WASHINGTON SUBURBAN
SANITARY COMMISSION

12245 Tech Road ♦ Silver Spring, Maryland 20904-1969

June 17, 2009

Nasser Kamazani
Department of Environmental Protection
255 Rockville Pike, Suite 120
Rockville, MD 20850

Dear Mr. Kamazani:

Enclosed please find the updated analytical results for the Gude Outfall Special samples collected on the March 31 and April 6, 2009.

If you have any questions regarding the results, please give me a call at (301) 206-7580 or email at cbeverho@wsscwater.com

Sincerely,

Clarence Beverhoudt
Laboratory Director
WSSC Laboratory Services Group
Phone: 301-206-7575
mailto:cBeverho@wsscwater.com

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

Sample: L111544-01 Gude Pond 31-Mar-09 09:50 am Collected by: A.TORRELLA Certification No.

Product	Parameter	Result	Units	RDL	Analyzed	Analyst	Method	Appro
524	Benzene	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Carbon Tetrachloride	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,4-Dichlorobenzene	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloroethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichloroethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,1-Trichloroethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Trichloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dichlorodifluoromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloromethane	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	cis-1,2-Dichloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichlorobenzene	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichloropropane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Tetrachloroethene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Toluene	0.0600	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Ethylbenzene	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Styrene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Vinyl Chloride	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,4-Trichlorobenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,2-Trichloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromodichloromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromoform	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloroform	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dibromochloromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromomethane	0.100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloroethane	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Trichlorofluoromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloroethene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloropropene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3-Dichloropropane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,2,2-Tetrachloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dichloromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	2,2-Dichloropropane	0.0700	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	2-Chlorotoluene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	4-Chlorotoluene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,4-Trimethylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,3-Trichlorobenzene	0.0400	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	n-Propylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	n-Butylbenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Naphthalene	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Hexachlorobutadiene	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Isopropylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,3-Trichloropropane	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	trans-1,2-Dichloroethene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3,5-Trimethylbenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	p-Isopropyltoluene	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromochloromethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	para-Xylene & meta-Xylene	0.0600	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	ortho-Xylene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	t-Butylbenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	s-Butylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Methyl-tert-butyl ether	0.0200	ug/L	5.00	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3-Dichlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES

Approved by: Richard Ben Louis Date: 6/17/09

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

	1,1,1,2-Tetrachloroethane		0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dibromoethane		0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dibromo-3-chloropropan		0.0800	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dibromomethane		0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	cis-1,3-Dichloropropene		0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	trans-1,3-Dichloropropene		0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Nitrobenzene		0.900	ug/L	10.0	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
8081	4,4'-DDD		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	4,4'-DDE		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	4,4'-DDT		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Aldrin		0.0800	ug/L	0.08000	04/04/09	P&B	EPA 8081A	YES
	Alpha-BHC		0.0800	ug/L	0.08000	04/04/09	P&B	EPA 8081A	YES
	Beta-BHC		0.0800	ug/L	0.08000	04/04/09	P&B	EPA 8081A	YES
	Chlordane		0.500	ug/L	0.5000	04/04/09	P&B	EPA 8081A	YES
	Delta-BHC		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Dieldrin		0.0800	ug/L	0.08000	04/04/09	P&B	EPA 8081A	YES
	Endosulfan I		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Endosulfan II		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Endosulfan Sulfate		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Endrin		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Endrin Aldehyde		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Gamma-BHC		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Heptachlor		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Heptachlor Epoxide		0.100	ug/L	0.1000	04/04/09	P&B	EPA 8081A	YES
	Methoxychlor		1.00	ug/L	1.000	04/04/09	P&B	EPA 8081A	YES
	Toxaphene		1.00	ug/L	1.000	04/04/09	P&B	EPA 8081A	YES
8082	Aroclor 1016	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1221	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1232	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1242	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1248	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1254	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1260	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Aroclor 1268	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
	Total PCBs	<	0.500	ug/L	5.000	04/04/09	P&B	EPA 8082	YES
8151	2,4,5-TP	<	2.00	ug/L	2.000	04/04/09	P&B	EPA 8151	YES
	2,4-D	<	2.00	ug/L	2.000	04/04/09	P&B	EPA 8151	YES
8270	N-Nitrosodimethylamine	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Pyridine	ND		ug/L	50.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Chlorophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Phenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	bis(2-Chloroethyl)ether	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	1,3-Dichlorobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	1,4-Dichlorobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	1,2-Dichlorobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	bis(2-Chloroisopropyl)ethe	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Methylphenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	3-Methylphenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Methylphenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Hexachloroethane	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	N-Nitrosodipropylamine	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Nitrobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Isophorone	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Nitrophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2.4-Dimethylphenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	bis(Chloroethoxy)methane	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,4-Dichlorophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	1,2,4-Trichlorobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Naphthalene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Chloroaniline	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES

