10	T.B.	H2O	0	HNO3	ABF09/28/98	6010	2 weeks
@1	(9/28/98)			H2O	1	HCL	(ພາ) Trip Blank	8010	2 weeks
176	(9/30/98)	(1200)		(w)	0		(HOLDING BLANK)	(8010)	2 1100110
					A	11 -00			
Relinquished by:	Time/Date		Received By		Time (D.)				
Received By: Time/Date					Comments:				
elinquished by:	Time/Date		Received By		Time/Day	0815 N			
			S.1(1)	m	9/36/98	0815 N			

ASP!
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KEY PAGE

- MATRIX INTERFERENCE FRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK 3
- AMALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL.
- THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- 10 ADL (AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- SAMPLE ANALYZED OVER HOLDING TIME
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- SAMPLED BY ULI
- DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 FARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- 19 CALCULATION BASED ON DRY WEIGHT
- INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KJ AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE 27
- 28 POST-DIGESTION SPIKE FOR FURNACE AS ANALYSIS IS OUTSIDE OF THE CONTROL TIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYEED BY METHOD OF STANDARD ADDITIONS
- METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND (NON-DETECTED)
- FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS RIDDEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- 33 NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON PETROLEUM DISTILLATES
- MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LB5) PER DAY OF CL2
- 39 MICROGRAMS PER LITER (UG/L) / FOUNDS (LBS) PER DAY
- 40 MILLIGRAMS PER LITER (NG/L) LINEAR ALKYL SULFONATE (LAS) / PCUNDS (LBS) PER DAY LAS
- 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20. CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURS
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

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DECETVE mber 31, 1998

Rochester (716) 436-9070 New Jersey (201) 703-1324

Mr. Ted Masters EnviroTrac 561 P. Acorn St. Deer Park, NY 11729

Re: Analysis Report #28598087 - Armonk Private Wells Site

Dear Mr. Masters:

Please find enclosed the results for your samples which were received on October 12, 1998.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your sample. Samples will be disposed of approximately one month from final report date.

Should you have any questions, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.

Anthony J! Scala

Director

AJS/jd

Enclosures: narrative, report, invoice

cc/encs: N. Scala, ULI

file

Note: Faxed results were given to your office on 12/10/98. AJS

Disclaimer: The test results and procedures utilized, and laboratory interpretations of data obtained by ULI as contained in this report are believed by ULI to be accurate and reliable for sample(s) tested. In accepting this report, the customer agrees that the full extent of any and all liability for actual and consequential damages of ULI for the services performed shall be equal to the fee charged to the customer for the services as liquidated damages.



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Buffalo (716) 649-2533 Rochester (716) 436-9070 New Jersey (201) 703-1324

December 28, 1998

Mr. Ted Masters EnviroTrac 561 P. Acom Street Deer Park, NY 11729

RE:

Armonk Private Wells Site, Samples Collected October 8, 1998

Case Narrative for ULI Laboratory Report No. 28598087

Dear Mr. Masters:

The following is a New York State Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category A case narrative for the above referenced project. The test results were subject to an internal validation as described below:

Internal Validation

Select List

For each test, the chemist sorted the leachate samples into batches of twenty samples or less and added quality control (QC) samples. The batches were analyzed by USEPA and NYSDEC approved test procedures (Table 1). During the course of the analyses the chemist compared the quality control test results to performance criteria and (if necessary) took corrective actions. At the end of the analysis, the data was assembled into data packages and submitted to the section supervisor for review and approval. On the cover of each data package the analyst described any anomaly that may have occurred and, if it did occur, why the data was still found acceptable. A summary of the comments on the cover sheet of each test from each laboratory follows:

Volatile Organic Compounds (VOCs)

Anomaly Batch Test The continuing calibration %RSD for VA3958 Select List cis-1,2-Dichloroethene and trans-1,2-Dichloroethene exceeded QC criteria. The continuing calibration %RSD for

VA3973

Vinyl Chloride and trans-1,2-Dichloroethene exceeded QC criteria.

Trace Metals

TestBatchAnomalyZnME1820Criteria were satisfied.FeME1821Criteria were satisfied.

