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COMMISSIONER

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

July 22, 2015

New York State Department of Environmental Conservation
Division of Environmental Remediation
Bureau of Hazardous Site Control
625 Broadway
Albany, New York 12233

Att: ✓ Ms. Cynthia Whitfield, P.E., Project Manager

Re: Purex Site @ Mitchel Field (Site # 130014) –
Upgradient Source Review – Heating /Cooling Wells
(N – 5507, N – 8458, N – 8068)

To Whom It May Concern:

As part of our ongoing effort to identify potential sources of VOC's which might affect our eventual request for site re-classification or closure, the Nassau County Department of Public Works (NCDPW) would like to update your office on groundwater conditions hydraulically upgradient of the former Purex site. The NCDPW has recently completed its review of the preliminary data collected by the United States Environmental Protection Agency (USEPA) as part of the Old Roosevelt Field Contaminated Groundwater Site, Operable Unit 2 (OU-2) - Eastern Plume. The Department has also reviewed recent VOC data, preliminary results provided by the USEPA and historic data culled from New York State Department of Environmental Conservation (NYSDEC), Nassau County Department of Health (NCDH) well records and United States Geological Survey (USGS) reports on the Roosevelt Field Area.

Review of these data supports the concept that three (3) heating and cooling wells (N-8458, N-5507 and most recently N-8068 (see attached table), acted as a secondary source of volatile organic compounds (including PCE and TCE) in the Old Roosevelt Field Area. Portions of this plume of organics were first mapped by the USGS in the spring of 1984. It lies east of the plume which is currently being mapped and remediated by the USEPA (see enclosed figure). The plume exists in the mid to lower portions of the Magothy Aquifer at elevations ranging from approximately -160 to – 300 ft. MSL.

Historically, these wells drew contamination from other Old Roosevelt Field sources on a seasonal basis from the surrounding strata into their individual screen zones for period(s) lasting more than two (2) decades. While actively pumping, the wells removed some of the VOC's and distributed them to other portions of the aquifer via discharge to recharge basins and diffusion wells. However, following abandonment; any residual contamination would become a source for VOC's, within that portion of the aquifer.

Cooling well N-8068, which is located at 585 Stewart Avenue in Garden City was found to contain VOC's at a concentration of 27 ppb in 1984 (USGS). The well is no longer operational and is scheduled for abandonment, the final NCDPW sampling of this well occurred in 2014. The influent sample result had a TVOC concentration of 452 ppb, consisting of 330 ppb of Tetrachloroethylene (PCE) and 110 ppb of Trichloroethylene (TCE). Although this well was eventually equipped with an air stripping tower, it operated for forty – eight (48) years drawing in contaminants from the Old Roosevelt Field site.

The well was operated seasonally; actively removing VOC's during the spring and summer months but allowing VOC's to move southwest of the well once it was turned off in the fall and winter months. The well is no longer in operation and scheduled for abandonment; it no longer provides any remedial benefit and no longer prevents the migration of those contaminants which have been drawn into the local area during its lifetime.

Review of the figure reveals the estimated extent of VOC contamination in the mid – lower Magothy and the location of all three heating/cooling wells along with the potentiometric surface contours prepared following a joint synoptic water level round conducted by NCDPW and USEPA on October 29, 2009, (prior to EPA startup of the remedial system). Groundwater flows from North/Northeast to South/Southwest, both historic and recent VOC concentrations have been used to outline the potential extent of the plume. In the fall of 2014 high concentrations of both PCE and TCE were detected in preliminary groundwater samples collected from newly installed USEPA monitoring well cluster MW – 16 as part of the Eastern Plume Investigation. However, the final results from the investigation are still pending and currently unavailable.

Any volatile organic contamination detected at the MW-16 cluster would continue to migrate south and likely be influenced by pumping effects created by Hempstead Village and Uniondale public supply wells. Volatile organic compounds including PCE and TCE, totaling 204 ppb were detected in monitoring wells in the EW-200 series cluster which is located between the MW-16 cluster and Uniondale supply wells N-8474 and N-8475.

