United States Steel Corporation

GARY WORKS
1 NORTH BROADWAY
GARY, INDIANA 46402

US EPA RECORDS CENTER REGION 5
460910

September 16, 1982

SEP 20 10 41 AM '82
DIV. OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

Division of Land Pollution Control
Indiana State Board of Health
1330 West Michigan Street
Indianapolis, Indiana 46206

ATTENTION: Ronald Downey

Gentlemen:

Enclosed per your request is one copy of the Groundwater Monitoring Program at Gary Works and one set of the Group I Analyses covering the first three quarters monitoring results.

Please advise J. A. Lanoy at 219/944-3385 if any additional information is required.

Very truly yours,

P K Morrison

P. K. Morrison
Chief Engineer

JAL:ce

Attachment

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-01 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-17-81	3-1-82	6-7-82	
Static Water Level		8.90'	8.77'	9.19'	

Group	Chemical Constituents	S.D.W.A. Limits	* NOTE: Begining with the second quarter, Total Radium is reported.			
I	Arsenic	.05mg/l	.05	.094	.025	
	Barium	1.0mg/l	<.10	.12	<.10	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	1.22	1.5	1.55	
	Lead	.05mg/l	<.05	.08	<.05	
	Mercury	.002mg/l	<.0002	.0007	<.0002	
	Nitrate (N)	10.0mg/l	.35	.70	.78	
	Selenium	.01mg/l	<.001	<.001	.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	.72	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.80	<.80	
	Radium 226 *	5pCi/l	.2+/-.1	.05+/-.8	<2.0	
	Radium 228 *	5pCi/l	<1			
	Gross Alpha	15pCi/l	1.4+/-1.3	2.7+/-.7	<2.0	
	Gross Beta	50pCi/l	32+/-5	33+/-3	28+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-02 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-17-81	3-1-82	6-7-82	
Static Water Level		9.59'	9.25'	9.21'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.002	.005
	Barium	1.0mg/l	.16	.14	.12
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	1.37	1.39	1.02
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	<.0002	<.0002
	Nitrate (N)	10.0mg/l	2.24	16.6	14.4
	Selenium	.01mg/l	<.001	.002	.009
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	.21	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.02	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	.2+/-.1	.2+/-1	<2.0
	Radium 228 *	5pCi/l	<1		
	Gross Alpha	15pCi/l	4.1+/-2.2	5+/-.8	2.7+/-.9
	Gross Beta	50pCi/l	27+/-5	43+/-3	37+/-3
	Total Coliform	<1/100ml	<1	<1	<1

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-03 Report Date July 28, 1982

Quarter		1	2	3	4
Sam-le Date		11-17-81	3-1-82	6-7-82	
Static Water Level		10.20'	9.03'	8.70'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.002	.002	.001
	Barium	1.0mg/l	<.10	.12	<.10
	Cadmi-m	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	1.65	1.72	1.64
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	<.0002	<.0002
	Nitrate (N)	10.0mg/l	1.03	1.81	5.05
	Selenium	.01mg/l	<.001	.001	.001
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.02	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	.4+/-.1	.02+/-.8	<2.0
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	4.2+/-1.3	1.7+/-.8	<2.0
	Gross Beta	50pCi/l	41+/-5	26+/-3	21+/-3
	Total Coliform	<1/100ml	<1	<1	<1

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-04 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-17-81	3-1-82	6-7-82	
Static Water Level			9.13'	8.96'	9.05'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.002	.004	.001	
	Barium	1.0mg/l	<.10	.16	.12	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	.88	1.18	.99	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0004	<.0002	
	Nitrate (N)	10.0mg/l	.50	2.07	11.8	
	Selenium	.01mg/l	<.001	<.001	.003	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	.03	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.02+/-.8	<2.0	
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	.9+/-.9	<1.0	<2.0	
	Gross Beta	50pCi/l	41+/-4	23+/-3	19+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-01 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-17-81	3-2-82	6-10-82	
Static Water Level		6.69'	6.44'	6.94'	
Group	Chemical Constituents	S.D.W.A. Limits	NOTE: Begining with the second quartr, Total Radium is reported.		
I	Arsenic	.05mg/l	.004	.001	.003
	Barium	1.0mg/l	.10	.11	<.10
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	1.3	1.37	1.16
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	.0003	<.0002
	Nitrate (N)	10.0mg/l	.01	.06	.04
	Selenium	.01mg/l	<.001	<.001	<.001
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.90	<.50
	2.4.5-TP Silvex	10ug/l	.05	<.02	<.02
	Radium 226 *	5pCi/l	<.5	.03+/-.8	<2.0
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	.9+/-.9	3+/-.7	<2.0
	Gross Beta	50pCi/l	18+/-3	39+/-3	9+/-2.8
	Total Coliform	<1/100ml	<1	<1	3

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-02 Report Date July 28, 1982

Quarter	1	2	3	4
Sam-le Date	11-17-81	3-2-82	6-10-82	
Static Water Level	6.21'	5.38'	6.05'	

Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.004	.003	.002	
	Barium	1.0mg/l	<.10	.13	<.10	
	Cadmi-m	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	1.1	1.05	1.17	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	2.43	3.4	2.08	
	Selenium	.01mg/l	<.001	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	.09	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	.2+/-.1	.15+/-.9	<2.0	
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	<1	1.4+/-.7	1.3+/-.8	
	Gross Beta	50pCi/l	74+/-7	36+/-4	70+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-03 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-18-81	3-2-82	6-10-82	
Static Water Level			5.60'	5.15'	6.06'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.006	.015	.005	
	Barium	1.0mg/l	<.10	<.10	.14	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	2.03	1.95	1.61	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	28.1	2.98	31.6	
	Selenium	.01mg/l	<.001	<.001	.004	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	.056	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.03+/-.7	.4+/-1.8	
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	<1	8+/-.7	1.3+/-.8	
	Gross Beta	50pCi/l	89+/-9	16+/-3	161+/-4	
	Total Coliform	<1/100ml	<1	<1	<1	

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-04 Report Date July 28, 1982

Quarter			1	2	3	4
Sam-le Date			11-18-81	3-2-82	6-10-82	
Static Water Level			4.74'	4.07'	4.82'	
Group	Chemical Constituents	S.D.W.A. 'imits				
I	Arsenic	.05mg/l	<.001	<.001	.001	
	Barium	1.0mg/l	<.10	<.10	<.10	
	Cadmi··m	.01mg/l	<.01	.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	1.18	1.03	1.04	
	Lead	.05mg/l	<.05	.06	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	3.81	4.14	1.16	
	Selenium	.01mg/l	<.001	<.001	.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	.05	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	.93	.90	<.20	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.1+/-.9	<2.0	
	Radium 228 *	5pCi/l	<5			
	Gross Alpha	15pCi/l	<1	<1	<2.0	
	Gross Beta	50pCi/l	37+/-5	21+/-3	88+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-01 Report Date July 28, 1982

Quarter	1	2	3	4
Sam-le Date	11-19-81	3-1-82	6-9-82	
Static Water Level	6.73'	7.83'	7.52'	

Group	Chemical Constituents	S.D.W.A. Limits	* NOTE: Begining with the second quarter, Total Radium is reported.			
I	Arsenic	.05mg/l	.024	.042	.016	
	Barium	1.0mg/l	<.1	<.10	<.10	
	Cadmium	.01mg/l	<.1	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	.72	.81	.98	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	<.01	<.01	.07	
	Selenium	.01mg/l	<.001	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	.4+/-.2	.2+/-1	<2.0	
	Radium 228 *	5pCi/l	<3			
	Gross Alpha	15pCi/l	4+/-1.2	2+/-.8	<2.0	
	Gross Beta	50pCi/l	24+/-5	14+/-3	<2.0	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-02 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-2-82	6-9-82	
Static Water Level		5.15'	9.2'	5.19'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.004	<.001	<.001
	Barium	1.0mg/l	.75	.98	.52
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	.73	.56	.58
	Lead	.05mg/l	<.05	.16	.08
	Mercury	.002mg/l	<.0002	<.0002	<.0002
	Nitrate (N)	10.0mg/l	.60	1.06	.56
	Selenium	.01mg/l	<.001	.002	.004
	Silver	.05mg/l	<.01	.04	.02
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.40	<.20
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	.09	<.02	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.40	<.20
	Radium 226 *	5pCi/l	1.5+/-.3	.2+/-1.1	<2.0
	Radium 228 *	5pCi/l	<.3		
	Gross Alpha	15pCi/l	8+/-2	<1.0	<2.0
	Gross Beta	50pCi/l	520+/-52	56+/-4	437+/-5
	Total Coliform	<1/100ml	<1	<1	<1

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-03 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82	6-9-82	
Static Water Level			6.04'	6.7'	5.37'	
Group	Chemical Constituents	S.D.W.A. 'imits				
I	Arsenic	.05mg/l	<.001	<.001	<.001	
	Barium	1.0mg/l	1.3	1.85	2.89	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	.82	.99	.77	
	Lead	.05mg/l	<.05	.18	.09	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	.79	3.58	7.81	
	Selenium	.01mg/l	<.001	<.001	.003	
	Silver	.05mg/l	<.01	.04	.02	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.40	<.20	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	.06	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.40	<.20	
	Radium 226 *	5pCi/l	.2+/-.2	.3+/-1.1	.6+/-1.5	
	Radium 228 *	5pCi/l	<3			
	Gross Alpha	15pCi/l	11+/-2	<1.0	<2.0	
	Gross Beta	50pCi/l	560+/-60	53+/-4	467+/-5	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-04 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82	6-9-82	
Static Water Level			8.20'	7.4'	7.16'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	<.001	<.001	<.001	
	Barium	1.0mg/l	3.49	3.58	5.71	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	.34	.63	.42	
	Lead	.05mg/l	<.05	<.05	.10	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	2.4	1.92	127	
	Selenium	.01mg/l	<.001	<.001	.002	
	Silver	.05mg/l	<.01	.04	.02	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.40	<.20	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	.18	.27	.74	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	5.6+/-.8	1+/-1.8	2+/-1.8	
	Radium 228 *	5pCi/l	5+/-2			
	Gross Alpha	15pCi/l	5.6+/-2	1.7+/-.8	<2.0	
	Gross Beta	50pCi/l	550+/-60	116+/-5	956+/-5	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-05 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82	6-9-82	
Static Water Level			1.74'	4.65'	4.32'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	<.001	.002	<.001	
	Barium	1.0mg/l	.2	.16	.14	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	2.7	1.8	1.88	
	Lead	.05mg/l	<.05	.06	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	<.01	10.21	36.3	
	Selenium	.01mg/l	<.001	<.001	.001	
	Silver	.05mg/l	<.01	.02	.02	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226	5pCi/l	<.5	.02+/-.8	.6+/-1.6	
	Radium 228	5pCi/l	<3			
	Gross Alpha	15pCi/l	<1.0	<1.0	<2.0	
	Gross Beta	50pCi/l	33+/-5	12+/-3	30+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-06 Report Date July 28, 1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82	6-9-82	
Static Water Level			3.19'	3.61'	3.44'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	<.001	.003	.001	
	Barium	1.0mg/l	.27	.25	.24	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	.02	
	Fluoride	2.4mg/l	2.3	3.05	3.18	
	Lead	.05mg/l	<.05	.09	<.05	
	Mercury	.002mg/l	<.0002	.0006	<.0002	
	Nitrate (N)	10.0mg/l	<.01	<.01	.12	
	Selenium	.01mg/l	<.001	<.001	<.001	
	Silver	.05mg/l	<.01	.03	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	.029	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.15+/-1	<2.0	
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	<1.4	<1.0	<2.0	
	Gross Beta	50pCi/l	26+/-5	32+/-3	10+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-07 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-2-82	6-9-82	
Static Water Level		6.19'	9.44'	7.69'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	<.001	<.001
	Barium	1.0mg/l	.10	.22	<.10
	Cadmium	.01mg/l	<.01	<.01	.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	5.5	4.0	3.95
	Lead	.05mg/l	<.05	.07	<.05
	Mercury	.002mg/l	<.0002	<.0002	<.0002
	Nitrate (N)	10.0mg/l	.69	3.08	30.2
	Selenium	.01mg/l	<.001	.002	.001
	Silver	.05mg/l	<.01	.02	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	.26	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.40	<.20
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	.3+/-.2	.02+/-.8	<2.0
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	<1.4	14+/-.8	<2.0
	Gross Beta	50pCi/l	22+/-5	2+/-3	4+/-2.8
	Total Coliform	<1/100ml	**	<1	<1

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-01 Report Date July 28, 1982

Quarter	1	2	3	4
Sample Date	11-20-81	3-3-82	6-8-82	
Static Water Level	6.78'	6.53'	6.53'	

Group	Chemical Constituents	S.D.W.A. Limits	1	2	3	4
I	Arsenic	.05mg/l	.002	.003	.002	
	Barium	1.0mg/l	<.10	<.10	<.10	
	Cadmium	.01mg/l	<.01	.02	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	1.03	2.05	1.60	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0005	<.0002	
	Nitrate (N)	10.0mg/l	.32	.53	.67	
	Selenium	.01mg/l	<.001	.001	<.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02	
	Radium 226 *	5pCi/l	.5+/-.1	.05+/-.8	<2.0	
	Radium 228 *	5pCi/l	<3			
	Gross Alpha	15pCi/l	<.4	<1.0	<2.0	
	Gross Beta	50pCi/l	17+/-2	7+/-3	9+/-3	
	Total Coliform	<1/100ml	<1	<1	4	

* NOTE: Begining with the second quarter, Total Radium is reported.

