GLENN SPRINGS HOLDINGS, INC.

1795 Baseline Road Grand Island, NY 14072-2010

A Subsidiary of Occidental Petroleum Corporation

Gene Dworzanski
WNY Office

Telephone (716) 773-8303
Fax (716) 773-8333

March 13, 1997

Mr. Craig D. Jackson, P.E.
Technical Support Section
Bureau of Western Remedial Action
Div. of Hazardous Waste Remediation
NYS Dept. of Environmental Conservation
50 Wolf Road, Room 222
Albany, New York 12233-7010

Ms. Gloria M. Sosa
Site Invest. & Compliance Branch
U.S. EPA, Region II
290 Broadway, 20th Floor
New York, New York 10007-1866

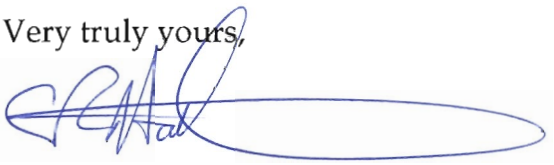
Re: Collected NAPL Volumes
Hyde Park Remedial Program

Dear Mr. Jackson and Ms. Sosa:

Occidental Chemical Corporation (OxyChem) has updated the determination of the total NAPL volume collected from the Hyde Park Landfill Site. The attached memorandum summarizes the calculated NAPL volumes since June 30, 1995, including incineration and current storage at OxyChem's Niagara Plant and at the Hyde Park treatment facility. The total volume of NAPL extracted by the Hyde Park remedial systems is now estimated to be 254,000 gallons, as of March 1, 1997.

If you have any questions, please do not hesitate to call me at 716-773-8303.

Very truly yours,



for Gene M. Dworzanski
Project Manager

GMD/crh/14

cc: G. Sosa - EPA Region II (3)
C. Jackson - DEC - Albany (2)
P. Buechi - DEC - Buffalo (2)
W. Kruszona - GSHI - WNY
R. Hoekstra - CRA
J.A. Mack - OxyChem - Dallas

CRA
651 Colby Drive
Waterloo, Ontario N2V 1C2
(519) 884-0510 (Colby Office)
(519) 725-3313 (Bathurst Office)

MEMO

TO: Gene Dworzanski (GSHI) REFERENCE NO. 1069

FROM: Rick Hoekstra DATE: March 13, 1997

C.C.: Dave Wilde

RE: NAPL Volumes - Hyde Park RRT Program

In response to a request from yourself, CRA has researched the recent information regarding the collected NAPL volumes from the remedial programs implemented at the Hyde Park Landfill. The information is from mid-1995 to present and is summarized by volumes incinerated to date, volume available for incineration at the Niagara Plant, and volume currently in storage at the Hyde Park treatment facility. The previous total NAPL inventory for the Hyde Park Landfill Site was 234,000 gal., as provided to EPA/State by John Nichter (effective June 30, 1995). The NAPL volume extracted from the Hyde Park Landfill Site over the past 20 months is approximately 20,000 gal., for a new total extracted NAPL volume of **254,000 gal.**

I. Incineration Volumes

Year	Volume		
1995	7,790	gal.	(last six months only)
1996	14,460	gal.	(full twelve months)
1997	5,370	gal.	(first two months only)
	27,620	**gal.**	

II. Current Inventory

Niagara Plant			
Unloaded	=	4,790	gal.
In trailer	=	3,810	gal.
		8,600	gal.
Hyde Park			
Decanter #1 (B)		3,650	gal.
Decanter #2 (O)		5,350	gal.
Decanter #3 (S)		5,620	gal.
		14,620	gal.

Current Inventory (3/1/97)	=	23,220	gal.
Previous Inventory (6/30/95)	=	30,500	gal.
		-7,280	**gal.**

TOTAL NAPL VOLUME INCREASE (mid-1995 to 3/1/97) = 20,340 gal.

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March 13, 1997

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Technical Support Section
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Albany, New York 12233-7010

Ms. Gloria M. Sosa
Site Invest. & Compliance Branch
U.S. EPA, Region II
290 Broadway, 20th Floor
New York, New York 10007-1866

Re: Gorge Seep Sampling Results
Hyde Park Remedial Program

Dear Mr. Jackson and Ms. Sosa:

Occidental Chemical Corporation (OxyChem) has conducted a sampling program within the Niagara River gorge face area at the defined "seep" areas along the New York Power Authority (NYPA) access road. This sampling event was precipitated by a request from NYPA that OxyChem perform rock scaling and ditch cleaning activities along the NYPA access road, and handle the disposal of contaminated material. This request was based on the assumption that the water in the flowing and dripping seep areas contained Hyde Park chemicals. In consultation with NYPA, OxyChem indicated that it would sample these seep areas and, if deemed to be cleaned, the areas of the rock face within the seep areas could then be scaled by NYPA as part of normal operations. The material retrieved from the rock face and the ditches adjacent to the rock face along the NYPA access road could then be handled by NYPA's contractor as clean material.