If you require any additional information to help investigate these possible sources as they relate to the former Purex site please contact Mr. Michael Flaherty, Hydrogeologist III at (516) 571-7514.

Very truly yours,

Shila Shah-Gavnoudias, P.E.
Commissioner of Public Works

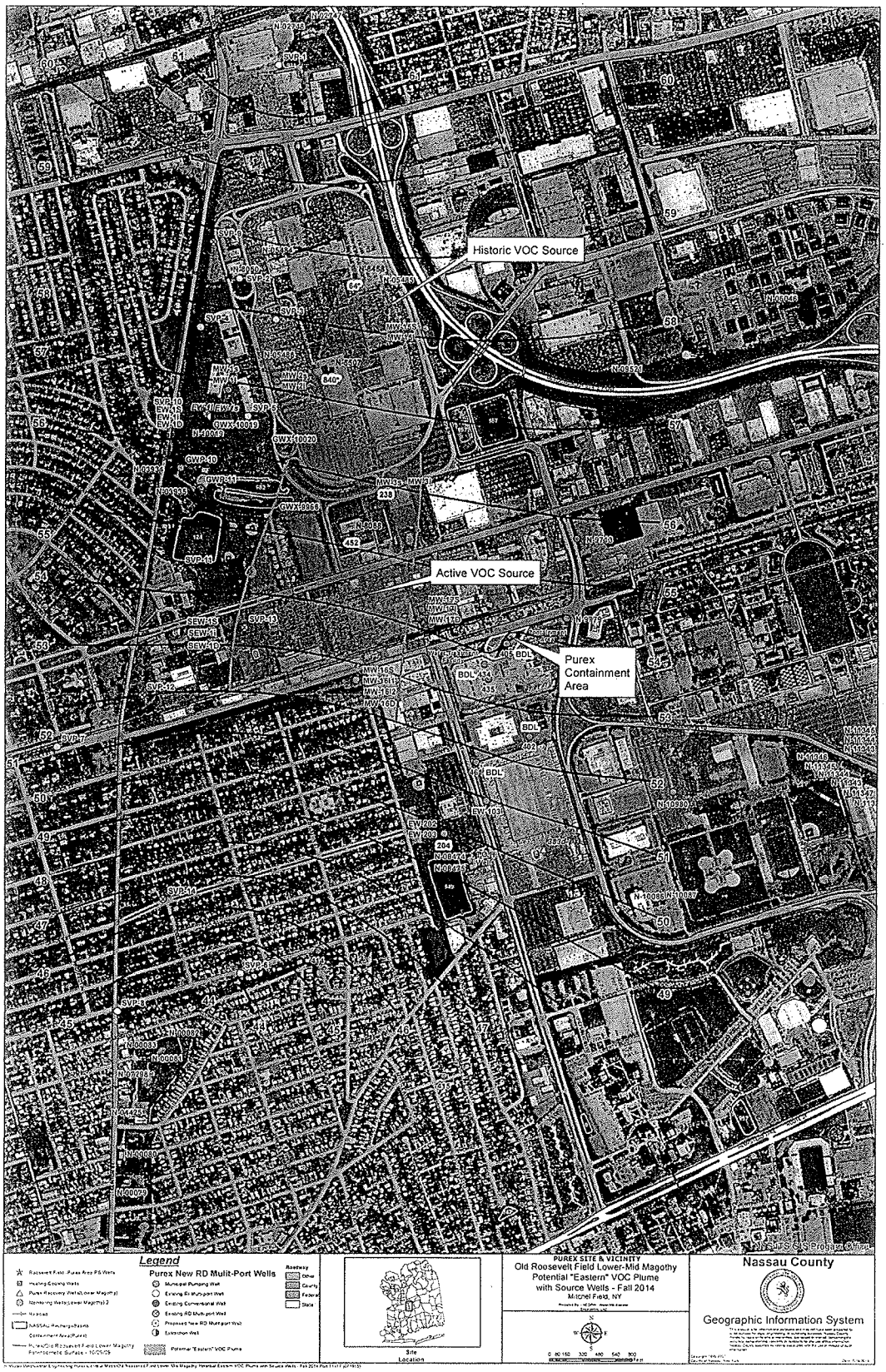
SSG:KGA:JLD:rp
Attachment
c: Kenneth G. Arnold, Assistant to Commissioner of Public Works, w / encl.
Joseph Defranco, Chief, Office of Soil and Groundwater Remediation, NCDH
Michael Flaherty, Hydrogeologist III
Walter J. Parish, Regional Hazardous Waste Engineer, NYSDEC
Sherrel Henry, Project Manager, USEPA

