



*Hudson Valley Research Park  
2070 Route 52  
Hopewell Junction, NY 12533 6531  
S. C. Hawkins, Z/325*

November 14, 2012

Mr. Alex Czuhanych  
Engineering Geologist  
New York State Department of  
Environmental Conservation  
Division of Environmental Remediation  
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Mr. Henry Wilkie  
Environmental Engineer 1  
New York State Department of  
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Division of Environmental Remediation  
Remedial Bureau A, 11<sup>th</sup> Floor  
625 Broadway  
Albany, New York 12233-7015

Subject: Activation of GW-032B and Decommissioning of GW-032A in Remediation Area D

Reference: IBM East Fishkill Corrective Action Program  
IBM East Fishkill Facility  
Hopewell Junction, New York  
NYSDEC Part 373 Permit 3-1323-0025-00249-0  
EPA ID No. NYD000707901

Dear Mr. Czuhanych and Mr. Wilkie:

The purpose of this letter is to transmit information regarding the activation of extraction well GW-032B and the decommissioning of extraction well GW-032A located within IBM East Fishkill's Remediation Area D. The new well, GW-032B, was installed due to an apparent break in the GW-032A well casing. Attached is a letter from Groundwater Sciences Corporation that summarizes the activities associated with the final phase of this project.

If you have any questions regarding this submittal or require additional information, please contact Jackie Braungart at (845) 892-1672.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the

information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,  
International Business Machines Corporation

A handwritten signature in black ink, appearing to read "Steven C. Hawkins". The signature is fluid and cursive, with the first name "Steven" and last name "Hawkins" clearly distinguishable.

Steven C. Hawkins, Manager  
Environmental Engineering

- c: K. Brezner, NYSDEC Region 3, Regional Environmental Remediation Engineer (electronic only)  
RCRA Permitting Section Supervisor, Division of Environmental Remediation, NYSDEC (electronic only)  
R. Schatz, ESDC (without enclosures)  
USEPA Region 2 (electronic only)



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**GROUNDWATER SCIENCES CORPORATION**

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(717) 652-6832  
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Re: *Activation of GW-032B and Decommissioning of GW-032A*  
*Remediation Area D*  
*IBM East Fishkill Facility, Hopewell Junction, New York*  
*EPA ID No. NYD000707901*

Dear Mr. Czuhanych and Mr. Wilkie:

Groundwater Sciences Corporation (GSC) has prepared this letter summarizing the final installation of new groundwater recovery well GW-032B and the decommissioning of former groundwater recovery well GW-032A located within Remediation Area D of the IBM East Fishkill Facility in East Fishkill, New York (Site). Replacement of well GW-032A was necessary due to an apparent break in the lower portion of the well screen which resulted in formation material entering the well.

Pumping system installation and hotbox improvements for GW-032B were performed in accordance with a GSC Work Plan<sup>1</sup> dated April 25, 2011, which was subsequently approved by the New York State Department of Environmental Conservation (NYSDEC) in a letter to IBM<sup>2</sup> dated May 3, 2011. A report on the initial installation and hydraulic testing of GW-032B was submitted to NYSDEC on September 12, 2011<sup>3</sup>. In a letter dated July 19, 2012 NYSDEC approved GW-032B as a suitable replacement for GW-032A and approved the subsequent tasks outlined in the Work Plan<sup>4</sup>. The recovery well replacement has been completed as part of IBM's groundwater Corrective Action (CA) program which is currently regulated by NYSDEC under the Site's New York State Part 373 Permit 3-1328-0025-00249-0, EPA ID No. NYD000707901. The GW-032B well installation and GW-

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<sup>1</sup> Groundwater Sciences Corporation and IBM Environmental Engineering, April 25, 2011, Work Plan for Recovery Well GW-032A Replacement, Remediation Area D.

<sup>2</sup> NYSDEC, May 3, 2011, *Letter from Alex G. Czuhanych to Mr. Steven C. Hawkins, Manager, Environmental Engineering, IBM Hudson Valley Research Park*, RE: Response to Work Plan, Recovery Well GW-032A Replacement, IBM East Fishkill Facility, Hopewell Junction, New York, EPA ID No. NYD000707901.

<sup>3</sup> Groundwater Sciences Corporation and IBM Environmental Engineering, September 12, 2011, Report of Findings - GW-032B Installation and Testing.

<sup>4</sup> NYSDEC, July 19, 2012, *Letter from Alex G. Czuhanych to Mr. Steven C. Hawkins, Manager, Environmental Engineering, IBM Hudson Valley Research Park*, RE: Report of Findings: Installation and Testing of Replacement Well GW-032B, Remediation Area D, IBM East Fishkill Facility, Hopewell Junction, New York, EPA ID No. NYD000707901, NYSDEC Site No. 314054.

032A decommissioning activities were performed by GSC and others under a contract with Fluor Enterprises, Inc. (Fluor), IBM's current facilities management contractor at the Site.