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-02 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-20-81	3-3-82	6-8-82	
Static Water Level		3.02'	3.35'	3.43'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.005	.001
	Barium	1.0mg/l	.14	.22	.14
	Cadmium	.01mg/l	<.01	.02	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	.66	.28	.32
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	.0004	<.0002
	Nitrate (N)	10.0mg/l	1.27	1.56	.94
	Selenium	.01mg/l	<.001	.001	.003
	Silver	.05mg/l	<.01	.02	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.40	<.20
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.90	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	<.5	.2+/-1	<2.0
	Radium 228 *	5pCi/l	<3		
	Gross Alpha	15pCi/l	<.9	<1.0	<2.0
	Gross Beta	50pCi/l	57+/-6	48+/-3	33+/-3
	Total Coliform	<1/100ml	<1	<1	<1

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-03 Report Date July 28, 1982

Quarter			1	2	3	4
Sam le Date			11-20-81	3-3-82	6-8-82	
Static Water Level			2.84'	2.75'	3.59'	
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.003	.001	.002	
	Barium	1.0mg/l	.15	.29	.17	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	1.85	.33	.39	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	11.4	.56	.50	
	Seleni··m	.01mg/l	.004	<.001	.002	
	Silver	.05mg/l	<.01	.02	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	<.01	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	.03	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.15+/-1	.4+/-1.7	
	Radium 228 *	5pCi/l	<3			
	Gross Alpha	15pCi/l	<.8	3+/-.7	3.5+/-.9	
	Gross Beta	50pCi/l	55+/-6	52+/3	56+/-3	
	Total Coliform	<1/100ml	<1	<1	<1	

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-04 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-20-81	3-3-82	6-8-82	
Static Water Level		2.63'	2.96'	3.29'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.001	.006
	Barium	1.0mg/l	.17	.31	.19
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	1.3	.32	.23
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	<.0002	<.0002
	Nitrate (N)	10.0mg/l	27.9	18.0	18.5
	Selenium	.01mg/l	.004	.007	.004
	Silver	.05mg/l	<.01	.02	.02
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	< 80	<.80	<.80
	2,4-D	100ug/l	.23	<.40	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	<.5	.2+/-1	<2.0
	Radium 228 *	5pCi/l	<3		
	Gross Alpha	15pCi/l	<.7	<1.0	<2.0
	Gross Beta	50pCi/l	43+/-5	41+/-3	22+/-3
	Total Coliform	<1/100ml	<1	<1	<1

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-01 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-18-81	3-3-82	6-10-82	
Static Water Level		6.39'	5.89'	7.22'	

Group	Chemical Constituents	S.D.W.A. Limits	1	2	3	4
I	Arsenic	.05mg/l	.016	.013	.012	
	Barium	1.0mg/l	.21	.12	<.10	
	Cadmium	.01mg/l	<.01	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	<.01	
	Fluoride	2.4mg/l	2.4	1.1	.44	
	Lead	.05mg/l	<.05	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0012	<.0002	
	Nitrate (N)	10.0mg/l	<.01	<.01	.10	
	Selenium	.01mg/l	<.001	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	<.018	
	Lindane	4ug/l	<.004	<.20	<.20	
	Methoxychlor	100ug/l	<.20	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	<.80	
	2,4-D	100ug/l	.24	<.40	<.20	
	2.4.5-TP Silvex	10ug/l	.03	<.02	<.02	
	Radium 226 *	5pCi/l	.6+/-.2	.1+/-1	<2.0	
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	3.6+/-1.2	3.6+/-.8	<2.0	
	Gross Beta	50pCi/l	8+/-2	17+/-3	6+/-2.8	
	Total Coliform	<1/100ml	<1	<1	1	

* NOTE: Begining with the second quarter, Total Radium is reported.

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-02 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-18-81	3-3-82	6-10-82	
Static Water Level		6.12'	6.54'	6.62'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.009	.008	.006
	Barium	1.0mg/l	.19	.12	<.10
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	.32	.81	.92
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	.0007	<.0002
	Nitrate (N)	10.0mg/l	<.01	.36	.24
	Selenium	.01mg/l	<.001	.001	<.001
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.40	<.20
	2.4.5-TP Silvex	10ug/l	.03	<.02	<.02
	Radium 226 *	5pCi/l	.4+/-.2	.13+/-1	<2.0
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	3.5+/-1	<1.0	<2.0
	Gross Beta	50pCi/l	9+/-2	11+/-3	11+/-3
	Total Coliform	<1/100ml	<1	1	37

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-03 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-3-82	6-10-82	
Static Water Level		6.36'	6.27'	7.11'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.011	.017	.013
	Barium	1.0mg/l	.10	<.10	<.10
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	.34	.97	.63
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	.0003	<.0002
	Nitrate (N)	10.0mg/l	<.01	<.01	.17
	Selenium	.01mg/l	<.001	<.001	<.001
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	<.018	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	.14	<.40	<.40
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	.4+/-.2	.15+/-1	<2.0
	Radium 228 *	5pCi/l	2+/-2		
	Gross Alpha	15pCi/l	4.4+/-1	1.8+/-.8	<2.0
	Gross Beta	50pCi/l	<2	18+/-3	24+/-3
	Total Coliform	<1/100ml	<1	<1	<1

Engineering-Science - Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-04 Report Date July 28, 1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-3-82	6-10-82	
Static Water Level		6.75'	7.25'	7.13'	
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.011	.010	.012
	Barium	1.0mg/l	.25	.12	.19
	Cadmium	.01mg/l	<.01	<.01	<.01
	Chromium	.05mg/l	<.01	<.01	<.01
	Fluoride	2.4mg/l	.37	.32	.19
	Lead	.05mg/l	<.05	<.05	<.05
	Mercury	.002mg/l	<.0002	.0004	<.0002
	Nitrate (N)	10.0mg/l	<.01	.51	.18
	Selenium	.01mg/l	<.001	<.001	<.001
	Silver	.05mg/l	<.01	<.01	<.01
	Endrin	.2ug/l	.022	<.018	<.018
	Lindane	4ug/l	<.004	<.01	<.01
	Methoxychlor	100ug/l	<.20	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80	<.80
	2,4-D	100ug/l	<.02	<.40	<.20
	2.4.5-TP Silvex	10ug/l	<.02	<.02	<.02
	Radium 226 *	5pCi/l	.5+/-.2	.02+/-.8	.4+/-1.7
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	4+/-2	1.8+/-.8	<2.0
	Gross Beta	50pCi/l	6+/-2	9+/-3	3+/-2.6
	Total Coliform	<1/100ml	<1	<1	1

RICHARD DWOREK
DIRECTOR—ENVIRONMENT
ENVIRONMENT & ENERGY

United States Steel Corporation
600 GRANT STREET
PITTSBURGH, PENNSYLVANIA 15230

RECEIVED
JUN 28 1982
WASTE MANAGEMENT BRANCH
EPA, REGION V

June 24, 1982

U. S. Environmental Protection Agency
Region V
111 West Jackson
Chicago, Illinois 60604

Re: Hazardous Waste Management Facilities
U. S. Steel Gary Works-IND005444062 g BDU 1 PA
Ground Water Monitoring
Quarterly Report - Second Quarter.

Gentlemen:

The enclosed documents comprise a copy of the subject report required under Part 265 Hazardous Waste Regulations.

If you have any questions, please contact this office at 412-433-6016.

Very truly yours

A. A. Spinola

A. A. Spinola
Senior Environment Engineer
Environment & Energy

AAS/mmh
Attachment

6-29-82

UNITED STATES STEEL CORPORATION

GARY WORKS - IND005444062

Hazardous Waste Management Facilities
Groundwater Monitoring
Quarterly Report
Second Quarter

May 7, 1982

Engineering-Science-Naperville, Illinois

UNITED STATES STEEL CORPORATION GARY WORKS
SECOND QUARTER QUARTERLY REPORT
MAY 7,1982 PARAMETERS EXCEEDING S.D.W.A. LIMITS

Well No.	Parameter	S.D.W.A. Limit	Observed Value
HWD-2-01	Lead	.05mg/l	.08
	Arsenic	.05mg/l	.094
HWD-2-02	Nitrate	10.0mg/l	16.6
HWD-5-04	Lead	.05mg/l	.06
HWT-2-02	Lead	.05mg/l	.16
	Gross Beta	50pCi/l	56+/-4
HWT-2-03	Barium	1.0mg/l	1.85
	Lead	.05mg/l	.18
	Gross Beta	50pCi/l	53+/-4
HWT-2-04	Barium	1.0mg/l	3.58
	Gross Beta	50pCi/l	116+/-5
HWT-2-05	Lead	.05mg/l	.06
	Nitrate	10.0mg/l	10.21
HWT-2-06	Flouride	2.4mg/l	3.05
	Lead	.05mg/l	.09
HWT-2-07	Flouride	2.4mg/l	4.0
	Lead	.05mg/l	.07
HWT-13-01	Cadmium	.01mg/l	.02
HWT-13-02	Cadmium	.01mg/l	.02
HWT-13-03	Gross Beta	50pCi/l	52+/-3
HWT-13-04	Nitrate	10.0mg/l	18.0
HWT-14-02	Total Coliform	<1/100ml	1

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWD-2-01 Report Date Apr.23,1982

Quarter	1	2	3	4
Sample Date	11-17-81	3-1-82		
Static Water Level	8.90'	8.77'		

Group	Chemical Constituents	S.D.W.A. Limits	1	2	3	4
		* NOTE: Begining with the second quarter, Total Radium is reported.				
I	Arsenic	.05mg/l	.05	.094		
	Barium	1.0mg/l	<.10	.12		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	1.22	1.5		
	Lead	.05mg/l	<.05	.08		
	Mercury	.002mg/l	<.0002	.0007		
	Nitrate (N)	10.0mg/l	.35	.70		
	Selenium	.01mg/l	<.001	<.001		
	Silver	.05mg/l	<.01	<.01		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	.72	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	<.02	<.02		
	2.4.5-TP Silvex	10ug/l	<.02	<.80		
	Radium 226 *	5pCi/l	.2+/-.1	.05+/-.8		
	Radium 228 *	~~5pCi/l~~	<1			
	Gross Alpha	15pCi/l	1.4+/-1.3	2.7+/-.7		
	Gross Beta	50pCi/l	32+/-5	33+/-3		
	Total Coliform	<1/100ml	<1	<1		

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UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-02 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-17-81	3-1-82		
Static Water Level		9.59'	9.25'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.002	
	Barium	1.0mg/l	.16	.14	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	1.37	1.39	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	2.24	16.6	
	Selenium	.01mg/l	<.001	.002	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	.21	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	.2+/-.1	.2+/-1	
	Radium 228 *	~~5pCi/l~~	<1		
	Gross Alpha	15pCi/l	4.1+/-2.2	5+/-.8	
	Gross Beta	50pCi/l	27+/-5	43+/-3 OK	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-03 Report Date Apr.23,1982

Quarter			1	2	3	4
Sample Date			11-17-81	3-1-82		
Static Water Level			10.20'	9.03'		
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.002	.002		
	Barium	1.0mg/l	<.10	.12		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	1.65	1.72		
	Lead	.05mg/l	<.05	<.05		
	Mercury	.002mg/l	<.0002	<.0002		
	Nitrate (N)	10.0mg/l	1.03	1.81		
	Selenium	.01mg/l	<.001	.001		
	Silver	.05mg/l	<.01	<.01		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	<.20	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	<.02	<.02		
	2.4.5-TP Silvex	10ug/l	<.02	<.02		
	Radium 226 *	5pCi/l	.4+/-.1	.02+/-.8		
	Radium 228 *	~~5pCi/l~~	<2			
	Gross Alpha	15pCi/l	4.2+/-1.3	1.7+/-.8		
	Gross Beta	50pCi/l	41+/-5	26+/-3		
	Total Coliform	<1/100ml	<1	<1		

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-2-04 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-17-81	3-1-82		
Static Water Level		9.13'	8.96'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.002	.004	
	Barium	1.0mg/l	<.10	.16	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.88	1.18	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0004	
	Nitrate (N)	10.0mg/l	.50	2.07	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	.03	<.02	
	Radium 226 *	5pCi/l	<.5	.02+/-.8	
	Radium 228 *	~~5pCi/l~~	<2		
	Gross Alpha	15pCi/l	.9+/-.9	<1.0	
	Gross Beta	~50pCi/l	41+/-4	23+/-3 OK	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWD-5-01 Report Date Apr.23,1982

Quarter	1	2	3	4
Sample Date	11-17-81	3-2-82		
Static Water Level	6.69'	6.44'		

NOTE: Begining with the second quartr, Total Radium is reported.

Group	Chemical Constituents	S.D.W.A. Limits		
I	Arsenic	.05mg/l	.004	.001
	Barium	1.0mg/l	.10	.11
	Cadmium	.01mg/l	<.01	<.01
	Chromium	.05mg/l	<.01	<.01
	Flouride	2.4mg/l	1.3	1.37
	Lead	.05mg/l	<.05	<.05
	Mercury	.002mg/l	<.0002	.0003
	Nitrate (N)	10.0mg/l	.01	.06
	Selenium	.01mg/l	<.001	<.001
	Silver	.05mg/l	<.01	<.01
	Endrin	.2ug/l	<.018	<.018
	Lindane	4ug/l	<.004	<.01
	Methoxychlor	100ug/l	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80
	2,4-D	100ug/l	<.02	<.90
	2.4.5-TP Silvex	10ug/l	.05	<.02
	Radium 226 *	5pCi/l	<.5	.03+/-.8
	Radium 228 *	~~5pCi/l~~	<2	
	Gross Alpha	15pCi/l	.9+/-.9	3+/-.7
	Gross Beta	50pCi/l	18+/-3	39+/-3 ok
	Total Coliform	<1/100ml	<1	<1

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-02 Report Date Apr.23,1982

Quarter			1	2	3	4
Sample Date			11-17-81	3-2-82		
Static Water Level			6.21'	5.38'		
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.004	.003		
	Barium	1.0mg/l	<.10	.13		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	1.1	1.05		
	Lead	.05mg/l	<.05	<.05		
	Mercury	.002mg/l	<.0002	<.0002		
	Nitrate (N)	10.0mg/l	2.43	3.4		
	Selenium	.01mg/l	<.001	<.001		
	Silver	.05mg/l	<.01	<.01		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	<.20	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	.09	<.02		
	2.4.5-TP Silvex	10ug/l	<.02	<.02		
	Radium 226 *	5pCi/l	.2+/-.1	.15+/-.9		
	Radium 228 *	~~5pCi/l~~	<2			
	Gross Alpha	15pCi/l	<1	1.4+/-.7		
	Gross Beta	50pCi/l	74+/-7	36+/-4		
	Total Coliform	<1/100ml	<1	<1		

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-03 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-18-81	3-2-82		
Static Water Level		5.60'	5.15'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.006	.015	
	Barium	1.0mg/l	<.10	<.10	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	2.03	1.95	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	28.1	2.98	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	.056	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.03+/-.7	
	Radium 228 *	~~5pCi/l~~	<2		
	Gross Alpha	15pCi/l	<1	8+/-7	
	Gross Beta	50pCi/l	89+/-9	16+/-3	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWD-5-04 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-18-81	3-2-82		
Static Water Level		4.74'	4.07'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	<.001	
	Barium	1.0mg/l	<.10	<.10	
	Cadmium	.01mg/l	<.01	.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	1.18	1.03	
	Lead	.05mg/l	<.05	.06	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	3.81	4.14	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	.05	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	.93	.90	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.1+/-.9	
	Radium 228 *	~~5pCi/l~~	<5		
	Gross Alpha	15pCi/l	<1	<1	
	Gross Beta	50pCi/l	37+/-5	21+/-3	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWT-2-01 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-1-82		
Static Water Level		6.73'	7.83'		

Group	Chemical Constituents	S.D.W.A. Limits	1	2	3	4
I	Arsenic	.05mg/l	.024	.042		
	Barium	1.0mg/l	<.1	<.10		
	Cadmium	.01mg/l	<.1	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	.72	.81		
	Lead	.05mg/l	<.05	<.05		
	Mercury	.002mg/l	<.0002	<.0002		
	Nitrate (N)	10.0mg/l	<.01	<.01		
	Selenium	.01mg/l	<.001	<.001		
	Silver	.05mg/l	<.01	<.01		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	<.20	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	<.02	<.02		
	2.4.5-TP Silvex	10ug/l	<.02	<.02		
	Radium 226 *	5pCi/l	.4+/-.2	.2+/-1		
	Radium 228 *	~~5pCi/l~~	<3			
	Gross Alpha	15pCi/l	4+/-1.2	2+/-.8		
	Gross Beta	50pCi/l	24+/-5	14+/-3		
	Total Coliform	<1/100ml	<1	<1		

* NOTE: Begining with the second quarter, Total Radium is reported.