Samples were collected at eight locations (nine samples in total) along the NYPA access road, as indicated on the attached Figure 1. Water samples were collected at the flowing seep collection basin locations (Seep #1 through Seep #4), and analyzed for the APL Plume Definition Parameters. These parameters were used historically at the Hyde Park Landfill Site to delineate the extent of the aqueous phase liquids (APL) plume in the bedrock. At the moist rock face areas (Seep #14, Seep #16, Seep #17, and Seep #18), sediment samples were collected from the actual rock face where soil or shaly particles were available or from the adjacent moist ditch materials. These samples were analyzed for the Soil Survey Parameters, which were used historically to delineate the extent of contaminated surface soils adjacent to the Hyde Park Landfill Site. As some dripping water was observed at Seep #18, a water sample was also collected at this location, in additional to the collected sediment sample. The analytical results for this sampling program are presented in the attached Table 1 (water) and Table 2 (sediment).

From Table 1, it can be seen that there were no detections of specific Hyde Park chemicals in any of the seep water samples collected for analysis (reported Total Organic Carbon and Total Organic Halides concentrations were all below the predetermined Hyde Park survey levels). Initial sampling at Seep #3 indicated a low-level phenol concentration of 39 ppb (below the survey level); however, resampled water from this seep area indicated no detection of phenol at 5 ppb. The first water sample had been collected from the available standing water within the seep collection basin, as there was no visible flowing water observed in this seep area during the first sampling trip.

From Table 2, it can be seen that there were no detections of Hyde Park soil survey parameters in any of the sediment samples collected for analysis. The reported detection limits were calculated based on the dry weight of the sample after analysis, resulting in an increase from the predetermined survey level. When the results are readjusted for water content, the equivalent wet weight detection limit is 100 µg/kg for all samples.

Based on the acquired analytical results, Occidental indicated to NYPA that it could proceed with complete scaling of the rock face, including the identified and sampled seep areas. Prior to initiation of the scaling operations, OxyChem removed the existing fence enclosures around the moist/wet areas and these have not been replaced due to the acquired "clean" sampling results. During the scaling, NYPA was requested to protect the existing concrete enclosures around the collection basins for the flowing seeps (Seep #1 through Seep #4) from falling rock; however, the fencing was irreparably damaged. This fencing will also not be replaced unless future sampling results deem replacement of the fence to be necessary for public protection.

The acquired data has been assessed with respect to Quality Control/Quality Assurance (QA/QC) criteria in accordance with standard methodologies. A copy of the "Analytical Data Quality Assessment and Validation", dated December 30, 1996 and prepared by Conestoga-Rovers & Associates (CRA), is attached for information.

If you have any questions, please do not hesitate to call me at 716-773-8303.

Very truly yours,

for Gene M. Dworzanski
Project Manager

GMD/csm/10

cc: G. Sosa - EPA Region II (3)
C. Jackson - DEC - Albany (2)
P. Buechi - DEC - Buffalo (2)
W. Kruszona - GSHI - WNY
R. Hoekstra - CRA
J.A. Mack - OxyChem - Dallas
EPA Public Information Office - N.F.

