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Subject:

Petition for Shutdown of Groundwater Extraction Well PW-1, Former GE West Lot Site, Utica, New York (Site No. 6-33-036)

ENVIRONMENT

Dear Mr. Ouderkirk:

Date:
15 December 2006

On behalf of Lockheed Martin Corporation (LMC), ARCADIS is petitioning the New York State Department of Environmental Conservation (NYSDEC) to shutdown the groundwater extraction well (designated as PW-1) located at the GE West Lot Site No. 6-33-036 (Site) in Utica, New York. In accordance with the NYSDEC Administrative Order on Consent (AOC) No. A6-0001-98-08 and the NYSDEC approved 100% Groundwater Remedial Design (ARCADIS, 2001), the groundwater extraction and treatment system was installed in 2001 to capture and treat volatile organic compounds (VOCs) in the shallow groundwater near the former burn pit area at the site. This system has been operational since 2001, with periodic shutdowns due to maintenance activities and to accommodate remedial actions (i.e., soil removal from the burn pit area).

Contact:
Jeffrey Bonsteel

Extension:
19

Email:
jbonsteel@arcadis-us.com

Our reference:
AY000265.0015

The site is an inactive hazardous waste disposal site and is currently classified as Class 4 on the New York Registry of Inactive Hazardous Waste Sites (No. 633036). This petition is the first step by LMC to reclassify the site from Class 4 site (site properly closed – requires continued management) to Class 5 site (site properly closed – does not require continued management). Soil removal activities at the site have been completed in accordance with the AOC and subsequently approved by NYSDEC (refer to 15 November 1999 letter from NYSDEC to ARCADIS). LMC subsequently conducted additional removal activities to expedite groundwater remediation (refer to 31 January 2006 letter from NYSDEC to ARCADIS).

The primary constituents of concern (COCs) at the site are cis-1,2-dichloroethelene (DCE), trichloroethene (TCE), 1,1,1-trichloroethane (TCA), and vinyl chloride (VC). The highest concentrations of these COCs have historically been located directly downgradient of the burn pit area (Figure 1). Based on the operation of the extraction well (PW-1) and soil removal activities completed at the site, concentrations of the COCs in groundwater in the extraction well near and

immediately downgradient of the former burn pit have decreased dramatically (Figure 2).

Concentrations of COCs in downgradient monitoring wells have also decreased due to the operation of the groundwater extraction well and soil removal activities (as indicated on Table 1). However, over the past few years, concentrations of COCs in site groundwater downgradient of the former source have stabilized (during the same time period that concentrations of COCs in the influent sample at PW-1 have been observed to decrease). This trend indicates that COCs in groundwater have reached equilibrium at the site. Continued pumping of the extraction well is not anticipated to greatly decrease or influence downgradient groundwater concentrations. Rather, natural attenuation of the COCs at the site has been historically observed and is expected to continue.

Based on this evaluation, it is the opinion of ARCADIS that continued operation of the groundwater extraction well (PW-1) is not providing significant remedial benefit at the site and therefore can be shut down. To confirm that the shutdown of PW-1 will not adversely affect the groundwater conditions at the site, the following will be implemented:

- § Upon approval by the NYSDEC, PW-1 will be turned off. The submersible pump will be removed from the extraction well and stored on-site.
- § Extraction well PW-1 will be transitioned to a monitoring well that will be added to the groundwater monitoring network and subsequently sampled. The first sampling event following the shutdown of PW-1 is planned for March 2007.
- § Based on the results of the March 2007 groundwater sampling event, a determination will be made on the appropriateness of continuing to leave PW-1 inoperable. Should a significant increase (concentrations greater than those observed during the previous 3 years of groundwater monitoring) in COC concentrations be observed in the downgradient groundwater monitoring, an evaluation will be completed to determine the benefit of (i) reactivating the groundwater extraction well (PW-1), (ii) considering an alternative approach for groundwater remediation, or (iii) continued monitoring. ARCADIS will discuss the results of the evaluation with NYSDEC and propose further action based on the evaluation results.