Should questions arise please do not hesitate to call the Environmental Project Coordinator (EPC) assigned to your job or myself.

Sincerely,

UPSTATE LABORATORIES, INC.

Athony J. Scala,

Director

File: JHENV-30.doc

Table 1 Methodologies

Methodology

The analyses were performed using test methods developed by the USEPA and reorganized by the NYSDEC in the Analytical Services Protocol (ASP). The specific method numbers are:

Parameter	Method	Reference
VOCs	8010	1)
Iron Zinc	6010 6010	1) 1)

New York State Department of Conservation Analytical Services Protocol Reference: 1) (NYSDEC ASP), 10/95 Revision

12/31/98

ate Laboratories, Inc.

epurt Number: 28598087 lient I.D.: ENVIROTRAC Sampled by: CLIENT

lient I.D.:	ENVIROIRAG		10/08/98		
28598087 M	at: Water ARMONK PRIVATE WELLS	SITE EFFICUSSO C/45.		KEY	FILE#
- U		RESULTS	DATE ANAL.		
	RAMETERS		12/05/98	145	MR1821
1		61.3 ug/1	12/05/98	13	ME1820
Total	Iron	11.0ug/l	12/04/90	96.5	Člas residence
Total	Zinc			3.5	13-74 P. L.
Tr.	EPA Method 8010	. /9	10/17/98	and a	VA3958
	Vinyl Chloride	<lug 1<="" td=""><td>10/17/98</td><td></td><td>VA3958</td></lug>	10/17/98		VA3958
	cis-1,2-Dichloroethene	<lug 1<="" td=""><td>10/17/98</td><td></td><td>VA3958</td></lug>	10/17/98		VA3958
	trans-1,2-Dichloroethene	<1ug/1	10/17/98		VA3958
7	Trichloroethene	<1ug/1	10/17/98		VA3958
. /	Tetrachloroethene	<0.5ug/l	10/11/50		
	Tetrachioloethene		$\frac{1}{10}$		
128598088	Mat:Water ARMONK PRIVATE WELLS	SITE AG1100898 0/5/	H 10/00/30		
, 205 3 6 0 6 6	**************************************	RESULTS	DATE ANAL.	KEY	file#
PA PA	RAMETERS				
		#### E			
	1 1 0010		40/37/00		VA3958
	EPA Method 8010	<lug l<="" td=""><td>10/17/98</td><td></td><td>VA3958</td></lug>	10/17/98		VA3958
	Vinyl Chloride	<1ug/l	10/17/98		VA3958
- 2	cis-1,2-Dichloroethene	<lug l<="" td=""><td>10/17/98</td><td></td><td>VA3958</td></lug>	10/17/98		VA3958
1	trans-1,2-Dichloroethene	<lug l<="" td=""><td>10/17/98</td><td></td><td>VA3958</td></lug>	10/17/98		VA3958
J.	Trichloroethene	<0.5ug/1	10/17/98		AW2320
	Tetrachloroethene		 	= =	
1	Mat: Water ARMONK PRIVATE WELLS	SITE ABF100898 082	4H 10/08/98		
:28598089	Mat: Water ARMONK PRIVATE WELLES		DATE ANAL.	KEY	FILE#
	ARAMETERS	RESULTS	DA12		
			12/05/98		ME1821
		<60ug/1	12/03/98		ME1820
Total		26.8ug/l	12/04/30		
Total	ZINC =		7H 10/08/98		
D: 28598090	Mat: Water ARMONK PRIVATE WELL	S SITE EW3100898 082	111 20/02/22		- "
7.20390000		RESULTS	DATE ANAL.	KEY	FILE#
-#. D	ARAMETERS	RESULIS			
			12/05/98		ME1821
		<60ug/1	12/04/98		ME1820
Total Total		40.2ug/l	,,,		
IOCAI					
16	EPA Method 8010	<100ug/l	10/17/98	05	VA3958
	vinyl Chloride	<100ug/1	10/17/98	05	VA3958
1	gis-1 2-Dichloroethene	<100ug/1 <100ug/1	10/17/98	05	VA3958
	trans-1,2-Dichloroethene	<100ug/1 <100ug/1	10/17/98	05	VA3958
1	Trichloroethene	- .	10/17/98		VA3958
1	Tetrachloroethene	400ug/1	==, =:, =:		
	160160000000000000000000000000000000000				