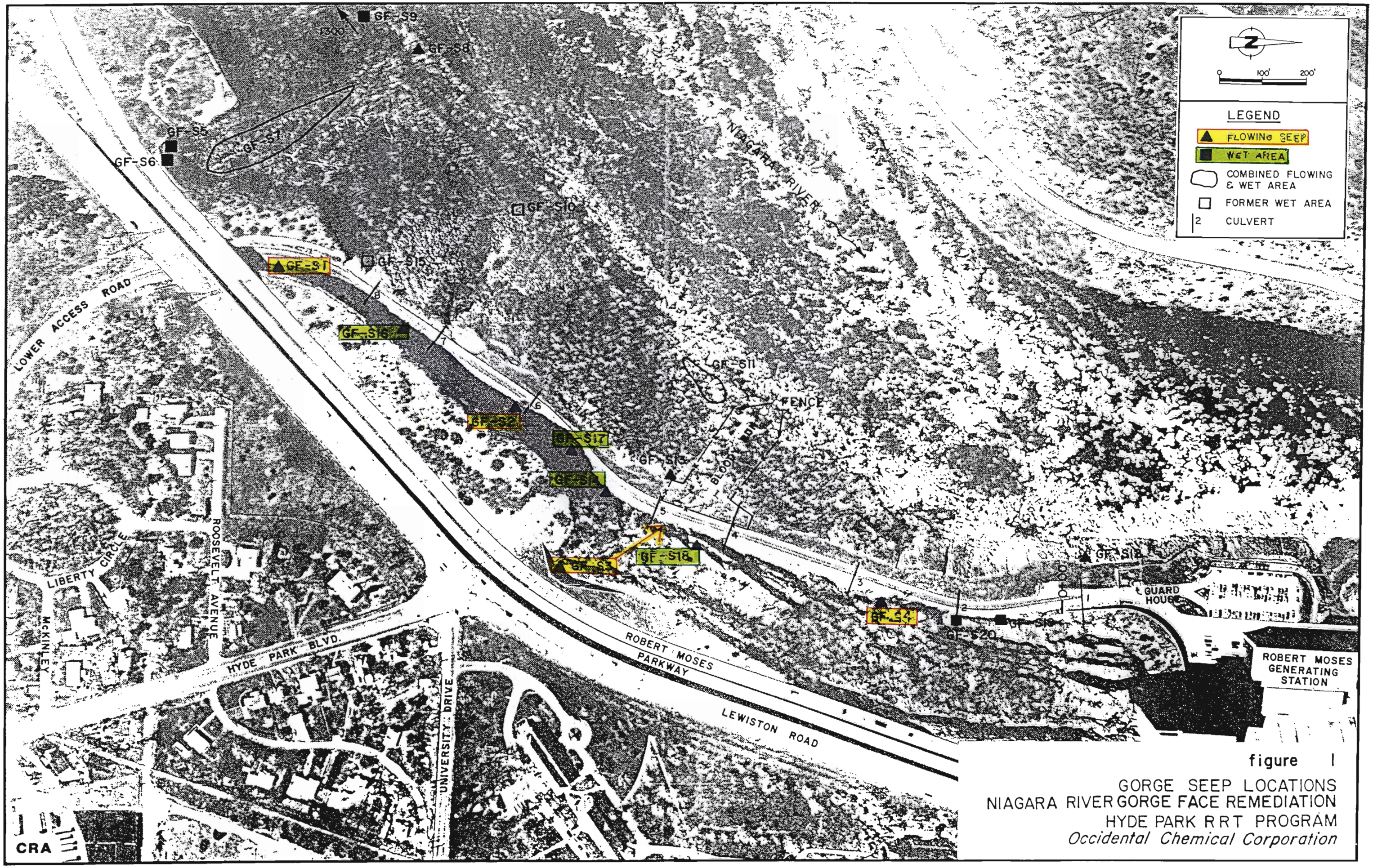

figure 1

GORGE SEEP LOCATIONS
NIAGARA RIVER GORGE FACE REMEDIATION
HYDE PARK R R T PROGRAM
Occidental Chemical Corporation

4341 ( ) JAN 17/97(W) REV.0

TABLE 1
SEEP WATER ANALYTICAL RESULTS
HYDE PARK GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
OCTOBER 1996

	Sample Location:	*Seep No. 1*	*Seep No. 2*	*Seep No. 3*	*Seep No. 4*	*Seep No. 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
Parameter	*Units*	*Survey Level*				
Microextractables						
Chlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
o-Chlorotoluene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
p-Chlorotoluene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3-Trichlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4-Trichlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3,4-Tetrachlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4,5-Tetrachlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
o-Monochlorobenzotrifluoride	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
p-Monochlorobenzotrifluoride	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
Octachlorocyclopentene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
2,4,5-Trichlorophenol	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
alpha-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
beta-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
delta-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
gamma-BHC (Lindane)	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
Wet Chemistry						
Total Recoverable Phenolics	µg/L	250	ND 5	ND 5	ND 5*	ND 5	ND 5
General Chemistry						
Total Organic Carbon	mg/L	200	3.0	3.3	13.3	5.9	17.6
Total Organic Halides	µg/L	500	382	450	201	52	286

Notes:
NDx = Not detected at or above x
* indicates data from resample collected on 11/11/96, as initial sample collected from standing water and not flowing seep

TABLE 2
SEEP SEDIMENT ANALYTICAL RESULTS
HYDE PARK GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
OCTOBER 1996

	Sample Location:	*Seep No. 14*	*Seep No. 16*	*Seep No. 17*	*Seep No. 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
Parameter	*Units*	*Action Limit*			
Microextractables					
Chlorobenzene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
o-Chlorotoluene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
p-Chlorotoluene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
Hexachlorobenzene	µg/kg	100	ND 170*	ND 120*	ND 110*	ND 150*
2,4,5-Trichlorophenol	µg/kg	100	ND 170*	ND 120*	ND 110*	ND 150*

Notes:
NDx = Not detected at or above x
* indicates detection limits reported on a dry weight basis (i.e., water removed resulting in less weight attributed to sample); when results are readjusted for water content, the equivalent wet weight detection limits are 100 µg/L for all samples.