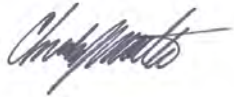
When it is determined that operation, maintenance, and monitoring (OM&M) are no longer necessary for the site, LMC will request that NYSDEC reclassify the site from Class 4 to Class 5.

Please contact the undersigned if you have questions or comments.

Sincerely,



Jeffrey J. Bonsteel
Project Scientist



Christopher J. Motta, CPG
Project Manager

Copies:

Greg Rys – NYSDOH, Herkimer
Tina Armstrong – LMC

Table 1. Summary of VOCs in Groundwater Samples Collected 2003-2006, Lockheed Martin Corporation, West Lot Site, Utica, NY.

Analyte	Units	NYSDEC Standard	MW-1(DOT)							
			4/30/03	7/2/03	9/30/03	12/29/03	3/16/04	6/23/04	1/4/05	6/12/06
Vinyl Chloride	ug/L	2	ND	ND	ND	ND	ND	0.26	ND	ND
trans-1,2-Dichloroethene	ug/L	5	ND	ND	ND	ND	ND	0.38	ND	ND
cis-1,2-Dichloroethene	ug/L	5	16	18	19	22	20	15	16	12
Trichloroethene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	5	0.53	0.65	0.45	0.6	0.48	1.0	0.73	0.53
1,1-Dichloroethane	ug/L	5	0.52	1	0.41	0.62	0.48	0.74	0.65	0.51
Benzene	ug/L	1	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	3	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	3	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	3	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
m/p-Xylene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	5	ND	ND	ND	ND	ND	ND	ND	ND

ND - non-detect

NS - Not Sampled

Analyzed by USEPA Method 8260

Table 1. Summary of VOCs in Groundwater Samples Collected 2003-2006, Lockheed Martin Corporation, West Lot Site, Utica, NY.

Analyte	Units	MW-D							
		4/29/03	7/2/03	10/1/03	12/29/03	3/16/04	6/22/04	1/4/05	6/12/06
Vinyl Chloride	ug/L	4.6	7.8	21	4.6	5.5	5.3	ND	6.1
trans-1,2-Dichloroethene	ug/L	0.56	1	1.2	0.44	0.51	0.80	ND	0.72
cis-1,2-Dichloroethene	ug/L	5.1	6.9	11	5.4	6.6	6.1	2.0	ND
Trichloroethene	ug/L	4.9	7.2	14	5.8	8.8	8.8	0.27	2.0
Chloroethane	ug/L	ND	0.29	0.31	ND	ND	0.33	ND	ND
Tetrachloroethene	ug/L	2	2.6	0.33 J	1.1	1.6	0.96	ND	ND
1,1,1-Trichloroethane	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	0.34	ND	ND
Benzene	ug/L	2	2.2	3.1	1.2	1.4	1.6	ND	0.84
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	0.35	0.31	0.44	ND	ND	ND	0.31	ND
m/p-Xylene	ug/L	ND	ND	ND	ND	0.31 J	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND

ND - non-detect

NS - Not Sampled

Analyzed by USEPA Method 8260

Table 1. Summary of VOCs in Groundwater Samples Collected 2003-2006, Lockheed Martin Corporation, West Lot Site, Utica, NY.

Analyte	Units	MW-E							
		4/29/03	7/2/03	10/1/03	12/29/03	3/16/04	6/23/04	12/29/04	6/12/06
Vinyl Chloride	ug/L	1.2	1.4	1.3 J	1.2	1.7	1.6	0.45 J	ND
trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	0.63	ND	ND
cis-1,2-Dichloroethene	ug/L	6.5	6.2	8.8	4.7	6.3	6.0	4.9	3.1
Trichloroethene	ug/L	18	25	38.0	8.7	14	22	21	14
Chloroethane	ug/L	ND	0.21	ND	0.33	0.34	0.56	ND	ND
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	10	12	11	4.1	6.7	11	7.2	5.3
1,1-Dichloroethane	ug/L	2.3	2.2	2.2	2.0	2.5	2.7	1.4	1.2
Benzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	ND	ND	ND	ND	ND	ND	0.22	ND
m/p-Xylene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND

ND - non-detect

NS - Not Sampled

Analyzed by USEPA Method 8260

Table 1. Summary of VOCs in Groundwater Samples Collected 2003-2006, Lockheed Martin Corporation, West Lot Site, Utica, NY.