ATE: 12/31/98

pstate Laboratories, Inc.

nalysis Results

eport Number: 28598087

APPROVAL:

Sampled by: CLIENT

:lient I.D.: ENVIROTRAC	-	-	 -
D:28598091 Mat:Water, ARMONK PRIVATE WELLS SITE EW2100898 0841H 10/08/98			
D:28538031 Mac. Macc.	/Car.	1000	-

PARAMETERS Total Iron Total Zinc	RESULTS 66.8ug/l 19.6ug/l	DATE ANAL. 12/05/98 12/04/98	4	FILE# ME1821 ME1820	
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<100ug/l <100ug/l <100ug/l <100ug/l 340ug/l	10/17/98 10/17/98 10/17/98 10/17/98 10/17/98	05 05 05 05	VA3958 VA3958 VA3958 VA3958 VA3958	

ID:28598092 Mat:Water ARMONK PRIVATE WELLS SITE EW1100898 0847H 10/08/98

PARAMETERS Total Iron Total Zinc	RESULTS 135ug/l 16.3ug/l	DATE ANAL. 12/05/98 12/04/98	KEY	FILE# ME1821 ME1820
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<500ug/l <500ug/l <500ug/l <500ug/l 2800ug/l	10/17/98 10/17/98 10/17/98 10/17/98 10/17/98	05 05 05 05	VA3958 VA3958 VA3958 VA3958 VA3958

ID:28598093 Mat:Water ARMONK PRIVATE WELLS SITE ULI TRIP BLANK 10/08/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<lug <0.5ug="" <lug="" l="" l<="" td=""><td>10/17/98 10/17/98 10/17/98 10/17/98 10/17/98</td><td></td><td>VA3958 VA395 VA395 VA3958 VA395</td></lug>	10/17/98 10/17/98 10/17/98 10/17/98 10/17/98		VA3958 VA395 VA395 VA3958 VA395

U state Laboratories, Inc.

Tetrachloroethene

A alysis Results

Report Number: 28598087 Client I.D.: ENVIROTRAC

Sampled by: CLIENT

LITEUR I.D MAALKOLIGIO				
:28598094 Mat:Water, ARMONK PRIVE	ATE WELLS SITE GACIIB1100898	0820H 10/08/98		
	RESULTS	DATE ANAL.	KEY	FILE#
PARAMETERS				
			V**	water state in
EPA Method 8010		0.00	- 24	
	<1ug/1	10/17/98	77	VA3958
Vinyl Chloride cis-1,2-Dichloroethene	- /=	10/17/98	-2	VA3958
trans-1,2-Dichloroether	ne <1ug/1	10/17/98	1.7	VA3958
trans-1,2-bienforoether	<1ug/l	10/17/98		VA3958
Trichloroethene Tetrachloroethene	<0.5ug/l	10/17/98		VA3958
			=	
THE TARREST TO THE TARRONK PRIV	ATE WELLS SITE GAC11B2100898	0802H 10/08/98		
.D:28598095 Mat:Water ARMONK PRIV				
	RESULTS	DATE ANAL.	KEX	FILE#
PARAMETERS				
)				
EPA Method 8010				
Vinyl Chloride	<1ug/l	10/18/98		VA3958
cis-1,2-Dichloroethene	<lug l<="" td=""><td>10/18/98</td><td></td><td>VA3958</td></lug>	10/18/98		VA3958
trans-1,2-Dichloroethe	ne <lug l<="" td=""><td>10/18/98</td><td></td><td>VA3958</td></lug>	10/18/98		VA3958
Trichloroethene	<lug l<="" td=""><td>10/18/98</td><td></td><td>VA3958</td></lug>	10/18/98		VA3958
Tetrachloroethene	<0.5ug/l	10/18/98		VA3958
		= 1=11=11	= =	
ID:28598096 Mat:Water ARMONK PRIV	ATE WELLS SITE CIN100898 0835	H 10/08/98		
1		DATE ANAL.	KEY	FILE#
PARAMETERS	RESULTS	DAIL MINE.		
*********		12/05/98		ME1821
Total Iron	<60ug/1	12/04/98		MR1820
Total Zinc	73.0ug/l	12/01/50		
EPA Method 8010	<20ug/l	10/23/98	05	VA3973
Vinyl Chloride		10/23/98	05	VA3973
cis-1,2-Dichloroethene		10/23/98	05	VA3973
trans-1,2-Dichloroethe	<pre><20ug/1</pre>	10/23/98	05	VA3973
Trichloroethene	470ug/1	10/23/98		VA397 3

470ug/1

DATE: 12/31/98

Upstate Laboratories, Inc.