CRA
2055 Niagara Falls Boulevard
Suite Three
Niagara Falls, New York 14304
(716) 297-6150
(716) 297-2265 Telecopier

MEMO

TO: Rick Hoekstra

REFERENCE NO: 1069

FROM: Lisa Reyes/ms/3

DATE: December 30, 1996

RE: Gorge Seep Sampling
Occidental Chemical Corporation
Hyde Park Landfill

CC: Mike Kargatis

INTRODUCTION

Surface water and composite soil samples were collected on October 4, 1996 and November 11, 1996 from the Gorge Seeps at Occidental Chemical Corporation's Hyde Park Site in Niagara Falls, New York. The samples were analyzed for the following parameters:

Matrix	*Parameter*	*Method*
Water	Site-Specific Organics	Microextraction[1]
	Total Organic Carbon (TOC)	EPA 415.1[2]
	Total Organic Halides (TOX)	EPA 450.1[2]
	Phenol, total	EPA 420.2[2]
Soil	Site-Specific Organics	Microextraction[1]

The analytical results are presented in Tables 1 and 2 and the chains of custody are attached. A QA/QC review was performed on the data as detailed in the following section.

QA/QC REVIEW

All samples were analyzed within the method-specified holding times.

---

1 "Compilation of Microextraction Method", Developed by Occidental Chemical Corporation, Remi Cortellucci, August 1989.

2 "Methods for Chemical Analysis of Water and Wastes," March 1983.

Blank spike samples were analyzed in duplicate for each parameter. All recoveries were acceptable with the exception of octachlorocyclopentene, chlorotoluenes, and chlorobenzene for the microextraction analysis of the water samples. Associated sample results were non-detect, and although the BS recoveries were low, they were sufficient to demonstrate overall analyte recovery; sample results were judged to be acceptable on this basis. All duplicate recoveries showed acceptable precision with the exception of chlorotoluenes and chlorobenzene; the associated non-detect sample results would not have been affected by the potential variability.

All method blank results were non-detect for the analytes of interest.

CONCLUSION

Based on the QA/QC review, the analytical results presented in Tables 1 and 2 were acceptable for use without qualification.

TABLE 1

ANALYTICAL RESULTS SUMMARY - WATER
GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK LANDFILL
OCTOBER - NOVEMBER 1996

Location ID:		*Seep 1*	*Seep 2*	*Seep 3*	*Seep 4*	*Seep 18*
Collection Date:		*10/04/96*	*10/04/96*	*10/04/96**	*10/04/96*	*10/04/96*
	Units					
Site-Specific Organics						
Chlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
o-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
m-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
p-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4-Trichlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3-Trichlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4,5-Tetrachlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3,4-Tetrachlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
o-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
m-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
p-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
Octachlorocyclopentene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
2,4,5-Trichlorophenol	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
alpha-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
beta-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
delta-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
gamma-BHC (Lindane)	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
General Chemisrty						
Phenol, total	mg/L	ND 0.0050	ND 0.0050	ND 0.0050	ND 0.0050	ND 0.0050
Total Organic Carbon	mg/L	3.0	3.3	13	3.9	18
Total Organic Halides	µg/L	380	610	200	52	290

Notes:

* The sample volume for phenol analysis was collected on November 11, 1996.

NDx Not detected at or above x.

TABLE 2

ANALYTICAL RESULTS SUMMARY - SOIL
GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK LANDFILL
OCTOBER - NOVEMBER 1996

	Location ID:	*Seep 14*	*Seep 16*	*Seep 17*	*Seep 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
	Units				
Site-Specific Organics					
Chlorobenzene	µg/Kg	ND 170	ND 120	ND 110	ND 150
o-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
m-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
p-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
Hexachlorobenzene	µg/Kg	ND 170	ND 120	ND 110	ND 150
2,4,5-Trichlorophenol	µg/Kg	ND 170	ND 120	ND 110	ND 150

Notes:
NDx Not detected at or above x.

