Olin CHEMICALS
1186 Lower River Rd, P. O. Box 248, Charleston, TN 37310
(615) 336-4000 FAX (615) 336-4183

July 2, 1996

Mr. James Craft
Engineering Geologist
New York State Department of Environmental Conservation
Region 8 Office - Division of Hazardous Waste Remediation
6274 East Avon - Lima Road
Avon, NY 14414-9519

Re: Olin Rochester RI/FS Quarterly Report No. 11
Olin Chemicals (Site #628018a) 100 McKee Rd, Rochester, NY

Dear Mr. Craft:

This is the eleventh quarterly report of progress on the Olin Rochester RI/FS, covering the period from April 1, 1996 through June 30, 1996.

Work Progress and Scheduling:

- Olin submitted the Phase II Remedial Investigation Report to NYSDEC in April, 1996.
- In addition to the Phase I and Phase II RI reports, Olin has been monitoring offsite groundwater and surface water in a program that exceeds the scope of those reports. We have implemented this extended sampling, per informal notification to and approval by NYSDEC. The results of this extended sampling have included the sampling of offsite industrial and monitoring wells on properties near the Olin plant, the sampling of additional Barge Canal points, and the sampling of additional surface water points in the Dolomite Products Quarry.
- As an attachment to this Quarterly Report, Olin hereby submits the Phase II RI Addendum report, documenting the results and evaluation of this extended sampling.
- Olin proposes to continue development of offsite information using this approach of best technical judgment, with informal notification and approval by NYSDEC. This approach will allow us to proceed with tracking of offsite Olin related compounds in an expeditious, yet technically correct manner. Olin will convey the results of any and all additional offsite investigation steps via future quarterly reports. *We request your concurrence with this approach to further investigation.*
- Results of the Barge Canal sampling during the first quarter of 1996 (sixth sampling) show identification of pyridine compounds as present at levels ranging from 35 to 40 micrograms per liter (ug/l) at all three sampling points, i.e. at both

upstream and downstream locations. Olin had notified NYSDEC verbally of this development upon learning of the analytical results.The Phase I Remedial Investigation Report had documented the risk level threshold for direct long term consumption of pyridine compounds as 37 ug/l . Risk levels for swimming, presumed to be the most likely exposure pathway for canal water, were calculated to be, at minimum, 1900 ug/l, as documented in the attached Addendum report. This risk evaluation for swimming exposure includes incidental ingestion. Olin will continue to monitor the Barge Canal for pyridine compounds, per agreement with NYSDEC.

- Olin has completed the second 1996 quarterly sampling of the Barge Canal, the Quarry seep, and the Quarry ponds.. This Canal monitoring episode included a check sampling round with an extended sampling area, with two additional upstream and three additional downstream points. The additional points were added because of pyridine compound detections in the sample results from the first quarter, 1996.
- Olin has completed the second quarterly piezometric measurements for 1996.
- Subsequent quarterly piezometric plots and all offsite monitoring well data will be included in quarterly report submittals.
- The Phase II RI report has concluded that the overburden interceptor system had become inefficient with age and was not achieving full overburden groundwater containment. The Phase II RI Addendum report, attached, includes the results of a hydrologic computer model, which was run to determine the best immediate approach to regaining that containment. The model predicts that pumping from four bedrock wells (BR5A, BR6A, BR7A and from one new well) would achieve near total capture of bedrock groundwater and would, over time, de-water and contain the overburden aquifer by inducing downward leakage into bedrock. Olin is implementing this improved groundwater containment program, with verbal concurrence with NYSDEC. Per NYSDEC request, Olin will not shut off the existing overburden pumping system until the new program can demonstrate the predicted results. Details of the improved groundwater containment program are included in the attached Phase II RI Addendum report.

Tasks in Progress:

- Olin plans to install a monitor well cluster to the southeast of the Quarry, to determine whether any chloropyridines have bypassed the Quarry via natural groundwater flow. We have requested an access agreement for this purpose with the Quarry owner, but have not yet been granted such access. Olin will continue to pursue this matter.
- Olin has installed an additional bedrock collection well at the northwest end of our plant site, to augment onsite groundwater containment, as noted above. We plan to have this well pumping and online during the next quarter.
- Olin is investigating the causality of upstream detections of pyridine compounds in the Barge Canal. We are currently acquiring reports via Freedom of Information requests, to determine the possible influence of other sites as possible sources of contaminants to the Barge Canal. We are also investigating

flow patterns in the Canal during low water season to determine whether there is a seasonal pattern to flow and/or pyridine compound occurrence.

Community Relations:

- The results of our investigation to date have been presented to the Rochester Plant's Community Advisory Panel during our May 22, 1996 meeting.

Olin will continue to communicate progress and issues with NYSDEC. Please direct any questions to me at 423 / 336-4587.

Sincerely,

Michael J. Bellotti

Michael J. Bellotti
Senior Associate Hydrogeologist / Project Manager

att.

cc:
Mr. Joseph Ryan
New York State Department of Environmental Conservation
Division of Environmental Enforcement
600 Delaware Avenue
Buffalo, New York 14202-1073

Mr. Joseph White
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12433-1010

Mr. Steven Shost
New York State Department of Health
Bureau of Environmental Exposure Investigation
2 University Place
Albany, New York 12203

Olin CHEMICALS
P.O. BOX 248, 1186 LOWER RIVER ROAD, CHARLESTON, TN 37310
Phone: (615) 336-4000

April 10, 1996

Mr. James Craft
Engineering Geologist
New York State Department of Environmental Conservation
Region 8 Office - Division of Hazardous Waste Remediation
6274 East Avon - Lima Road
Avon, New York 14414-9519

Re: Olin Rochester RI/FS Quarterly Report No. 10
Olin Chemicals (Site #628018a) 100 McKee Rd, Rochester, NY

Dear Mr. Craft:

This is the tenth quarterly report of progress on the Olin Rochester RI/FS, covering the period from January 1, 1996 through March 31, 1996.

Work Progress and Scheduling:

- Olin and our consultants, ABB Environmental Services, are finalizing the Phase II Remedial Investigation Report. As we agreed in our telephone conversation, the report will be submitted in April, 1996.
- Olin has completed the first semiannual groundwater sampling and piezometric measurements for 1996.
- Olin has completed the first 1996 quarterly sampling of the Barge Canal, the Quarry seep, the Quarry ponds and the Quarry outfall.
- Analytical results of all samplings are pending.
- Olin plans to install a monitor well cluster to the southeast of the Quarry, to determine whether any chloropyridines have bypassed the Quarry via natural groundwater flow. We have requested an access agreement for this purpose with the Quarry owner, but have not yet been granted such access. Olin will continue to pursue this matter.
- Results of the Barge Canal sampling during the fourth quarter of 1995 (fifth sampling) show identification of pyridine compounds as present, but below the practical quantitaiton (pql) limit of 10 micrograms per liter (ug/l) at all three sampling points, i.e. at both upstream and downstream locations. One previous sampling showed similar identifications below pql. All other sampling episodes indicated that pyridine compounds were non-detected at 10 ug/l. As

documented in the Phase I Remedial Investigation Report, the conservative risk level threshold for pyridine compounds is 37 ug/l. Olin will continue to monitor the Barge Canal for pyridine compounds, per agreement with NYSDEC. Analytical results are attached.

- Olin has conducted a check of public records to identify any existing wells in the area. Olin has identified industrial and monitoring wells at three properties in the area of our plume, and has sampled those wells during March, 1996. Analytical results are pending. The sampling was conducted with the assistance of NYSDEC, which assisted Olin with sampling access at one of the properties (Chevron site on Buffalo Road). Access to the other two properties (Pfaudler Industries and Morey Equipment) were secured by agreement between Olin and the property owners.
- Enclosed with this quarterly report are piezometric plots of any 1995 quarterly measurements which were not contained in the Phase I RI report.
- Subsequent quarterly piezometric plots and all offsite monitoring well data are included in the Phase II RI report, now in preparation.

Tasks in Progress:

- As noted above, Olin is completing Phase II RI report and will submit that report to the NYSDEC in April, 1996.
- Olin will evaluate data from the offsite well and surface water sampling and will prepare an Addendum report to the Phase II RI report.
- Olin will continue to seek drilling access to quarry property.

Community Relations:

- The Echo community newsletter was published and distributed during the first quarter, 1996.

Projected Work for Next Quarter:

- Olin continues to monitor the Quarry surface water and the Barge Canal on a quarterly basis and selected groundwater monitoring wells on a semiannual basis per agreement with NYSDEC.

Olin will continue to communicate progress and issues with NYSDEC. Please direct any questions to me at 423 / 336-4587.