ORF - SOURCE AREA WELL CONSTRUCTION DETAILS w/TVOC RESULTS

Site	Well Number	Method of Installation	Date of Installation	Total Depth (ft.)	Depth To Water	MP Elevation	Casing Diameter	Casing Material	Screen Type	Slot Size	Screen Length (ft.)	Screen Interval Feet (BGS)	Total years of operation	1983 - 84 TVOC* (PPB)	Well Abandoned
Supply Wells															
Rooosevelt Field	N-5484 (a)	Rotary	1956	306	NA	NA	NA	NA	NA	NA	NA	NA	35	NS	***DEEPENED***
Rooosevelt Field	N-5485 (a)	Rotary	1956	326	NA	NA	NA	NA	NA	NA	NA	NA	35	NS	***DEEPENED***
Rooosevelt Field	N-5486 (a)	Rotary	1956	290	NA	NA	NA	NA	NA	NA	NA	NA	24	NS	***DEEPENED***
Rooosevelt Field	N-5484 (b)	Reverse Rotary	4/13/73	575	33.08	NA	20 in.	Blk. Steel	SS (304)	40 / 50 slot	72	500 - 572	*Same as above*	13	YES
Rooosevelt Field	N-5485 (b)	Reverse Rotary	10/4/72	557	40.25	NA	20 in.	Blk. Steel	SS (304)	25 / 55 slot	81	473 - 554	*Same as above*	26	YES
Rooosevelt Field	N-5486 (b)	Reverse Rotary	11/30/72	559	37.00	NA	20 in.	Blk. Steel	SS (304)	40 / 50 slot	106	450 - 556	*Same as above*	200**	YES
Garden City WD	N-3934	Rotary	1953	417	NA	90	18 in.	Blk. Steel	SS-cont. wrap	NA	40	377 - 417	62	22	NO
Garden City WD	N-3935	Rotary	1953	410	NA	90	18 in.	Blk. Steel	SS-cont. wrap	NA	40	370 - 410	62	27	NO
Heating /Cooling Wells															
Rooosevelt Field	N-5507	Rotary	5/21/56	330	12.00	77.43	16 in.	Blk. Steel	SS-cont. wrap	60 slot	223	107 - 330	36	840	YES
Rooosevelt Field	N-8458	Rotary	12/2/68	350	42.00	NA	12 in.	Blk. Steel	SS-cont. wrap	50 slot	60	290 - 350	27	64	YES
Rooosevelt Field	N-8050	Rotary	5/3/66	328	38.00	NA	8 in.	Blk. Steel	SS-cont. wrap	14 slot	28	300 - 328	NA	14000	YES
585 Stewart Avenue	N-8068	Rotary	6/14/66	291	19.00	69.81	10 in.	Blk. Steel	SS-cont. wrap	50 slot	26	265 - 291	48	27	NO

NS *- Not Sampled*
NA *- Not Available*

(a) - Original depth / wells operated @ this depth from 1956-73
(b) - Wells deepened / operated @ this depth from: 1972 - 91 (N-5485), 1973 - 91 (N-5484), 1972 - 80 (N-5486)
* - source: **USGS**
** - 1980 value


Historic VOC Source
Active VOC Source
Purex Containment Area
Legend
Purex New RD Mulit-Port Wells
Roadway
Other
County
Federal
State
Site Location
PUREX SITE & VICINITY
Old Roosevelt Field Lower-Mid Magothy Potential "Eastern" VOC Plume with Source Wells - Fall 2014
Mitchel Field, NY
Nassau County
Geographic Information System