EDWARD P. MANGANO
COUNTY EXECUTIVE

SHILA SHAH-GAVNOUDIAS, P.E.
COMMISSIONER

COUNTY OF NASSAU
DEPARTMENT OF PUBLIC WORKS
1194 PROSPECT AVENUE
WESTBURY, NEW YORK 11590-2723

May 14, 2010

Cynthia Whitfield, P.E.
New York State Department of
Environmental Conservation
Division of Environmental Remediation, 12th Floor
625 Broadway
Albany, New York 12233-7011

Re: Mitchel Field Purex Groundwater Remediation Facility (MFPGRF)
Corrective Measures Work Plan (CMWP) – 2010

Dear Ms. Whitfield:

As requested, please find enclosed the Corrective Measures Work Plan prepared for the evaluation of Source (containment) Area conditions at the Mitchel Field Purex Groundwater Remediation site. The work plan was prepared based upon the recommendations made in the July 2009 Periodic Review Report (PRR). As stated in that document "... *the County of Nassau believes that the cleanup of both the Upper Glacial and Upper Magothy portions of the downgradient plume is essentially complete; although TVOC concentrations in all Lower Magothy monitoring wells are less than 5 ppb. higher concentrations are being collected from recovery well W-383D. Future modifications to the remedial effort should be considered focusing on the use of current treatment technology to abate the remaining contamination in the source area.*"

Following NYSDEC – Division of Environmental Remediation review of the work plan, the NCDPW Water/Wastewater Engineering Unit is prepared to execute the work plan as described and collect the environmental data necessary to access conditions in the source area and select a current and more efficient treatment technology for the removal of the remaining contamination.

If you have any questions regarding the proposed work plan or activities at the site, please contact me at (516) 571-7515.

Very truly yours,

Joseph L. Davenport, P.E.
Chief Sanitary Engineer
Unit Head, Water/Wastewater Engineering Unit

JLD:jb
Enc.
c: Kenneth G. Arnold, Sanitary Engineer IV
Michael Flaherty, Hydrogeologist III

H:\Water-WasteWater Engineering\Purex\Correspondence\ltr to DEC WHITFIELD transmittal of Corrective Measures Work Plan 2010.doc

PUREX SITE at MITCHEL FIELD
GROUNDWATER REMEDIATION

DEPARTMENT OF PUBLIC WORKS

Nassau County

Long Island, New York

CORRECTIVE MEASURES WORKPLAN
Developed for a Re-evaluation of SOURCE AREA CONDITIONS

2010

PUREX
Re-evaluation of Source (containment) Area Conditions

1.0 Introduction

As part of the July 2009 Periodic Review Report (PRR) prepared for the former Purex site at Mitchel Field; the Nassau County Department of Public Works recommended that groundwater conditions in the source area be re-evaluated in order to select an alternate treatment technology to replace the existing pump and treat system and remove the remaining VOC contamination in the source area more efficiently. Following review of the 2009 PRR the NYSDEC accepted the document in an April 7, 2010 letter and requested the development of a Corrective Measures Work Plan (CMWP) to treat the former source area.

2.0 Historic Conditions

The remediation of the source area at the former Purex Facility located in East Garden City, New York began in January 1990. The treatment scheme employed included the operation of a six well pump and treat system which re-circulated treated water into a containment area which was created by "keying" a slurry wall into an existing clay layer which is found at approximately 60 ft. below land surface across much of the site. The treated water was introduced into a series of PVC laterals which flushed contaminated soils above the saturated zone. The system operated in this configuration for approximately 3 years. The recirculation of treated water in the source area ended in April 1993 upon receipt of a letter from NYSDEC (Appendix A), confirming that all soil clean-up objectives had been met.

Following the completion of soil flushing operations the source area was treated using all six recovery wells in a traditional pump and treat approach. Source Area recovery wells W-1 and W-6 were removed form the treatment scheme in June 1994 upon receipt of a letter from NYSDEC (Appendix B), confirming that the water quality conditions set forth in the consent order had been met for these wells.

Groundwater conditions within the containment area in the saturated zone above the clay layer (el. 20 ft. above MSL) continued to improve with TVOC concentrations in recovery Wells W-3 and W-5 nearing their cleanup objectives, while source area recovery wells W-2 and W-4 continued to exhibit significant levels of volatile organics. A review of groundwater conditions in February 1994 suggested that a deep source of DNAPL may exist beneath the source area clay layer and recommended the installation of an additional recovery well beneath the source area. Recovery well W-4D was installed with NYSDEC approval in December 1994 and continues to operate to this day.

3.0 Current Source (containment) Area Conditions

During the course of the remediation the quality of groundwater in the saturated portion of the containment area has been determined by sampling the source area influent collected by the operating recovery wells. All of the original groundwater monitoring wells used to establish source area conditions during the remedial investigation were abandoned during construction of the re-circulation field(s).

4.0 Proposed Work plan

In order to determine the current quality of source area groundwater the following approach will be utilized:

- Effluent collected from recovery well W-3 will be sampled.
- Source Area water quality will be further delineated by sampling former recovery well locations.
- Existing piezometers which were installed to observe hydraulic conditions inside the slurry wall during flushing of the source area soils will be sampled.
- Prior to sampling; all wells will be re-developed to remove accumulated fines and stagnant casing water to assure representative conditions.
- Each location will be sampled for volatile organics (EPA method 624/625) using standard Nassau County DPW protocols.

