

Office of the County Administrator Patricia G. Bean GW PMUTTE WELLS SW LEACHATE

> Deputy County Administrator Wally Hill

Assistant County Administrators Bernardo Garcia Carl S. Harness Manus J. O' Donnell

April 18, 2006

Mr. John Morris, P.G. Department of Environmental Protection Southwest District-Solid Waste Section 13051 Telecom Parkway Temple Terrace, FL 33637 FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION APR 21 2006 SOUTHWEST DISTRICT

RESULTS FOR
RATION ULLI DES
(GRESS ATHA, LADION
ZZIE, RATIZUM 228)
NOT PROVIDED IN LASS
REJONT, BUT WILLDED
ON SUMMANY TASSE

Re: Southeast County Landfill

Operations Permit No.'s 35435-006-SO, 35435-007-SO, and 35435-009-SC Semi-Annual Analytical Data Report, February 2006

Dear Mr. Morris:

BOARD OF COUNTY COMMISSIONERS

Brian Blair Kathy Castor

Ken Hagan

Jim Norman

Thomas Scott

Mark Sharpe Ronda Storms

In accordance with the above-referenced Landfill Operation and Construction Permits, the Hillsborough County Solid Waste Management Department (SWMD) is pleased to provide the February 2006 analytical data report (ADR) for the semi-annual water quality monitoring at the Southeast County Landfill (SCLF). Samples were collected on February 20 through February 24, 2006 by the SWMD Field Sampling Team.

The SWMD completed the installation of five new surficial aquifer groundwater monitoring wells in the areas adjacent to the Section 7 and Section 8 landfill expansion cells. Three of the new wells are designated as TH-62, TH-63, and TH-68, and function as the permit required detection wells for Section 8. The two additional wells, TH-59C and TH-60C, are the compliance wells addressing impacts to groundwater observed in the Section 7 detection wells TH-59 and TH-60. All five of the new groundwater monitoring wells were sampled and analyzed for in accordance with Specific Condition No. 26c of the Section 8 Construction Permit and the rules set forth in Chapter 62-701.510(8a-d). A thorough discussion of the water qualities observed across the site is provided herein.

The surficial aquifer groundwater monitoring wells continue to exhibit pH values below the Secondary Drinking Water Standard's (SDWS) acceptable range. Iron is consistently observed above the SDWS within several surficial aquifer wells at the SCLF, including the background water quality wells TH-22A and TH-36A. In addition, as previously presented to the Florida Department of Environmental Protection (FDEP), the elevated concentrations of iron and the low pH values can be directly attributed to the previous usage of the property as a phosphate mining area.

Post Office Box 1110 · Tampa, Florida 33601 Web Site: www.hillsboroughcounty.org An Affirmative Action/Equal Opportunity Employer

FEB 2006 SAMPLAGE SHENT

Any violations of the water quality criteria and the overall impact to the future groundwater monitoring activities at the SCLF are discussed in parameter specific details herein.

FIELD PARAMETERS

<u>pH</u>

The surficial aquifer detection and background groundwater quality monitoring wells continue to exhibit pH values below the SDWS acceptable range of 6.5 to 8.5 pH units. The pH values across the site range in value from 4.62 to 6.37 pH units. The pH at the site has historically been observed to be below the acceptable range. The 1983 Ardaman and Associates, Inc. report titled Hydrogeologic Investigation, Southeast County Landfill, reported pH values ranging from 4.4 to 6.7 pH units in six wells on site. This data was collected prior to construction of the landfill, and therefore demonstrates that the pH values historically observed are likely attributable to the phosphate mining activities conducted prior to construction of the landfill.

No unusual conditions or changes in pH values within any of the groundwater monitoring wells or surface water sites were observed during this sampling event.

Turbidity

In accordance with the April 3, 2003 Approval of Corrective Action Plan letter from the Florida Department of Environmental Protection (FDEP), the SWMD has recorded turbidity data for the period from September 2005 through February 2006. A summary table of the turbidity data obtained from the surface water sampling points 3A, 3B2B and 3C2 located in Long Flat Creek is provided within this ADR. The turbidity measurements have been observed within the compliance level of 29 nephelometric turbidity units (NTU) above the background (upstream) value.

GENERAL PARAMETERS

Total Dissolved Solids

The surficial aquifer detection well, TH-60, exhibited total dissolved solids (TDS) above the Secondary Drinking Water Standard (SDWS) of 500 milligrams per liter (mg/l) with a concentration of 1200 mg/l. This well has consistently exhibited TDS above standards, and was constructed in an area that had been reworked during construction and filled with offsite fill materials prior to construction of the detection wells for Section 7. All of the other monitoring wells were observed below the SDWS for TDS during this sampling event.

Total Alpha

The Weeks' private supply well exhibited concentrations of total alpha at 19.1 picocuries per liter (pCi/l), which is above the Primary Drinking Water Standard (PDWS) of 15 pCi/l. This supply well has historically been observed to exhibit total alpha just below the PDWS. The SWMD will continue to monitor this parameter during the next sampling event in May 2006, and the home owner shall be appropriately notified of this condition. The detections of this radiological

parameter in the Weeks' private supply well is not readily attributable to the landfill operations, and is likely attributable to the past strip mining activities in the area.

Radium 226

The Weeks' private supply well exhibited concentrations of radium 226 at 12.6 picocuries per liter (pCi/l), which is above the Primary Drinking Water Standard (PDWS) of 5 pCi/l. This supply well has periodically been observed to exhibit radium 226 only slightly above the PDWS. No unusual conditions or changes in radium 226 values were observed during this sampling event, and the home owner shall be appropriately notified of this condition. The detection of this radiological parameter in the Weeks' private supply well is not readily attributable to the landfill operations, and is likely attributable to the past strip mining activities in the area.

