EXHIBIT D:

Proposed Environmental Land Use Controls for Powerton

MIDWEST
GENERATION EME, LLC

Ann L. Hanrahan
Senior Environmental
Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Powerton Station; ID No. 6282
Violation Notice W-2012-00057

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00057 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (h) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the area of the proposed Groundwater Management Zone (GMZ; application provided under separate cover). The proposed ELUC is to be submitted to IEPA within 90 days of the effective date of the CCA.

Attached is a proposed ELUC for the Powerton Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC.

The areal extent of the proposed ELUC is provided with the attached documentation (Exhibit B Figure B-5). Groundwater flow within the silt/clay unit in the vicinity of the subject ash basins is in a westerly direction with discharge to the adjoining intake channel and groundwater flow within the gravelly sand unit is to the north with discharge to the Illinois River. The western (downgradient) extent of the proposed GMZ corresponds with the hydraulic boundary formed by the intake channel. The northern extent corresponds with the hydraulic boundary formed by the Illinois River. The southern and eastern boundaries are defined by the property boundary. The vertical extent of the GMZ would be defined by the top of the Carbondale Formation which is estimated to be approximately 70 feet below ground surface based on other site boring logs from other portions of the property.

233 Remington Blvd
Suite A
Bolingbrook, IL 60440
Tel: 630 771 7855
Fax: 630 226 0815
ahanrahan@mwgen.com

This submittal fulfills the requirements set forth under Item 5 (h) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. Joseph Heredia, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Powerton Station, 13082 E. Manito Road, Pekin, Illinois 61554 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Tazewell, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Tazewell County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control or until the IEPA, upon written request, issues a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. **Future Improvement of Property**: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _ _____)

I, _____the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. 10-10-09-100-004 (Partial)

Exhibit A

The subject property is located in the City of Pekin, Tazewell County, State of Illinois, commonly known as Powerton Station, Pekin, Illinois and more particularly described as:

COMMON ADDRESS:

Powerton Station (portion)
13082 E. Manito Road
Pekin, Illinois 61554

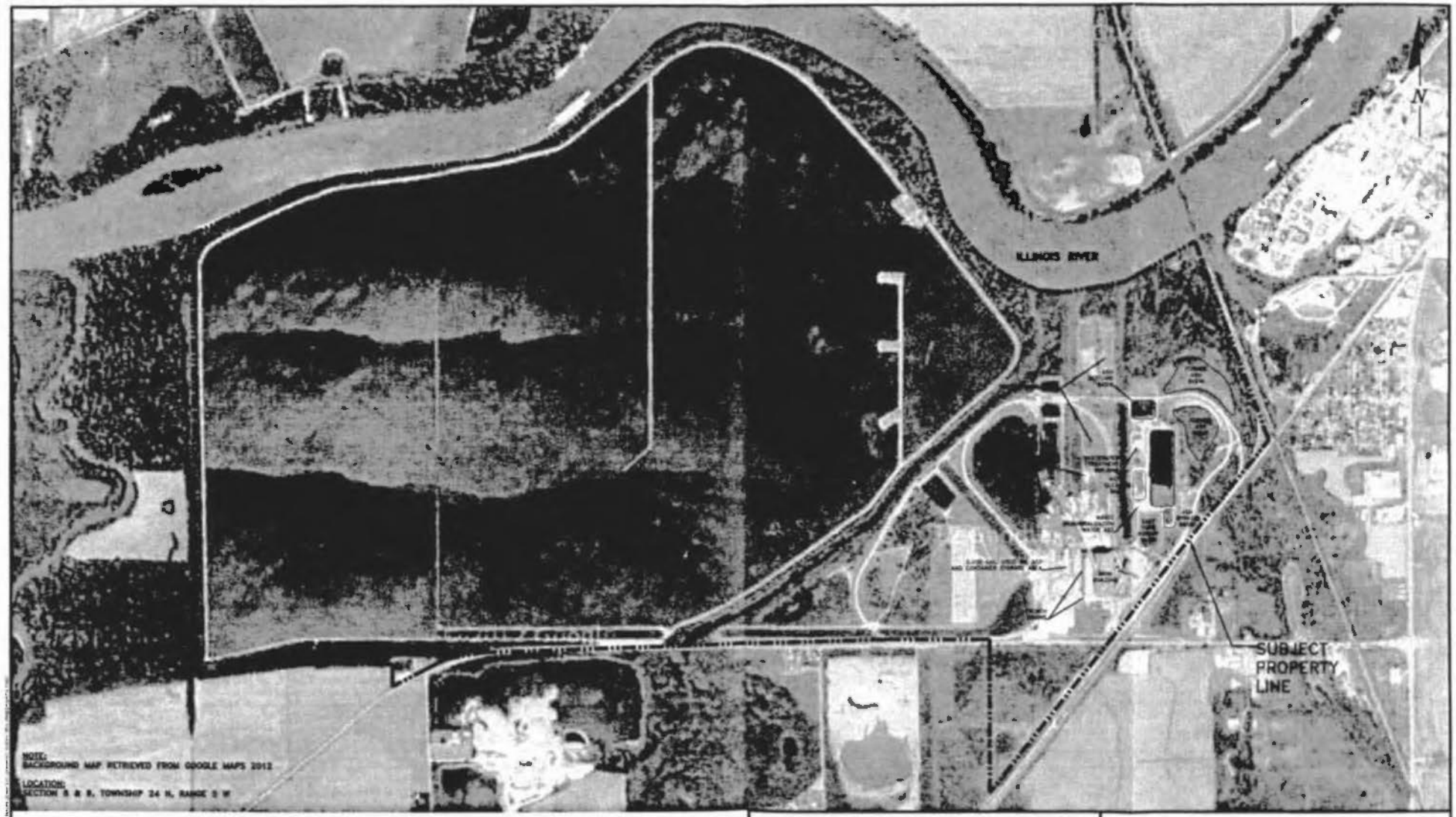
LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