Sincerely,

Michael J. Bellotti

Michael J. Bellotti
Senior Associate Hydrogeologist / Project Manager

cc:
Mr. Joseph Ryan
New York State Department of Environmental Conservation
Division of Environmental Enforcement
600 Delaware Avenue
Buffalo, New York 14202-1073

Mr. Joseph White
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12433-1010

Mr. Steven Shost
New York State Department of Health
Bureau of Environmental Exposure Investigation
2 University Place
Albany, New York 12203

bcc:
J. Kranjc, W. Norman: Rochester
L. Tew: Lake Charles
B. Zona: Norwalk
J. Burns, V.J. Ray, W.C. Rankin: Charleston
T. Eschner, S. Walbridge: ABB, Portland, ME
M. L. Fries: Husch & Eppenberger, St. Louis, MO

ASEA BROWN BOVERI

January 18, 1996

Mr. Michael Bellotti
Olin Chemical Corporation
P.O. Box 248, Lower River Road
Charleston, TN 37310

Subject: Olin Rochester Site - Barge Canal Surface Water Sampling Results: November 1995

Dear Mr. Bellotti:

Sampling results for fourth-quarter 1995 surface water samples collected from the Barge Canal as part of the on-going quarterly canal surface water monitoring program for the Olin Rochester site are enclosed. Samples were collected on November 20, 1995 for selected pyridine analysis. This letter presents the results of chemical analysis and describes the sampling, analytical methodology, and analytical quality control.

Sampling

Four surface water samples (SW-1, SW-2, SW-2 FD [field duplicate], and SW-3) were collected as part of the quarterly Canal sampling program from the established sampling locations along the Barge Canal. A rinse blank and surface water matrix spike/matrix spike duplicate (MS/MSD) samples were also collected as quality control samples. Samples were collected by Recra Environmental, Inc. on November 20, 1995.

Analytical Procedures and Data Validation

Surface water samples were analyzed in accordance with 1991 Category B New York Analytical Services Protocols (ASP) for selected pyridines (pyridine, 2-chloropyridine, 3-chloropyridine, 4-chloropyridine, 2,6-dichloropyridine, and p-fluoroaniline). The reporting limit for the selected pyridines was 10 micrograms per liter (µg/L).

The Category B laboratory results were reviewed for data quality in accordance with USEPA Contract Laboratory Program (CLP) National Functional Guidelines for Organic Data Review (February 1994), and with the appropriate USEPA Region II and New York State Department of Conservation (NYSDEC) revisions. Sample results were evaluated for holding time compliance, surrogate standard recoveries, blank contamination, field

110 Free Street
P.O. Box 7050
Portland, Maine 04112-7050
Telephone (207) 775-5400
Fax (207) 772-4762

duplicate precision, internal standard areas, instrument performance and calibration, and matrix spike/matrix spike duplicate accuracy and precision.

Analytical Results

Surface Water. Two of the five selected pyridines (2-chloropyridine and 2,6-dichloropyridine) were detected in all samples at estimated concentrations (values flagged by the laboratory with a 'J') below the reporting limit. These results are presented in the attached validated data table and are summarized below.

Sample Id	2-Chloropyridine (ug/L)	2,6-Dichloropyridine (ug/L)
SW-1	1 J	0.2 J
SW-2	2 J	0.3 J
SW -2 FD	3 J	0.3 J
SW-3	1 J	0.2 J

J = Estimated value below above the method detection limit, but below the sample quantitation limit.

Quality Control

All quality control (QC) information reviewed as part of the data validation process was compliant, with two exceptions, as follows. The percent relative deviation for pyridine was above the initial calibration acceptance limit, and all non-detected pyridine quantitation limits were estimated (flagged with a 'J'). In addition, matrix spike/matrix spike duplicate (MS/MSD) and matrix spike blank (MSB) spike percent recoveries were not within the laboratory specified control limits of 75 - 125 percent. Sample results were not flagged as estimated, however, because it is believed that these control limits do not accurately represent the recovery efficiency for these compounds.

As described in previous data reports, NYSDEC ASP semivolatile compound matrix spike recoveries typically have wide control limits (e.g., 9 - 103 percent, 12 - 110 percent, 27 - 123 percent), and it is expected that the chloropyridines and p-fluoroaniline would have similar spiking recoveries. Furthermore, there were small relative percent differences between the recoveries of these compounds for the MSB and MS/MSD for SW-3, indicating the laboratory was able to reproduce compound recoveries. ABB

Environmental Services, Inc. recommends that the laboratory calculate compound-specific recovery limits given the fact that a large database of selected pyridine recovery data exists. Compound-specific control limits would more accurately represent the recovery efficiency for these compounds, and allow both the laboratory and data validation staff to determine when and if the laboratory procedure was out of control (MSB results) or if there was a matrix interference (MS/MSD results).

Conclusions

The fourth quarter canal surface water sampling program indicated the presence of trace concentrations (below laboratory reporting limit) of 2-chloropyridine and 2,6-dichloropyridine in all samples collected from the three sampling locations (SW-1, SW-2, SW-3). These results are similar to sample results observed in the March 1995 sampling event, in which 2-chloropyridine was detected in all samples at estimated concentrations ranging from 4J - 6J µg/L.

Please call if you have any questions or comments on the material described in this letter.

Sincerely,

ABB ENVIRONMENTAL SERVICES, INC.

Thomas R. Eschner, R.G.
Project Manager/Principal Hydrogeologist

TRE/jpc
Attachments: Table 1 (Laboratory Report of Results),
Table 2 (Validated Data),
Chain of Custody Form

cc: S. Walbridge
J. Johnson
J. Connolly

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Table 1
Laboratory Report of Analysis

SAMPLE LOCATION:	SW-1	SW-2	SW-2 FD	SW-3
LAB NUMBER:	A5621302	A5621303	A5621303FD	A5621304
DATE SAMPLED:	11/20/95	11/20/95	11/20/95	11/20/95
DATE EXTRACTED:	11/21/95	11/21/95	11/21/95	11/21/95
DATE ANALYZED:	11/25/95	11/25/95	11/25/95	11/25/95
ANALYTE RL				
Pyridine 10	10 U	10 U	10 U	10 U
2-Chloropyridine 10	1 J	2 J	3 J	1 J
3-Chloropyridine 10	10 U	10 U	10 U	10 U
4-Chloropyridine 10	10 U	10 U	10 U	10 U
2,6-Dichloropyridine 10	0.2 J	0.3 J	0.3 J	0.2 J
p-Fluoroaniline 10	10 U	10 U	10 U	10 U
Dilution Factor:	1.00	1.00	1.00	1.00
Sample Volume\Weight (ml\g):	1000.0	1000.0	1000.0	1000
Associated Method Blank:	Z25371.RR	Z25371.RR	Z25371.RR	Z25371.RR
Associated Equipment Blank:	RINSE BLANK	RINSE BLANK	RINSE BLANK	RINSE BLANK
Associated Field Blank:	-	-	-	-

Site: BARGE CANAL SURFACE WATER

Table 2
Validation / Summary Table

	LOCATION:	SW-1	SW-2	SW-2 FD	SW-3
	LAB NUMBER:	A5621302	A5621303	A5621303FD	A5621304
	DATE SAMPLED:	11/20/95	11/20/95	11/20/95	11/20/95
	DATE EXTRACTED:	11/21/95	11/21/95	11/21/95	11/21/95
	DATE ANALYZED:	11/25/95	11/25/95	11/25/95	11/25/95
ANALYTE	RL				
Pyridine	10	10 UJ	10 UJ	10 UJ	10 UJ
2-Chloropyridine	10	1 J	2 J	3 J	1 J
3-Chloropyridine	10	10 U	10 U	10 U	10 U
4-Chloropyridine	10	10 U	10 U	10 U	10 U
2,6-Dichloropyridine	10	0.2 J	0.3 J	0.3 J	0.2 J
p-Fluoroaniline	10	10 U	10 U	10 U	10 U
Dilution Factor:		1.00	1.00	1.00	1.00
Sample Volume\Weight (ml\g):		1000.0	1000.0	1000.0	1000
Associated Method Blank:		Z25371.RR	Z25371.RR	Z25371.RR	Z25371.RR
Associated Equipment Blank:		RINSE BLANK	RINSE BLANK	RINSE BLANK	RINSE BLANK
Associated Field Blank:		-	-	-	-

Site: BARGE CANAL SURFACE WATER

Attachment I - Definition of Laboratory Qualifiers
(for Table 1 - Laboratory Report of Analysis)

Organic Data Qualifiers

J - Indicates an estimated concentration below the contract required detection level (CRQL) but greater than 0 or when estimating a concentration for TICs.

U - Indicates that compound was analyzed but not detected. The sample quantitation limit is adjusted for dilution and percent moisture.