Analysis Results

Report Number: 28598087 Client I.D.: ENVIROTRAC

Lab f.D.: 10170

Sampled by: CLIENT

ID:28598138 Mat:Water ARMONK PRIVATE WELLS SITE HOLDING BLANK 10/10/98

PARAMETERS	RESULTS	DATE ANAL.	KEY	FILE#
EPA Method 8010 Vinyl Chloride cis-1,2-Dichloroethene trans-1,2-Dichloroethene Trichloroethene Tetrachloroethene	<pre><lug 1="" 1<="" <0.5ug="" <lug="" pre=""></lug></pre>	10/23/98 10/23/98 10/23/98 10/23/98 10/23/98		VA3973 VA3973 VA3973 VA3973 VA3973

- MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS
- MATRIX INTERFERENCE
- PRESENT IN BLANK
- ANALYSIS NOT PERFORMED BECAUSE OF INSUFFICIENT SAMPLE
- THE PRESENCE OF OTHER TARGET ANALYTE(S) PRECLUDES LOWER DETECTION LIMITS
- BLANK CORRECTED
- HEAD SPACE PRESENT IN SAMPLE 7
- QUANTITATION LIMIT IS GREATER THAN THE CALCULATED REGULATORY LEVEL. THE
 - QUANTITATION LIMIT THEREFORE BECOMES THE REGULATORY LEVEL. THE OIL WAS TREATED AS A SOLID AND LEACHED WITH EXTRACTION FLUID
- q 10 ADL(AVERAGE DETECTION LIMITS)
- 11 PQL (PRACTICAL QUANTITATION LIMITS)
- 12 SAMPLE ANALYZED OVER HOLDING TIME
- 13 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL DUE TO CONTAMINATION FROM THE FILTERING PROCEDURE
- 14 SAMPLED BY ULI
- 15 DISSOLVED VALUE MAY BE HIGHER THAN TOTAL; HOWEVER, THE VALUES ARE WITHIN EXPERIMENTAL ERROR
- 16 AN INHIBITORY FACTOR WAS OBSERVED IN THIS ANALYSIS
- 17 PARAMETER NOT ANALYZED WITHIN 15 MINUTES OF SAMPLING
- 18 THE SERIAL DILUTION OF THIS SAMPLE SUGGESTS A POSSIBLE PHYSICAL AND/OR CHEMICAL INTERFERENT IN THIS DETERMINATION. THE DATA MAY BE BIASED EITHER HIGH OR LOW.
- CALCULATION BASED ON DRY WEIGHT
- INDICATES AN ESTIMATED VALUE, DETECTED BUT BELOW THE PRACTICAL QUANTITATION LIMITS
- 21 UG/KG AS REC.D / UG/KG DRY WT
- 22 MG/KG AS REC.D / MG/KG DRY WT
- 23 INSUFFICIENT SAMPLE PRECLUDES LOWER DETECTION LIMITS
- 24 SAMPLE DILUTED/BLANK CORRECTED
- 25 ND (NON-DETECTED)
- 26 MATRIX INTERFERENCE PRECLUDES LOWER DETECTION LIMITS/BLANK CORRECTED
- SPIKE RECOVERY ABNORMALLY HIGH/LOW DUE TO MATRIX INTERFERENCE
- 28 POST-DIGESTION SPIKE FOR FURNACE AA ANALYSIS IS OUTSIDE OF THE CONTROL LIMITS (85-115%); HOWEVER, THE SAMPLE CONCENTRATION IS BELOW THE PQL
- 29 ANALYZED BY METHOD OF STANDARD ADDITIONS
- 30 METHOD PERFORMANCE STUDY HAS NOT BEEN COMPLETED/ND(NON-DETECTED)
- FIELD MEASURED PARAMETER TAKEN BY CLIENT
- TARGET ANALYTE IS BIODEGRADED AND/OR ENVIRONMENTALLY WEATHERED
- NON-POTABLE WATER SOURCE
- THE QUALITY CONTROL RESULTS FOR THIS ANALYSIS INDICATE A POSITIVE BIAS OF 1-5 MG/L. THE POSITIVE BIAS FALLS BELOW THE PUBLISHED EPA REGULATORY DETECTION LIMIT OF 5 MG/L BUT ABOVE 1 MG/L.
- 35 THE HYDROCARBONS DETECTED IN THE SAMPLE DID NOT CROSS-MATCH WITH COMMON
- PETROLEUM DISTILLATES 36 MATRIX INTERFERENCE CAUSING SPIKES TO RESULT IN LESS THAN 50.0% RECOVERY
- 37 MILLIGRAMS PER LITER (MG/L) / POUNDS (LBS) PER DAY
- 38 MILLIGRAMS PER LITER (MG/L) OF RESIDUAL CHLORINE (CL2) / POUNDS (LBS)
- PER DAY OF CL2
- MICROGRAMS PER LITER (UG/L) / POUNDS (LBS) PER DAY 40 MILLIGRAMS PER LITER (MG/L) LINEAR ALKYL SULFONATE (LAS) / POUNDS (LBS)
- PER DAY LAS 41 RESULTS ARE REPORTED ON AN AS REC.D BASIS
- THE SAMPLE WAS ANALYZED ON A TOTAL BASIS; THE TEST RESULT CAN BE COMPARED TO THE TCLP REGULATORY CRITERIA BY DIVIDING THE TEST RESULT BY 20, CREATING A THEORETICAL TCLP VALUE
- 43 METAL BY CONCENTRATION PROCEDURE
- 44 POSSIBLE CONTAMINATION FROM FIELD/LABORATORY