Analyte	Units	MW-F						
		4/30/03	7/2/03	9/30/03	12/29/03	3/16/04	6/22/04	6/12/06
Vinyl Chloride	ug/L	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	ug/L	ND	ND	ND	ND	ND	0.62	ND
cis-1,2-Dichloroethene	ug/L	3.6	4.2	4.5	2.3	2.9	3.9	3.1
Trichloroethene	ug/L	34	40	51	20	29	37	37
Chloroethane	ug/L	ND	ND	ND	ND	ND	ND	ND
Tetrachloroethene	ug/L	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ug/L	1.6	2	2.3	0.98	1.3	2.4	1.5
1,1-Dichloroethane	ug/L	ND	ND	ND	ND	ND	0.68	ND
Benzene	ug/L	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND
1,3-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	ND	ND	ND	ND	ND	ND	ND
Toluene	ug/L	ND	ND	ND	ND	ND	ND	ND
m/p-Xylene	ug/L	ND	ND	ND	ND	ND	ND	ND
o-Xylene	ug/L	ND	ND	ND	ND	ND	ND	ND

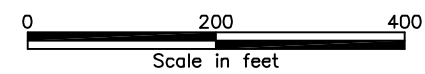
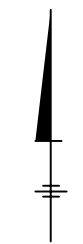
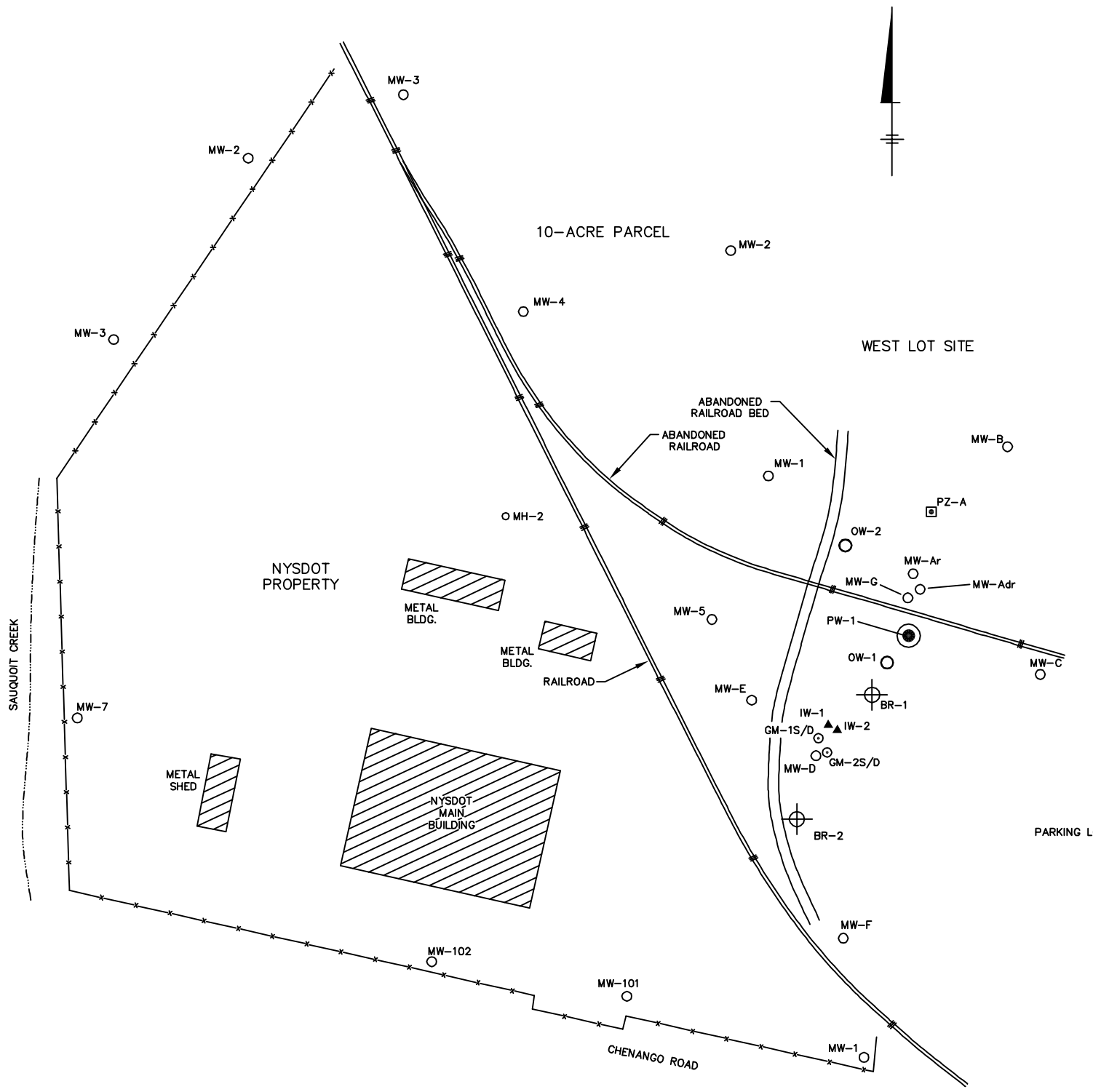
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Analyzed by USEPA Method 8260