Fecal Coliform

The surface water sampling point 3A, which is the upstream data point on Long Flat Creek, exhibited concentrations of fecal coliform at 1,400 colonies per 100 milliliter (col/100ml). This value is above the Surface Water Standard of 800 col/100ml. No other surface water sites exceeded the standard during this event.

METALS

<u>Iron</u>

Iron concentrations in fifteen of the eighteen surficial aquifer monitoring wells were above the applicable SDWS of 0.300 mg/l. The highest concentration for iron was 16 mg/l in detection well TH-60. The iron concentrations observed in the surficial aquifer wells across the site have historically been elevated, and the 1983 Ardaman and Associates, Inc. report titled Hydrogeologic Investigation, Southeast County Landfill, reported iron above the PDWS at concentrations ranging from 0.43 to 20.0 milligrams per liter (mg/l). Based on the iron concentrations observed prior to construction of the landfill, the iron historically observed across the site is likely attributable to the past mining activities. As presented to the FDEP by our contracted consultant, Jones Edmunds, the landfill liner systems have created anaerobic environments under the lined cells. These environments are known to facilitate iron reducing bacteria processes which result in the higher iron concentrations in the areas down gradient of the landfill liner systems. It should also be noted that areas at the SCLF that have been disturbed by mining or landfill construction activities appear to exhibit the highest iron concentrations. Based on these potential sources of iron in the groundwater at the site, the SWMD maintains the position that the source of iron is not the buried wastes within the landfill.

The SCLF private supply wells owned by Weeks and Holland exhibited levels of iron above the SDWS with concentrations of 0.5 mg/l and 1.5 mg/l, respectively. These wells consistently exhibit iron above the SDWS. No unusual conditions or changes in iron concentrations within any of the groundwater monitoring wells or surface water samples at the site were observed during this event.

Nickel

Nickel was observed in TH-60 above the PDWS of 0.1 mg/l at a concentration of 0.18 mg/l, during this sampling event. Detection well TH-59 exhibited a concentration of nickel at 0.046 mg/l. Nickel has consistently been observed in these wells since the initial samples were collected in October 2003 prior to waste being placed in the Section 7 cell.

ORGANIC PARAMETERS

The organic parameters were analyzed by EPA Method 8260. The results of analyses are discussed in detail in the following paragraphs.

Benzene was observed in the Section 7 detection monitoring well TH-60 above the PDWS of 1 microgram per liter (ug/l) at a concentration of 2.9 ug/l. TH-59 exhibited a benzene concentration of 0.41 ug/l. The chlorinated solvents cis-1,2-dichloroethane, 1,2 dichloroethane, trichloroethane, and 1,1-dichloroethane were observed in TH-60 below their respective drinking water standards or guidance concentrations. No chlorinated solvents were detected in TH-59 during this sampling event. The SWMD maintains the position that the impacts to these wells were the direct result of landfill gas migration from Section 7. Since implementation of the corrective actions along the northwest side of Section 7, the number and concentration of VOCs has steadily decreased. All the evidence submitted to date, and the data provided within this ADR further solidifies that position.

Vinyl chloride was not detected in the surficial aquifer detection wells TH-59 and TH-60 during this sampling event. The detections reported during the August 2005 sampling event indicate that the data provided by our former laboratory, Test America, Inc, should be considered outliers to the data set. The SWMD continues to maintain the position that vinyl chloride was not and is not present within the groundwater in the vicinity of the Section 7 detection wells TH-59 and TH-60.

As previously discussed, the compliance groundwater monitoring wells, TH-59C and TH-60C have been installed approximately 50 feet northwest of the detection wells TH-59 and TH-60. Installation of these wells was intended to address the potential migration of the volatile organic compounds observed in the detection wells TH-59 and TH-60. There were no detections of any VOCs in either of these two compliance wells during this sampling event.

Detection monitoring wells TH-62 and TH-63 were installed on the northwestern side of the new Section 8 landfill cell. An additional detection monitoring well, TH-68, was installed on the southeastern side of the Section 8 landfill cell. The water qualities observed in these wells were within the Florida PDWS, SDWS, and minimum criteria, with the exception of pH and iron, which were observed to be outside their respective SDWS. No VOCs were observed in any of the Section 8 detection wells during this sampling event.

Enclosed for your review is a detailed site location map, the analytical data summary tables, a groundwater elevation data summary table, a surficial aquifer groundwater elevation contour diagram, a data summary table of turbidity measurements, a data summary table for the private supply wells, copies of the letters sent to the owners of the private wells, and the complete laboratory analytical data report sheets.

Should you have any questions, require any additional information, or would like to discuss the information provided within this submittal, please feel free to contact me at (813) 276-2944 or via e-mail at *adamsds@hillsboroughcounty.org*.

Sincerely

David S. Adams, P.G. Environmental Manager

Solid Waste Management

DSA/mdt Enclosures

xc:

Barry M. Boldissar, Director, SWMD, w/o enclosures
Patricia Berry, Section Manager, SWMD, w/o enclosures
Ernest Ely, Landfill Manager, WM, Southeast Landfill
Larry Ruiz, Project Manager, SWMD
Rich Siemering, Jones Edmunds
Chongman Lee, Department of Environmental Protection
Paul Schipfer, Environmental Protection Commission
Irene Barnes, Southeast Hillsborough Civic Association

enviro/projects/self/ADRs/2006/self adr 2-06.doc

Florida Department of Environmental Protection

Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, Florida 32399-2400

DEP Form #_62-522.900(2)
Form Title <u>Ground Water Monitoring</u> <u>Report</u>
Effective Date
DEP Application No

GROUND WATER MONITORING REPORT

Rule 62-522.600(11)