Approved by: Clarence Berkowitz Date: 6/17/09

< - less than
ND - Not Detected

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

	Hexachlorobutadiene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Chloro-3-methylphenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Methylnaphthalene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Hexachlorocyclopentadiene	ND		ug/L	50.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,4,6-Trichlorophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,4,5-Trichlorophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Chloronaphthalene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Nitroaniline	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Dimethylphthalate	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,6-Dinitrotoluene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Acenaphthylene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	3-Nitroaniline	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Acenaphthene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,4-Dinitrophenol	ND		ug/L	50.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Nitrophenol	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Dibenzofuran	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2,4-Dinitrotoluene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Diethylphthalate	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Chlorophenyl phenyl ethe	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Fluorene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Nitroaniline	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	2-Methyl-4,6-dinitrophenol	ND		ug/L	20.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Azobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	4-Bromophenyl phenyl ether	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Hexachlorobenzene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Pentachlorophenol	ND		ug/L	50.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Phenanthrene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Anthracene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Carbazole	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Di-n-butyl phthalate	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Fluoranthene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Pyrene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Butylbenzyl phthalate	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Benzo(a)anthracene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Chrysene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	bis(2-Ethylhexyl)phthalate		2.52	ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Di-n-octyl phthalate	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Benzo(b)fluoranthene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Benzo(k)fluoranthene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Benzo(a)pyrene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Indeno(1,2,3-cd)pyrene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Dibenzo(a,h)anthracene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
	Benzo(g,h,i)perylene	ND		ug/L	10.0	04/16/09	T.SELASSIE	SW-846 8270	YES
AG	Silver		0.00002	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
AS	Arsenic		0.00058	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
B	Boron		0.0291	mg/L	0.0100	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
BA	Barium		0.0616	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
BE	Beryllium		0.00	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
CO	Cobalt		0.00123	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
CR	Chromium		0.00289	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
CU	Copper		0.0162	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
HG	Mercury		0.00	mg/L	0.00020	04/01/09	P.REED	HB/EPA 245.1	YES
NI	Nickel		0.00706	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
PB	Lead		0.00190	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
PHENOLICS	Total Phenolics	<	0.0500	mg/L	0.05000	04/24/09	P&B	EPA 420.1	YES
SB	Antimony		0.00091	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
SE	Selenium		0.00049	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
SN	Tin		0.00055	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
TL	Thallium		0.00002	mg/L	0.00100	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES
V	Vanadium		0.00358	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV	YES

Approved by: Sharon Berdahl Date: 6/17/09

ND - Not Detected
< - less than

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

ZN	Zinc	0.0332	mg/L	0.00200	04/02/09	L.BUCKLEY	EPA 200.8 REV YES

Approved by: [signature] Date: 6/17/09

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

Sample: L111671-01 Pond B 06-Apr-09 12:55 pm Collected by: D.MCCANN Certification No.

Product	Parameter	Result	Units	RDL	Analyzed	Analyst	Method	Appro
524	Benzene	0.100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Carbon Tetrachloride	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,4-Dichlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,1-Trichloroethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Trichloroethene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dichlorodifluoromethane	0.140	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloromethane	0.0400	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	cis-1,2-Dichloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dichloropropane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Tetrachloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chlorobenzene	0.540	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Toluene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Ethylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Styrene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Vinyl Chloride	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,4-Trichlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,2-Trichloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromodichloromethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromoform	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloroform	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dibromochloromethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromomethane	0.0500	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Chloroethane	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Trichlorofluoromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1-Dichloropropene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3-Dichloropropane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,1,2,2-Tetrachloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dichloromethane	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	2,2-Dichloropropane	0.0500	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	2-Chlorotoluene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	4-Chlorotoluene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromobenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,4-Trimethylbenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,3-Trichlorobenzene	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	n-Propylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	n-Butylbenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Naphthalene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Hexachlorobutadiene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Isopropylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2,3-Trichloropropane	0.0300	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	trans-1,2-Dichloroethene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3,5-Trimethylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	p-Isopropyltoluene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Bromochloromethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	para-Xylene & meta-Xylene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	ortho-Xylene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	t-Butylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	s-Butylbenzene	0.00	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Methyl-tert-butyl ether	0.0200	ug/L	5.00	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,3-Dichlorobenzene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES

Approved by: [signature] Date: 6/17/09

Washington Suburban Sanitary Commission
Laboratory Services Group
12245 Tech Rd. Silver Spring, MD 20904-1969
Analytical Report
06/17/09

Client: Montgomery County
Project: GUDE LANDFILL
Description: Gude Landfill Groundwater Monitoring

	1,1,1,2-Tetrachloroethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dibromoethane	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	1,2-Dibromo-3-chloropropan	0.160	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Dibromomethane	0.0200	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	cis-1,3-Dichloropropene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	trans-1,3-Dichloropropene	0.0100	ug/L	0.500	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
	Nitrobenzene	0.760	ug/L	10.0	04/07/09	T.WILLIAMS	EPA 524.2 REV	YES
AG	Silver	0.00	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
AS	Arsenic	0.00060	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
B	Boron	2.10	mg/L	0.500	04/13/09	L.BUCKLEY	EPA 200.8 REV	YES
BA	Barium	0.309	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
BE	Beryllium	0.00	mg/L	0.00200	04/13/09	L.BUCKLEY	EPA 200.8 REV	YES
CO	Cobalt	0.00090	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
CR	Chromium	0.00056	mg/L	0.00200	04/13/09	L.BUCKLEY	EPA 200.8 REV	YES
CU	Copper	0.00638	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
HG	Mercury	0.00	mg/L	0.00020	04/09/09	P.REED	HB/EPA 245.1	YES
NI	Nickel	0.00417	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
PB	Lead	0.00034	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
SB	Antimony	0.00023	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
SE	Selenium	0.00194	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
SN	Tin	0.00044	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
TL	Thallium	0.00002	mg/L	0.00100	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES
V	Vanadium	0.00042	mg/L	0.00200	04/13/09	L.BUCKLEY	EPA 200.8 REV	YES
ZN	Zinc	0.00747	mg/L	0.00200	04/09/09	L.BUCKLEY	EPA 200.8 REV	YES

Approved by: C Beam for Lori Ott Date: 6/17/09

MC DEP

Gude Landfill
Monitoring Results for Ponds "A" and "B"

In an effort to examine the quality of the surface water around the Gude Landfill, water samples were collected and analyzed from the two ponds within the boundaries of the Landfill property. The sampling of these ponds was conducted in March and April, 2009. Monitored parameters included all of the Volatile Organic Compounds (VOC) and metals that are routinely monitored in the Gude wells.

Pond "A" is located by the Landfill's front entrance on Gude Drive which receives run-off from the southern portion of the Landfill (possible some road run-off), and Pond "B" in located in the back of the Landfill and receives run-off from the northern portion of the Landfill.

Obtained results from this monitoring effort indicate that:

- No VOCs were detected in pond "A"; Chlorobenzene is the only VOC detected (0.54 ug/l) in Pond "B". The MCL for Chlorobenzene is 100 ug/l.

- In both ponds trace concentrations of Barium, Boron, Copper, Nickel, and Zinc have been detected (significantly below MCLs). Pond "A" also detected trace concentrations of chromium and vanadium (significantly below MCL for chromium, no MCL for vanadium).

It is important to note that the detected low concentrations of metals such as those mentioned above are by and large representative of typical surface water quality in an urbanized environment in this region. It is also important to note that the results from this monitoring have been compared and analyzed against EPA's standards for public drinking water supplies. *(The U.S. Environmental Protection Agency (EPA) has established National Primary Drinking Water Regulations that set mandatory water quality standards for drinking water contaminants. These are enforceable standards called "maximum contaminant levels" or "MCLs", which are established to protect the public against consumption of drinking water contaminants that present a risk to human health. An MCL is the maximum allowable amount of a contaminant in drinking water which is delivered to the consumer.)*