10-10-09-100-004 (Partial)

EXHIBIT B
Maps



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

PROPERTY MAP WITH BOUNDARY LINE

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 1,200' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-1

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

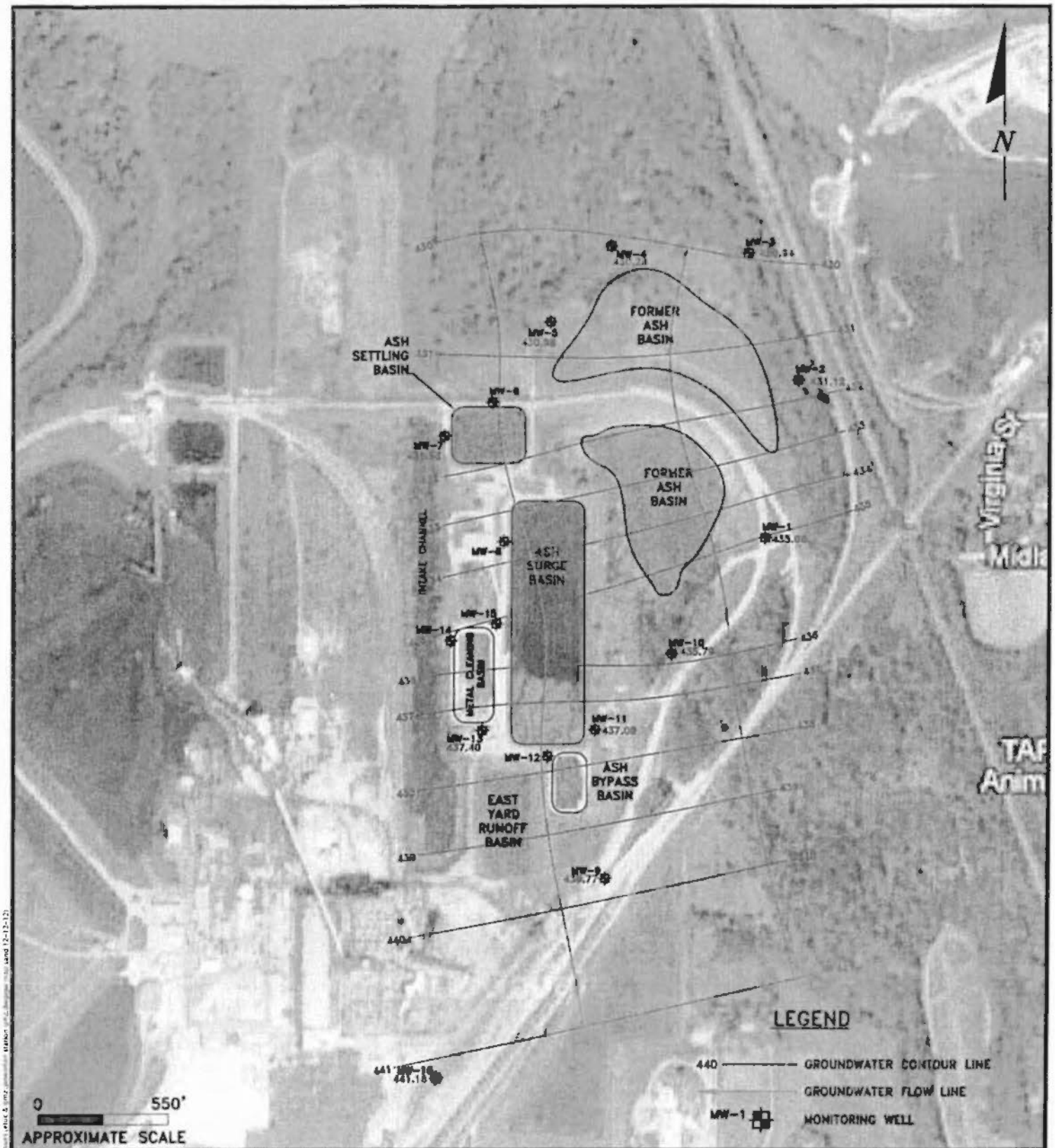
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 12/12/2012