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-02 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-2-82		
Static Water Level		5.15'	9.2'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.004	<.001	
	Barium	1.0mg/l	.75	.98	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.73	.56	
	Lead	.05mg/l	<.05	.16	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	.60	1.06	
	Selenium	.01mg/l	<.001	.002	
	Silver	.05mg/l	<.01	<.04	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.40	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	.09	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.40	
	Radium 226 *	5pCi/l	1.5+/-.3	.2+/-1.1	
	Radium 228 *	~~5pCi/l~~	<.3		
	Gross Alpha	15pCi/l	8+/-2	<1.0	
	Gross Beta	*50pCi/l	520+/-52	56+/-4	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-03 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-2-82		
Static Water Level		6.04'	6.7'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	<.001	
	Barium	1.0mg/l	1.3	1.85	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.82	.99	
	Lead	.05mg/l	<.05	.18	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	.79	3.58	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	.04	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.40	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	.06	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.40	
	Radium 226 *	5pCi/l	.2+/-.2	.3+/-1.1	
	Radium 228 *	~~5pCi/l~~	<3		
	Gross Alpha	15pCi/l	11+/-2	<1.0	
	Gross Beta	50pCi/l	560+/-60	53+/-4	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-04 Report Date Apr.23,1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82		
Static Water Level			8.20'	7.4'		
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	<.001	<.001		
	Barium	1.0mg/l	3.49	3.58		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	.34	.63		
	Lead	.05mg/l	<.05	<.05		
	Mercury	.002mg/l	<.0002	<.0002		
	Nitrate (N)	10.0mg/l	2.4	1.92		
	Selenium	.01mg/l	<.001	<.001		
	Silver	.05mg/l	<.01	.04		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.40		
	Methoxychlor	100ug/l	<.20	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	.18	.27		
	2.4.5-TP Silvex	10ug/l	<.02	<.02		
	Radium 226 *	5pCi/l	5.6+/-.8	1+/-1.8		
	Radium 228 *	5pCi/l	5+/-2			
	Gross Alpha	15pCi/l	5.6+/-2	1.7+/-.8		
	Gross Beta	50pCi/l	550+/-60	116+/-5		
	Total Coliform	<1/100ml	<1	<1		

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-05 Report Date Apr.23,1982

Quarter	1	2	3	4
Sample Date	11-19-81	3-2-82		
Static Water Level	1.74'	4.65'		

Group	Chemical Constituents	S.D.W.A. Limits		
I	Arsenic	.05mg/l	<.001	.002
	Barium	1.0mg/l	.2	.16
	Cadmium	.01mg/l	<.01	<.01
	Chromium	.05mg/l	<.01	<.01
	Flouride	2.4mg/l	2.7	1.8
	Lead	.05mg/l	<.05	.06
	Mercury	.002mg/l	<.0002	<.0002
	Nitrate (N)	10.0mg/l	<.01	10.21
	Selenium	.01mg/l	<.001	<.001
	Silver	.05mg/l	<.01	.02
	Endrin	.2ug/l	<.018	<.018
	Lindane	4ug/l	<.004	<.01
	Methoxychlor	100ug/l	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80
	2,4-D	100ug/l	<.02	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02
	Radium 226	5pCi/l	<.5	.02+/-.8
	Radium 228	~~5pCi/l~~	<3	
	Gross Alpha	15pCi/l	<1.0	<1.0
	Gross Beta	≤50pCi/l	33+/-5	12+/-3
	Total Coliform	<1/100ml	<1	<1

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-06 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-2-82		
Static Water Level		3.19'	3.61'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.003	
	Barium	1.0mg/l	.27	.25	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	2.3	3.05	
	Lead	.05mg/l	<.05	.09	
	Mercury	.002mg/l	<.0002	.0006	
	Nitrate (N)	10.0mg/l	<.01	<.01	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	.03	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	.029	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.15+/-1	
	Radium 228 *	~~5pCi/l~~	<2		
	Gross Alpha	15pCi/l	<1.4	<1.0	
	Gross Beta	50pCi/l	26+/-5	32+/-3	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-2-07 Report Date Apr.23,1982

Quarter			1	2	3	4
Sample Date			11-19-81	3-2-82		
Static Water Level			6.19'	9.44'		
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	<.001	<.001		
	Barium	1.0mg/l	.10	.22		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	5.5	4.0		
	Lead	.05mg/l	<.05	.07		
	Mercury	.002mg/l	<.0002	<.0002		
	Nitrate (N)	10.0mg/l	.69	3.08		
	Selenium	.01mg/l	<.001	.002		
	Silver	.05mg/l	<.01	.02		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	.26	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	<.02	<.40		
	2.4.5-TP Silvex	10ug/l	<.02	<.02		
	Radium 226 *	5pCi/l	.3+/-.2	.02+/-.8		
	Radium 228 *	5pCi/l	<2			
	Gross Alpha	15pCi/l	<1.4	14+/-.8		
	Gross Beta	50pCi/l	22+/-5 OK	2+/-3 OK		
	Total Coliform	<1/100ml	**	<1		

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWT-13-01 Report Date Apr.23,1982

Quarter	1	2	3	4
Sample Date	11-20-81	3-3-82		
Static Water Level	6.78'	6.53'		

Group	Chemical Constituents	S.D.W.A. Limits		
		* NOTE: Begining with the second quarter, Total Radium is reported.		
I	Arsenic	.05mg/l	.002	.003
	Barium	1.0mg/l	<.10	<.10
	Cadmium	.01mg/l	<.01	.02
	Chromium	.05mg/l	<.01	<.01
	Flouride	2.4mg/l	1.03	2.05
	Lead	.05mg/l	<.05	<.05
	Mercury	.002mg/l	<.0002	.0005
	Nitrate (N)	10.0mg/l	.32	.53
	Selenium	.01mg/l	<.001	.001
	Silver	.05mg/l	<.01	<.01
	Endrin	.2ug/l	<.018	<.018
	Lindane	4ug/l	<.004	<.01
	Methoxychlor	100ug/l	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80
	2,4-D	100ug/l	<.02	<.02
	2.4.5-TP Silvex	10ug/l	<.02	<.02
	Radium 226 *	5pCi/l	.5+/-.1	.05+/-.8
	Radium 228 *	~~5pCi/l~~	<3	
	Gross Alpha	15pCi/l	<.4	<1.0
	Gross Beta	50pCi/l	17+/-2	7+/-3
	Total Coliform	<1/100ml	<1	<1

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-02 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-20-81	3-3-82		
Static Water Level		3.02'	3.35'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.005	
	Barium	1.0mg/l	.14	.22	
	Cadmium	.01mg/l	<.01	.02	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.66	.28	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0004	
	Nitrate (N)	10.0mg/l	1.27	1.56	
	Selenium	.01mg/l	<.001	.001	
	Silver	.05mg/l	<.01	.02	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.40	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.90	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.2+/-1	
	Radium 228 *	5pCi/l	<3		
	Gross Alpha	15pCi/l	<.9	<1.0	
	Gross Beta	50pCi/l	57+/-6	48+/-3	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-03 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-20-81	3-3-82		
Static Water Level		2.84'	2.75'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.003	.001	
	Barium	1.0mg/l	.15	.29	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	1.85	.33	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	11.4	.56	
	Selenium	.01mg/l	.004	<.001	
	Silver	.05mg/l	<.01	.02	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.02	
	2.4.5-TP Silvex	10ug/l	.03	<.02	
	Radium 226 *	5pCi/l	<.5	.15+/-1	
	Radium 228 *	5pCi/l	<3		
	Gross Alpha	15pCi/l	<.8	3+/-.7	
	Gross Beta	50pCi/l	55+/-6	52+/3	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-13-04 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-20-81	3-3-82		
Static Water Level		2.63'	2.96'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	<.001	.001	
	Barium	1.0mg/l	.17	.31	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	1.3	.32	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	<.0002	
	Nitrate (N)	10.0mg/l	27.9	18.0	
	Selenium	.01mg/l	.004	.007	
	Silver	.05mg/l	<.01	.02	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	.23	<.40	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	<.5	.2+/-1	
	Radium 228 *	5pCi/l	<3		
	Gross Alpha	15pCi/l	<.7	<1.0	
	Gross Beta	50pCi/l	43+/-5 OK	41+/-3 OK	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-01 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-18-81	3-3-82		
Static Water Level		6.39'	5.89'		

Group	Chemical Constituents	S.D.W.A. Limits		
I	Arsenic	.05mg/l	.016	.013
	Barium	1.0mg/l	.21	.12
	Cadmium	.01mg/l	<.01	<.01
	Chromium	.05mg/l	<.01	<.01
	Flouride	2.4mg/l	2.4	1.1
	Lead	.05mg/l	<.05	<.05
	Mercury	.002mg/l	<.0002	<.0012
	Nitrate (N)	10.0mg/l	<.01	<.01
	Selenium	.01mg/l	<.001	<.001
	Silver	.05mg/l	<.01	<.01
	Endrin	.2ug/l	<.018	<.018
	Lindane	4ug/l	<.004	<.20
	Methoxychlor	100ug/l	<.20	<.20
	Toxaphene	5ug/l	<.80	<.80
	2,4-D	100ug/l	.24	<.40
	2.4.5-TP Silvex	10ug/l	.03	<.02
	Radium 226 *	5pCi/l	.6+/-.2	.1+/-1
	Radium 228 *	~~5pCi/l~~	<2	
	Gross Alpha	15pCi/l	3.6+/-1.2	3.6+/-.8
	Gross Beta	50pCi/l	8+/-2	17+/-3
	Total Coliform	<1/100ml	<1	<1

* NOTE: Begining with the second quarter, Total Radium is reported.

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWT-14-02 Report Date Apr.23,1982

Quarter			1	2	3	4
Sample Date			11-18-81	3-3-82		
Static Water Level			6.12'	6.54'		
Group	Chemical Constituents	S.D.W.A. Limits				
I	Arsenic	.05mg/l	.009	.008		
	Barium	1.0mg/l	.19	.12		
	Cadmium	.01mg/l	<.01	<.01		
	Chromium	.05mg/l	<.01	<.01		
	Flouride	2.4mg/l	.32	.81		
	Lead	.05mg/l	<.05	<.05		
	Mercury	.002mg/l	<.0002	.0007		
	Nitrate (N)	10.0mg/l	<.01	.36		
	Selenium	.01mg/l	<.001	.001		
	Silver	.05mg/l	<.01	<.01		
	Endrin	.2ug/l	<.018	<.018		
	Lindane	4ug/l	<.004	<.01		
	Methoxychlor	100ug/l	<.20	<.20		
	Toxaphene	5ug/l	<.80	<.80		
	2,4-D	100ug/l	<.02	<.40		
	2.4.5-TP Silvex	10ug/l	.03	<.02		
	Radium 226 *	5pCi/l	.4+/-.2	.13+/-1		
	Radium 228 *	~~5pCi/l~~	<2			
	Gross Alpha	15pCi/l	3.5+/-1	<1.0		
	Gross Beta	*50pCi/l	9+/-2	11+/-3		
	Total Coliform	<1/100ml	<1	1		

UNITED STATES STEEL CORPORATION GARY WORKS

First Year Well Monitoring Data

Well No. HWT-14-03 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-3-82		
Static Water Level		6.36'	6.27'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.011	.017	
	Barium	1.0mg/l	.10	<.10	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.34	.97	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0003	
	Nitrate (N)	10.0mg/l	<.01	<.01	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	<.018	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	.14	<.40	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	.4+/-.2	.15+/-1	
	Radium 228 *	~~5pCi/l~~	2+/-2		
	Gross Alpha	15pCi/l	4.4+/-1	1.8+/-.8	
	Gross Beta	50pCi/l	<2	18+/-3 ok	
	Total Coliform	<1/100ml	<1	<1	

UNITED STATES STEEL CORPORATION GARY WORKS
First Year Well Monitoring Data
Well No. HWT-14-04 Report Date Apr.23,1982

Quarter		1	2	3	4
Sample Date		11-19-81	3-3-82		
Static Water Level		6.75'	7.25'		
Group	Chemical Constituents	S.D.W.A. Limits			
I	Arsenic	.05mg/l	.011	.01	
	Barium	1.0mg/l	.25	.12	
	Cadmium	.01mg/l	<.01	<.01	
	Chromium	.05mg/l	<.01	<.01	
	Flouride	2.4mg/l	.37	.32	
	Lead	.05mg/l	<.05	<.05	
	Mercury	.002mg/l	<.0002	.0004	
	Nitrate (N)	10.0mg/l	<.01	.51	
	Selenium	.01mg/l	<.001	<.001	
	Silver	.05mg/l	<.01	<.01	
	Endrin	.2ug/l	.022	<.018	
	Lindane	4ug/l	<.004	<.01	
	Methoxychlor	100ug/l	<.20	<.20	
	Toxaphene	5ug/l	<.80	<.80	
	2,4-D	100ug/l	<.02	<.40	
	2.4.5-TP Silvex	10ug/l	<.02	<.02	
	Radium 226 *	5pCi/l	.5+/-.2	.02+/-.8	
	Radium 228 *	5pCi/l	<2		
	Gross Alpha	15pCi/l	4+/-2	1.8+/-.8	
	Gross Beta	~~150~~pCi/l	6+/-2 OK	9+/-3 OK	
	Total Coliform	<1/100ml	<1	<1	

RICHARD DWOREK
DIRECTOR—ENVIRONMENT
ENVIRONMENTAL AFFAIRS

United States Steel Corporation
ONE TECH CENTER DRIVE
MONROEVILLE, PENNSYLVANIA 15146
412/825-2974

JUN 6 10 42 AM '84
DIV. OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

June 1, 1984

Karl J. Klepitsch, Jr., Chief
Waste Management Branch
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: USSC - Gary Works (IND 005444062)
Part B Permit Application
Subpart F Requirements

Dear Mr. Klepitsch:

Your letter of March 20, 1984 granted an extension for submission of the Gary Works Part B permit application until December 20, 1984. Part of the justification for the extension was the need to complete a groundwater flow study with the primary purpose of resolving problems encountered in identifying true upgradient/downgradient wells for the plant hazardous waste landfills and impoundments. This study, as approved by Indiana State Board of Health (ISBH), includes monitoring of groundwater flow direction for a period of one year following installation of 16 additional piezometers and establishment of several staff gauges. ?