CHAIN OF CUSTODY RECORD

TreaTek – CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): Recra

REFERENCE NUMBER: 1069
Seep Sampling

SAMPLER'S SIGNATURE: Tracy Edwards PRINTED NAME: Tracy Edwards

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	Microtox	Chemical [illegible]	PCB	MCT	HCB	245-TP	REMARKS
	10/4	0900	GW·1069 1096·SW1	W	2	X	X					
	10/4	0945	GW·1069·1096·SW2	W	2	X	X					
	10/4	1020	GW·1069·1096·SW3	W	2	X	X					
	10/4	1045	GW·1069·1096·SW18	W	2	X	X					
	10/4	1100	GW·1069·1096·SW4	W	2	X	X					
	10/14	1015	S-1069·1096·SS14	S	1			X	X	X	X	
	10/4	0930	S-1069·1096·SS16	S	2			X	X	X	X	
	10/4	1000	S-1069·1096·SS17	S	1			X	X	X	X	
	10/4	1045	S-1069·1096·SS18	S	2			X	X	X	X	

TOTAL NUMBER OF CONTAINERS 16

HEALTH/CHEMICAL HAZARDS Unknown

RELINQUISHED BY: ① Tracy Edwards DATE: 10/4/96 TIME: 1430
RECEIVED BY: ② J Braun Cooler = 3°C DATE: 10/4/96 TIME: 1515

RELINQUISHED BY: ② DATE: TIME:
RECEIVED BY: ③ DATE: TIME:

RELINQUISHED BY: ③ DATE: TIME:
RECEIVED BY: ④ DATE: TIME:

METHOD OF SHIPMENT: hand delivered WAY BILL No.

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM: JHR, TE

RECEIVED FOR LABORATORY BY: DATE: TIME:

№ NF–

1001 (D) OCT 31/94(NF) REV.0 (F-13)

CHAIN OF CUSTODY RECORD

TreaTek – CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): Recra

REFERENCE NUMBER: 4341
Niagara Park ... Seep
Resample

SAMPLER'S SIGNATURE: [signature] PRINTED NAME: Dav... Tyran

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS: Phenol w/...										REMARKS
	11/1/96	1030	Seep ~~1~~ 3	water	1	1										
TOTAL NUMBER OF CONTAINERS					1	HEALTH/CHEMICAL HAZARDS										

RELINQUISHED BY: ① [signature]	DATE: 11/1/96 TIME: 1400	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Carrier   WAY BILL No.

White – Fully Executed Copy
Yellow – Receiving Laboratory Copy
Pink – Shipper Copy
Goldenrod – Sampler Copy

SAMPLE TEAM: D. Tyran

RECEIVED FOR LABORATORY BY:
DATE: TIME:

№ NF-1604

1001 (D) OCT 31/94(NF) REV 0 (F-13)

CHAIN OF CUSTODY RECORD

TreaTek – CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): Weston

REFERENCE NUMBER: [illegible]

SAMPLER'S SIGNATURE: [signature] PRINTED NAME: Troy Edwards

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS: TOC/TOX	TOX/TSO4	REMARKS
	10/4	0900	GW·1069·1096·SW1	W	2	X	X	
	10/4	0945	GW·1069·1096·SW2	W	2	X	X	
	10/4	1020	GW·1069·1096·SW3	W	2	X	X	
	10/4	1100	GW·1069·1096·SW4	W	2	X	X	
	10/4	1045	GW·1069·1096·SW18	W	2	X	X	

TOTAL NUMBER OF CONTAINERS: 10 HEALTH/CHEMICAL HAZARDS:

RELINQUISHED BY: ① Troy Edwards	DATE: 10/4/96 TIME: 1430	RECEIVED BY: ②	DATE TIME
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: FED EX WAY BILL No.# 198 3008 692

White -Fully Executed Copy
Yellow -Receiving Laboratory Copy
Pink -Shipper Copy
Goldenrod -Sampler Copy