	Rule 02-322.000	(11)	C.T.
PART I GENERAL INFOR	MATION	Dept.	of Environmental
(1) Facility Name	SOUTHEAST LANDFILL		Protection
Address	15960 C. R. 672		APR 26 2006
City LITHIA, F	·L	Zip	33503
Telephone Number			thwest District
(2) The GMS Identification	on Number4029C30075	501	Ittiwest District
(3) DEP Permit Number	35435-006-SO		
(4) Authorized Represen	ntative NameBARRY M. BOLDISSAR, DIREC	CTOR, SOLID WASTE MAN	IAGEMENT DEPT
Address PO	BOX 1110		
City TAM	PA, FLORIDA		Zip 33601
Telephone Number (813) 276-2900		
(5) Type of Discharge	GROUNDWATER - POTENTIAL ONLY		
(6) Method of Discharge	LANDELL		
all attachments and that, b	<u> </u>	responsible for obtaining the significant penalties for sub-	ne information, I believe omitting false information,
	Signal	ture of Owner or Authorized	I Representative
PART II QUALITY ASSUR	ANCE REQUIREMENTS		•
Sample Organization			
Analytical Lab	O OAD # # IDO O (15 11 #		
, marytical Lab	*Comp QAP # /HRS Certification #		70,
Lah Nama SEVERA	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·
	JAMIN ROAD, SUITE 100, TAMPA, FL 33634		7-7-7
Phone Number (813) 885	-7427		

Analytical Results from Private Well Samples at the Southeast Landfill February 20, 2006

GENERAL (mg/l)	T F	Private Wells	s T	(MCL) STANDARD
PARAMETERS	Weeks	Holland	Barnes	F.A.C. 62-550
conductivity (umhos/cm) (field)	525	380 、	336 -	NS
pH (field)	7.11 -	7.28	7.39	(6.5 - 8.5)**
total dissolved solids (mg/l)	320	220	220 .	500**
temperature (°C) (field)	23.12 -	23.72 -	18.08 -	NS
turbidity (NTU) (field)	2.4	0.80 -	2.2 -	NS
chloride (mg/l)	28	21	9.8 -	250**
ammonia nitrogen (mg/l as N)	0.13	0.052	0.23 ·	NS 2-8
nitrate (mg/l as N)	0.036	BDL .	0.09	10*
dissolved oxygen (mg/l) (field)	2.06 -	1.06 ·	1.86	NS
total alpha (pCi/l)	19.1	3.4	5.2	15*
radium 226 (pCi/l)	12.6	2	4	5*
radium 228 (pCi/l)	BDL	BDL	BDL	5*
	: :::::::::::::::::::::::::::::::::::::			
	F	Private Wells	3	(MCL) STANDARD
Metals: (mg/l)	Weeks	Holland	Barnes	F.A.C. 62-550
iron	0.500	1.500	BDL	0.3**
chromium	BDL	0.0018	BDL ·	0.2
cobalt	BDL	0.0013	BDL \	140***
copper	BDL `	0.0042	BDL ~	1**
barium	0.0053	0.005	0.0055	2*
arsenic	BDL -	BDL ·	BDL -	0.05*
lead	BDL ^	BDL -	BDL -	0.015*
sodium	8.1 -	5.2	15 -	160*
mercury	BDL \	BDL .	BDL -	0.002
zinc	0.11	0.054	0.100 -	5**
antimony	BDL -	BDL `	BDL -	.006*
nickel	BDL -	0.0052 ~	BDL -	0.1*
Organics: (µg/l)	F	Private Wells	3	(MCL) STANDARD
Organic Parameters Detected	Weeks	Holland	Barnes	F.A.C. 62-550
1,1-dichloroethene	BDL -	BDL ·	BDL -	7*
Notes: Reference Groundwater Guida	ance Concent	rations, FDE	P June 1994	
NS=NO STANDARD				
MCL=MAXIMUM CONTAMINANT LE	VEL			
BDL=BELOW DETECTION LIMIT				
NA=NOT AVAILABLE				
*=DENOTES PRIMARY DRINKING V	VATER STAN	DARD		
**=DENOTES SECONDARY DRINKI	NG WATER S	STANDARD		
19.1	: EXCEEDS	STANDARD	os	
NTU=NEPHELOMETRIC TURBIDITY	UNITS			
pCi/I=PICOCURIES PER LITER				
ug/I=MICROGRAMS PER LITER				
mg/I=MILLIGRAMS PER LITER				

Prepared by: Mike Townsel QC'd by: Jim Clayton FinalQC: David Adams



BOARD OF COUNTY COMMISSIONERS

Brian Blair Kathy Castor Ken Hagan Jim Norman Thomas Scott Mark Sharpe Ronda Storms

Office of the County Administrator
Patricia G. Bean

Deputy County Administrator Wally Hill

Assistant County Administrators Bernardo Garcia Carl S. Harness Manus J. O' Donnell

April 14, 2006

Mr. Tom Holland 121 Carter Road Lithia, FL 33547

Subject: Analytical Data
Domestic Supply Well
121 Carter Road

Dear Mr. Holland:

The Hillsborough County Solid Waste Management Department (SWMD) is pleased to provide the analytical data for your domestic supply well which was sampled on February 20, 2006. Iron was observed at a concentration of 1.50 mg/l which is above the Florida Secondary Drinking Water Standard (FAC Ch 62-550.320) of 0.30 mg/l. All other parameters are within Primary and Secondary Drinking Water Standards (FAC Ch 62-550.310-.320).

For health effects information you may call the Hillsborough County Health Department at (813) 307-8001. If you have any questions on the analysis, you may call me at 276-2955. Thank you for your continued permission to test this well.