All available source area sampling locations are listed in table 1. The locations of all wells and piezometers are shown in figure 1. Following sampling; the results of the VOC analysis will be tabulated and forwarded to the New York State Department of Environmental Conservation – Division of Environmental Remediation for review and consideration of potential alternate treatment technologies.

PUREX SOURCE AREA WELLS

Site	Well Number	Method of Installation	Date of Installation	Total Depth	Depth To Water 4/19/2010	MP Elevation	Casing Diameter	Casing Material	Screen Type	Slot Size	Screen Length	Screen Interval ft. below grd.
Source Piezometers												
Purex	W-150	Auger	8/21/1987	51.70	17.83	76.91#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	41.7 - 51.7
Purex	W-250	Auger	9/18/1987	79.70	17.85	76.98#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	69.7 - 79.7
Purex	W-154	Auger	8/28/1987	56.00	0.95	81.68#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	46 - 56
Purex	W-252	Auger	9/14/1987	80.00	10.90	78.57#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	70 - 80
Purex	W-156	Auger	9/3/1987	55.00	21.50	81.33#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	45 - 55
Purex	W-253	Auger	9/2/1987	79.50	20.25	81.60#	4 in.	PVC (schd. 80)	PVC	.020 in.	10 ft.	69.5 - 79.5
Upper Magothy Wells												
Purex	W-305*	Mud Rotary	7/5/1983	90.00	30.67	79.73	4 in.	PVC/schd.80	PVC-slotted	.020 in.	10 ft.	80-90
Lower Magothy Wells												
Purex	W-405*	Mud Rotary	7/20/1983	214.00	31.95	80.72	3 in.	PVC/schd.40	PVC-slotted	.020 in.	10 ft.	204-214
Recovery Wells												
Purex	W-2	Reverse Rotary	3/18/1987	57.20	NA	77.50#	8 in.	Blk. Steel	SS (304)	.050 in.	20 ft.	34 - 54
Purex	W-3	Reverse Rotary	3/17/1987	57.90	18.12	77.70	8 in.	Blk. Steel	SS (304)	.050 in.	20 ft.	34.7 - 54.7
Purex	W-4	Reverse Rotary	3/16/1987	60.40	19.65	77.00#	8 in.	Blk. Steel	SS (304)	.050 in.	20 ft.	37.2 - 57.2
Purex	W-4D*	Mud Rotary	12/13/1994	89.20	41.32	79.31	8 in.	Blk. Steel	SS (304)	.050 in.	20 ft.	69.2 - 89.2
Purex	W-5	Reverse Rotary	3/25/1987	59.20	NA	79.00#	8 in.	Blk. Steel	SS (304)	.050 in.	20 ft.	36 - 56

* Non-Source Area well
# measured to grade

APPENDIX B

New York State Department of Environmental Conservation
50 Wolf Road, Albany, New York 12233

Langdon Marsh
Acting Commissioner

Mr. Jeffrey Smith, Esq
Purex Industries, Inc.
7755 Center Avenue - Suite 800
Huntington Beach, CA 92647

JUN 2 7 1994

Dear Mr. Smith:

RE: April 1992 Monitoring Program Modification

This is a follow-up of my June 1, 1994 letter regarding proposed changes to the April 1992 Monitoring Program for the Purex site.

In regards to your request to shut down extraction wells 1 and 6, the State agrees that these wells have essentially met the water quality conditions as set forth in the Consent Order. However, while the State allows that the aforementioned wells may be removed from operation, the extraction wells in question should not be decommissioned at this time, as one or both of these wells may be converted to recharge wells.

With the termination of operation of these wells, action should be taken to concentrate the remediation effort on the most contaminated wells in the source area. This could be accomplished through the conversion of selected extraction wells to recharge wells. Purex would be required to submit a proposal for a new source area recovery well system to replace to previously existing recirculation and recovery well system. This submittal would detail the proposed recharge system, including details on treatment rates and which recovery wells will be converted to recharge wells. It should be noted that Purex was required to submit such a proposal prior to termination of operation of the source area recirculation fields. This was made clear in letter to Purex dated May 18, 1993. However, no proposal for the recharge system mentioned above was ever received by the Department.

With respect to the removal of monitoring well 212 from the monitoring program, reference to that well was inadvertently omitted from my letter to you dated June 1, 1994. The State concurs that the volatile organic levels in this meet the water condition as described in the Consent Judgment and continued sampling of this well is not required at this time.

If you have any questions, please contact Mr. Ronnie Lee, of my staff, at (518) 457-0927.

Sincerely,

Gerald J. Rider, Jr., P.E.
Chief, Operation, Maintenance & Support Section
Bureau of Hazardous Site Control
Division of Hazardous Waste Remediation

cc: P. Witkowski - NCDPW
J. Murtha - NCDPW
A. Shah - NYSDEC Reg. 1
R. Lee - NYSDEC
N. Spiegel - NYSDOL

a:well1&6.wp6.RL:GR:at