LEGEND

- MW-F GROUNDWATER MONITORING WELL
- PW-1 OVERBURDEN PUMPING WELL
- OW-1 OVERBURDEN OBSERVATION WELL
- ⊕ BR-1 BEDROCK MONITORING WELL



Project Director L. MCBURNEY	Area Manager R. GAN
Task Manager J. BONSTEEL	Technical Review C. MOTTA
Drawing Date 04-12-04	Drawn By FJF-WL_base



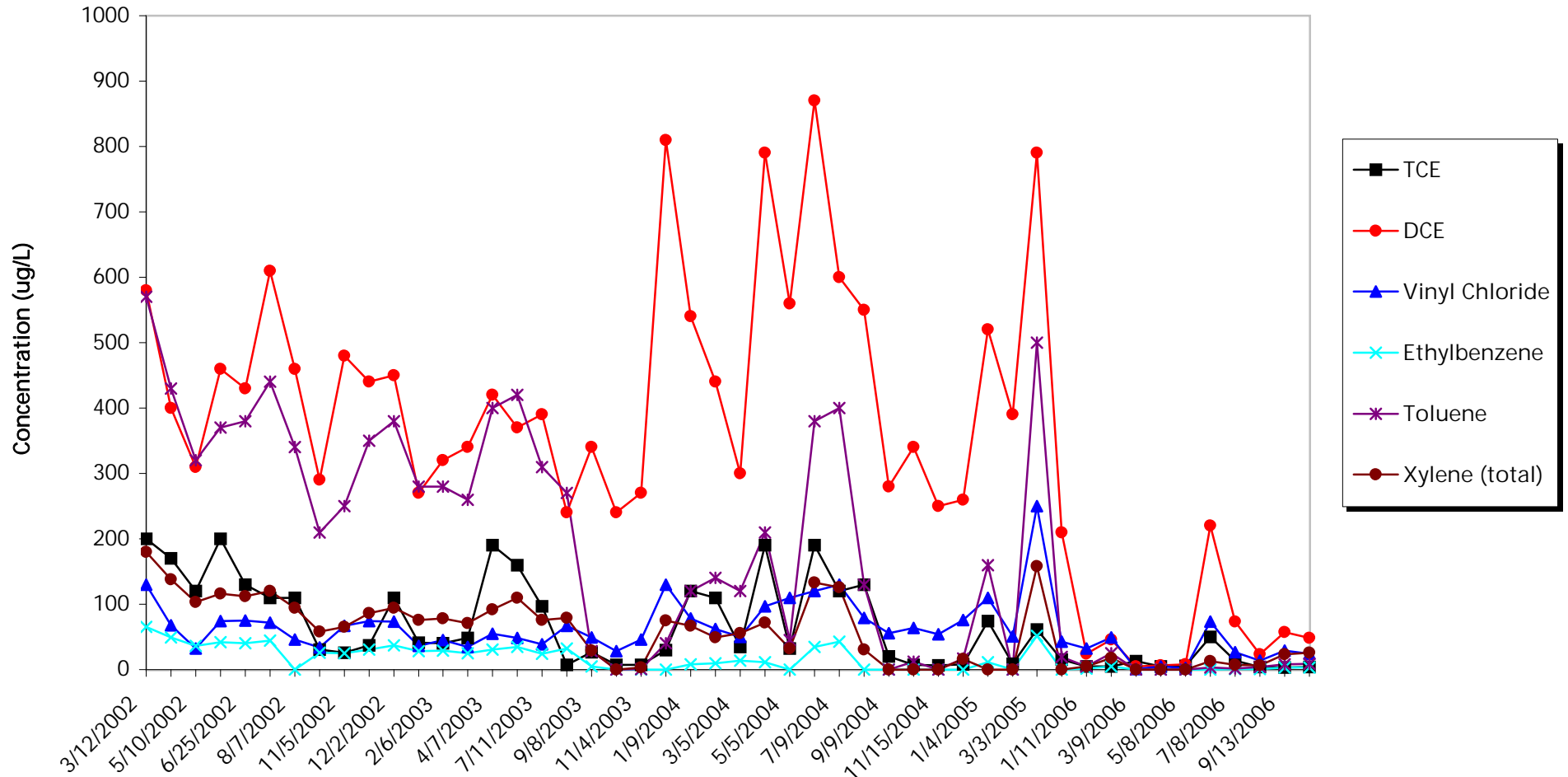
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**LOCKHEED MARTIN
WEST LOT SITE**