Michael D. Townsel

Hydrologist

Sincerely

Solid Waste Management Department

mdt Enclosures

xc: Irene Barnes, Southeast Hillsborough Civic Association Cindy Morris, Hillsborough County Health Department



BOARDOFCOUNTY COMMISSIONERS

Brian Blair Kathy Castor Ken Hagan Jim Norman Thomas Scott Mark Sharpe Ronda Storms

Office of the County Administrator Patricia G. Bean Deputy County Administrator Wally Hill

Assistant County Administrators Bernardo Garcia Carl S. Harness Manus J. O' Donnell

April 14, 2006

Mr. Howard Barnes P.O. Box 108 Lithia, FL 33547

Subject: Analytical Data

Domestic Supply Well 17502 County Road 672

Dear Mr. Barnes:

The Hillsborough County Solid Waste Management Department (SWMD) is pleased to provide the analytical data for your domestic supply well which was sampled on February 20, 2006. All parameters are within Primary and Secondary Drinking Water Standards (FAC Ch 62-550.310-.320).

If you have any questions on the analysis, you may call me at 276-2955. Thank you for your permission to test this well.

Michael D. Townsel

Hydrologist

Sincerely

Solid Waste Management Department

mdt Enclosures

xc Irene Barnes, Southeast Hillsborough Civic Association Cindy Morris, Hillsborough County Health Department



BOARDOFCOUNTY COMMISSIONERS

Brian Blair Kathy Castor Ken Hagan Jim Norman Thomas Scott Mark Sharpe Ronda Storms

Office of the County Administrator Patricia G. Bean

April 14, 2006

Deputy County Administrator Wally Hill

Assistant County Administrators Bernardo Garcia Carl S. Harness Manus J. O' Donnell

Mr. & Mrs. Harold Weeks 116 Wendel Ave. Lithia, FL 33547

Subject: Analytical Data
Domestic Supply Well
116 Wendel Ave.

Dear Mr. & Mrs. Weeks:

The Hillsborough County Solid Waste Management Department (SWMD) is pleased to provide the analytical data for your domestic supply well which was sampled on February 20, 2006. Iron was observed at a concentration of 0.50 mg/l. This value exceeds the Florida Secondary Drinking Water Standard (FAC Ch 62-550.320) of 0.30 mg/l. Total Alpha and Radium 226 was also observed at concentrations of 19.1 pCi/l and 12.6 pCi/l, respectfully. These values exceed the Florida Primary Drinking Water Standard (FAC Ch 62-550.310) of 15 pCi/l and 5.0 pCi/l. All other parameters tested are within Florida Primary and Secondary Drinking Water Standards (FAC Ch 62-550.310-.320).

For health effects information you may call the Hillsborough Health Department at (813) 307-8001. If you have any questions on the analysis, you may call me at 276-2955. Thank you for your permission to test this well.

Sincerely,

Michael D. Townsel

Hydrologist

Solid Waste Management Department

mdt

Enclosures

xc: Irene Barnes, Southeast Hillsborough Civic Association Cindy Morris, Hillsborough County Health Department



Client Sample ID: WEEKS

Lab Sample ID: 660-7296-2

Date Sampled: 02/20/2006 0935

Date Received: 02/20/2006 1500

Job Number: 660-7296-1

Percent Solids:

Analyte	Result/Qualifier	Unit	NONE Dilution
Method: Field Sampling	Date Prepared:		Date Analyzed: 02/20/2006 0935
Field pH	7.11	SU	1.0
Field Temperature	23.12	Degrees C	1.0
Oxygen, Dissolved	2.06	mg/L	1.0
Specific Conductance	525	umhos/cm	1.0
Turbidity	2.4	NTU	1.0



Job Number: 660-7296-1

Client Sample ID: WEEKS

Lab Sample ID: 660-7296-2

Date Sampled: 02/20/2006 0935 Date Received: 02/20/2006 1500

Analyte	Result/Qual	ifier	Unit	MDL	PQL	Dilution	
Method: 8260B	Date Prepare	ed:	02/27/2006 2040	Date Analyzed:	02/27/2006	2040	
Acetone	9.9	U	ug/L	9.9	20	1.0	
Acrylonitrile	1.2	U	ug/L	1.2	100	1.0	
Benzene	0.27	U	ug/L	0.27	1.0	1.0	
Bromodichloromethane	0.35	U	ug/L	0.35	1.0	1.0	
Bromoform	0.58	U	ug/L	0.58	1.0	1.0	
Bromomethane	0.66	U	ug/L	0.66	1.0	1.0	
Methyl Ethyl Ketone	8.4	U	ug/L	8.4	10	1.0	
Carbon disulfide	0.85	U	ug/L	0.85	1.0	1.0	
Carbon tetrachloride	0.42	U	ug/L	0.42	1.0	1.0	
Chlorobenzene	0.63	U	ug/L	0.63	1.0	1.0	
Bromochloromethane	0.58	U	ug/L	0.58	1.0	1.0	
Chloroethane	0.80	U	ug/L	0.80	1.0	1.0	
Chloroform	0.90	U	ug/L	0.90	1.0	1.0	
1,2-Dichlorobenzene	0.44	U	ug/L	0.44	1.0	1.0	
Chloromethane	0.64	U	ug/L	0.64	1.0	1.0	
Dibromochloromethane	0.34	U	ug/L	0.34	1.0	1.0	
Dibromomethane	0.41	U	ug/L	0.41	1.0	1.0	
trans-1,4-Dichloro-2-butene	2.5	U	ug/L	2.5	10	1.0	
1,4-Dichlorobenzene	0.52	U	ug/L	0.52	1.0	1.0	
1,1-Dichloroethane	0.52	Ū	ug/L	0.52	1.0	1.0	
1,2-Dichloroethane	0.57	Ų	ug/L	0.57	1.0	1.0	
1,1-Dichloroethene	0.45	Ū	ug/L	0.45	1.0	1.0	
cis-1,2-Dichloroethene	0.65	Ū	ug/L	0.65	1.0	1.0	
trans-1,2-Dichloroethene	0.44	Ū	ug/L	0.44	1.0	1.0	
1,2-Dichloropropane	0.52	Ū	ug/L	0.52	1.0	1.0	
cis-1,3-Dichloropropene	0.14	Ü	ug/L	0.14	1.0	1.0	
trans-1,3-Dichloropropene	0.14	Ü	ug/L	0.14	1.0	1.0	
Ethylbenzene	0.44	U	ug/L	0.44	1.0	1.0	
2-Hexanone	4.4	U	ug/L	4.4	1.0	1.0	
	4.4 0.67	U	ug/L	0.67	1.0	1.0	
lodomethane	3.8	U		3.8	1.0	1.0	
4-Methyl-2-pentanone	4.0	U	ug/L	4.0	5.0	1.0	
Methylene Chloride			ug/L			1.0	
Styrene	0.98	U	ug/L	0.98	1.0		
1,1,2,2-Tetrachloroethane	0.14	U	ug/L	0.14	1.0	1.0	
1,1,1,2-Tetrachloroethane	0.63	U	ug/L	0.63	1.0	1.0	
Tetrachloroethene	0.34	U	ug/L	0.34	1.0	1.0	
Toluene	0.51	U	ug/L	0.51	1.0	1.0	
1,1,1-Trichloroethane	0.46	U	ug/L	0.46	1.0	1.0	
1,1,2-Trichloroethane	0.47	U	ug/L	0.47	1.0	1.0	
Trichloroethene	0.28	U	ug/L	0.28	1.0	1.0	
Trichlorofluoromethane	0.98	U	ug/L	0.98	1.0	1.0	
1,2,3-Trichloropropane	0.15	U	ug/L	0.15	1.0	1.0	
Vinyl acetate	1.5	U	ug/L	1.5	10	1.0	