SAMPLE TEAM: JHK, TE

RECEIVED FOR LABORATORY BY: ______
DATE: ______ TIME: ______

№ NF-1594

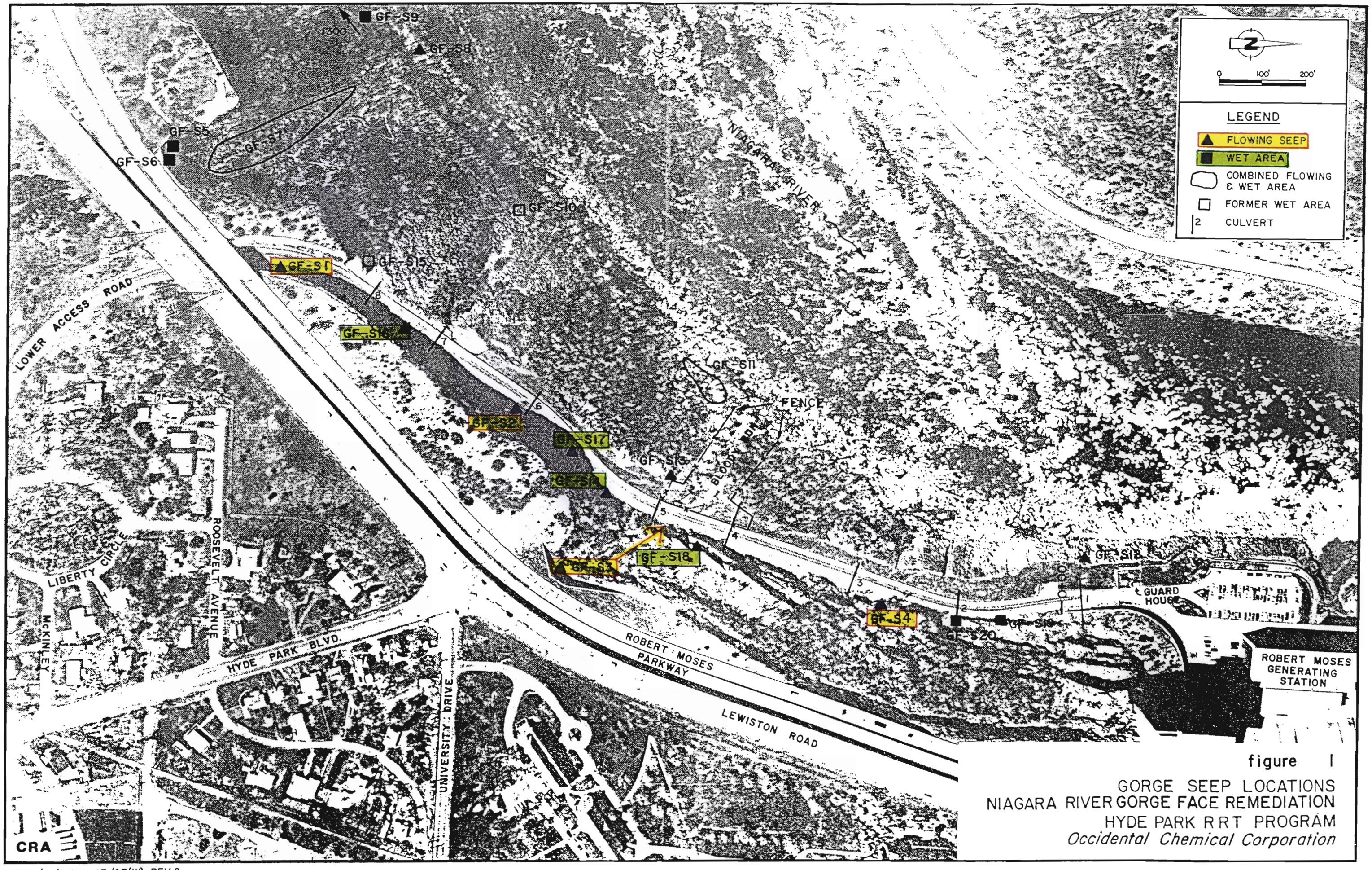

figure 1

GORGE SEEP LOCATIONS
NIAGARA RIVER GORGE FACE REMEDIATION
HYDE PARK RRT PROGRAM
Occidental Chemical Corporation

TABLE 1
SEEP WATER ANALYTICAL RESULTS
HYDE PARK GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
OCTOBER 1996

	Sample Location:	*Seep No. 1*	*Seep No. 2*	*Seep No. 3*	*Seep No. 4*	*Seep No. 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
Parameter	*Units*	*Survey Level*				
Microextractables						
Chlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
o-Chlorotoluene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
p-Chlorotoluene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3-Trichlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4-Trichlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3,4-Tetrachlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4,5-Tetrachlorobenzene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
o-Monochlorobenzotrifluoride	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
p-Monochlorobenzotrifluoride	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
Octachlorocyclopentene	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
2,4,5-Trichlorophenol	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
alpha-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
beta-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
delta-BHC	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
gamma-BHC (Lindane)	µg/L	10	ND 10	ND 10	ND 10	ND 10	ND 10
Wet Chemistry						
Total Recoverable Phenolics	µg/L	250	ND 5	ND 5	ND 5*	ND 5	ND 5
General Chemistry						
Total Organic Carbon	mg/L	200	3.0	3.3	13.3	5.9	17.6
Total Organic Halides	µg/L	500	382	450	201	52	286

Notes:
NDx = Not detected at or above x
* indicates data from resample collected on 11/11/96, as initial sample collected from standing water and not flowing seep

TABLE 2
SEEP SEDIMENT ANALYTICAL RESULTS
HYDE PARK GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
OCTOBER 1996

	Sample Location:	*Seep No. 14*	*Seep No. 16*	*Seep No. 17*	*Seep No. 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
Parameter	*Units*	*Action Limit*			
Microextractables					
Chlorobenzene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
o-Chlorotoluene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
p-Chlorotoluene	µg/kg	10	ND 170*	ND 120*	ND 110*	ND 150*
Hexachlorobenzene	µg/kg	100	ND 170*	ND 120*	ND 110*	ND 150*
2,4,5-Trichlorophenol	µg/kg	100	ND 170*	ND 120*	ND 110*	ND 150*

Notes:
NDx = Not detected at or above x
* indicates detection limits reported on a dry weight basis (i.e., water removed resulting in less weight attributed to sample); when results are readjusted for water content, the equivalent wet weight detection limits are 100 µg/L for all samples.