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550'	Date: January 17, 2013
KPRG Project No. 18311.21	EXHIBIT B-2



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

414 Plaza Drive, Suite 105 Westmont, Illinois 60559 Telephone 630-325-1160 Facsimile 630-325-1593

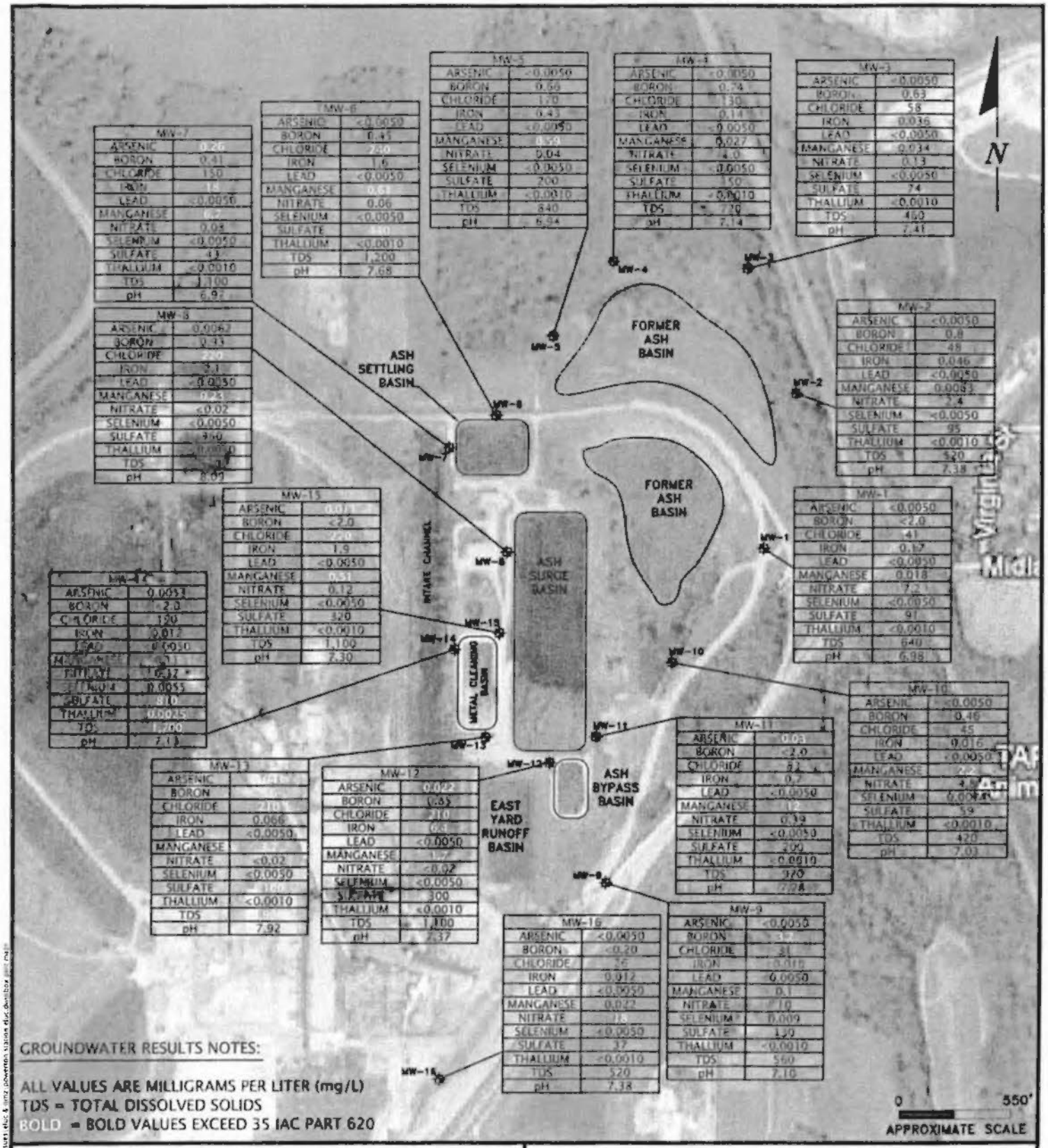
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 12/12/2012