Job Number: 660-7296-1

Client Sample ID: WEEKS

Lab Sample ID: 660-7296-2

Date Sampled: 02/20/2006 0935 Date Received: 02/20/2006 1500

Analyte	Result/Qualifie	r Unit	MDL	PQL	Dilution
Method: 8260B	Date Prepared:	02/27/2006 2040	Date Analyzed:	02/27/2006	2040
Vinyl chloride	0.50 L	ug/L	0.50	1.0	10
Xylenes, Total	0.30 ل	J ug/L	0.30	1.0	1.0
Surrogate			Acce	ptance Limits	\$
4-Bromofluorobenzene	85	%		74 - 126	
Dibromofluoromethane	87	%		70 - 130	
Toluene-d8	86	%		77 - 122	
Method: 504.1	Date Prepared:	02/27/2006 1330	Date Analyzed:	02/27/2006	2103
1,2-Dibromo-3-Chloropropane	0.0030 l	J ug/L	0.0030	0.020	1.0
Ethylene Dibromide	0.0087 U	J ug/L	0.0087	0.020	1.0
Method: TOT-REC-6010B	Date Prepared:	03/01/2006 1503	Date Analyzed:	03/02/2006	1640
Silver	1.9 l	J ug/L	1.9	10	1.0
Arsenic	4.8 , l) ug/L	4.8	10	1.0
Barium	5.3 I	ug/L	1.2	10	1.0
Beryllium	0.74 l	J ug/L	0.74	4.0	1.0
Cadmium	0.71 l) ug/L	0.71	5.0	1.0
Cobalt	1.6 l	ug/L	1.6	10	1.0
Chromium	1.7 l	_	1.7	10	1.0
Copper	2.9 ل	J ug/L	2.9	20	1.0
Iron	500	ug/L	22	50	1.0
Sodium	8.1	mg/L	0.31	0.50	1.0
Nickel	4.7 l	•	4.7	40	1.0
Lead	1.6 l	-	1.6	5.0	1.0
Antimony	3.6 U	_	3.6	6.0	1.0
Selenium	5.9 l	9	5.9	10	1.0
Vanadium	2.5		2.5	10	1.0
Zinc	110	ug/L	5.9	20	1.0
Method: TOT-REC-6020	Date Prepared:	02/22/2006 1705	Date Analyzed:	02/24/2006	1639
Thallium	0.25 U	J ug/L	0.25	1.0	1.0
Method: 7470A	Date Prepared:	02/27/2006 1406	Date Analyzed:	02/27/2006	1602
Mercury	0.072 U	j ug/L	0.072	0.20	1.0
Method: 325.2	Date Prepared:		Date Analyzed:	02/27/2006	1409
Chloride	28	mg/L	0.90	1.0	1.0
Method: 350.1	Date Prepared:		Date Analyzed:	02/24/2006	1843



Job Number: 660-7296-1

Client Sample ID: WEEKS

Lab Sample ID: 660-7296-2

Date Sampled: 02/20/2006 0935

Analyte	Result/Qualifier	Unit	MDL	PQL	Dilution
Method: 350.1	Date Prepared:		Date Analyzed:	02/24/2006	1843
Ammonia (as N)	0.13	mg/L	0.040	0.050	1.0
Method: 353.2	Date Prepared:		Date Analyzed:	02/22/2006	0755
Nitrate Nitrogen	0.036 I	mg/L	0.010	0.050	1.0
Method: 415.1	Date Prepared:		Date Analyzed:	03/01/2006	1854
Total Organic Carbon	3.0	mg/L	0.53	1.0	1.0



Job Number: 660-7296-1

Client Sample ID: WEEKS

Lab Sample ID: 660-7296-2

Date Sampled: 02/20/2006 0935

Result/Qualifier	Unit	RL	PQL	Dilution
Date Prepared:		Date Analyzed:	02/23/2006	1530
320	mg/L	5.0	5.0	1.0
Date Prepared:		Date Analyzed:	02/22/2006	1157
1.2	mg/L	1.0	1.0	1.0
	Date Prepared: 320 Date Prepared:	Date Prepared: 320 mg/L Date Prepared:	Date Prepared: Date Analyzed: 320 Date Prepared: Date Analyzed:	Date Prepared: Date Analyzed: 02/23/2006 320 mg/L 5.0 5.0 Date Prepared: Date Analyzed: 02/22/2006