CRA
2055 Niagara Falls Boulevard
Suite Three
Niagara Falls, New York 14304
(716) 297-6150
(716) 297-2265 Telecopier

MEMO

TO: Rick Hoekstra

REFERENCE NO: 1069

FROM: Lisa Reyes/ms/3

DATE: December 30, 1996

RE: Gorge Seep Sampling
Occidental Chemical Corporation
Hyde Park Landfill

CC: Mike Kargatis

INTRODUCTION

Surface water and composite soil samples were collected on October 4, 1996 and November 11, 1996 from the Gorge Seeps at Occidental Chemical Corporation's Hyde Park Site in Niagara Falls, New York. The samples were analyzed for the following parameters:

Matrix	*Parameter*	*Method*
Water	Site-Specific Organics	Microextraction[1]
	Total Organic Carbon (TOC)	EPA 415.1[2]
	Total Organic Halides (TOX)	EPA 450.1[2]
	Phenol, total	EPA 420.2[2]
Soil	Site-Specific Organics	Microextraction[1]

The analytical results are presented in Tables 1 and 2 and the chains of custody are attached. A QA/QC review was performed on the data as detailed in the following section.

QA/QC REVIEW

All samples were analyzed within the method-specified holding times.

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1 "Compilation of Microextraction Method", Developed by Occidental Chemical Corporation, Remi Cortellucci, August 1989.

2 "Methods for Chemical Analysis of Water and Wastes," March 1983.

Blank spike samples were analyzed in duplicate for each parameter. All recoveries were acceptable with the exception of octachlorocyclopentene, chlorotoluenes, and chlorobenzene for the microextraction analysis of the water samples. Associated sample results were non-detect, and although the BS recoveries were low, they were sufficient to demonstrate overall analyte recovery; sample results were judged to be acceptable on this basis. All duplicate recoveries showed acceptable precision with the exception of chlorotoluenes and chlorobenzene; the associated non-detect sample results would not have been affected by the potential variability.

All method blank results were non-detect for the analytes of interest.

CONCLUSION

Based on the QA/QC review, the analytical results presented in Tables 1 and 2 were acceptable for use without qualification.

TABLE 1

ANALYTICAL RESULTS SUMMARY - WATER
GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK LANDFILL
OCTOBER - NOVEMBER 1996

	Location ID:	*Seep 1*	*Seep 2*	*Seep 3*	*Seep 4*	*Seep 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96**	*10/04/96*	*10/04/96*
	Units					
Site-Specific Organics						
Chlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
o-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
m-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
p-Chlorotoluene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4-Trichlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3-Trichlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,4,5-Tetrachlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
1,2,3,4-Tetrachlorobenzene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
o-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
m-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
p-Monochlorobenzotrifluoride	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
Octachlorocyclopentene	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
2,4,5-Trichlorophenol	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
alpha-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
beta-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
delta-BHC	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
gamma-BHC (Lindane)	µg/L	ND 10	ND 10	ND 10	ND 10	ND 10
General Chemisrty						
Phenol, total	mg/L	ND 0.0050	ND 0.0050	ND 0.0050	ND 0.0050	ND 0.005
Total Organic Carbon	mg/L	3.0	3.3	13	3.9	18
Total Organic Halides	µg/L	380	610	200	52	290

Notes:

* The sample volume for phenol analysis was collected on November 11, 1996.

NDx Not detected at or above x.

TABLE 2

ANALYTICAL RESULTS SUMMARY - SOIL
GORGE SEEP SAMPLING
OCCIDENTAL CHEMICAL CORPORATION
HYDE PARK LANDFILL
OCTOBER - NOVEMBER 1996

	Location ID:	*Seep 14*	*Seep 16*	*Seep 17*	*Seep 18*
	Collection Date:	*10/04/96*	*10/04/96*	*10/04/96*	*10/04/96*
	Units				
Site-Specific Organics					
Chlorobenzene	µg/Kg	ND 170	ND 120	ND 110	ND 150
o-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
m-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
p-Chlorotoluene	µg/Kg	ND 170	ND 120	ND 110	ND 150
Hexachlorobenzene	µg/Kg	ND 170	ND 120	ND 110	ND 150
2,4,5-Trichlorophenol	µg/Kg	ND 170	ND 120	ND 110	ND 150

Notes:
NDx Not detected at or above x.