Your letter states that the groundwater flow study must be completed during the extension period. This request cannot be met since the study is designed to detect seasonal variations which require a minimum of one year. Following receipt of comments on the proposed study from ISBH in late February 1984, the new piezometers were installed quickly thereafter during the first few weeks of April. Groundwater level monitoring began in late April 1984.

The last groundwater flow study measurements presently are scheduled to be taken in late March 1985. A final report describing the results of the study and implications with regard to manipulation of available water quality sampling data will be available shortly thereafter. Statistical comparisons of existing sampling data presently are considered to be invalid since upgradient and downgradient relationships have not been identified with certainty. As originally proposed to ISBH in the groundwater flow study description, USSC intends to continue regular semiannual and annual sampling, statistical

United States Steel Corporation

comparisons, and reporting (40 CFR Part 265, Subpart F). However, the results of statistical comparisons will be considered invalid and no further actions are anticipated until the groundwater flow study is finalized. The Part B Permit application information due in December 1984 will reflect this approach. Upon completion of the groundwater flow study, a revised groundwater monitoring program will be prepared and submitted.

If you have any questions or comments, please call me at (412) 825-2067.

Very truly yours,

A. A. Spinola

A. A. Spinola
Senior Environment Engineer

jk

cc: Martin Hamper, US EPA
✓ David Lamm, ISBH
Karyl K. Schmidt, ISBH

MAR 21 1984

Mr. A. A. Spinola
Senior Environmental Engineer
Environmental Affairs
U.S. Steel Corporation
125 Jamison Lane
Monroeville, PA 15146

Dear Mr. Spinola:

Re: U.S. Steel Corporation, Gary Works
Groundwater Monitoring
EPA ID No. IND 005444062

As per our conference call on March 6, 1984, the Division of Land Pollution Control understands that your consultant, Michael Baker, Jr., Inc., will undertake a study designed to determine the groundwater flow gradient at the facility. The study will involve installation of additional monitoring points to obtain water levels to determine if a valid upgradient - downgradient relationship exists. The study could result in a revision of the RCRA monitoring program for the facility. If an alternate groundwater monitoring system is proposed, the guidelines under Subpart F, 265.90(d)(1-5) (320 IAC 4-6) will be applicable for your situation.

If you have any questions regarding this correspondence, please contact Mr. Robert Downey of this office at AC 317/633-8476.

Very truly yours,

Karyl K. Schmidt

Karyl K. Schmidt, Chief
Geology/Chemistry Support Section
Technical Support Branch
Division of Land Pollution Control

RAD/jb

TUEZAM L/Spinola

RICHARD DWOREK
DIRECTOR—ENVIRONMENT
ENVIRONMENTAL AFFAIRS

United States Steel Corporation
ONE TECH CENTER DRIVE
MONROEVILLE, PENNSYLVANIA 15146
412/825-2974

MAR 8 12 40 PM '85
DIV. OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

March 1, 1985

Mr. David D. Lamm, Director
Division of Land Pollution Control
Indiana State Board of Health
1330 West Michigan Street
P.O. Box 1964
Indianapolis, IN 46206

Dear Mr. Lamm:

Re. U. S. STEEL CORPORATION - GARY WORKS
HAZARDOUS WASTE SITES ANNUAL GROUNDWATER MONITORING
FACILITIES EPA I.D.NO. IND 005444062

As required by Indiana regulations, the annual groundwater sampling event for 1984 at Gary Works sites HWD-2, HWD-5, HWT-2, HWT-13 and HWT-14 was completed during the period October 22-25, 1984.

Attached are reports for each of the above sites summarizing analytical results for the required parameters and groundwater elevations. These summaries are designated as "SR-2" reports. Also included are "SC-1" and "ER-1" reports which summarize the results of required statistical analyses. These statistical analyses were compiled using Cochran's Approximation to the Behrens-Fisher Student's t-test at the 0.01 level of significance to compare data from wells originally designated upgradient with data for wells originally designated as downgradient.

As described in the report submitted to your agency in August 1983 entitled "Report on Groundwater Monitoring Activities at Gary Works," the statistical analyses may be invalid because clear upgradient/downgradient relationships have not been established. As you are aware, a program to resolve these relationships is ongoing.

It is anticipated that the next regular sampling will be conducted in late April or early May 1985. Rather than conduct a separate split sampling with your personnel, as has been done during the past two years in June, we request that you attempt to schedule your sampling to coincide with our next sampling event.

If you have any questions or comments, please call me at (412)825-2067.

Very truly yours,

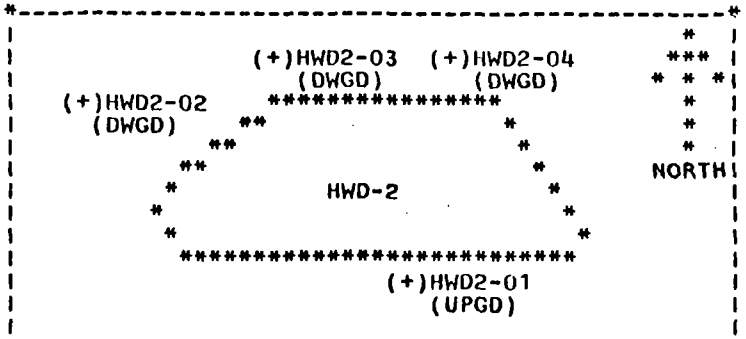
A. A. Spinola

A. A. Spinola
Environmental Affairs

Attachment

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWD2-01	HWD2-02	HWD2-03	HWD2-04
		PRIMARY	UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		DRINKING WATER	10/22/84	10/22/84	10/22/84	10/22/84
PARAMETER	UNIT	STANDARD	840988	840992	840990	840989
CHLORIDE	MG/L		140.	4.1	17.	75.
IRON	MG/L		LT0.01	0.09	LT0.01	LT0.01
MANGANESE	MG/L		LT0.01	1.5	0.3	0.5
PHENOLS	MG/L		0.043	LT0.02	LT0.02	LT0.02
SODIUM	MG/L		85.	96.	8.	47.
SULFATE	MG/L		270.	380.	95.	140.
PH	SU		10.2	7.	7.7	7.6
PH	SU		10.2	7.	7.6	7.6
PH	SU		10.2	7.	7.6	7.4
PH	SU		10.2	7.	7.7	7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		1240.	1820.	540.	850.
SPECIFIC CONDUCTANCE	UMHOS/CM		1220.	1800.	540.	850.
SPECIFIC CONDUCTANCE	UMHOS/CM		1220.	1800.	540.	860.
SPECIFIC CONDUCTANCE	UMHOS/CM		1150.	1830.	540.	850.
TOTAL ORGANIC CARBON	MG/L		22.2	82.8	21.3	28.1
TOTAL ORGANIC CARBON	MG/L		22.6	82.4	19.6	28.
TOTAL ORGANIC CARBON	MG/L		21.8	84.	20.6	27.
TOTAL ORGANIC CARBON	MG/L		22.7	83.8	22.8	27.3
TOTAL ORGANIC HALOGEN	UG/L		LT10.	30.	LT10.	13.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	28.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	17.	LT10.	LT10.
TEMPERATURE	C		13.	14.	13.	13.
GROUND WATER ELEVATION	FT MSL		586.82	587.13	586.95	586.83

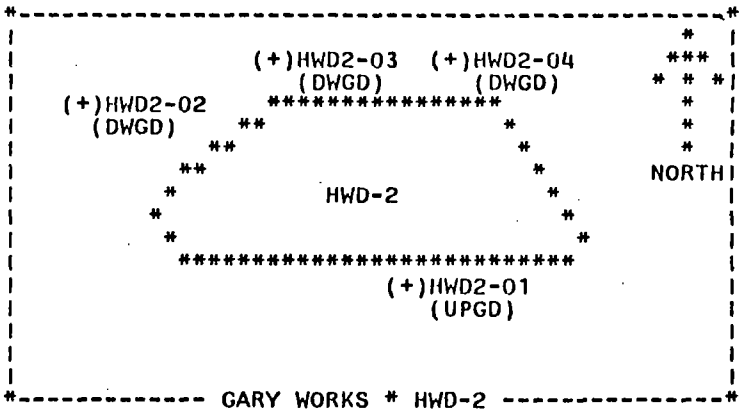
MAR 8 12 40 PM '85
DIV. OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

STATISTICAL COMPARISON (SC-1)** REPORT DATE: 07 JAN 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 84



INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	VALUES				MEAN	VARIANCE	STATS. SIGNIF. CHANGE
PH	SU	HWD2-01	10.35	0.0488	HWD2-01	10.2	10.2	10.2	10.2	10.2	0.	NO
					HWD2-02	7.	7.	7.	7.	7.	0.	YES
					HWD2-03	7.7	7.6	7.6	7.7	7.65	0.0033	YES
					HWD2-04	7.6	7.6	7.4	7.5	7.52	0.0092	YES
SPEC COND	UMHOS/CM	HWD2-01	1406.25	40438.3333	HWD2-01	1240.	1220.	1220.	1150.	1207.5	1558.3333	NO
					HWD2-02	1820.	1800.	1800.	1830.	1812.5	225.	YES
					HWD2-03	540.	540.	540.	540.	540.	0.	NO
					HWD2-04	850.	850.	860.	850.	852.5	25.	NO
TOC	MG/L	HWD2-01	28.07	70.9303	HWD2-01	22.2	22.6	21.8	22.7	22.32	0.1692	NO
					HWD2-02	82.8	82.4	84.	83.8	83.25	0.5967	YES
					HWD2-03	21.3	19.6	20.6	22.8	21.07	1.8092	NO
					HWD2-04	28.1	28.	27.	27.3	27.6	0.2867	NO
TOX	UG/L	HWD2-01	42.86	1223.8225	HWD2-01	*8.01508	*2.11836	*0.77841	*8.58171	*4.87	*15.9936	NO
					HWD2-02	30.	*9.10242	28.	17.	*21.03	*95.8499	NO
					HWD2-03	*9.97941	*5.06583	*2.17628	*7.53171	*6.19	*11.1778	NO
					HWD2-04	13.	*2.96034	*0.57973	*3.17031	*4.93	*30.3419	NO

0.01 LEVEL OF SIGNIFICANCE USED

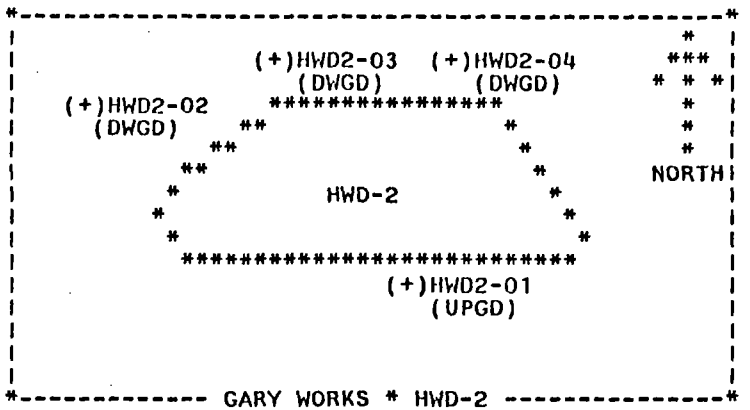
**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

EXCEPTION REPORT (ER-1)** REPORT DATE: 07 JAN 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 84



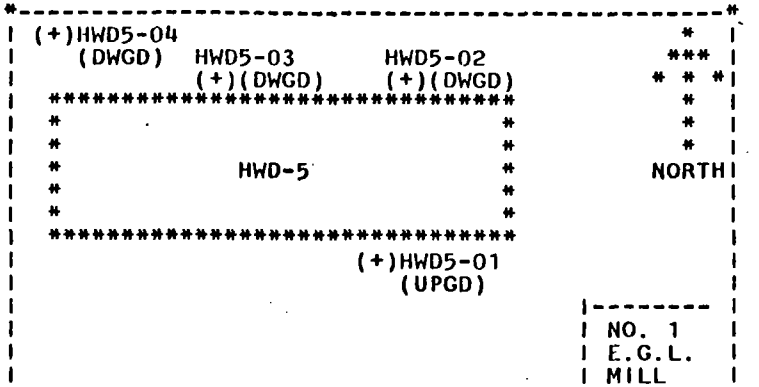
SAMPLING POINT WITH SIGNIFICANT CHANGE		SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWD2-02	DOWNGRADIENT	10/22/84	PH	SU	10.35	0.0488	7.	0.
HWD2-03	DOWNGRADIENT	10/22/84	PH	SU	10.35	0.0488	7.65	0.0033
HWD2-04	DOWNGRADIENT	10/22/84	PH	SU	10.35	0.0488	7.52	0.0092
HWD2-02	DOWNGRADIENT	10/22/84	SPEC COND	UMHOS/CM	1406.25	40438.3333	1812.5	225.
HWD2-02	DOWNGRADIENT	10/22/84	TOC	MG/L	28.07	70.9303	83.25	0.5967

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWD5-01	HWD5-02	HWD5-03	HWD5-04
		PRIMARY	UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		DRINKING WATER	10/25/84	10/25/84	10/25/84	10/25/84
PARAMETER	UNIT	STANDARD	841017	841015	841014	841016
CHLORIDE	MG/L		61.	70.	270.	170.
IRON	MG/L		0.41	LT0.01	LT0.01	LT0.01
MANGANESE	MG/L		0.17	LT0.01	0.01	0.01
PHENOLS	MG/L		LT0.04*	0.087	1.4	LT0.04*
SODIUM	MG/L		31.	54.	140.	110.
SULFATE	MG/L		270.	840.	230.	280.
PH	SU		7.8	11.3	11.8	11.7
PH	SU		7.9	11.4	11.8	11.7
PH	SU		7.9	11.4	11.8	11.7
PH	SU		7.9	11.4	11.8	11.7
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	1500.	2050.	1760.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1510.	2030.	1760.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1510.	2050.	1760.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1500.	1980.	1750.
TOTAL ORGANIC CARBON	MG/L		31.6	6.6	53.	7.5
TOTAL ORGANIC CARBON	MG/L		28.3	6.7	53.1	7.4
TOTAL ORGANIC CARBON	MG/L		31.3	6.8	53.1	7.5
TOTAL ORGANIC CARBON	MG/L		32.	6.9	52.8	7.5
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	34.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	44.	20.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	47.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	28.	11.
TEMPERATURE	C		13.	13.	14.	18.
GROUND WATER ELEVATION	FT MSL		584.49	583.29	583.16	582.22