Job Number: 660-7296-1

Client Sample ID: HOLLAND

Lab Sample ID: 660-7296-3

Date Sampled: 02/20/2006 1015

Date Received: 02/20/2006 1500

Percent Solids:

Analyte	Result/Qualifier	Unit		NONE	Dilution
Method: Field Sampling	Date Prepared:		Date Analyzed:	02/20/2006	1015
Field pH	7.28	SU			1.0
Field Temperature	23.72	Degrees C			1.0
Oxygen, Dissolved	1.06	mg/L			1.0
Specific Conductance	380	umhos/cm			1.0
Turbidity	0.8	NTU			1.0



Client Sample ID: HOLLAND

Lab Sample ID: 660-7296-3

Date Sampled: 02/20/2006 1015 Date Received: 02/20/2006 1500

Job Number: 660-7296-1

Result/Qualifier Unit MDL **PQL** Dilution **Analyte** Date Analyzed: 02/27/2006 2105 Date Prepared: 02/27/2006 2105 Method: 8260B 9.9 20 1.0 9.9 U ug/L Acetone 100 1.0 1.2 U ug/L 1.2 Acrylonitrile 0.27 U ug/L 0.27 1.0 1.0 Benzene 1.0 U ug/L 0.35 1.0 Bromodichloromethane 0.35 0.58 U ug/L 0.58 1.0 1.0 Bromoform 1.0 Bromomethane 0.66 U ug/L 0.66 1.0 1.0 8.4 U ug/L 8.4 10 Methyl Ethyl Ketone 1.0 0.85 U ug/L 0.85 1.0 Carbon disulfide 1.0 0.42 U ug/L 0.42 1.0 Carbon tetrachloride 1.0 0.63 U ug/L 0.63 1.0 Chlorobenzene 0.58 U ug/L 0.58 1.0 1.0 Bromochloromethane Chloroethane 0.80 U ug/L 0.80 1.0 1.0 Chloroform 0.90 U ug/L 0.90 1.0 1.0 0.44 U ug/L 0.44 1.0 1.0 1.2-Dichlorobenzene 0.64 U ug/L 0.64 1.0 1.0 Chloromethane 0.34 U ug/L 0.34 1.0 1.0 Dibromochloromethane Dibromomethane 0.41 U ug/L 0.41 1.0 1.0 2.5 U ug/L 2.5 10 1.0 trans-1,4-Dichloro-2-butene 1.0 1,4-Dichlorobenzene 0.52 U ug/L 0.52 1.0 0.52 U ug/L 0.52 1.0 1.0 1,1-Dichloroethane 0.57 U ug/L 0.57 1.0 1.0 1,2-Dichloroethane U 0.45 1.0 1.0 1,1-Dichloroethene 0.45 ug/L 0.65 1.0 1.0 0.65 U ug/L cis-1,2-Dichloroethene 0.44 U ug/L 0.44 1.0 1.0 trans-1,2-Dichloroethene U 0.52 1.0 1.0 0.52 ug/L 1,2-Dichloropropane U 1.0 1.0 cis-1,3-Dichloropropene 0.14 ug/L 0.14 0.14 U ug/L 0.14 1.0 1.0 trans-1,3-Dichloropropene 1.0 0.44 U ug/L 0.44 1.0 Ethylbenzene 4.4 U ug/L 4.4 10 1.0 2-Hexanone Iodomethane 0.67 U ug/L 0.67 1.0 1.0 U 3.8 10 1.0 4-Methyl-2-pentanone 3.8 ug/L Methylene Chloride 4.0 U ug/L 4.0 5.0 1.0 0.98 1.0 1.0 0.98 U ug/L Styrene 1.0 1.0 0.14 U ug/L 0.14 1,1,2,2-Tetrachloroethane 1.0 1.0 1,1,1,2-Tetrachloroethane 0.63 U 0.63 ug/L Tetrachloroethene 0.34 U ug/L 0.34 1.0 1.0 0.51 U ug/L 0.51 1.0 1.0 Toluene 0.46 U 0.46 1.0 1.0 1,1,1-Trichloroethane ug/L 0.47 1.0 1.0 1,1,2-Trichloroethane 0.47 U ug/L 1.0 1.0 U 0.28 Trichloroethene 0.28 ug/L 1.0 U 0.98 1.0 Trichlorofluoromethane 0.98 ug/L U 0.15 1.0 1.0 1,2,3-Trichloropropane 0.15 ug/L 10 1.0 U 1.5 Vinyl acetate 1.5 ug/L



Client Sample ID: HOLLAND

Lab Sample ID: 660-7296-3

Date Sampled: 02/20/2006 1015 Date Received: 02/20/2006 1500

Job Number: 660-7296-1

Result/Qualifier Unit MDL PQL Dilution **Analyte** Date Prepared: 02/27/2006 2105 Date Analyzed: 02/27/2006 2105 Method: 8260B 0.50 1.0 0.50 U ug/L Vinyl chloride 0.30 1.0 0.30 U ug/L 1.0 Xylenes, Total

Surrogate			Acceptance Limits
4-Bromofluorobenzene	98	%	74 - 126
Dibromofluoromethane	101	%	70 - 130
Toluene-d8	100	%	77 - 122

Method: 504.1	Date Prepare	d:	02/27/2006 1330	Date Analyzed	: 02/27/2006 2	212
1,2-Dibromo-3-Chloropropane Ethylene Dibromide	0.0031 0.0089	U U	ug/L ug/L	0.0031 0.0089	0.021 0.021	1.0 1.0