CHAIN OF CUSTODY RECORD

TreaTek - CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): Recra

REFERENCE NUMBER: 1069
Seep Sampling

SAMPLER'S SIGNATURE: Tracy Edwards PRINTED NAME: Tracy Edwards

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS: Mercaptans	Phenols/H2S	MCB	MCT	HCB	245-TCP	REMARKS
	10/4	0900	GW-1069-1096-SW1	W	2	X	X					
	10/4	0945	GW-1069-1096-SW2	W	2	X	X					
	10/4	1020	GW-1069-1096-SW3	W	2	X	X					
	10/4	1045	GW-1069-1096-SW18	W	2	X	X					
	10/4	1100	GW-1069-1096-SW4	W	2	X	X					
	10/14	1015	S-1069-1096-SS14	S	1			X	X	X	X	
	10/4	0930	S-1069-1096-SS16	S	2			X	X	X	X	
	10/4	1000	S-1069-1096-SS17	S	1			X	X	X	X	
	10/4	1045	S-1069-1096-SS18	S	2			X	X	X	X	

TOTAL NUMBER OF CONTAINERS 16 ~~16~~ HEALTH/CHEMICAL HAZARDS Unknown

RELINQUISHED BY: ① Tracy Edwards	DATE: 10/4/96 TIME: 1430	RECEIVED BY: ② J Brea Cooler = 3°C	DATE: 10/7/96 TIME: 1515
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: hand delivered WAY BILL No.

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM: JHR TE

RECEIVED FOR LABORATORY BY: _____ Nº NF-

DATE: _____ TIME: _____

1001 (D) OCT 31/94(NF) REV.0 (1-15)

CHAIN OF CUSTODY RECORD

TreaTek - CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): Recra

REFERENCE NUMBER: 4341
Wade Park Resample

SAMPLER'S SIGNATURE: David J Tyran PRINTED NAME: David J Tyran

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS	REMARKS
	11/11/96	1030	Soap Trip 3	water	1	1	

TOTAL NUMBER OF CONTAINERS: 1 HEALTH/CHEMICAL HAZARDS:

RELINQUISHED BY: ① David J Tyran	DATE: 11 11 96 TIME: 1400	RECEIVED BY: ②	DATE: TIME:
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③	DATE: TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④	DATE: TIME:

METHOD OF SHIPMENT: Carrier WAY BILL No.

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM: D. Tyran

RECEIVED FOR LABORATORY BY:
DATE: TIME:

Nº NF-1604

1001 (D) OCT 31/94(NF) REV 0 (F-13)

CHAIN OF CUSTODY RECORD

TreaTek - CRA™ COMPANY
2055 Niagara Falls Blvd. Suite Three
Niagara Falls, NY 14304 (716)297-2160

SHIPPED TO (Laboratory Name): WPS TOO

REFERENCE NUMBER:

SAMPLER'S SIGNATURE: [signature] PRINTED NAME: Tom Edwards

SEQ. No.	DATE	TIME	SAMPLE No.	SAMPLE TYPE	No. OF CONTAINERS	PARAMETERS: 10C/1D	10X/1604	REMARKS
	10/4	0900	GW·1069·1096·SW1	W	2	X	X	
	10/4	0945	GW·1069·1096·SW2	W	2	X	X	
	10/4	1020	GW·1069·1096·SW3	W	2	X	X	
	10/4	1100	GW·1069·1096·SW4	W	2	X	X	
	10/4	1045	GW·1069·1096·SW18	W	2	X	X	
			TOTAL NUMBER OF CONTAINERS		10			HEALTH/CHEMICAL HAZARDS

RELINQUISHED BY: ① [signature]	DATE: 10/4/96 TIME: 1430	RECEIVED BY: ② DATE TIME
RELINQUISHED BY: ②	DATE: TIME:	RECEIVED BY: ③ DATE TIME:
RELINQUISHED BY: ③	DATE: TIME:	RECEIVED BY: ④ DATE TIME:

METHOD OF SHIPMENT: FED EX WAY BILL No. # 198 3008 67[illegible]

White –Fully Executed Copy
Yellow –Receiving Laboratory Copy
Pink –Shipper Copy
Goldenrod –Sampler Copy

SAMPLE TEAM: JHK
TE

RECEIVED FOR LABORATORY BY:
DATE: TIME:

№ NF-1594