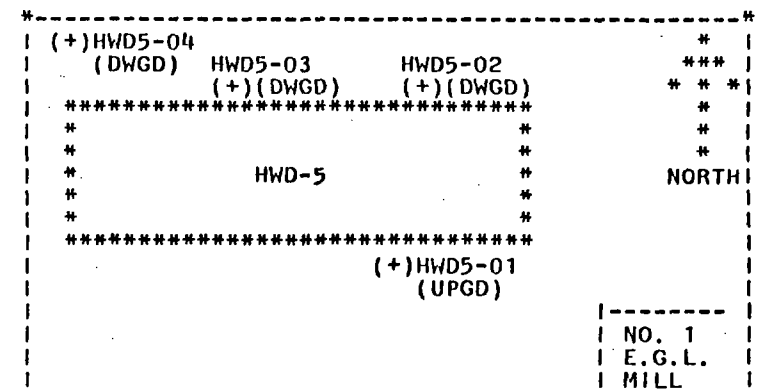
*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

STATISTICAL COMPARISON (SC-1)** REPORT DATE: 07 JAN 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 84



INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	VALUES				MEAN	VARIANCE	STATS. SIGNIF. CHANGE
PH	SU	HWD5-01	7.67	0.1737	HWD5-01	7.8	7.9	7.9	7.9	7.87	0.0025	NO
					HWD5-02	11.3	11.4	11.4	11.4	11.37	0.0025	YES
					HWD5-03	11.8	11.8	11.8	11.8	11.8	0.	YES
					HWD5-04	11.7	11.7	11.7	11.7	11.7	0.	YES
SPEC COND	UMHOS/CM	HWD5-01	821.25	4331.6667	HWD5-01	910.	920.	920.	920.	917.5	25.	YES
					HWD5-02	1500.	1510.	1510.	1500.	1505.	33.3333	YES
					HWD5-03	2050.	2030.	2050.	1980.	2027.5	1091.6667	YES
					HWD5-04	1760.	1760.	1760.	1750.	1757.5	25.	YES
TOC	MG/L	HWD5-01	6.39	59.274	HWD5-01	31.6	28.3	31.3	32.	30.8	2.86	YES
					HWD5-02	6.6	6.7	6.8	6.9	6.75	0.0167	NO
					HWD5-03	53.	53.1	53.1	52.8	53.	0.02	YES
					HWD5-04	7.5	7.4	7.5	7.5	7.47	0.0025	NO
TOX	UG/L	HWD5-01	35.18	511.4336	HWD5-01	*6.90686	*5.81759	*6.00094	*3.94439	*5.67	*1.5463	NO
					HWD5-02	*9.16892	*0.82777	*5.17353	*8.13461	*5.83	*13.9709	NO
					HWD5-03	34.	44.	47.	28.	38.25	77.5833	NO
					HWD5-04	*0.77511	20.	*6.80716	11.	*9.65	*65.2634	NO

0.01 LEVEL OF SIGNIFICANCE USED

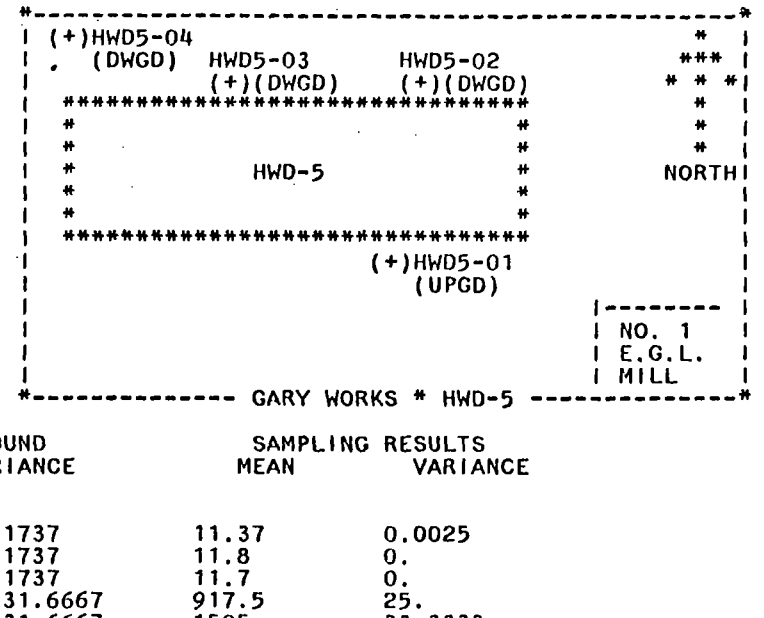
**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

EXCEPTION REPORT (ER-1)** REPORT DATE: 07 JAN 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 84



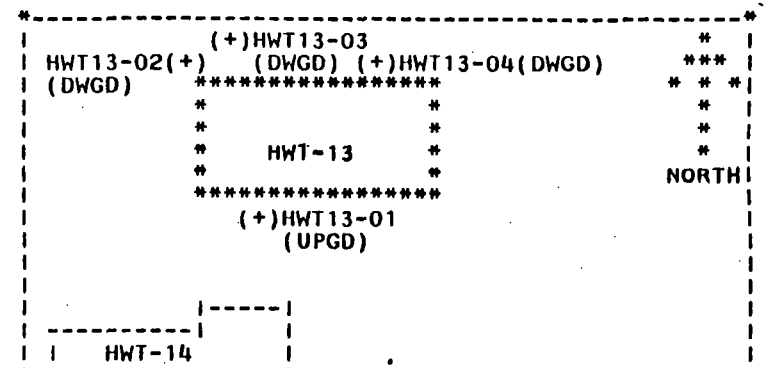
SAMPLING POINT WITH SIGNIFICANT CHANGE		SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWD5-02	DOWNGRADIENT	10/25/84	PH	SU	7.67	0.1737	11.37	0.0025
HWD5-03	DOWNGRADIENT	10/25/84	PH	SU	7.67	0.1737	11.8	0.
HWD5-04	DOWNGRADIENT	10/25/84	PH	SU	7.67	0.1737	11.7	0.
HWD5-01	UPGRADIENT	10/25/84	SPEC COND	UMHOS/CM	821.25	4331.6667	917.5	25.
HWD5-02	DOWNGRADIENT	10/25/84	SPEC COND	UMHOS/CM	821.25	4331.6667	1505.	33.3333
HWD5-03	DOWNGRADIENT	10/25/84	SPEC COND	UMHOS/CM	821.25	4331.6667	2027.5	1091.6667
HWD5-04	DOWNGRADIENT	10/25/84	SPEC COND	UMHOS/CM	821.25	4331.6667	1757.5	25.
HWD5-01	UPGRADIENT	10/25/84	TOC	MG/L	6.39	59.274	30.8	2.86
HWD5-03	DOWNGRADIENT	10/25/84	TOC	MG/L	6.39	59.274	53.	0.02

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

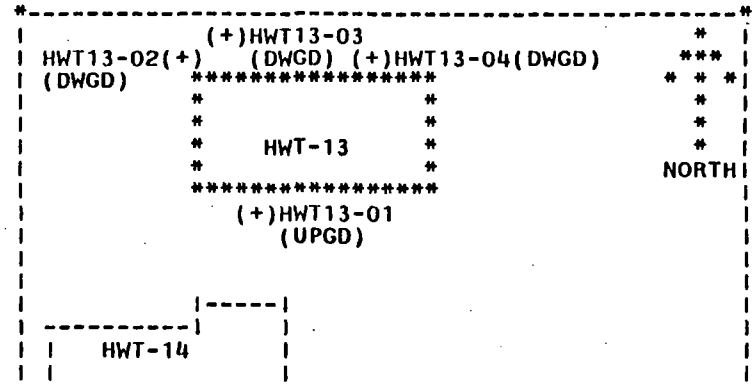
			SAMPLING POINT, SAMPLE NO.			
			HWT13-01	HWT13-02	HWT13-03	HWT13-04
		PRIMARY	UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		DRINKING WATER	10/23/84	10/23/84	10/23/84	10/23/84
PARAMETER	UNIT	STANDARD	841003	841002	841001	841000
CHLORIDE	MG/L		56.	1900.	250.	740.
IRON	MG/L		0.03	88.	3.1	30.
MANGANESE	MG/L		LT0.01	0.8	0.3	0.9
PHENOLS	MG/L		LT0.02	LT0.02	LT0.02	0.02
SODIUM	MG/L		36.	87.	63.	69.
SULFATE	MG/L		640.	1200.	1200.	1300.
PH	SU		9.6	6.5	7.6	6.9
PH	SU		9.6	6.5	7.6	6.8
PH	SU		9.6	6.6	7.6	6.8
PH	SU		9.6	6.6	7.6	6.9
SPECIFIC CONDUCTANCE	UMHOS/CM		1450.	8070.	2880.	4140.
SPECIFIC CONDUCTANCE	UMHOS/CM		1570.	7990.	2880.	4160.
SPECIFIC CONDUCTANCE	UMHOS/CM		1480.	8110.	2860.	4120.
SPECIFIC CONDUCTANCE	UMHOS/CM		1480.	7720.	2890.	4160.
TOTAL ORGANIC CARBON	MG/L		4.4	13.6	16.8	18.8
TOTAL ORGANIC CARBON	MG/L		4.4	13.7	16.8	20.8
TOTAL ORGANIC CARBON	MG/L		4.5	13.6	17.1	20.1
TOTAL ORGANIC CARBON	MG/L		4.4	14.	17.1	18.1
TOTAL ORGANIC HALOGEN	UG/L		LT10.	14.	10.	20.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	14.	19.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	18.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	24.	LT10.	26.
TEMPERATURE	C		13.	17.	15.	15.
GROUND WATER ELEVATION	FT MSL		584.16	582.26	582.07	581.97

STATISTICAL COMPARISON (SC-1)** REPORT DATE: 08 JAN 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 03 YEAR: 84



INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	VALUES				MEAN	VARIANCE	STATS. SIGNIF. CHANGE
PH	SU	HWT13-01	10.42	0.0511	HWT13-01	9.6	9.6	9.6	9.6	9.6	0.	YES
					HWT13-02	6.5	6.5	6.6	6.6	6.55	0.0033	YES
					HWT13-03	7.6	7.6	7.6	7.6	7.6	0.	YES
					HWT13-04	6.9	6.8	6.8	6.9	6.85	0.0033	YES
SPEC COND	UMHOS/CM	HWT13-01	536.25	47385.	HWT13-01	1450.	1570.	1480.	1480.	1495.	2700.	YES
					HWT13-02	8070.	7990.	8110.	7720.	7972.5	30825.	YES
					HWT13-03	2880.	2880.	2860.	2890.	2877.5	158.3333	YES
					HWT13-04	4140.	4160.	4120.	4160.	4145.	366.6667	YES
TOC	MG/L	HWT13-01	8.47	26.8596	HWT13-01	4.4	4.4	4.5	4.4	4.42	0.0025	NO
					HWT13-02	13.6	13.7	13.6	14.	13.72	0.0358	YES
					HWT13-03	16.8	16.8	17.1	17.1	16.95	0.03	YES
					HWT13-04	18.8	20.8	20.1	18.1	19.45	1.4967	YES
TOX	UG/L	HWT13-01	*88.17	*5441.6704	HWT13-01	*4.48494	*3.82911	*8.63596	*6.59565	*5.89	*4.7532	NO
					HWT13-02	14.	*0.	*9.67987	24.	*11.92	*99.1191	NO
					HWT13-03	10.	14.	*7.75517	*2.07781	*8.46	*24.7641	NO
					HWT13-04	20.	19.	18.	26.	20.75	12.9167	NO

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

EXCEPTION REPORT (ER-1)** REPORT DATE: 08 JAN 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 03 YEAR: 84

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*-------------------------------------------------------------*
|            (+)HWT13-03                                      *
| HWT13-02(+)   (DWGD) (+)HWT13-04(DWGD)                     ***
| (DWGD)     ****************                               * * *
|            *               *                                *
|            *               *                                *
|            *    HWT-13     *                                *
|            *               *                               NORTH
|            *****************
|               (+)HWT13-01
|                  (UPGD)
|
|
|            |-----|
| ----------|      |
| |   HWT-14       |
| |                |
*------------- GARY WORKS * HWT-13 --------------*
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SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWT13-01 UPGRADIENT	10/23/84	PH	SU	10.42	0.0511	9.6	0.
HWT13-02 DOWNGRADIENT	10/23/84	PH	SU	10.42	0.0511	6.55	0.0033
HWT13-03 DOWNGRADIENT	10/23/84	PH	SU	10.42	0.0511	7.6	0.
HWT13-04 DOWNGRADIENT	10/23/84	PH	SU	10.42	0.0511	6.85	0.0033
HWT13-01 UPGRADIENT	10/23/84	SPEC COND	UMHOS/CM	536.25	47385.	1495.	2700.
HWT13-02 DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	536.25	47385.	7972.5	30825.
HWT13-03 DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	536.25	47385.	2877.5	158.3333
HWT13-04 DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	536.25	47385.	4145.	366.6667
HWT13-02 DOWNGRADIENT	10/23/84	TOC	MG/L	8.47	26.8596	13.72	0.0358
HWT13-03 DOWNGRADIENT	10/23/84	TOC	MG/L	8.47	26.8596	16.95	0.03
HWT13-04 DOWNGRADIENT	10/23/84	TOC	MG/L	8.47	26.8596	19.45	1.4967