B - Indicates analyte was detected in both the sample and the associated laboratory method blank for all analyses except inorganics. The B qualifier for inorganics data indicates that the result was between the IDL and the CRDL. The B qualifier is removed and replaced with a J qualifier on Table 2.

E - Indicates that the analyte concentration exceeded the calibration range of the GC/MS and that a re-analysis of a diluted sample is required.

D - Indicates that sample concentration was obtained by dilution to bring result within calibration range.

N - Indicates presumptive evidence of a compound. This flag is used for TICs were the identification is based on a library search and is applied to all TIC results. For general classes of compounds (hydrocarbons, etc.) this flag is not used.

P - This flag is used for pesticides/PCBs when there is greater than 25% difference between the concentrations on the two columns used for analysis. The lower value is reported.

C - This flag applies to pesticide/PCBs results when the identification has been confirmed by GC/MS.

A - Indicates that a TIC is a suspected aldol-condensation product.

X - Laboratory-defined qualifier used to provide additional information not covered by the other qualifiers.

Inorganic Data Qualifiers

E - The reported concentration is estimated because of the presence of an interference.

M - Duplicate injection precision criteria were not met.

N - Spiked sample recovery not within control limits.

S - The reported concentration was determined by the method of standard additions.

W - Post-digestion spike for furnace atomic absorption analysis is outside control limits.

B - Concentration reported is below CRDL but greater than the IDL.

* - Duplicate analysis not within control limits.

+ - Correlation coefficient for the method of standard additions was less than 0.995

U - Indicates that compound was analyzed but not detected. The sample quantitation limit is adjusted for dilution and percent moisture.

REC A ENVIRONMENTAL, INC.

CHAIN OF CUSTODY R JRD

PROJECT NO	SITE NAME
5A5762	Olin-Rochester

SAMPLERS (SIGNATURE): [signature] / M. NEMEC

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	1-L Amber Glass						REMARKS
1	11-20-15	1100		X	Rinse Blank	2	2						S/S Bailer
2	↓	1155		X	SW-1	2	2						
3		1130		X	SW-2	4	4						Duplicate
4		1110		X	SW-3	6	6						MS/MSD

RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)
[signature]	11-20-15 1600	[signature]			
RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)
[signature]		[signature]			
RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE TIME	REMARKS	
		[signature]			

Distribution: Original accompanies shipment copy to coordinator field files

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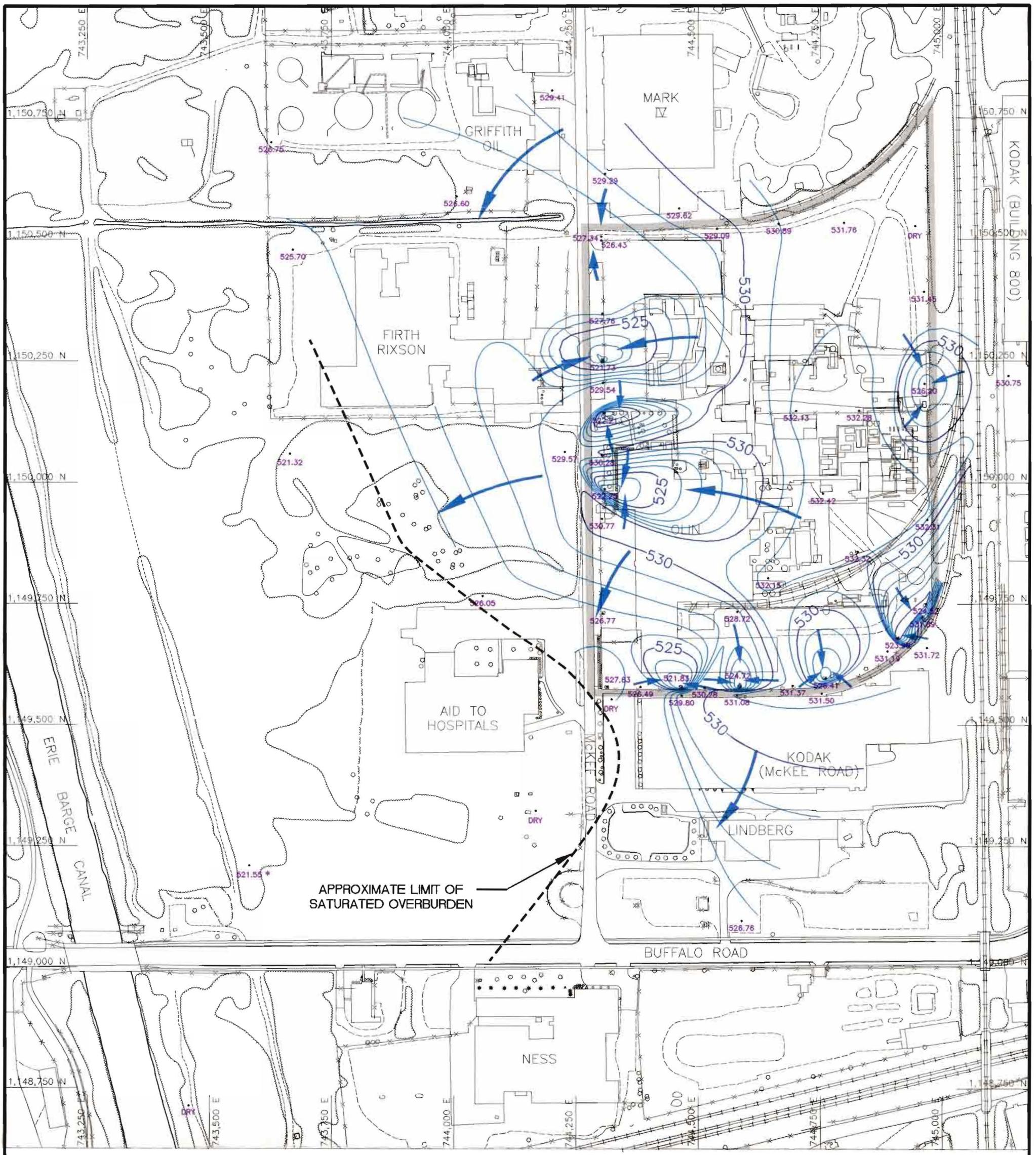

LEGEND

- OUTLINE OF OLIN PROPERTY BOUNDARY
- —525— GROUNDWATER ELEVATION CONTOUR (MSL) 5' INTERVAL
- GROUNDWATER ELEVATION CONTOUR (MSL) 1' INTERVAL
- 525.76 PIEZOMETRIC ELEVATION AT WELL OR PIEZOMETER (MSL)
- 520.25* PIEZOMETRIC ELEVATION AT WELL SCREENED IN OVERBURDEN AND SHALLOW BEDROCK; WATER LEVEL IS BELOW BEDROCK SURFACE.
- INTERPRETED GROUNDWATER FLOW DIRECTION

NOTE:

WATER LEVELS MEASURED ON MAY 17,1995.

0 100 200 400 FEET

SCALE: 1"=200'

MAY 1995 OVERBURDEN GROUNDWATER INTERPRETED PIEZOMETRIC CONTOURS

OLIN CHEMICALS
ROCHESTER, N.Y.