Upstate Laboratories, Inc. Internal Laboratory Sign-Out Log

SR-10-03 Revised 3/98

Project:

SDG No.: ULI ID No.:

Date/Time S.Custodian Analyst S.Custodian Purpose Date/Time **ULI Number or** Sample(s) Returned Initials Initials Initials Range of ULI Numbers Sample(s) Taken 10 17-98 4pm

EnviroTrac

UPSTATE LABORATORIES CHAIN OF CUSTODY

561 P. Acorn SI, Deer Park, NY 11729 (516) 586-1800 Fax (516) 586-1879 Contact: Ted Masters Armonk Private Wells Site New York State Superfund Project Town of North Castle, Westchester Co., NY Sile No. 3-00-005 Contract No. D003635

Laboratory Address: 6034 Corporate Dr.

6034 Corporate Dr. Enst Syrecuse, NY 13057 Russ Trovato (201) 703-1324 ASP Cool. A.
msp.
msp.
ms/Dupe

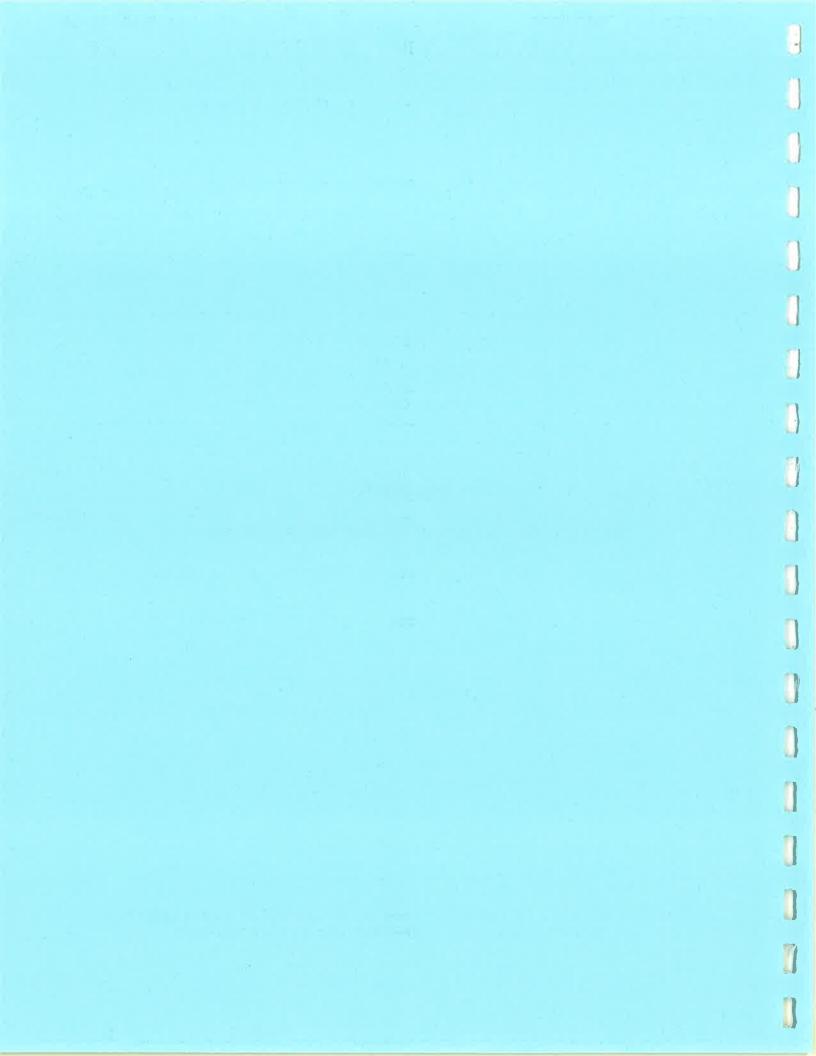
**				(#) (#)				uss Trovato (201) 703-1324	
Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Requested Turnaround
3598087	m 5	0749	TM	H2O	(2VOAs	HCI	EFF 10/30 100898	8010	2 weeks
	10/5/98	0749	1	H2O	1 Plastic	ниоз	TM EFF 18598 /00398	6010	2 weeks
	10/8/98	0749		H2O	2VOAs	нсі	MS/MSD (EFF)	8010	2 weeks
88	(M 8 10/\$/98	0757		H2O	2VOAs	HCI	AG1 10508 100898	8010	2 weeks
89	10/b/98	0824		H2O	1)Plastic	HNO3	ABF 10599 10 08 98	6010	2 weeks