Method: TOT-REC-6010B	Date Prep	ared:	03/01/2006 1503	Date Analyzed	1: 03/02/2006	1646
Silver	1.9	U	ug/L	1.9	10	1.0
Arsenic	4.8	U	ug/L	4.8	10	1.0
Barium	5.0	1	ug/L	1.2	10	1.0
Beryllium	0.74	U	ug/L	0.74	4.0	1.0
Cadmium	0.71	U	ug/L	0.71	5.0	1.0
Cobalt	2.3	1	ug/L	1.6	10	1.0
Chromium	1.8	1	ug/L	1.7	10	1.0
Copper	4.2	- 1	ug/L	2.9	20	1.0
Iron	1500		ug/L	22	50	1.0
Sodium	5.2		mg/L	0.31	0.50	1.0
Nickel	5.2	1	ug/L	4.7	40	1.0
Lead	1.6	U	ug/L	1.6	5.0	1.0
Antimony	3.6	U	ug/L	3.6	6.0	1.0
Selenium	5.9	U	ug/L	5.9	10	1.0
Vanadium	2.5	U	ug/L	2.5	10	1.0
Zinc	54 .		ug/L	5.9	20	1.0

Zinc		54 .	U	ug/L		5.9	20	1.0	
Method:	TOT-REC-6020	Date Prepar	ed:	02/22/2006	1705	Date Analyzed:	02/24/2006	1705	
Thallium		0.25	U	ug/L		0.25	1.0	1.0	
Method:	7470A	Date Prepar 0.072	ed: U	02/27/2006 ug/L		Date Analyzed: 0.072	02/27/2006	1604	
Mercury	207.0			ug/L		Date Analyzed:			
Method: Chloride	325.2	Date Prepar 21	eu.	mg/L	_	0.90	1.0	1.0	
Method:	350.1	Date Prepar	ed:	· ·		Date Analyzed:	02/24/2006	1843	



Client Sample ID: HOLLAND

Lab Sample ID: 660-7296-3

Date Sampled: 02/20/2006 1015

Date Received: 02/20/2006 1500

Job Number: 660-7296-1

Analyte	Result/Qualifier	Unit	MDL PQL Dilution
Method: 350.1	Date Prepared:	···	Date Analyzed: 02/24/2006 1843
Ammonia (as N)	0.052	mg/L	0.040 0.050 1.0
Method: 353.2	Date Prepared:		Date Analyzed: 02/22/2006 0755
Nitrate Nitrogen	0.010 U	mg/L	0.010 0.050 1.0
Method: 415.1	Date Prepared:		Date Analyzed: 03/01/2006 1914
Total Organic Carbon	1.5	mg/L	0.53 1.0 1.0



Job Number: 660-7296-1

Client Sample ID: HOLLAND

Lab Sample ID: 660-7296-3

Date Sampled: 02/20/2006 1015

Analyte	Result/Qualifier	Unit	RL	PQL	Dilution
Method: 160.1	Date Prepared:		Date Analyzed:	02/23/2006	1530
Total Dissolved Solids	220	mg/L	5.0	5.0	1.0
Method: 160.2	Date Prepared:		Date Analyzed:	02/22/2006	1157
Total Suspended Solids	2.8	mg/L	1.0	1.0	1.0



Job Number: 660-7296-1

Client Sample ID: BARNES

Lab Sample ID: 660-7296-4

Date Sampled: 02/20/2006 1105

Date Received: 02/20/2006 1500

Percent Solids:

Analyte	Result/Qualifier	Unit		NONE	Dilution
Method: Field Sampling	Date Prepared:		Date Analyzed:	02/20/2006	1105
Field pH	7.39	SU			1.0
Field Temperature	18.08	Degrees C			1.0
Oxygen, Dissolved	1.86	mg/L			1.0
Specific Conductance	336	umhos/cm			1.0
Turbidity	2.2	NTU			1.0



Client Sample ID: BARNES

Lab Sample ID: 660-7296-4

Date Sampled: 02/20/2006 1105

Date Received:

Job Number: 660-7296-1

02/20/2006 1500

Unit MDL **PQL** Dilution Result/Qualifier Analyte 02/27/2006 2130 Date Analyzed: 02/27/2006 2130 Method: 8260B Date Prepared: 1.0 ug/L 9.9 20 9.9 U Acetone 100 1.0 U ug/L 1.2 Acrylonitrile 1.2 ug/L 1.0 1.0 0.27 U 0.27 Benzene ug/L 0.35 1.0 1.0 0.35 U Bromodichloromethane 0.58 U ug/L 0.58 1.0 1.0 Bromoform 0.66 U 0.66 1.0 1.0 Bromomethane ug/L 10 1.0 8.4 U ug/L 8.4 Methyl Ethyl Ketone U 0.85 1.0 1.0 Carbon disulfide 0.85 ug/L 0.42 1.0 1.0 0.42 U ug/L Carbon tetrachloride U 0.63 1.0 1.0 0.63 Chlorobenzene ug/L U 0.58 1.0 1.0 0.58 ug/L Bromochloromethane 1.0 1.0 U 0.80 Chloroethane 0.80 ug/L U 0.90 1.0 1.0 Chloroform 0.90 ug/L 1.0 1.0 U 0.44 1,2-Dichlorobenzene 0.44 ug/L U 1.0 1.0 Chloromethane 0.64 ug/L 0.64 0.34 U ug/L 0.34 1.0 1.0 Dibromochloromethane Dibromomethane 0.41 U ug/L 0.41 1.0 1.0 trans-1,4-Dichloro-2-butene 2.5 U ug/L 2.5 10 1.0 U 0.52 1.0 1.0 1.4-Dichlorobenzene 0.52 ug/L U 0.52 1.0 1.0 0.52 ug/L 1,1-Dichloroethane U 0.57 1.0 1.0 0.57 ug/L 1,2-Dichloroethane ug/L 0.45 U 0.45 1.0 1.0 1,1-Dichloroethene 0.65 U ug/L 0.65 1.0 1.0 cis-1,2-Dichloroethene 0.44 U ug/L 0.44 1.0 1.0 trans-1,2-Dichloroethene 0.52 U ug/L 0.52 1.0 1.0 1,2-Dichloropropane U 1.0 0.14 0.14 1.0 cis-1,3-Dichloropropene ug/L 0.14 U 0.14 1.0 1.0 trans-1,3-Dichloropropene ug/L Ethylbenzene 0.44 U ug/L 0.44 1.0 1.0 U 10 1.0 2-Hexanone 4.4 ug/L 4.4 U 0.67 1.0 1.0 Iodomethane 0.67 ug/L U 10 3.8 3.8 1.0 4-Methyl-2-pentanone ug/L 4.0 U 4.0 5.0 1.0 ug/L Methylene Chloride U 0.98 1.0 1.0 0.98 ug/L Styrene U 0.14 1.0 1.0 0.14 ug/L 1,1,2,2-Tetrachloroethane U 0.63 1.0 1.0 0.63 1,1,1,2-Tetrachloroethane ug/L 0.34 U 0.34 1.0 1.0 Tetrachloroethene ug/L U 0.51 1.0 1.0 Toluene 0.51 ug/L 1.1.1-Trichloroethane 0.46 U ug/L 0.46 1.0 1.0 1,1,2-Trichloroethane 0.47 U ug/L 0.47 1.0 1.0 U 0.28 ug/L 0.28 1.0 1.0 Trichloroethene 0.98 U ug/L 0.98 1.0 1.0 Trichlorofluoromethane 1,2,3-Trichloropropane 0.15 U ug/L 0.15 1.0 1.0 1.5 U 1.5 10 1.0 Vinyl acetate ug/L