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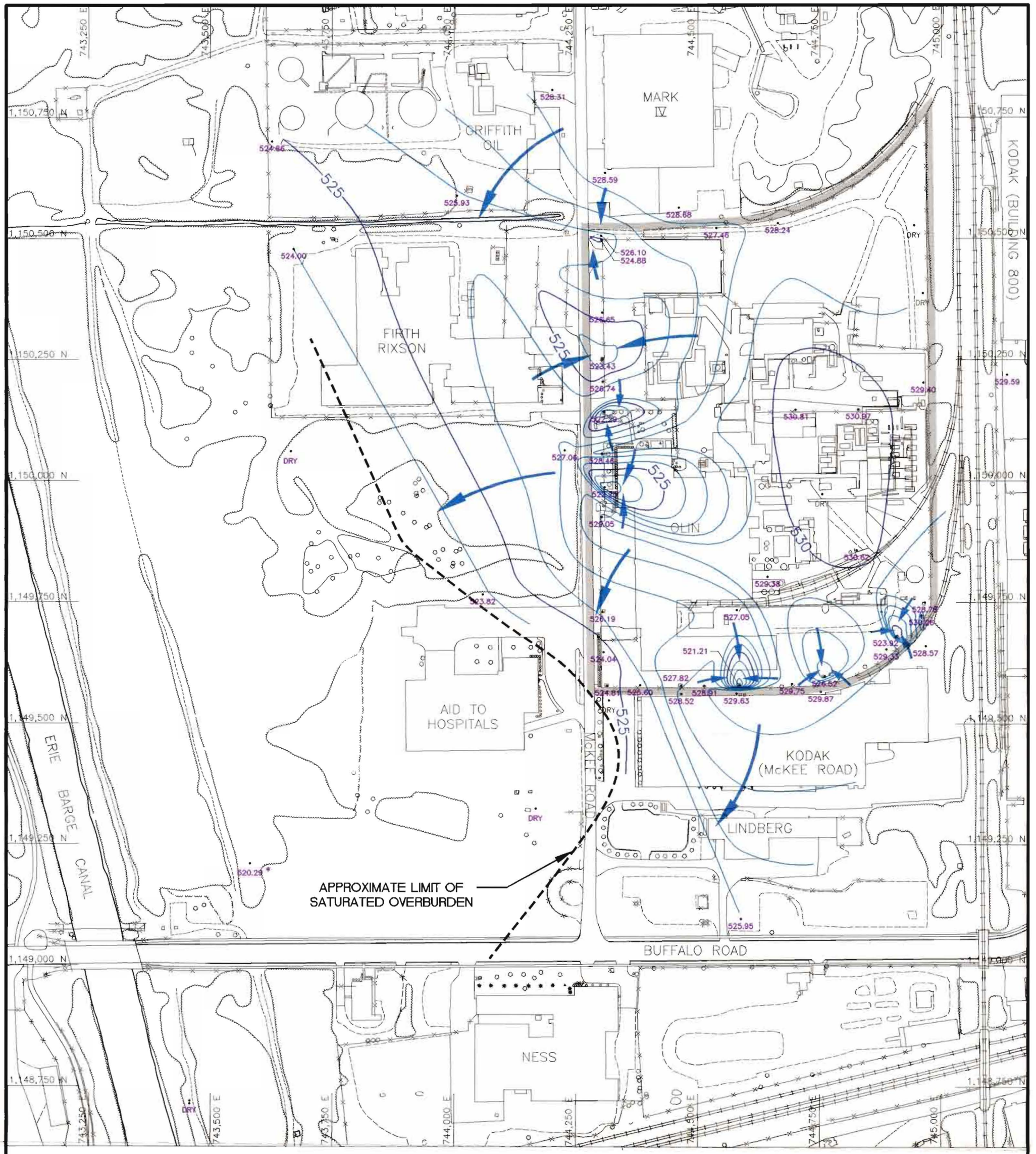

LEGEND

- OUTLINE OF OLIN PROPERTY BOUNDARY
- —525— GROUNDWATER ELEVATION CONTOUR (MSL) 5' INTERVAL
- GROUNDWATER ELEVATION CONTOUR (MSL) 1' INTERVAL
- 525.76 PIEZOMETRIC ELEVATION AT WELL OR PIEZOMETER (MSL)
- 520.25* PIEZOMETRIC ELEVATION AT WELL SCREENED IN OVERBURDEN AND SHALLOW BEDROCK; WATER LEVEL IS BELOW BEDROCK SURFACE.
- INTERPRETED GROUNDWATER FLOW DIRECTION

NOTE:

WATER LEVELS MEASURED ON SEPTEMBER 6,1995.

0 100 200 400 FEET

SCALE: 1"=200'

SEPTEMBER 1995 OVERBURDEN GROUNDWATER INTERPRETED PIEZOMETRIC CONTOURS

OLIN CHEMICALS
ROCHESTER, N.Y.

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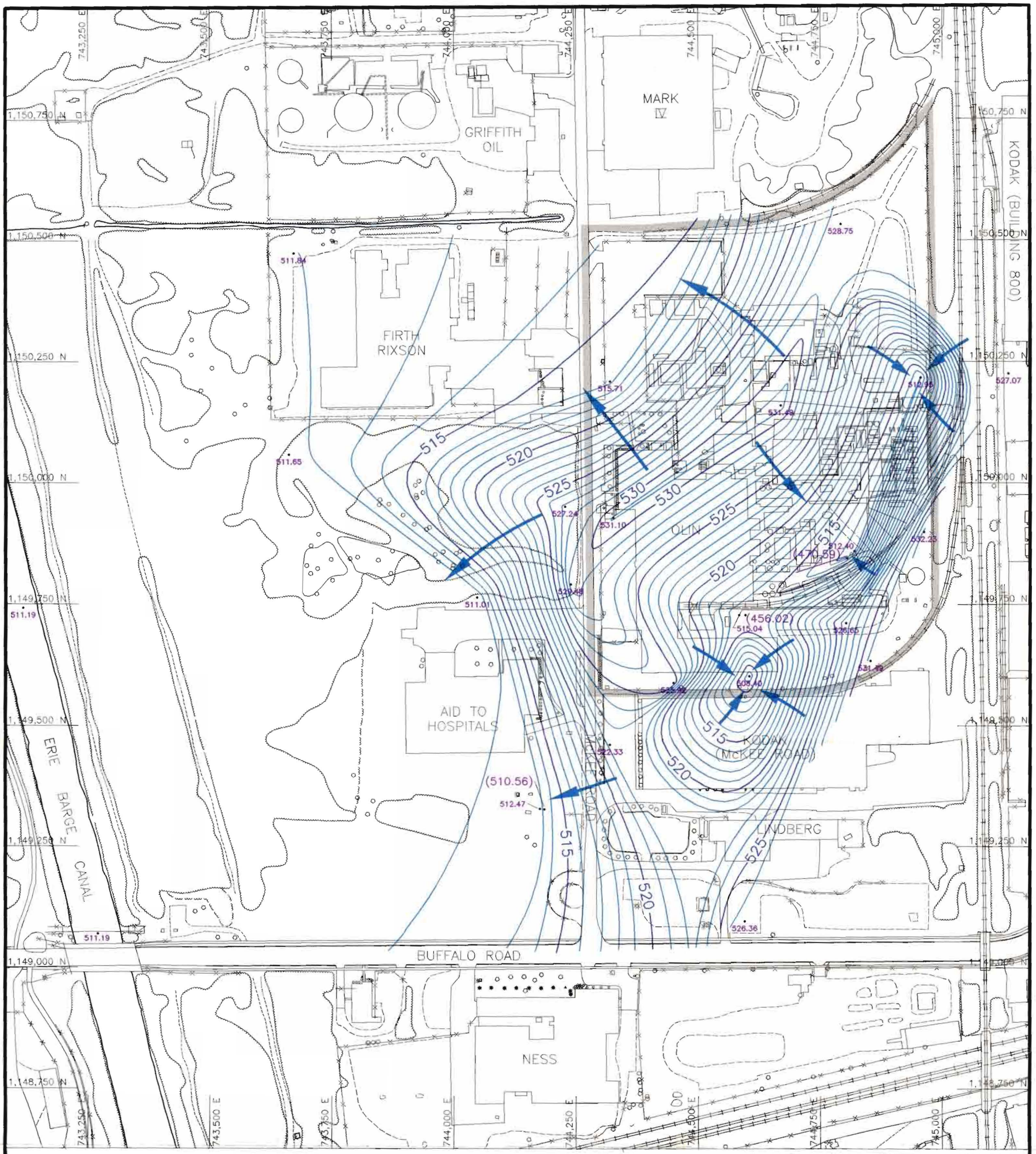

0 100 200 400 FEET

SCALE: 1" = 200'

LEGEND

OUTLINE OF OLIN PROPERTY BOUNDARY

—525— BEDROCK GROUNDWATER ELEVATION CONTOUR (MSL) 5' INTERVAL

BEDROCK GROUNDWATER ELEVATION CONTOUR (MSL) 1' INTERVAL

525.76 PIEZOMETRIC ELEVATION AT WELL OR PIEZOMETER (MSL)

INTERPRETED GROUNDWATER FLOW DIRECTION (SHALLOW BEDROCK SYSTEM)

PIEZOMETRIC ELEVATION AT DEEP BEDROCK WELL

NOTE:

WATER LEVELS MEASURED

MAY 1995 BEDROCK GROUNDWATER INTERPRETED PIEZOMETRIC CONTOURS

OLIN CHEMICALS
ROCHESTER, N.Y.