SITE MAP

Project Number AY0002650015	Figure 1
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Figure 2. Volatile Organic Compounds in the System Influent Water Samples, Lockheed Martin Corporation, West Lot Site, Utica, New York.



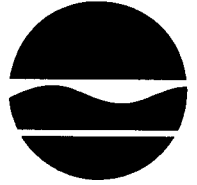
New York State Department of Environmental Conservation

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Denise M. Sheehan
Commissioner

January 3, 2007

Tina Armstrong, Ph.D.
Lockheed Martin Corporation
6560 Rock Spring Drive
Bethesda, Maryland 20817

RE: SOS SEPTIC SERVICE SITE NO. 6-33-028
Petition for Shutdown of Groundwater Extraction Well PW-1

Dear Dr. Armstrong:

The Department has reviewed the ARCADIS's December 15, 2006 letter concerning the above-referenced site and the request to shutdown Pumping Well No. 1 (PW-1). Based on our review of the documents and past data, please note the following:

1. The Department and the NYSDOH approve the shutdown of PW-1.
2. The Department and the NYSDOH acknowledge the efforts by Lockheed Martin Corporation and ARCADIS to remove contamination from the site and bring the project to the next stage. However, at this time, monitorable amounts of contamination still exist, both onsite and offsite. Therefore, the petition to reclassify the site to a Class 5 is not possible at this time. In addition, the information gathered during the Soil Vapor Intrusion Study (SVIS) at the adjacent NYSDOT property will be an important element for future monitoring consideration.
3. Once the SVIS is completed and we have an understanding of the off-site impacts, appropriate revised monitoring can be developed. At a minimum, the on-site wells sampling program may be reduced to a fifteen (15) month schedule. Further modifications may be warranted once the SVIS data is available for review.

Thank you for submitting this request and we will look forward to receiving the results of the SVIS. If you have any questions, please feel free to contact me.

Sincerely,

Peter S. Ouderkirk, P.E.
Regional Contact

PSO:als

cc: Peter R. Taylor
Greg Rys - NYSDOH, Herkimer
Jeffrey Bonsteel - ARCADIS

ecc: Gary Litwin, DOH
Krista Anders, DOH
Tamara Girard, DOH
Justin Deming, DOH
Tom Festa
Eric Hausamann
CO Remedial Bureau Director
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