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

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*-------------------------------------------------------------*
|                                  |                          *
|                                  | HWT-13                  ***
|                                  |                        * * *
|                                  |-------------             *
|                                                             *
|                        (+)HWT14-04(DWGD)                    *
|              (+)HWT14-03(DWGD)                            NORTH
| (+)HWT14-02(DWGD)
|                  *******
| **************     *
| *                  *
| *      HWT-14      *
| *                  *
| ********************
|            (+)HWT14-01(UPGD)
|
*------------- GARY WORKS * HWT-14 --------------*
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CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	HWT14-01 UPGRADIENT 10/24/84 841013	HWT14-02 DOWNGRADIENT 10/24/84 841012	HWT14-03 DOWNGRADIENT 10/24/84 841010	HWT14-04 DOWNGRADIENT 10/24/84 841011
CHLORIDE	MG/L		4.6	42.	26.	78.
IRON	MG/L		3.3	3.9	3.2	3.5
MANGANESE	MG/L		0.69	0.58	0.45	0.3
PHENOLS	MG/L		LT0.04*	LT0.04*	LT0.04*	LT0.04*
SODIUM	MG/L		17.	27.	24.	89.
SULFATE	MG/L		220.	100.	220.	430.
PH	SU		7.2	7.3	7.3	7.3
PH	SU		7.2	7.3	7.3	7.2
PH	SU		7.2	7.3	7.3	7.2
PH	SU		7.2	7.3	7.3	7.2
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1100.	910.	1490.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1110.	910.	1490.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1090.	910.	1520.
SPECIFIC CONDUCTANCE	UMHOS/CM		920.	1090.	910.	1510.
TOTAL ORGANIC CARBON	MG/L		80.8	71.1	54.6	58.1
TOTAL ORGANIC CARBON	MG/L		83.6	70.	53.7	57.8
TOTAL ORGANIC CARBON	MG/L		83.1	72.	56.1	59.5
TOTAL ORGANIC CARBON	MG/L		80.6	72.6	53.9	56.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	LT10.	LT10.	LT10.
TEMPERATURE	C		13.	13.	13.	11.
GROUND WATER ELEVATION	FT MSL		581.93	582.72	582.85	584.85

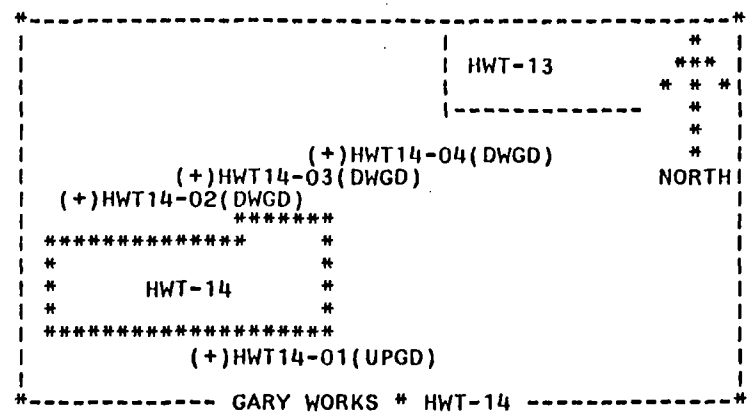
*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

STATISTICAL COMPARISON (SC-1)** REPORT DATE: 07 JAN 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 03 YEAR: 84



INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	VALUES				MEAN	VARIANCE	STATS. SIGNIF. CHANGE
PH	SU	HWT14-01	7.27	0.0385	HWT14-01	7.2	7.2	7.2	7.2	7.2	0.	NO
					HWT14-02	7.3	7.3	7.3	7.3	7.3	0.	NO
					HWT14-03	7.3	7.3	7.3	7.3	7.3	0.	NO
					HWT14-04	7.3	7.2	7.2	7.2	7.22	0.0025	NO
SPEC COND	UMHOS/CM	HWT14-01	1134.38	12266.25	HWT14-01	920.	920.	920.	920.	920.	0.	NO
					HWT14-02	1100.	1110.	1090.	1090.	1097.5	91.6667	NO
					HWT14-03	910.	910.	910.	910.	910.	0.	NO
					HWT14-04	1490.	1490.	1520.	1510.	1502.5	225.	YES
TOC	MG/L	HWT14-01	17.59	65.3718	HWT14-01	80.8	83.6	83.1	80.6	82.02	2.3892	YES
					HWT14-02	71.1	70.	72.	72.6	71.42	1.2825	YES
					HWT14-03	54.6	53.7	56.1	53.9	54.57	1.1825	YES
					HWT14-04	58.1	57.8	59.5	56.	57.85	2.07	YES
TOX	UG/L	HWT14-01	*28.95	*932.6734	HWT14-01	*0.30693	*2.63776	*9.52838	*7.14719	*4.91	*17.5619	NO
					HWT14-02	*5.83312	*0.93993	*6.21336	*4.49203	*4.37	*5.773	NO
					HWT14-03	*4.10149	*2.0629	*5.83019	*8.11585	*5.03	*6.6095	NO
					HWT14-04	*7.16272	*5.45011	*9.77005	*0.78754	*5.79	*14.2884	NO

0.01 LEVEL OF SIGNIFICANCE USED

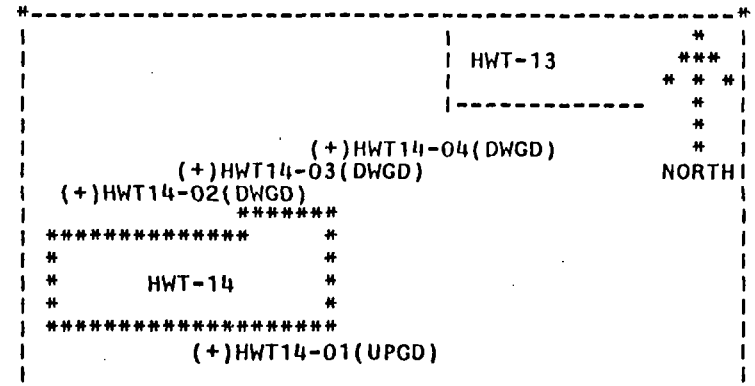
**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

EXCEPTION REPORT (ER-1)** REPORT DATE: 07 JAN 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 03 YEAR: 84



SAMPLING POINT WITH SIGNIFICANT CHANGE	SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWT14-04 DOWNGRADIENT	10/24/84	SPEC COND	UMHOS/CM	1134.38	12266.25	1502.5	225.
HWT14-01 UPGRADIENT	10/24/84	TOC	MG/L	17.59	65.3718	82.02	2.3892
HWT14-02 DOWNGRADIENT	10/24/84	TOC	MG/L	17.59	65.3718	71.42	1.2825
HWT14-03 DOWNGRADIENT	10/24/84	TOC	MG/L	17.59	65.3718	54.57	1.1825
HWT14-04 DOWNGRADIENT	10/24/84	TOC	MG/L	17.59	65.3718	57.85	2.07