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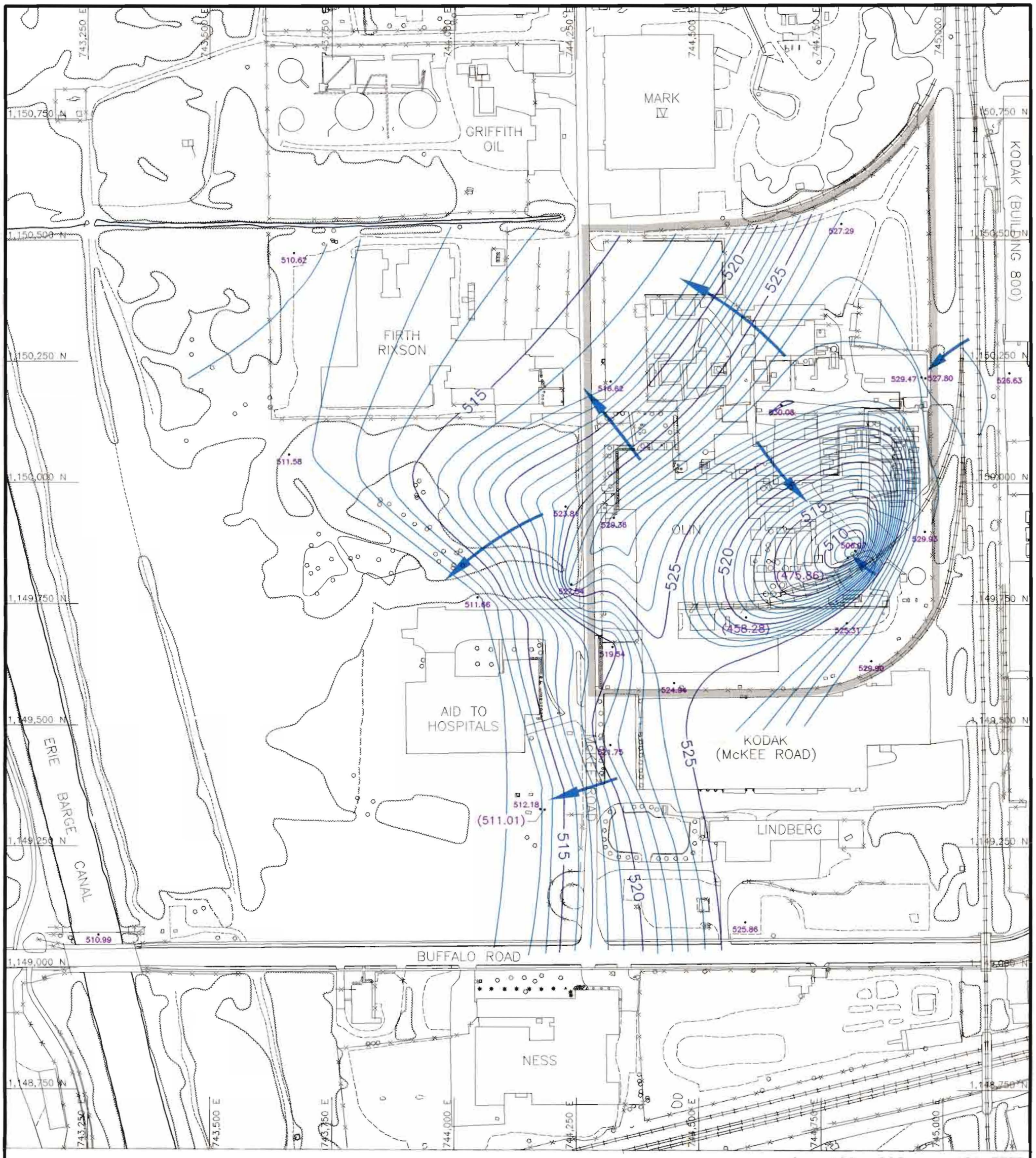

LEGEND

OUTLINE OF OLIN PROPERTY BOUNDARY

—525— BEDROCK GROUNDWATER ELEVATION CONTOUR (MSL) 5' INTERVAL

BEDROCK GROUNDWATER ELEVATION CONTOUR (MSL) 1' INTERVAL

525.76 PIEZOMETRIC ELEVATION AT WELL OR PIEZOMETER (MSL)

INTERPRETED GROUNDWATER FLOW DIRECTION (SHALLOW BEDROCK SYSTEM)

(510.56) PIEZOMETRIC ELEVATION AT DEEP BEDROCK WELL

NOTE:

WATER LEVELS MEASURED ON SEPTEMBER 6,1995

SEPTEMBER 1995 BEDROCK GROUNDWATER INTERPRETED PIEZOMETRIC CONTOURS

OLIN CHEMICALS
ROCHESTER, N.Y.

T:\7311-34\7311F103 4-9-96

Olin CHEMICALS

P.O. BOX 248, 1186 LOWER RIVER ROAD NW, CHARLESTON, TN 37310
Phone: (615) 336-4000

January 8, 1996

Mr. James Craft
Engineering Geologist
New York State Department of Environmental Conservation
Region 8 Office - Division of Hazardous Waste Remediation
6274 East Avon - Lima Road
Avon, NY 14414-9519

Re: Olin Rochester RI/FS Quarterly Report No. 9
Olin Chemicals (Site #628018a) 100 McKee Rd, Rochester, NY

Dear Mr. Craft:

This is the ninth quarterly report of progress on the Olin Rochester RI/FS, covering the period from October 1, 1995 to December 31, 1995.

Work Progress and Scheduling:

- Olin and our consultants, ABB Environmental Services, have completed the field work for the Phase II RI, per the approved Phase II RI Workplan. Data evaluation and report preparation is in progress.
- Olin placed copies of the final RI Report at designated document repositories.
- Per Agency request, Olin has completed the onsite Feasibility Study (FS) sections on Identification of Alternatives and Screening of Alternatives and submitted the report on October 31, 1995.
- Olin has received results from the quarry seep sampling. Olin had sampled groundwater seepage from four locations along the eastern face of the Dolomite Products Quarry. The area sampled is the only area of seepage on the eastern (Olin) side of the quarry. Seepage is primarily from a single extended lateral fracture, along a distance of approximately 400 feet. Four samples were collected at 90 foot lateral intervals and analyzed for pyridines and chloropyridenes, Olin related compounds. Chloropyridines were detected at three of the four sampling locations. Concentrations increased toward the southern corner of the quarry, with highest concentrations at approximately 1300 parts per billion (ppb).
- As a result of these detections, Olin is implementing the following actions, to respond to this information in a proactive manner:

- Olin is working with NYSDEC to gain permission to sample monitoring wells at another site located between Olin and the Quarry. This will help define the chloropyridine plume in this area.

Community Relations:

- The Community Advisory Panel was briefed on the ongoing Phase II investigation, canal sampling results and quarry seep sampling results at the November meeting. The Panel requested a progress update upon attaining future project milestones.

Projected Work for Next Quarter:

- Olin will proceed with the next scheduled quarterly piezometric measurements.
- Olin will complete the Phase II RI report per the approved Phase II RI Workplan.
- Olin will publish the next edition of the community newsletter, the Echo.
- Olin will continue to implement tasks as follow-up to the Quarry seep detections
- Olin will work with NYSDEC to gain permission to sample monitoring wells at a site between Olin and the Quarry, and to collect samples for pyridine/chlorpyridine analysis after permission is granted.

Olin will continue to communicate progress and issues with NYSDEC. Please direct any questions to me at 615 / 336-4587.

Sincerely,

Michael J. Bellotti

Michael J. Bellotti
Senior Associate Hydrogeologist / Project Manager

1. Olin has re-sampled the Quarry seep (QS-4) showing greatest chloropyridine concentrations, for confirmation of the detection. Previously detected levels were confirmed.

2. Olin is preparing to install a monitor well cluster to the southeast of the Quarry, to determine whether any chloropyridines have bypassed the Quarry via natural groundwater flow. Access agreement acquisition is in progress.

3. Olin has sampled the ponded area within the Quarry and the outfall from pumped Quarry water as it enters the Barge Canal, to determine the effects of any dilution from stormwater entering the Quarry. The ponded area sample shows a diminishment of chloropyridine levels to 19 ppb. The outfall to the Barge canal shows non-detection of pyridines and chloropyridines.

4. As part of the quarterly Barge Canal sampling, Olin routinely has sampled the Canal at a point downstream of the Quarry outfall along the eastern bank (point SW-3). This point is approximately 200 feet downstream of the Quarry outfall. Olin will shift the sampling location from the east bank (all previous samples have been non-detect) to the west bank, to optimize the sampling of the area of possible influence of the Quarry outfall. The most recent quarterly canal sampling at this shifted location continues to show non-detection of pyridines and for chloropyridines.

5. Olin has initiated a check of public records to identify pumping wells in the area. (No private drinking water wells are expected because the natural groundwater quality is not deemed potable). A compilation of this well list is in progress. Olin will sample potentially affected wells to develop data on the extent of chlorpyridine occurrence.

6. Olin will survey the elevation of the Quarry seep and correlate its elevation with elevations of fracture zones screened in the existing and future bedrock monitoring wells. This evaluation is in progress.