GSC completed installation of a submersible pump, stilling tube, pitless adaptor and electrical wiring as described in Task 1.5 of the approved Work Plan. Hotbox improvements, including installation of new controls, a totalizing flow meter, insulation, and an electric heater were completed according to Task 1.6 of the Work Plan. Well GW-032B was placed into service on September 13, 2012, and has run continuously with the exception of a planned shutdown for the decommissioning of GW-032A. Task 2 of the Work Plan outlined the decommissioning of well GW-032A, which was performed on October 19, 2012. Based on the professional judgment of the drilling contractor and supervising geologist, the following changes were made to the Work Plan: 1) An attempt was made to airlift collapsed formation material from the inside of the well rather than removing the formation material using a tri-cone roller bit; 2) The base of the well was not punctured because attempts to remove collapsed material were unsuccessful (additional formation material entered the well as material was being removed); 3) Bentonite chips were used to backfill the boring after removal of the well screen and riser and overdrilling. Bentonite chips were used for backfilling to eliminate the possible migration of bentonite grout to the nearby GW-032B extraction well, located about 5 feet to the south. The attached Well Decommissioning Record details the abandonment of GW-032A.

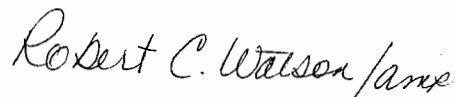
The tasks outlined in the Work Plan have been completed, and groundwater withdrawals from extraction well GW-032B have resumed. Results of the continuing operation of the Area D groundwater extraction system will be submitted to NYSDEC as part of the 2012 Annual Report as required by IBM's Part 373 Permit for the Site.

Should you have any questions concerning this report please contact Jackie Braungart of IBM at (845) 892-1672.

Very truly yours,  
GROUNDWATER SCIENCES CORPORATION



C. Edward Stoner, P.G.  
Project Manager



Robert C. Watson, P.G.  
Vice President

RCW/CES:amp

Attachments:  
GW-032A Well Decommissioning Record

FIGURE 3

## WELL DECOMMISSIONING RECORD

Site Name: <u>IBM East Fishkill</u>	Well I.D.: <u>GW-032A</u>
Site Location: <u>Hopewell Junction, New York</u>	Driller: <u>Joel Rauscher</u>
Drilling Co.: <u>Parratt-Wolfe</u>	Inspector: <u>Ed Stoner</u>
	Date: <u>10/19/2012</u>

**DECOMMISSIONING DATA**  
(Fill in all that apply)

**WELL SCHEMATIC\***

OVERDRILLING

Interval Drilled	
Drilling Method(s)	
Borehole Dia. (in.)	<u>6 1/4" ID</u>
Temporary Casing Installed? (y/n)	
Depth temporary casing installed	
Casing type/dia. (in.)	
Method of installing	

CASING PULLING

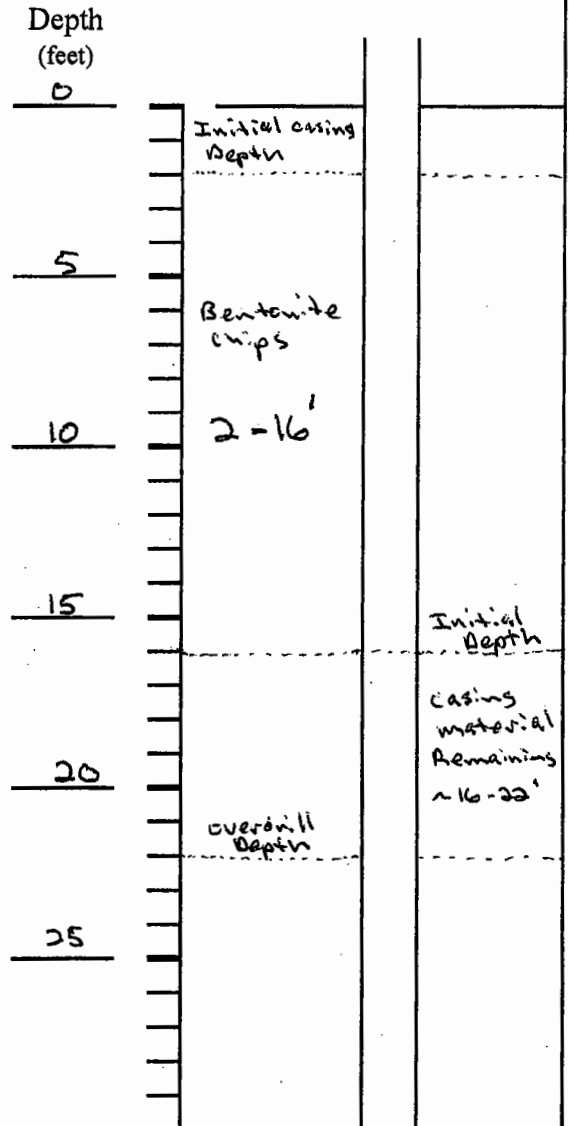
Method employed	<u>HSA Rig</u>
Casing retrieved (feet)	<u>13'</u>
Casing type/dia. (in.)	<u>Steel 14"</u>

CASING PERFORATING

Equipment used	
Number of perforations/foot	
Size of perforations	
Interval perforated	

GROUTING

Interval grouted (FBLs)	<u>0-16</u>
# of batches prepared	
For each batch record:	
Quantity of water used (gal.)	
Quantity of cement used (lbs.)	
Cement type	
Quantity of bentonite used (lbs.)	<u>350</u>
Quantity of calcium chloride used (lbs.)	
Volume of grout prepared (gal.)	
Volume of grout used (gal.)	



**COMMENTS:** 8 feet of screen recovered plus  
unknown amount of unwound wire from  
screen

\* Sketch in all relevant decommissioning data, including:  
 interval overdrilled, interval grouted, casing left in hole,  
 well stickup, etc.

Drilling Contractor

Department Representative