Client Sample ID: BARNES

Lab Sample ID: 660-7296-4

Date Sampled: 02/20/2006 1105

Job Number: 660-7296-1

Analyte		Result/Qualifier	Unit	MDL	PQL	Dilution
	8260B	Date Prepared:	02/27/2006 2130	Date Analyzed:	02/27/2006	2130
Vinyl chloride	e	0.50 U	ug/L	0.50	1.0	1.0
Xylenes, Tota		0.30 U	ug/L	0.30	1.0	1.0
_				٨٠٠٠	ntonoo Limita	_
Surrogate 4-Bromofluor		97	%	Acce	ptance Limits 74 - 126	?
Dibromofluor		98	%		70 - 130	
Toluene-d8	romeulane	99	%		77 - 122	
rolucite-uo						
Method:	504.1	Date Prepared:	02/27/2006 1330	Date Analyzed:	02/27/2006	2259
1,2-Dibromo-	-3-Chloropropane	0.0029 U	ug/L	0.0029	0.019	1.0
Ethylene Dib	promide	0.0085 U	ug/L	0.0085	0.019	1.0
Method:	TOT-REC-6010B	Date Prepared:	03/01/2006 1503	Date Analyzed:	03/02/2006	1651
Silver		1.9 U	ug/L	1.9	10	1.0
Arsenic		4.8 U	ug/L	4.8	10	1.0
Barium		5.5 I	ug/L	1.2	10	1.0
Beryllium		0.74 U	ug/L	0.74	4.0	1.0
Cadmium		0.71 U	ug/L	0.71	5.0	1.0
Cobalt		1.6 U	ug/L	1.6	10	1.0
Chromium		1.7 U	ug/L	1.7	10	1.0
Copper		2.9 U	ug/L	2.9	20	1.0
Iron		22 U	ug/L	22	50	1.0
Sodium		15	mg/L	0.31	0.50	1.0
Nickel		4.7 U	ug/L	4.7	40	1.0
Lead		1.6 U	ug/L	1.6	5.0	1.0
Antimony		3.6 U	ug/L	3.6	6.0	1.0
Selenium		5.9 U	ug/L	5.9	10	1.0
Vanadium		2.5 U	ug/L	2.5	10	1.0
Zinc		100	ug/L	5.9	20	1.0
Method:	TOT-REC-6020	Date Prepared:	02/22/2006 1705	Date Analyzed:	02/24/2006	1645
Thallium		0.25 U	ug/L	0.25	1.0	1.0
Method:	7470A	Date Prepared:	02/27/2006 1406	Date Analyzed:	02/27/2006	1606
Mercury		0.072 U	ug/L	0.072	0.20	1.0
Method:	325.2	Date Prepared:		Date Analyzed:	02/27/2006	1409
Chloride		9.8	mg/L	0.90	1.0	1.0
Method:	350.1	Date Prepared:		Date Analyzed:	02/24/2006	1843



Job Number: 660-7296-1

Client Sample ID: BARNES

Lab Sample ID: 660-7296-4

Date Sampled: 02/20/2006 1105 Date Received: 02/20/2006 1500

Result/Qualifier Unit MDL **PQL** Dilution **Analyte** Date Analyzed: 02/24/2006 1843 Date Prepared: Method: 350.1 0.040 0.050 1.0 0.23 mg/L Ammonia (as N) Date Analyzed: 02/22/2006 0755 Date Prepared: Method: 353.2 0.090 mg/L 0.010 0.050 1.0 Nitrate Nitrogen Date Analyzed: 03/01/2006 1934 Date Prepared: Method: 415.1 0.53 1.0 1.0 mg/L 2.2 Total Organic Carbon



Job Number: 660-7296-1

Client Sample ID: BARNES

Lab Sample ID: 660-7296-4

Date Sampled: 02/20/2006 1105

Analyte	Result/Qualifier	Unit	RL	PQL	Dilution
Method: 160.1	Date Prepared:		Date Analyzed:	02/23/2006	1530
Total Dissolved Solids	220	mg/L	5.0	5.0	1.0
Method: 160.2	Date Prepared:		Date Analyzed:	02/22/2006	1157
Total Suspended Solids	1.2	mg/L	1.0	1.0	1.0