The following includes a brief summary of the contaminants found in these ponds and the information from EPA on the sources and drinking water quality standards for those contaminants detected above the Reliable Detection Limit (RDL):

BARIUM: Barium is found in waste streams from a large number of manufacturing plants in quantities that seldom exceed the normal levels found in soil. Background levels for soil range from 100-3000 mg/l. Barium occurs naturally in almost all (99.4%) surface waters examined, in concentration of 0.002 to 0.34 mg/l, with an average of 0.043 mg/l. The drainage basins with low mean concentration of barium (0.015 mg/l) occur in the western Great Lakes, & the highest mean concentration of 0.09 mg/l is in the southwestern drainage basins of the lower Mississippi Valley. In stream water & most groundwater, only traces of the element are present.

There are limited survey data on the occurrence of barium in drinking water. Most supplies contain less than 0.2 mg/l of barium. The average concentration of barium in USA drinking water is 0.0286 mg/l (1977 data). The drinking water of many communities in Illinois, Kentucky, Pennsylvania, & New Mexico contains concentrations of barium that may be 10 times higher than the drinking water standard. The source of these supplies is usually well water. Currently 60 ground water supplies and 1 surface water supply exceeds 1 mg/l.

SOURCE: US EPA
http://www.epa.gov/ogwdw/dwh/t-ioc/barium.html

The Concentrations of Barium found at Gude Landfill Ponds are 0.062 mg/l in Pond A and 0.309 mg/l in Pond B. The EPA's Maximum Contaminant Level (MCL) for Barium in drinking water is 2.0 mg/l.

BORON: Boron gets into drinking water from both naturally-occurring and man-made sources. Contamination of water can come directly from industrial wastewater and municipal sewage, as well as indirectly from air deposition and soil runoff.

As levels of boron in drinking water increase above the One-Day and Ten-Day Health Advisory (3 mg/L) and the Longer Term Health Advisory (2 mg/L) for children, the risk for the potential effect on the testes of young males increases when consumed for the duration indicated by the advisory. As the level of boron in drinking water increases above the Longer Term Health Advisory and Lifetime Health Advisory for adults (5 mg/L), the risk for the potential effect on the fetuses of pregnant women and the testes of males increases. Direct effects on a pregnant woman would occur at doses higher than those that would affect the fetus. Data are not available to assess any potential differences in susceptibility of pregnant vs. non-pregnant women. Water containing boron at levels above the HA should not be used to prepare food or formula for infants and children.

The Federal Government does not regulate boron in drinking water and, public drinking water systems are not required to monitor for this contaminant. Some states have drinking water standards or guidelines for boron (California, Florida, Maine, Minnesota, New Hampshire and Wisconsin); these range from 0.6 to 1 mg/L.

SOURCE: US EPA
http://www.epa.gov/ogwdw000/ccl/pdfs/reg_determine2/healthadvisory_ccl2-reg2_boron_summary.pdf

The Concentrations of Boron found at Gude Landfill Ponds are 0.029 mg/l in Pond A and 2.097 mg/l in Pond B. EPA has not established MCL for Boron.

CHOLOROBENZENE: Chlorobenzene is a colorless organic liquid with a faint, almond-like odor. The greatest use of chlorobenzene is in the manufacture of other organic chemicals, dyestuffs and insecticides. It is also a solvent for adhesives, drugs, rubber, paints and dry-cleaning, and as a fiber-swelling agent in textile processing.

EPA has found chlorobenzene to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: anesthetic effects and impaired liver and kidney function. Long-term exposure to Chlorobenzene has the potential to cause the following effects from a lifetime exposure at levels above the MCL: liver, kidney and central nervous system damage.

EPA has set an enforceable standard called a Maximum Contaminant Level (MCL). The MCL has been set at 0.1 mg/l (or 100 ug/l) because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

Releases of chlorobenzene into water and onto land will either evaporate or be slowly degraded by microbes in the soil or water. Since it does not bind to soils, it can be expected to leach into the groundwater. Little accumulation is expected in fish and food products.

SOURCE: US EPA
http://www.epa.gov/ogwdw/contaminants/dw_contamfs/chlorobe.html

Chlorobenzene with a concentration of 0.00054 mg/l (or 0.54 ug/l) was detected in Pond B at Gude Landfill. The EPA's Maximum Contaminant Level (MCL) for Chlorobenzene in drinking water is 0.1 mg/l (or 100 ug/l).