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

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*-------------------------------------------------------------*
|HWT2-02  HWT2-03  HWT2-04  HWT2-05  HWT2-06,  07|
|(DWGD)   (DWGD)   (DWGD)   (DWGD)   (DWGD) (DWGD)|
|  (+)     (+)      (+)      (+)      (+)     (+)  |
|  ****************          **************      |
| *                 *        *              *     |
| *                  *      *               *     |
| *      HWT-2        *    *     HWT-2      *     |
|  *                  *   *                 *  *  |
|   ****************     *******************  ***  |
|                                              * * *|
|                                                 *  |
|                                                 *  |
|                                          |----|  *  |
|         (+)HWT2-01        |--------|     | NORTH|
|            (UPGD)         |   HWT-14 |     |      |
|                           |          |     |      |
*-------------- GARY WORKS * HWT-2 --------------*
```

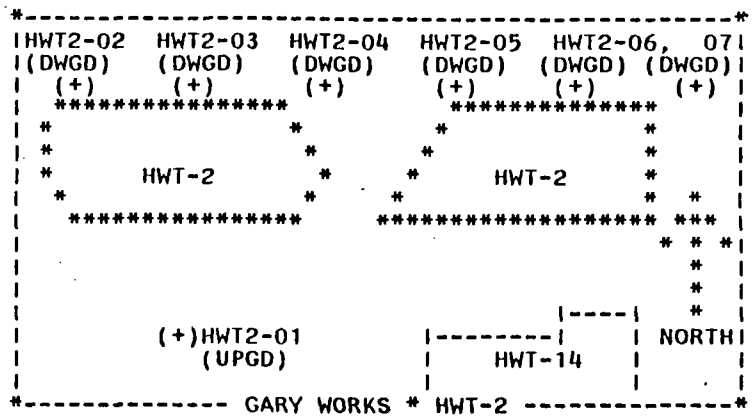
CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWT2-01	HWT2-02	HWT2-03	HWT2-04	HWT2-05
		PRIMARY	UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		DRINKING WATER	10/24/84	10/24/84	10/24/84	10/24/84	10/23/84
PARAMETER	UNIT	STANDARD	840997	840996	840998	840999	840994
CHLORIDE	MG/L		44.	1600.	3300.	2700.	2400.
IRON	MG/L		2.1	0.34	0.2	0.08	42.
MANGANESE	MG/L		0.46	0.01	0.03	0.01	2.2
PHENOLS	MG/L		LT0.04*	0.12	0.41	0.22	LT0.04*
SODIUM	MG/L		43.	40.	62.	65.	130.
SULFATE	MG/L		130.	200.	33.	86.	1200.
PH	SU		7.3	11.4	11.7	11.5	6.7
PH	SU		7.4	11.5	11.6	11.7	6.5
PH	SU		7.3	11.4	11.6	11.4	6.6
PH	SU		7.4	11.4	11.7	11.4	6.6
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	6060.	11300.	10010.	8390.
SPECIFIC CONDUCTANCE	UMHOS/CM		900.	6130.	11100.	10010.	8390.
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	6100.	11300.	10010.	8260.
SPECIFIC CONDUCTANCE	UMHOS/CM		890.	6100.	11300.	10010.	8390.
TOTAL ORGANIC CARBON	MG/L		68.	11.	7.8	9.	18.5
TOTAL ORGANIC CARBON	MG/L		67.4	10.5	6.7	8.9	16.8
TOTAL ORGANIC CARBON	MG/L		61.2	10.7	7.4	8.7	18.3
TOTAL ORGANIC CARBON	MG/L		69.	10.6	6.8	8.7	18.4
TOTAL ORGANIC HALOGEN	UG/L		LT10.	21.	19.	61.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	34.	57.	LT50.*	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	17.	12.	LT50.*	LT10.
TOTAL ORGANIC HALOGEN	UG/L		LT10.	42.	31.	59.	LT10.
TEMPERATURE	C		14.	15.	15.	15.	16.
GROUND WATER ELEVATION	FT MSL		584.62	582.62	583.22	585.26	582.3

*ELEVATED DETECTION LIMIT DUE TO MATRIX INTERFERENCE.

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 09 JAN 85

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84 PURPOSE: ANNUAL

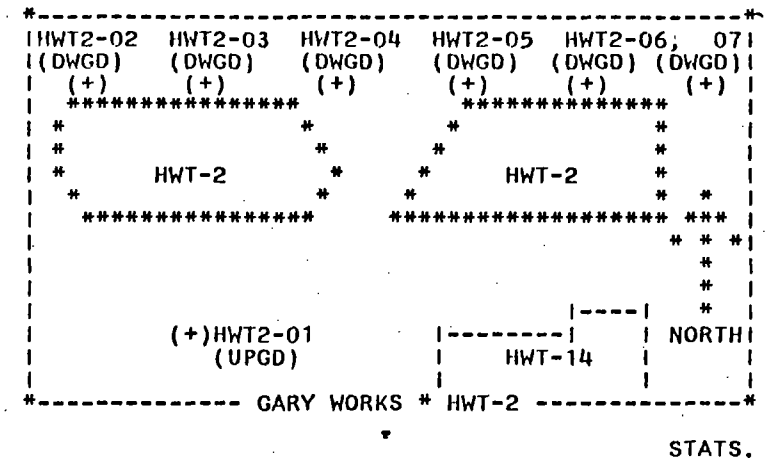
PARAMETER	UNIT	PRIMARY DRINKING WATER STANDARD	SAMPLING POINT, SAMPLE NO. HWT2-06 DOWNGRADIENT 10/23/84 841005	HWT2-07 DOWNGRADIENT 10/23/84 841004
CHLORIDE	MG/L		2100.	1600.
IRON	MG/L		10.	0.09
MANGANESE	MG/L		0.8	0.4
PHENOLS	MG/L		LT0.02	LT0.02
SODIUM	MG/L		68.	46.
SULFATE	MG/L		780.	740.
PH	SU		6.8	9.
PH	SU		6.9	9.
PH	SU		6.9	9.
PH	SU		6.8	9.
SPECIFIC CONDUCTANCE	UMHOS/CM		7610.	5850.
SPECIFIC CONDUCTANCE	UMHOS/CM		7610.	5760.
SPECIFIC CONDUCTANCE	UMHOS/CM		7480.	5780.
SPECIFIC CONDUCTANCE	UMHOS/CM		7390.	5800.
TOTAL ORGANIC CARBON	MG/L		8.	6.2
TOTAL ORGANIC CARBON	MG/L		8.	6.5
TOTAL ORGANIC CARBON	MG/L		7.6	6.5
TOTAL ORGANIC CARBON	MG/L		7.2	6.5
TOTAL ORGANIC HALOGEN	UG/L		230.	11.
TOTAL ORGANIC HALOGEN	UG/L		230.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		400.	LT10.
TOTAL ORGANIC HALOGEN	UG/L		79.	LT10.
TEMPERATURE	C		15.	14.5
GROUND WATER ELEVATION	FT MSL		581.67	584.27

STATISTICAL COMPARISON (SC-1)** REPORT DATE: 07 JAN 85

COMPARISON OF INDICATOR PARAMETER VALUES WITH INITIAL BACKGROUND
VALUES BY FACILITY, SITE AND SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84



INITIAL BACKGROUND

PARAMETER	UNITS	SAMPLING POINT	MEAN	VARIANCE	SAMPLING POINT	VALUES				MEAN	VARIANCE	STATS. SIGNIF. CHANGE
PH	SU	HWT2-01	7.39	0.2528	HWT2-01	7.3	7.4	7.3	7.4	7.35	0.0033	NO
					HWT2-02	11.4	11.5	11.4	11.4	11.42	0.0025	YES
					HWT2-03	11.7	11.6	11.6	11.7	11.65	0.0033	YES
					HWT2-04	11.5	11.7	11.4	11.4	11.5	0.02	YES
					HWT2-05	6.7	6.5	6.6	6.6	6.6	0.0067	YES
					HWT2-06	6.8	6.9	6.9	6.8	6.85	0.0033	YES
					HWT2-07	9.	9.	9.	9.	9.	0.	YES
SPEC COND	UMHOS/CM	HWT2-01	1005.	25573.3333	HWT2-01	910.	900.	910.	890.	902.5	91.6667	NO
					HWT2-02	6060.	6130.	6100.	6100.	6097.5	825.	YES
					HWT2-03	11300.	11100.	11300.	11300.	11250.	10000.	YES
					HWT2-04	10010.	10010.	10010.	10010.	10010.	0.	YES
					HWT2-05	8390.	8390.	8260.	8390.	8357.5	4225.	YES
					HWT2-06	7610.	7610.	7480.	7390.	7522.5	11558.3333	YES
					HWT2-07	5850.	5760.	5780.	5800.	5797.5	1491.6667	YES
TOC	MG/L	HWT2-01	23.82	71.4847	HWT2-01	68.	67.4	61.2	69.	66.4	12.4533	YES
					HWT2-02	11.	10.5	10.7	10.6	10.7	0.0467	NO
					HWT2-03	7.8	6.7	7.4	6.8	7.17	0.2692	NO
					HWT2-04	9.	8.9	8.7	8.7	8.82	0.0225	NO
					HWT2-05	18.5	16.8	18.3	18.4	18.	0.6467	NO
					HWT2-06	8.	8.	7.6	7.2	7.7	0.1467	NO
					HWT2-07	6.2	6.5	6.5	6.5	6.42	0.0225	NO
TOX	UG/L	HWT2-01	51.94	1440.8625	HWT2-01	*3.75249	*9.77996	*5.04258	*1.61588	*5.05	*11.9498	NO
					HWT2-02	21.	34.	17.	42.	28.5	133.6667	NO
					HWT2-03	19.	57.	12.	31.	29.75	391.5833	NO
					HWT2-04	61.	*19.87409	*9.94012	59.	*37.45	*694.9037	NO
					HWT2-05	*8.66741	*7.12594	*4.80249	*2.29301	*5.72	*7.75	NO
					HWT2-06	230.	230.	400.	79.	234.75	17203.5833	NO
					HWT2-07	11.	*2.95516	*6.96458	*8.25513	*7.29	*11.1974	NO

0.01 LEVEL OF SIGNIFICANCE USED

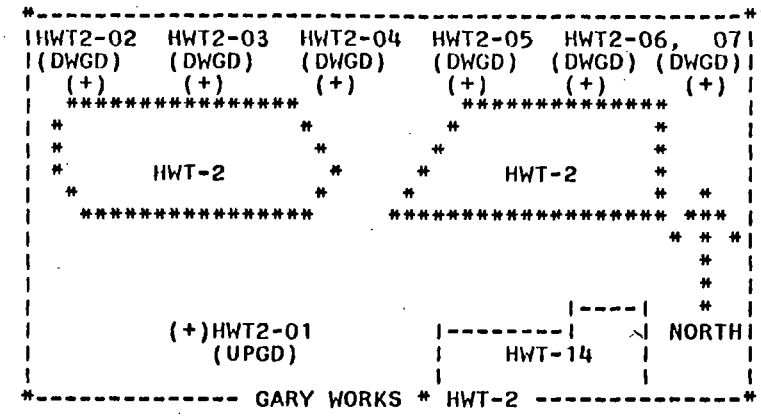
**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

EXCEPTION REPORT (ER-1)** REPORT DATE: 07 JAN 85

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT

RANDOM NUMBER REPORT
* INDICATES A RANDOM NUMBER OR A VALUE DERIVED BY USE OF A RANDOM NUMBER

CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 84



SAMPLING POINT WITH SIGNIFICANT CHANGE		SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWT2-02	DOWNGRADIENT	10/24/84	PH	SU	7.39	0.2528	11.42	0.0025
HWT2-03	DOWNGRADIENT	10/24/84	PH	SU	7.39	0.2528	11.65	0.0033
HWT2-04	DOWNGRADIENT	10/24/84	PH	SU	7.39	0.2528	11.5	0.02
HWT2-05	DOWNGRADIENT	10/23/84	PH	SU	7.39	0.2528	6.6	0.0067
HWT2-06	DOWNGRADIENT	10/23/84	PH	SU	7.39	0.2528	6.85	0.0033
HWT2-07	DOWNGRADIENT	10/23/84	PH	SU	7.39	0.2528	9.	0.
HWT2-02	DOWNGRADIENT	10/24/84	SPEC COND	UMHOS/CM	1005.	25573.3333	6097.5	825.
HWT2-03	DOWNGRADIENT	10/24/84	SPEC COND	UMHOS/CM	1005.	25573.3333	11250.	10000.
HWT2-04	DOWNGRADIENT	10/24/84	SPEC COND	UMHOS/CM	1005.	25573.3333	10010.	0.
HWT2-05	DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	1005.	25573.3333	8357.5	4225.
HWT2-06	DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	1005.	25573.3333	7522.5	11558.3333
HWT2-07	DOWNGRADIENT	10/23/84	SPEC COND	UMHOS/CM	1005.	25573.3333	5797.5	1491.6667
HWT2-01	UPGRADIENT	10/24/84	TOC	MG/L	23.82	71.4847	66.4	12.4533

0.01 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

RICHARD DWOREK
DIRECTOR—ENVIRONMENT
ENVIRONMENT & ENERGY

United States Steel Corporation
125 JAMISON LANE
MONROEVILLE, PENNSYLVANIA 15146
412/372-1212, EXT. 2219

JAN 16 10 05 AM '84
DIV. OF LAND POLLUTION CONTROL
STATE BOARD OF HEALTH

January 11, 1984

David D. Lamm, Director
Division of Land Pollution Control
Indiana State Board of Health
1330 West Michigan Street
P. O. Box 1964
Indianapolis, Indiana 46206

Re: U.S. Steel Corporation - Gary Works
Hazardous Waste Sites Annual Groundwater Monitoring
Facilities EPA I.D. No. IND-005444062

Dear Mr. Lamm:

As required by Inidana regulations the annual groundwater sampling event for 1983 at Gary Works sites HWD-2, HWD-5, HWT-2, HWT-13 and HWT-14 was completed during the period October 25-27, 1983.

Attached please find reports for each of the above sites summarizing analytical results for the required parameters and groundwater elevations. These summaries are designated as "SR-2" reports. Also included are "SC-1" and "ER-1" reports which summarize the results of required statistical analyses. These statistical analyses were compiled using Cochran's Approximation to the Behrens-Fisher Student's t-test at the 0.05 level of significance to compare data from wells originally designated upgradient with data for wells originally designated as downgradient.

As described in the report submitted to your agency in August 1983 entitled "Report on Groundwater Monitoring Activities at Gary Works", the statistical analyses may be invalid because clear upgradient/downgradient relationships have not been established. A program to resolve these relationships was proposed in this same report and discussed in a meeting with your Ms. Caryl Scmidt on July 27, 1983. While we await agency comment on the proposed program, only regular monitoring activities will continue as approved by Ms. Schmidt.

If you have any questions or comments, please call me at (412)372-1212, Ext. 2067.

Very truly yours,

A. A. Spinola

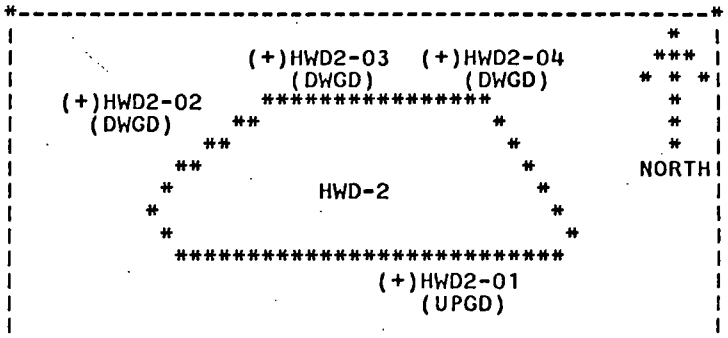
A. A. Spinola
Senior Environment Engineer
Environmental Affairs

AAS/es

Attachment

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

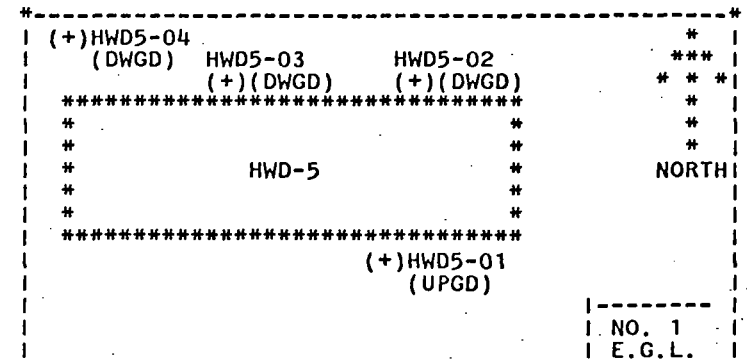


CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-2
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWD2-01	HWD2-02	HWD2-03	HWD2-04
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		REGULATORY	10/25/83	10/25/83	10/25/83	10/25/83
PARAMETER	UNIT	LEVEL	831303	831304	831301	831300
CHLORIDE	MG/L		180.	62.	6.8	39.
IRON	MG/L		0.05	0.09	0.04	0.01
MANGANESE	MG/L		LT0.01	1.15	0.29	0.53
PHENOLS	MG/L		0.078	LT0.01	LT0.01	LT0.01
SODIUM	MG/L		90.5	83.6	6.77	22.2
SULFATE	MG/L		320.	430.	60.	120.
PH	SU		10.1	7.6	7.2	7.4
PH	SU		10.1	7.8	7.4	7.3
PH	SU		10.1	7.7	7.3	7.4
PH	SU		10.1	7.7	7.3	7.2
SPECIFIC CONDUCTANCE	UMHOS/CM		1370.	1520.	406.	680.
SPECIFIC CONDUCTANCE	UMHOS/CM		1370.	1530.	402.	690.
SPECIFIC CONDUCTANCE	UMHOS/CM		1380.	1550.	407.	660.
SPECIFIC CONDUCTANCE	UMHOS/CM		1370.	1530.	406.	660.
TOTAL ORGANIC CARBON	MG/L		24.4	56.2	27.2	35.7
TOTAL ORGANIC CARBON	MG/L		24.4	59.3	27.9	36.3
TOTAL ORGANIC CARBON	MG/L		24.1	55.7	26.8	35.2
TOTAL ORGANIC CARBON	MG/L		24.4	59.8	26.6	34.1
TOTAL ORGANIC HALOGEN	UG/L		17.	12.	21.	25.
TOTAL ORGANIC HALOGEN	UG/L		12.	LT10.	29.	30.
TOTAL ORGANIC HALOGEN	UG/L		12.	14.	22.	29.
TOTAL ORGANIC HALOGEN	UG/L		14.	LT10.	27.	27.
GROUND WATER ELEVATION	FT WD		8.56	9.04	8.66	8.47

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWD-5
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWD5-01	HWD5-02	HWD5-03	HWD5-04