RI/FS and Routine Monitoring Tasks:

- Olin has completed the Barge Canal sampling for the fourth quarter-1995. Results continue to show non-detect for pyridines and chloropyridines.

Tasks in Progress:

- Olin is evaluating data developed during the recently Phase II RI field work and is preparing a final report.
- Olin continues to monitor the quarry seep and the Barge Canal on a quarterly basis and selected groundwater monitoring wells on a semiannual basis.
- Olin is implementing the above-noted tasks in response to the Quarry seep chloropyridine detections.

cc:
Mr. Joseph Ryan
New York State Department of Environmental Conservation
Division of Environmental Enforcement
600 Delaware Avenue
Buffalo, New York 14202-1073

Mr. Joseph White
New York State Department of Environmental Conservation
Division of Hazardous Waste Remediation
50 Wolf Road
Albany, New York 12433-1010

Mr. Steven Shost
New York State Department of Health
Bureau of Environmental Exposure Investigation
2 University Place
Albany, New York 12203

Olin CHEMICALS
1186 Lower River Rd. P. O. Box 248, Charleston, TN 37310
(423) 336-4000 FAX (423) 336-4183

August 1, 1996

Mr. James Craft
Engineering Geologist
New York State Department of Environmental Conservation
Region 8 Office - Division of Hazardous Waste Remediation
6274 East Avon - Lima Road
Avon, NY 14414-9519

Re: Olin Rochester RI/FS
Olin Chemicals (Site #628018a) 100 McKee Rd, Rochester, NY

Dear Mr. Craft:

Per our phone conversation, I have attached a report of results from Olin's second quarter-1996 Canal and Quarry Sampling episode. As I noted in our conversation, Olin has learned that the outfall to the Barge Canal, from the Dolomite Products Quarry (sample number SWQD02), contains pyridine compounds totaling approximately 200 micrograms / liter (ug/l). A map showing sampling locations is also included.

As established in earlier studies, the Quarry receives pyridine compounds via a groundwater seep, which we believe to be the edge of our groundwater plume. We are making this notification because this is the first identified location of pyridine compound discharge to the Barge Canal. The Quarry pumps water to the Canal from holding ponds which contain water from the plume seepage and from other runoff. A recent field inspection by our consultant showed that the point previously reported to Olin as being the Canal discharge point, was not connected to the Quarry, and that the actual Quarry-to-Canal discharge point is approximately several hundred feet north of the Chili Ave. Canal crossing.

Olin will continue to investigate offsite occurrence of pyridine compounds and to keep NYSDEC informed of progress. Please direct any questions to me at 423 / 336-4587.

Sincerely,

Michael J. Bellotti

Michael J. Bellotti
Olin Corporation

att.

7311-44
July 19, 1996

ASEA BROWN BOVERI

Mr. Michael Bellotti
Olin Chemical Corporation
P.O. Box 248, Lower River Road
Charleston, TN 37310

Subject: Olin Rochester Site - 1996 Quarterly Erie Barge Canal Water and Quarry Sampling Results (2nd Quarter)

Dear Mr. Bellotti:

This letter presents the results of chemical analysis and describes the sampling, analytical methodology, and analytical quality control for quarterly sampling conducted in June 1996 as follow up to the Phase II Remedial Investigation. Sampling results for 2nd-quarter 1996 surface-water samples collected from the Erie Barge Canal and the Dolomite Products Company quarry as part of the on-going quarterly monitoring program for the Olin Rochester site are enclosed.

Sampling

Canal water samples and Dolomite Products Company (Dolomite) quarry surface-water samples were collected for selected pyridine analysis on June 20, 1996. Eight surface-water samples (SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-7, SW-8) and four quality control samples (Bailer Rinsate Blank, SW-2 FD [field duplicate], SW-6 MATRIX SPIKE, and SW-6 MATRIX SPIKE DUPLICATE) were collected on June 20,1996 from the established sampling locations along the Barge Canal as part of the quarterly Canal sampling program.

Seven surface-water samples were collected in June, 1996 as part of the quarry resampling program from the Dolomite quarry west of the Barge Canal. A seep sample (QS-4) collected from the previously sampled location QS-4, the southern-most seep location, is considered a surface-water sample for this report. The pond samples (QP-2, QP-3, QP-4, and QP-5) were collected from previously sampled locations in the Dolomite quarry ponds. The locations of these samples are shown on the attached map of the quarry.

The quarry outfall sample (QO-1) collected on June 20, 1996 was collected from a concrete "sewer box" located south of the Morey property and west of Interstate 390. The actual location of the outfall to the Erie Barge Canal was determined to be 600 feet north of Chili Avenue. This location was sampled on June 26, 1996, subsequent to sampling of the Erie Barge Canal and Quarry. These results are reported as SWQD02.

110 Free Street
P O Box 7050
Portland, Maine 04112-7050
Telephone (207) 775-5400
Fax (207) 772-4762

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Analytical Procedures and Data Review

Surface-water samples were analyzed in accordance with 1991 New York State Category B Analytical Services Protocols (ASP) for selected pyridines (pyridine, 2-chloropyridine, 3-chloropyridine, 4-chloropyridine, 2,6-dichloropyridine, and p-fluoroaniline). The reporting limit for the selected pyridines is 10 micrograms per liter (µg/L).

A preliminary review of the analytical results was performed for data quality assurance purposes. Sample results were reviewed for holding time compliance, surrogate standard recoveries, blank contamination, and matrix spike/matrix spike duplicate (MS/MSD) accuracy and precision. The results of the data review are discussed in the quality control section of this letter.

Analytical Results

Four of the five selected pyridines (2-chloropyridine, 3-chloropyridine, and 2,6-dichloropyridine, and p-fluoroaniline) were detected in surface-water samples. Concentrations of selected pyridines were detected both above and below the Contract Required Quantitation Limit (CRQL). These results are summarized below; all results are expressed in µg/L.

Sample Id	2-CPYR	3-CPYR	2,6-DCPYR	p-fluoroaniline
SW-1	3 J	ND	0.3 J	ND
SW-4	1 J	ND	ND	ND
SW-5	0.9 J	ND	ND	ND
SW-6	1 J	ND	ND	ND
SWQD02	160	11 J	32	ND
QO-1	63	4 J	18	ND
QP-2	290	34	86	ND
QP-3	41	2 J	9 J	ND
QP-4	44	6 J	13	ND
QP-5	72	4 J	14	ND
QS-4	3800	120	1000	3 J

J = Estimated value above the method detection limit, but below the CRQL.
ND = Not Detected 2-CPYR = 2-chloropyridine 3-CPYR = 3-chloropyridine
2,6-DCPYR = 2,5-dichloropyridine

Surface water samples SW-2, SW-2 FD, SW-3, SW-7, and SW-8 were non-detect for the five selected pyridines at the standard reporting limit of 10 µg/L.

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Quality Control

One bailer rinse blank sample, one matrix spike/matrix spike duplicate (MS/MSD) sample, and one field duplicate sample were collected as quality control samples during the course of the March 1996 field event. No target compounds were reported in the bailer rinse blank.

Several samples required dilution due to the high concentration of 2-chloropyridine and/or 2,6-dichloropyridine. Sample SWQD02 required a dilution of two (2). Sample QP-2 required a dilution of two (2) and a further dilution of ten (10) was required. Sample QS-4 was analyzed at an initial dilution factor of five (5), and further dilution's of 50 and 200 were required. As a result of the dilution of sample QS-4, all surrogates were diluted out. It is not anticipated that this quality control issue will have an impact on the results.

The percent recovery (%R) of two method standard surrogates were outside QC limits in the reextraction of the matrix spike sample SW-6MS. The %R of surrogates Phenol-D5 and 2,4,6-Tribromophenol were outside QC limits. It is not anticipated that this quality control issue will have an impact on the results.

The subcontracting laboratory calculated compound-specific recovery limits for spike recoveries of selected pyridines using the large database of selected pyridine recovery data from the Olin Plant Site. Compound-specific control limits more accurately represent the recovery efficiency for these compounds, and allow both the laboratory and data review staff to determine when and if the laboratory procedure was out of control (matrix spike blank [MSB] results) or if there was a matrix interference (MS/MSD results).

The spike recoveries of p-fluoroaniline in the MSB and the MS/MSD associated with the June 1996 field event sample SW-6 were below QC limits. This may be an indication that the laboratory procedures, rather than sample matrix effects, resulted in the low spike recoveries. Additionally, the relative percent difference (RPD) of 3-chloropyridine and p-fluoroaniline in the MS/MSD associated with sample SW-6 was above QC limits. As a result, the associated sample and QC were re-extracted and the re-extractions were performed outside of hold times. It does not appear that there was a matrix interference, due to the fact that relative percent differences in the MSB and MSB duplicate recoveries of 2-chloropyridine, 3-chloropyridine, and p-fluoroaniline were above QC limits. Despite these quality control issues, it is not anticipated that the sample results are significantly affected.