CHROMIUM: Chromium is a metal found in natural deposits as ores containing other elements. The greatest use of chromium is in metal alloys such as stainless steel; protective coatings on metal; magnetic tapes; and pigments for paints, cement, paper, rubber, composition floor covering and other materials. Its soluble forms are used in wood preservatives.

The MCL for Chromium has been set at 0.1 mg/l by EPA. This is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

EPA has found chromium to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: skin irritation or ulceration.

SOURCE: US EPA
http://www.epa.gov/OGWDW/contaminants/dw_contamfs/chromium.html

Chromium with a concentration of 0.0029 mg/l was detected in Pond A at Gude Landfill. The EPA's Maximum Contaminant Level (MCL) for Chromium in drinking water is 0.1 mg/l.

COPPER: Copper is an essential nutrient, required by the body in very small amounts. However, EPA has found copper to potentially cause the following health effects when people are exposed to it at levels above certain levels. The MCL for copper has been set at 1.3 mg/l because EPA believes this level of protection would not cause any of the potential health problems.
SOURCE: US EPA
http://www.epa.gov/OGWDW/dwh/c-ioc/copper.html

The Concentrations of Copper found at Gude Landfill Ponds are 0.0162 mg/l in Pond A and 0.0064 mg/l in Pond B. The EPA's Maximum Contaminant Level (MCL) for Copper in drinking water is 1.3 mg/l

NICKEL: Nickel is found in many ores as sulfides, arsenides, antimonides & oxides or silicates; chief sources include chalcopyrite; others are pyrrhotite, pentlandite, garnierite, niccolite, millerite. The principal natural form of nickel oxide occurs in admixture with nickel sulfides in varying proportions in weathered ore. Nickel carbonate, found as the mineral zaratite, is a potential atmospheric and surface water pollutant.

EPA has not found nickel to potentially cause health effects from acute exposures at levels above the previously established MCL at 0.1 mg/l. *(The MCL for nickel were remanded on February 9, 1995. There is currently no EPA legal limit on the amount of nickel in drinking water).* Short-term exposures in drinking water considered "safe" for a 10-kg (22 lb.) child consuming one liter of water per day: a one- to ten-day exposure to 1 mg/L; up to a 7 year exposure to 0.5 mg/L.

SOURCE: US EPA
http://www.epa.gov/ogwdw/dwh/t-ioc/nickel.html

The Concentrations of Nickel found at Gude Landfill Ponds are 0.0071 mg/l in Pond A and 0.0042 mg/l in Pond B. There is currently no EPA legal limit (MCL) on the amount of Nickel in drinking water.

VANADIUM: Vanadium has been reported to contaminate drinking water from natural occurrence, industrial contamination, and even from some carbon and mineral filter media used in municipal water treatment plants.

The importance of vanadium occurrence and treatment in drinking water has been elevated by its inclusion in the Contaminant Candidate List. Though it is still too early to know the nature of new regulatory requirements for vanadium, if indeed it becomes regulated, a substantial understanding of relevant aspects of the aqueous speciation, solubility, and analytical chemistry is necessary to evluate the degree of treatment difficulty that varying regulatory proposals might pose.

SOURCE: US EPA
http://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=61411&CFID=2865035&CFTOKEN=38362114&jsessionid=2e30de3d19ca5f022d65f315f46468494c6fTR2e302030

Vanadium with a concentration of 0.0036 mg/l was detected in Pond A at Gude Landfill. EPA has not established MCL for Vanadium.

ZINC: In addition to establishing the National Primary Drinking Water Regulations and related MCLs, EPA has also established National Secondary Drinking Water Regulations that set non-mandatory water quality standards for 15 contaminants. EPA does not enforce these "secondary maximum contaminant levels" or "SMCLs." They are established only as guidelines to assist public water systems in managing their drinking water for aesthetic considerations, such as taste, color and odor. These contaminants which include Zinc are not considered to present a risk to human health at the SMCL.

SOURCE: US EPA
http://www.epa.gov/OGWDW/consumer/2ndstandards.html

The Concentrations of Zinc found at Gude Landfill Ponds are 0.0332 mg/l in Pond A and 0.0075 mg/l in Pond B. Based on the EPA's National Secondary Drinking Water Regulations the water quality standard for Zinc has been set at 5 mg/l.