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		REGULATORY	10/27/83	10/27/83	10/27/83	10/27/83
PARAMETER	UNIT	LEVEL	831316	831315	831317	831318
CHLORIDE	MG/L		59.	73.	300.	44.
IRON	MG/L		0.04	0.05	0.16	0.03
MANGANESE	MG/L		0.16	0.04	LT0.01	LT0.01
PHENOLS	MG/L		LT0.01	0.046	1.2	0.055
SODIUM	MG/L		25.4	55.2	150.	26.1
SULFATE	MG/L		180.	600.	55.	160.
PH	SU		7.9	11.2	11.8	11.8
PH	SU		7.9	11.2	11.7	11.8
PH	SU		7.9	11.2	11.7	11.8
PH	SU		8.	11.2	11.7	11.8
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	1600.	2220.	1380.
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	1600.	2220.	1380.
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	1600.	2220.	1380.
SPECIFIC CONDUCTANCE	UMHOS/CM		910.	1600.	2220.	1380.
TOTAL ORGANIC CARBON	MG/L		39.	5.9	55.9	3.2
TOTAL ORGANIC CARBON	MG/L		40.9	6.1	57.5	3.2
TOTAL ORGANIC CARBON	MG/L		40.9	6.1	57.6	3.2
TOTAL ORGANIC CARBON	MG/L		42.8	5.9	57.3	3.3
TOTAL ORGANIC HALOGEN	UG/L		17.	28.	93.	14.
TOTAL ORGANIC HALOGEN	UG/L		19.	22.	77.	18.
TOTAL ORGANIC HALOGEN	UG/L		17.	26.	66.	14.
TOTAL ORGANIC HALOGEN	UG/L		24.	22.	91.	21.
GROUND WATER ELEVATION	FT WD		6.94	6.38	6.05	4.82

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

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#-------------------------------------------------------------*
|            (+)HWT13-03                                      *
| HWT13-02(+)   (DWGD) (+)HWT13-04(DWGD)                     ***
| (DWGD)     ****************                               * * *
|            *               *                                *
|            *               *                                *
|            *    HWT-13     *                                *
|            *               *                              NORTH
|            ****************
|               (+)HWT13-01
|                 (UPGD)
|
|
|            |-----|
| ----------|      |
| |   HWT-14        |
| |                 |
#------------- GARY WORKS * HWT-13 --------------*
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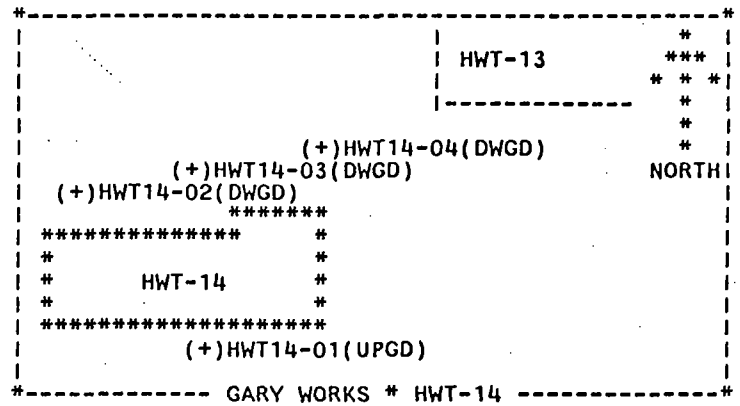
CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-13
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWT13-01	HWT13-02	HWT13-03	HWT13-04
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		REGULATORY	10/25/83	10/25/83	10/25/83	10/25/83
PARAMETER	UNIT	LEVEL	831319	831322	831321	831320
CHLORIDE	MG/L		41.	2400.	480.	1200.
IRON	MG/L		0.02	110.	0.75	67.
MANGANESE	MG/L		0.03	1.28	0.17	2.01
PHENOLS	MG/L		0.019	0.019	LT0.01	LT0.01
SODIUM	MG/L		23.4	83.5	65.2	92.6
SULFATE	MG/L		340.	1200.	1300.	1300.
PH	SU		10.	6.6	7.7	6.9
PH	SU		10.2	6.6	7.7	7.
PH	SU		10.1	6.6	7.6	6.9
PH	SU		10.1	6.6	7.7	7.
SPECIFIC CONDUCTANCE	UMHOS/CM		1080.	9100.	3320.	5100.
SPECIFIC CONDUCTANCE	UMHOS/CM		1080.	9200.	3290.	5100.
SPECIFIC CONDUCTANCE	UMHOS/CM		1060.	9200.	3280.	5070.
SPECIFIC CONDUCTANCE	UMHOS/CM		1060.	9100.	3290.	5100.
TOTAL ORGANIC CARBON	MG/L		5.3	17.2	17.1	34.3
TOTAL ORGANIC CARBON	MG/L		5.4	16.5	20.4	37.1
TOTAL ORGANIC CARBON	MG/L		5.4	16.7	20.6	35.1
TOTAL ORGANIC CARBON	MG/L		5.3	16.4	20.1	32.7
TOTAL ORGANIC HALOGEN	UG/L		18.	72.	44.	40.
TOTAL ORGANIC HALOGEN	UG/L		15.	79.	42.	40.
TOTAL ORGANIC HALOGEN	UG/L		16.	75.	45.	50.
TOTAL ORGANIC HALOGEN	UG/L		20.	89.	50.	37.
GROUND WATER ELEVATION	FT WD		7.37	4.38	4.27	4.2

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

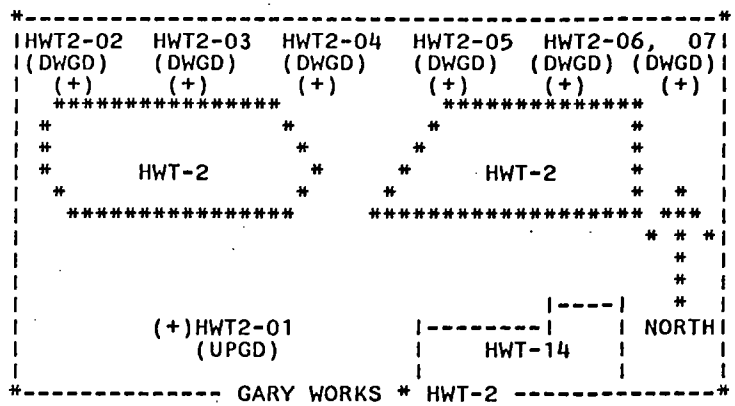


CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-14
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.			
			HWT14-01	HWT14-02	HWT14-03	HWT14-04
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		REGULATORY	10/27/83	10/26/83	10/26/83	10/27/83
PARAMETER	UNIT	LEVEL	831325	831323	831324	831327
CHLORIDE	MG/L		14.	5.3	32.	120.
IRON	MG/L		8.58	0.5	4.29	5.1
MANGANESE	MG/L		0.29	0.36	0.34	0.19
PHENOLS	MG/L		LT0.01	LT0.01	LT0.01	0.03
SODIUM	MG/L		17.6	17.5	23.3	105.
SULFATE	MG/L		640.	230.	330.	340.
PH	SU		7.2	7.3	7.3	7.5
PH	SU		7.2	7.4	7.3	7.5
PH	SU		7.2	7.4	7.3	7.5
PH	SU		7.2	7.4	7.3	7.5
SPECIFIC CONDUCTANCE	UMHOS/CM		1810.	950.	1160.	1360.
SPECIFIC CONDUCTANCE	UMHOS/CM		1800.	980.	1160.	1360.
SPECIFIC CONDUCTANCE	UMHOS/CM		1800.	960.	1150.	1360.
SPECIFIC CONDUCTANCE	UMHOS/CM		1780.	950.	1150.	1390.
TOTAL ORGANIC CARBON	MG/L		129.	65.4	59.6	58.
TOTAL ORGANIC CARBON	MG/L		124.	66.6	57.8	56.9
TOTAL ORGANIC CARBON	MG/L		126.	65.9	56.6	57.8
TOTAL ORGANIC CARBON	MG/L		129.	66.2	59.1	55.7
TOTAL ORGANIC HALOGEN	UG/L		17.	17.	20.	10.
TOTAL ORGANIC HALOGEN	UG/L		16.	33.	15.	20.
TOTAL ORGANIC HALOGEN	UG/L		19.	17.	15.	12.
TOTAL ORGANIC HALOGEN	UG/L		22.	23.	15.	18.
GROUND WATER ELEVATION	FT WD		6.21	7.07	7.59	7.72

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND

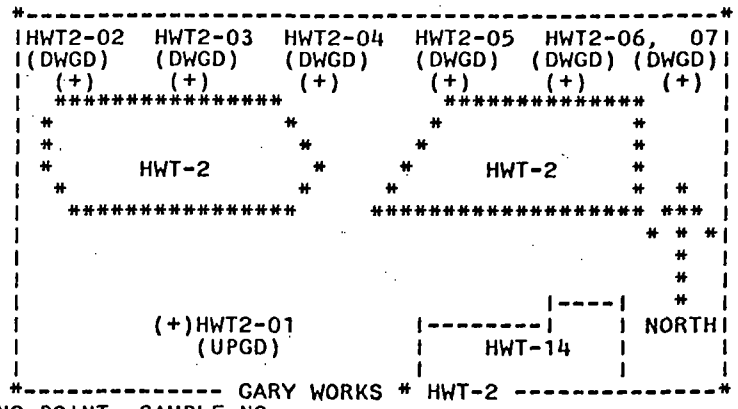


CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

			SAMPLING POINT, SAMPLE NO.				
			HWT2-01	HWT2-02	HWT2-03	HWT2-04	HWT2-05
			UPGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT	DOWNGRADIENT
		REGULATORY	10/26/83	10/26/83	10/26/83	10/26/83	10/26/83
PARAMETER	UNIT	LEVEL	831311	831310	831308	831309	831312
CHLORIDE	MG/L		37.	2400.	3600.	2400.	3400.
IRON	MG/L		1.8	0.54	0.87	0.15	96.
MANGANESE	MG/L		0.45	0.01	0.02	LT0.01	3.15
PHENOLS	MG/L		LT0.01	0.11	0.61	0.38	0.015
SODIUM	MG/L		29.3	34.3	52.9	51.6	105.
SULFATE	MG/L		140.	240.	64.	66.	1200.
PH	SU		7.3	11.6	11.7	12.	6.5
PH	SU		7.4	11.6	11.7	12.	6.5
PH	SU		7.4	11.6	11.7	12.	6.5
PH	SU		7.3	11.6	11.8	12.	6.5
SPECIFIC CONDUCTANCE	UMHOS/CM		850.	8600.	11500.	10100.	9000.
SPECIFIC CONDUCTANCE	UMHOS/CM		870.	8400.	11500.	10000.	9100.
SPECIFIC CONDUCTANCE	UMHOS/CM		860.	8400.	11500.	10000.	9000.
SPECIFIC CONDUCTANCE	UMHOS/CM		850.	8400.	11500.	10100.	9000.
TOTAL ORGANIC CARBON	MG/L		70.	6.3	9.5	8.9	35.7
TOTAL ORGANIC CARBON	MG/L		70.9	6.5	10.1	9.1	33.7
TOTAL ORGANIC CARBON	MG/L		69.6	6.3	9.6	9.3	35.4
TOTAL ORGANIC CARBON	MG/L		69.8	6.4	9.7	8.9	34.8
TOTAL ORGANIC HALOGEN	UG/L		17.	130.	280.	170.	92.
TOTAL ORGANIC HALOGEN	UG/L		17.	110.	205.	190.	92.
TOTAL ORGANIC HALOGEN	UG/L		29.	120.	220.	190.	116.
TOTAL ORGANIC HALOGEN	UG/L		24.	120.	240.	160.	103.
GROUND WATER ELEVATION	FT WD		7.22	5.69	5.9	7.4	4.69

SUMMARY REPORT - SAMPLING ROUND (SR-2) REPORT DATE: 29 NOV 83

TABULATION OF RESULTS BY FACILITY, SITE,
AND SAMPLING POINT FOR SAMPLING ROUND



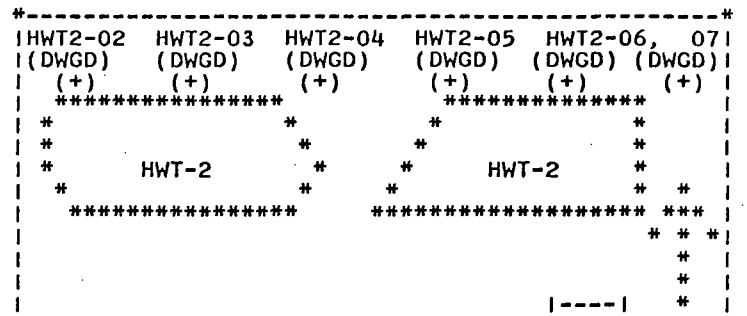
CLIENT: U.S. STEEL CORPORATION
FACILITY: GARY WORKS LOCATION: GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 83 PURPOSE: ANNUAL

SAMPLING POINT, SAMPLE NO.

PARAMETER	UNIT	REGULATORY LEVEL	HWT2-06 DOWNGRADIENT 10/25/83 831307	HWT2-07 DOWNGRADIENT 10/26/83 831313
CHLORIDE	MG/L		2400.	1600.
IRON	MG/L		8.55	LT0.01
MANGANESE	MG/L		0.73	0.4
PHENOLS	MG/L		LT0.01	0.033
SODIUM	MG/L		61.9	45.3
SULFATE	MG/L		1100.	960.
PH	SU		6.9	9.1
PH	SU		7.	9.1
PH	SU		6.9	9.1
PH	SU		6.9	9.1
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5920.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5950.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5960.
SPECIFIC CONDUCTANCE	UMHOS/CM		7200.	5950.
TOTAL ORGANIC CARBON	MG/L		9.8	6.5
TOTAL ORGANIC CARBON	MG/L		9.7	7.
TOTAL ORGANIC CARBON	MG/L		10.1	6.9
TOTAL ORGANIC CARBON	MG/L		9.3	6.9
TOTAL ORGANIC HALOGEN	UG/L		208.	50.
TOTAL ORGANIC HALOGEN	UG/L		300.	61.
TOTAL ORGANIC HALOGEN	UG/L		243.	56.
TOTAL ORGANIC HALOGEN	UG/L		200.	62.
GROUND WATER ELEVATION	FT WD		3.99	7.18

EXCEPTION REPORT (ER-1)** REPORT DATE: 30 NOV 83

IDENTIFICATION OF STATISTICALLY SIGNIFICANT CHANGES
FOR EACH SAMPLING POINT



CLIENT: U.S. STEEL CORPORATION
FACILITY GARY WORKS LOCATION GARY, INDIANA
SITE: HWT-2
SAMPLING ROUND: 03 YEAR: 83

SAMPLING POINT WITH SIGNIFICANT CHANGE		SAMPLING DATE	INDICATOR PARAMETER WITH SIGNIFICANT CHANGE	UNIT	INITIAL BACKGROUND MEAN	INITIAL BACKGROUND VARIANCE	SAMPLING RESULTS MEAN	SAMPLING RESULTS VARIANCE
HWT2-02	DOWNGRADIENT	10/26/83	PH	SU	7.39	0.2528	11.6	0.
HWT2-03	DOWNGRADIENT	10/26/83	PH	SU	7.39	0.2528	11.72	0.0025
HWT2-04	DOWNGRADIENT	10/26/83	PH	SU	7.39	0.2528	12.	0.
HWT2-05	DOWNGRADIENT	10/26/83	PH	SU	7.39	0.2528	6.5	0.
HWT2-06	DOWNGRADIENT	10/25/83	PH	SU	7.39	0.2528	6.92	0.0025
HWT2-07	DOWNGRADIENT	10/26/83	PH	SU	7.39	0.2528	9.1	0.
HWT2-02	DOWNGRADIENT	10/26/83	SPEC COND	UMHOS/CM	1005.	25573.3333	8450.	10000.
HWT2-03	DOWNGRADIENT	10/26/83	SPEC COND	UMHOS/CM	1005.	25573.3333	11500.	0.
HWT2-04	DOWNGRADIENT	10/26/83	SPEC COND	UMHOS/CM	1005.	25573.3333	10050.	3333.3333
HWT2-05	DOWNGRADIENT	10/26/83	SPEC COND	UMHOS/CM	1005.	25573.3333	9025.	2500.
HWT2-06	DOWNGRADIENT	10/25/83	SPEC COND	UMHOS/CM	1005.	25573.3333	7200.	0.
HWT2-07	DOWNGRADIENT	10/26/83	SPEC COND	UMHOS/CM	1005.	25573.3333	5945.	300.
HWT2-01	UPGRADIENT	10/26/83	TOC	MG/L	23.82	71.4847	70.07	0.3292
HWT2-05	DOWNGRADIENT	10/26/83	TOC	MG/L	23.82	71.4847	34.9	0.78
HWT2-02	DOWNGRADIENT	10/26/83	TOX	UG/L	51.94	1440.8625	120.	66.6667
HWT2-03	DOWNGRADIENT	10/26/83	TOX	UG/L	51.94	1440.8625	236.25	1056.25
HWT2-04	DOWNGRADIENT	10/26/83	TOX	UG/L	51.94	1440.8625	177.5	225.
HWT2-05	DOWNGRADIENT	10/26/83	TOX	UG/L	51.94	1440.8625	100.75	130.25
HWT2-06	DOWNGRADIENT	10/25/83	TOX	UG/L	51.94	1440.8625	237.75	2070.9167

0.05 LEVEL OF SIGNIFICANCE USED

**VALIDITY OF THIS REPORT IS QUESTIONABLE DUE TO UNCERTAIN UPGRADIENT/DOWNGRADIENT RELATIONSHIPS.

FEB 22 1983

Mr. P. K. Morrison
United States Steel Corporation
Gary Works
One North Broadway
Gary, IN 46402

Dear Mr. Morrison:

Re: RCRA Subpart F Groundwater Monitoring

The Environmental Management Board, in cooperation with the U.S. EPA, Region V, is administering the provisions of the Resource Conservation and Recovery Act of 1976, Public Law 94-580. The Technical Support Branch of the Division of Land Pollution Control has been assigned the responsibility of inspecting hazardous waste management facilities that are required to monitor groundwater as per 40 CFR Part 265, Subpart F.

This letter is to inform you that on February 9, 1983, an inspection of the U.S. Steel Corporation, Gary Works facility, located at Gary, Indiana, was conducted by Mr. Robert Downey of the Division of Land Pollution Control, Indiana State Board of Health. The inspection revealed that the operation of the facility was in compliance with RCRA interim status regulations and Indiana Rule 320 IAC 4 as they pertain to groundwater monitoring.

A copy of this letter and the inspection report will be sent to the U.S. EPA, Region V Office in Chicago, Illinois.

If you have any questions, please contact Mr. Robert Downey at 317/633-8476.

Very truly yours,

James E. Traylor, Chief
Technical Support Branch
Division of Land Pollution Control

RAD/tw
Enclosures
cc: Mr. Ted Warner
Mr. Richard Shandross, U.S. EPA
tw 4919m 2/18/83