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Conclusions

Results from the 1996 second quarter June canal surface-water sampling program indicated the presence of concentrations of 2-chloropyridine in four of eight surface water samples collected from established sampling locations along the canal (SW-1, SW-4, SW-5, SW-6) at estimated concentrations below the CRQL. Additionally, the presence of 2,6-dichloropyridine was reported at location SW-1.

The concentrations of 2-chloropyridine and 2,6-dichloropyridine reported in the sample from location SW-1 are an order of magnitude lower than the concentration reported in the first quarter results. The absence of selected pyridine concentrations in the second quarter results from sample locations SW-2, SW-3, SW-7, and SW-8 also indicate a decrease in concentrations as compared with first quarter results. Estimated concentrations of selected pyridines were reported at locations SW-4, SW-5, and SW-6.

The concentrations of chloropyridines reported in the results of second quarter 1996 canal surface water sampling are consistent with concentrations reported from 1994 and 1995 quarterly monitoring events, and indicate that pyridine concentrations reported in first quarter results may be related to seasonal low water levels in the Erie Barge Canal.

The selected chloropyridine results from the June 1996 field event quarry pond samples QP-2, QP-3, QP-4 and QP-5 indicate a general consistency between the first quarter and second quarter sample events in the nature and quantity of chloropyridine compounds reported in quarry pond surface-water.

Concentrations of 2-chloropyridine, 3-chloropyridine, and 2,6-chloropuridine reported in the second quarter 1996 results for the quarry seep sample QS-4 are approximately an order of magnitude higher than reported in the first quarter results, but similar to concentrations reported in September 1995.

Concentrations of selected pyridines were detected in samples from the sewer box (QO-1) and from location SWQD02. Since the quarry outfall was not sampled during the first quarter sampling event, first quarter results from sample QO-1 are not available for comparison to the second quarter results.

ASEA BROWN BOVERI

Please call if you have any questions or comments on the material described in this letter.

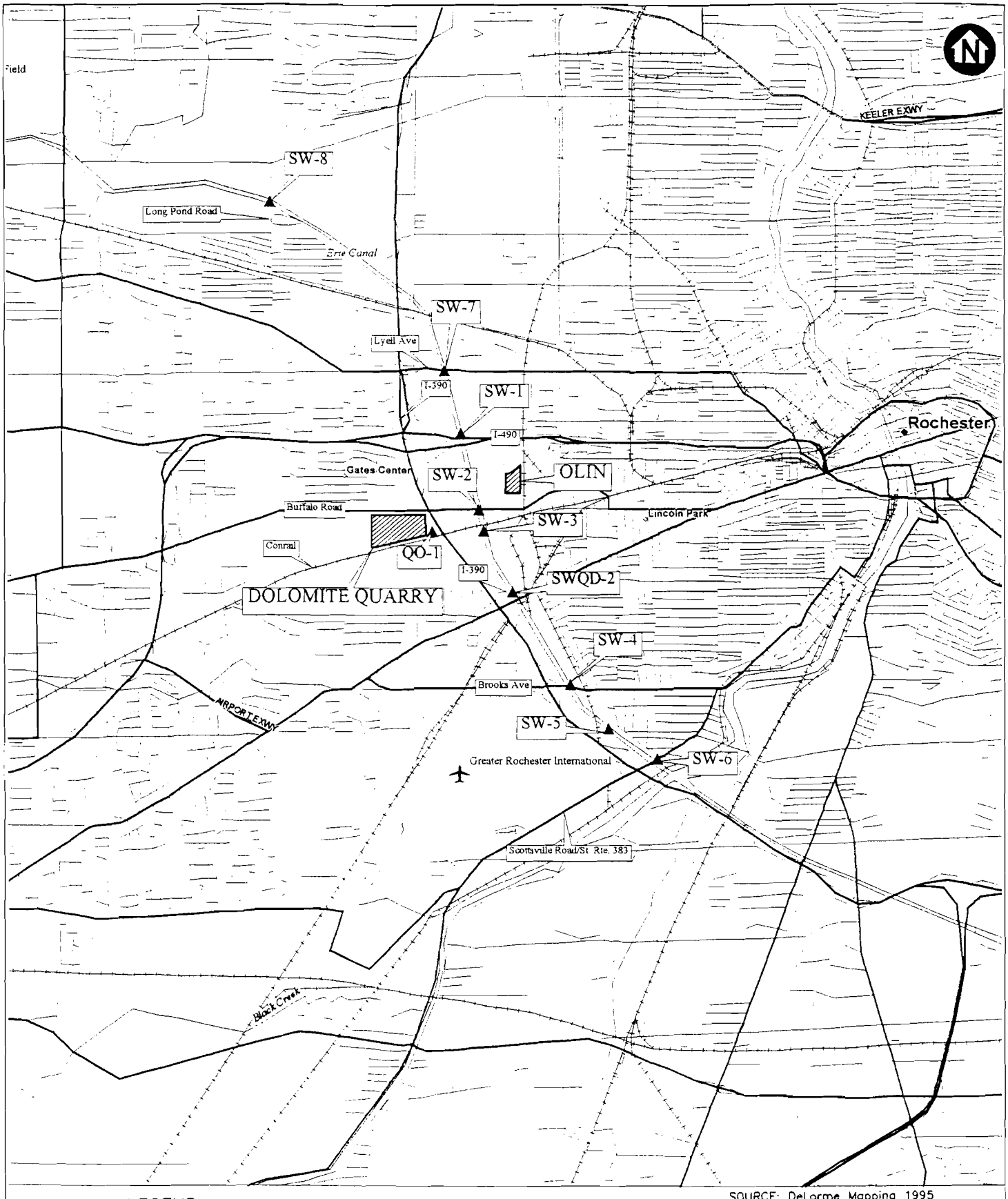
Sincerely,

ABB ENVIRONMENTAL SERVICES, INC.

Thomas R. Eschner, R.G.
Project Manager/Principal Hydrogeologist

TRE/pjk
Attachments: Sample Location Maps - Attachment 1
Laboratory Data Summary Tables - Attachment 2
Chain of Custody Forms - Attachment 3