90	10/\$/98	0827		H2O	/2VOAs	HCL	EW3 10608 1008 18	8010	2 weeks
	TM 8 10/\$/98	0827		H2O	Plastic	ниоз	EW3 10608 100 808	6010	2 weeks
9/	10/\$/98	0841		H2O	2VOAs	HCL	EW2 10508 100898	8010	2 weeks
10	10/\$/98	0841		1120	1 Plastic	HNO3	EW2 10504 10087 9	6010	2 weeks
92	TM 9	0847		H2O	(2 VOAs	HCL	EW1 10508 100298	8010	2 weeks
	10/6/98	0847		H2O	1 Plastic	HNO3	EW1 10598 100878	6010	2 weeks
93	10/\$/98	0847	J	H2O	OVOA	HCL	(m) Trip Blank rooms Im	8010	2 weeks
							INBHO m		1
94	iolstar	0820	TM	Had	(Quas:	Hei	GAC/ INR 1/00898	80 10	
95	10/8/us	0802	1	1120	(DUDAS	HCI	OACIIB2 100878	8010	
96	10/8/18	0835		rho	Pols	Hel	CIN 100898	8010	
	(Olglay	0835		Hio	Utkotic	thus	CIN 1008 98.	6010	1
1138	(10-12-99			(H20)	0	(404)	(Holding Blank) "	(8010)	
endquished by:	Tinie/Dat 1200/16	19/98	Received E	<i>7</i> .	Time/Date		BOID FOR TETRE	love othere, Tri	hlocoethylene trais
elinquished by:	Time/Dal	е:	Received	1/200	Timo/Date	91 0815	Dichlers Thib		ocisle

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Appendix H

Bag Filter and Bag Filter Sediment Sampling Results



MAY- 1-98 FRI 7:14

UPSTATE LABORATORIES INC FAX NO. 3154371209

P. 01

Sampling 02903

tories inc.

Shipping: 6034 Corporate Dr. • E. Syracuse, NY 13057-1017 • (315) 437-0255 • Fax (315) 437-1209

Mailing: Box 289 - Syracuse, NY 13206

Buffalo (716) 619-2533 Rochester (716) 436-9070

Albury (518) 459-3134

New Jersey (201) 703-1324

Binghamion (607) 724-0478

FAX TRANSMISSION

TO: Ted Masters

EnviroTrac

FAX NO.: (914)-273-0238/(516)-586-1879

RE: Analytical Results

Armonk Private Wells Site

(Samples collected on April 15, 1998)

FROM:

Peter Fricano

DATE:

May 1, 1998

TIME:

8:10 AM NUMBER OF PAGES (including this sheet):

MESSAGE:

Please find attached complete results for samples collected on April 15, 1998.

Should you have any questions, please feel free to call me.

Thank you,

Peter Fricano.

If you do not receive all pages or if portions are illegible, please call (315) 437-0255 for Retransmission

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MAY- 1-98 FRI 7:15

UPSTATE LABORATORIES INC

FAX NO. 3154371209

P. 02

DATE:

Upstate Laboratories, Inc. Analysis Results Report Number: 10698017 Client I.D.: ENVIROTRAC

APPROVAL:____

Sampled by: Client

ID:10698017 Mat:8011 ARMONK PRIVATE WELLS SITE BAG PILTER & SEDIMENT 0950H 04/15/98

TCLP Volatile Organic Compounds by 8240 TCLP Benzene	PAI	rameters	RESULTS	DATE ANAL.	KEX	FILE
TCLP Benzene <0.03mg/l 04/28/98 VM1861 TCLP Carbon Tetrachloride <0.03mg/l						
TCLP Benzene <0.03mg/l 04/28/98 VM1861 TCLP Carbon Tetrachloride <0.03mg/l		_	:			
TCLP Carbon Tetrachloride <0.03mg/l 04/28/98 VM1861 TCLP Chlorobenzene <0.03mg/l						
TCLP Chlorobenzene <0.03mg/l 04/28/98 VM1861 TCLP Chloroform <0.03mg/l	TCLP		<0.03mg/l	04/28/98		VM1861
TCLP Chlorobenzene <0.03mg/l 04/28/98 VM1861 TCLP Chloroform <0.03mg/l	TCLP	Carbon Tetrachloride	< 0.03 mg/1	04/28/98		VM1861
TCLP Chloroform <0.03mg/l 04/28/98 VM1861 TCLP 1,4-Dichlorobenzene <0.03mg/l 04/28/98 VM1861 TCLP 1,2-Dichloroethane <0.03mg/l 04/28/98 VM1861 TCLP 1,1-Dichloroethene <0.03mg/l 04/28/98 VM1851 TCLP Methyl Rthyl Ketone <0.1mg/l 04/28/98 VM1851			< 0.03 mg/1	04/28/98		VM1861
TCLP 1,4-Dichlorobenzene <0.03mg/1			< 0.03 mg/1	04/28/98		VM1861
TCLP 1,2-Dichloroethane <0.03mg/l			<0.03mg/1	04/28/98		VM1861
TCLP 1,1-Dichloroethene <0.03mg/l			< 0.03 mg/1	04/28/98		VM1861
TCLP Methyl Rthyl Ketone <0.lmg/l 04/28/98 VM1861			<0.03mg/l	04/28/98		VM1861
			<0.lmg/l	04/28/98		VM1861
JATTIN LUCET COTTO TO COMPANY CA CA CAMPINAL CA CAMPINAL CA CA CAMPINAL CA CAM	TCLP	Tetrachloroethene	< 0.03 mg/1	04/28/98		VM1861
TCLP Trichloroethene <0.03mg/l 04/28/98 VM1861		-	<0.03mg/l	04/28/98		VM1861
TCLP Vinyl Chloride <0.02mg/l 04/28/98 VM1861			•			

dw = Dry weight

Appendix I

As-Built Drawings