cc: P. Kunkel
N. Breton



SOURCE: DeLorme Mapping 1995

LEGEND

▲ SURFACE WATER SAMPLE LOCATION

0 1 MILE 2 MILES

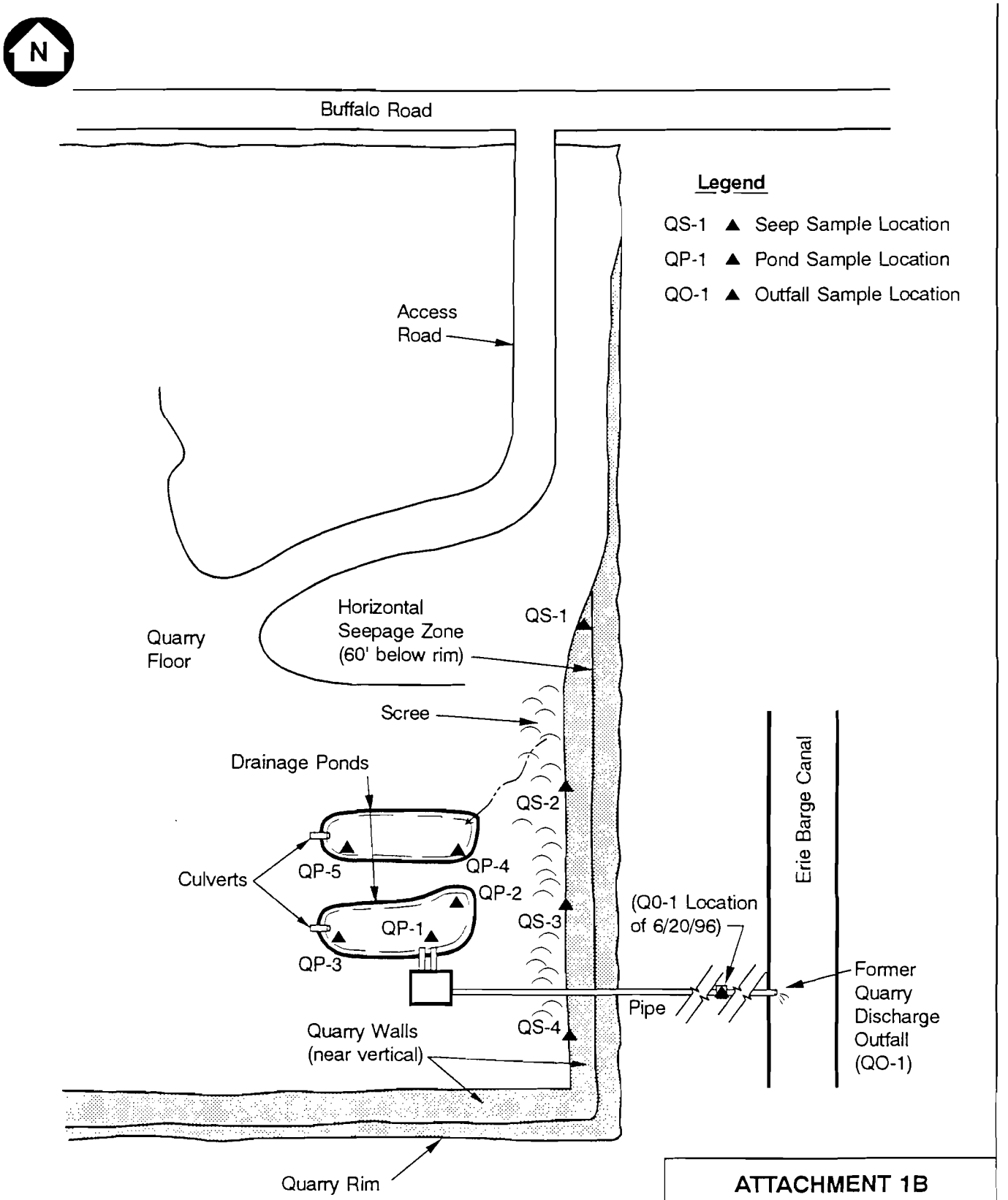
SCALE: 1" = 1 MILE

ATTACHMENT 1A

SAMPLE LOCATIONS ERIE BARGE CANAL

OLIN CHEMICALS
PHASE II RI REPORT ADDENDUM
ROCHESTER, N.Y.

F:\7311-3A\7311FS01



Not to Scale

ATTACHMENT 1B

SAMPLE LOCATIONS DOLOMITE PRODUCTS QUARRY

OLIN CHEMICALS
PHASE II RI REPORT ADDENDUM
ROCHESTER, NEW YORK

W9603025D(e)

PROJECT: Olin Rochester
2nd Round 1996 Quarterly Monitoring

Table 1
Laboratory Report of Analysis

LOCATION:	BAILER RINSE BLANK	QO-1	QP-2	QP-2 DL	QP-2 DL2	QP-3	QP-4	QP-5
DATE SAMPLED:	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96
DATE ANAYLZED:	6/28/96	6/28/96	6/26/96	6/28/96	6/28/96	6/26/96	6/26/96	6/26/96
SAMPLE TYPE:	RB	FS	FS	DL	D2	FS	FS	FS
ANALYTE RL								
2,6-Dichloropyridine 10	10 U	18	89 E	86 D	110 D	9 J	13	14
2-Chloropyridine 10	10 U	63	340 E	250 DE	290 D	41	44	72
3-Chloropyridine 10	10 U	4 J	34	19 DJ	17 DJ	2 J	6 J	4 J
4-Chloropyridine 10	10 U	10 U	10 U	20 U	100 U	10 U	10 U	10 U
p-Fluoroaniline 10	10 U	10 U	10 U	20 U	100 U	10 U	10 U	10 U
Pyridine 10	10 U	10 U	10 U	20 U	100 U	10 U	10 U	10 U
DILUTION FACTOR:	1	1	1	2	10	1	1	1

PROJECT: Olin Rochester
2nd Round 1996 Quarterly Monitoring

Table 1
Laboratory Report of Analysis

LOCATION:		QS-4	QS-4 DL	QS-4 DL2	SW-1	SW-2	SW-2 FD	SW-3	SW-4
DATE SAMPLED:		6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/20/96
DATE ANAYLZED:		6/28/96	6/28/96	6/28/96	6/28/96	6/26/96	6/28/96	6/28/96	6/28/96
SAMPLE TYPE:		FS	DL	D2	FS	FS	FD	FS	FS
ANALYTE	RL								
2,6-Dichloropyridine	10	520 E	1000 D	490 DJ	0.3 J	10 U	10 U	10 U	10 U
2-Chloropyridine	10	1800 E	4700 DE	3800 D	3 J	10 U	10 U	10 U	1 J
3-Chloropyridine	10	120	160 DJ	68 DJ	10 U	10 U	10 U	10 U	10 U
4-Chloropyridine	10	50 U	500 U	2000 U	10 U	10 U	10 U	10 U	10 U
p-Fluoroaniline	10	3 J	500 U	2000 U	10 U	10 U	10 U	10 U	10 U
Pyridine	10	50 U	500 U	2000 U	10 U	10 U	10 U	10 U	10 U
DILUTION FACTOR:		5	50	200	1	1	1	1	1

PROJECT: Olin Rochester
2nd Round 1996 Quarterly Monitoring

Table 1
Laboratory Report of Analysis

LOCATION:		SW-5	SW-6	SW-6RE	SW-7	SW-8	SWQD02	SWQD02 DL
DATE SAMPLED:		6/20/96	6/20/96	6/20/96	6/20/96	6/20/96	6/26/96	6/26/96
DATE ANAYLZED:		6/26/96	6/26/96	7/8/96	6/26/96	6/26/96	7/3/96	7/3/96
SAMPLE TYPE:		FS	FS	RE	FS	FS	FS	DL
ANALYTE	RL							
2,6-Dichloropyridine	10	10 U	10 U	17 U	10 U	10 U	32	32 D
2-Chloropyridine	10	0.9 J	1 J	1 J	10 U	10 U	120 E	160 D
3-Chloropyridine	10	10 U	10 U	17 U	10 U	10 U	10	11 DJ
4-Chloropyridine	10	10 U	10 U	17 U	10 U	10 U	10 U	21 U
p-Fluoroaniline	10	10 U	10 U	17 U	10 U	10 U	10 U	21 U
Pyridine	10	10 U	10 U	17 U	10 U	10 U	10 U	21 U
DILUTION FACTOR:		1	1	1.7	1	1	1	2.1

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO: 5A5762
SITE NAME: OLN ROCH. RI
SAMPLERS (SIGNATURE):

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	IL AMBER PYRIDINES (0162)	REMARKS
1	6-20-96	1100 1550	JJ	X	QS-4	2	2	IL EXRA VOL.
2		1115			QP-2	2	2	
3		1125			QP-3	2	2	
4		1135			QP-4	2	2	
5		1140			QP-5	2	2	
6		1515			SW-1	2	2	
7		1215			SW-2	4	4	DUPLICATE
8		1200			SW-3	2	2	
9		1315			SW-4	2	2	
10		1345			SW-5	2	2	
11		1255			SW-6	5	5	MS/MSD
12		1410			SW-7	2	2	
13		1430			SW-8	2	2	
14		1550			QD-1	2	2	

RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
[signature]	6-20-96 1750	[signature]			
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE/TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE/TIME	REMARKS	

Distribution: Original accompanies shipment copy to coordinator field files

000050

2446

2 OF 2

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO	SITE NAME
5A5762	OLIN ROCH. RI

SAMPLERS (SIGNATURE) J. RICKUS

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	1,3-DICHLOROPROPENE (TOTAL)	CHLOROBENZENE	1,2-DICHLOROETHANE	1,1,2-TRICHLOROETHANE	TETRACHLOROETHENE	1,1,2,2-TETRACHLOROETHANE	REMARKS
15	6-20-96	1150		X	BAILER RINSE BLANK	2	2						
						35							

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)
[signature]	6-20-96 1750	[signature]			
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)
		[signature]			
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE / TIME	REMARKS	

Distribution: Original accompanies shipment copy to coordinator field files

000051

RECRA ENVIRONMENTAL, INC.

CHAIN OF CUSTODY RECORD

PROJECT NO: 7311-44 (ABB-ES)
SITE NAME: OLIN Radway
SAMPLERS (SIGNATURE): Tony Adams

STATION NO	DATE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONTAINERS	1 L Amber Glass						REMARKS
QD02	6/26/96	1200		X	SWCRD02	2	2						Analysis for Selected Pyridines per ASP 91

Tony Adams 6/26/96

RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)
Tony Adams	6/26/96 1800	Fed-X	Fed-X		
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED BY (SIGNATURE)	RELINQUISHED BY (SIGNATURE)	DATE TIME	RECEIVED BY (SIGNATURE)
RELINQUISHED BY (SIGNATURE)	DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE)	DATE / TIME	REMARKS	
			6/27/96 10:15	Cooler = 5 C	

Distribution: Original accompanies shipment copy to coordinator field files

000015

306