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-3



GROUNDWATER RESULTS NOTES:

ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

410 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1530 Facsimile 630-325-1591

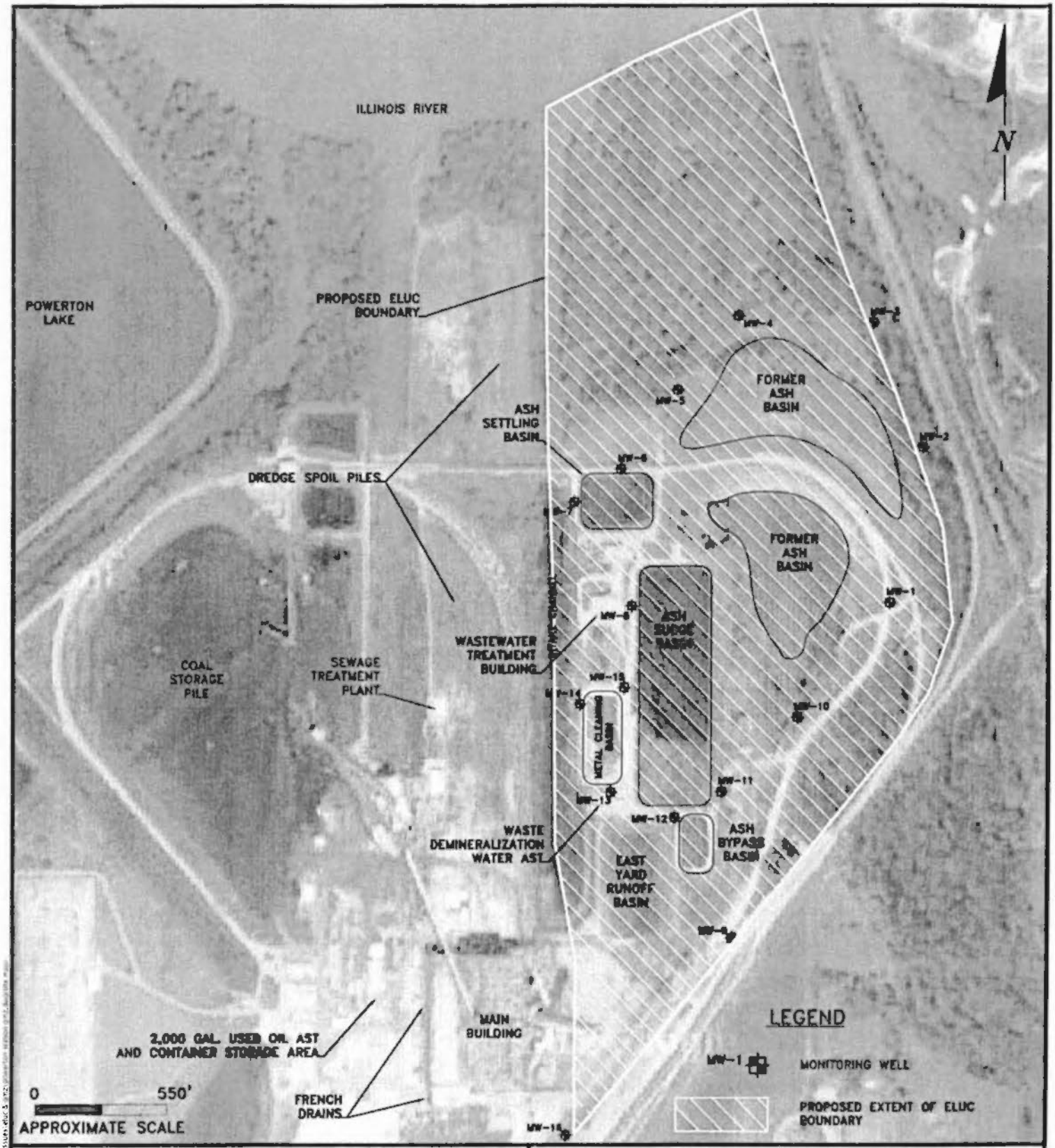
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-4



ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG
KPRG and Associates, Inc.
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED ELUC BOUNDARY

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-5

EXHIBIT E:

Environmental Land Use Controls for Waukegan

MIDWEST GENERATION EME, LLC
An EDISON INTERNATIONAL® Company

Amy L. Hanrahan
Senior Environmental Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Waukegan Station; ID No. 6281
Violation Notice W-2012-00056

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00056 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (f) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the remaining Waukegan Station property to the east that is not already included in the existing ComEd Former Tannery Site ELUC. The proposed ELUC extension is to be submitted to IEPA within 90 days of the effective date of the CCA.

The areal extent of the proposed ELUC extension is provided with the attached documentation (Exhibit B Figure B-4). The western boundary of the proposed ELUC extension abuts the boundary of the existing ELUC. The south boundary is defined by the existing property line. The east boundary is Lake Michigan and the north boundary is defined by the northern extent of the ash pond system. The proposed vertical extent of the ELUC is the unconsolidated overburden deposits overlying the Silurian dolomite bedrock beneath the site. The estimated vertical thickness of the unconsolidated deposits is 100 feet below ground surface based on information provided in the Hydrogeologic Assessment Report dated February 2011 that was submitted to the IEPA.

Attached is a proposed ELUC for the Waukegan Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC. This submittal fulfills the requirements set forth under Item 5 (f) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. Robert Chmielewski, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Waukegan Station, 401 E. Greenwood Avenue, Waukegan, Illinois 60087 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Lake, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Lake County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control or until the IEPA, upon written request, issues a no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. Future Improvement of Property: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. Future Monitoring: Until such time as this ELUC is released or modified pursuant to the terms of Section Four above, Property Owner shall conduct the following groundwater monitoring program on the Property:

> Monitoring wells MW-1 through MW-7 surrounding the East and West Ash Ponds will be sampled as required under Item 5 (d) of the CCA. These wells will continue to be monitored on a quarterly basis for constituents listed in 35 IAC 620.410(a), with the exception of radium 226/228. The monitoring data will be reported to IEPA within 30 days of the end of each quarter. In addition, an updated groundwater potentiometric surface map will be provided with each quarterly submittal. IEPA, upon written request, may approve a reduction in the frequency and scope of the sampling program in the future. Upon the IEPA's approval, the approved changes in the frequency and scope of the monitoring

program shall be implemented. A change in the frequency and scope of the monitoring program does not require the filing of a modification of this ELUC in the chain of title for the Property.

Section Seven. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _____)

I, _____the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. 08-15-200-006 (partial)

EXHIBIT A

The subject property is located in the City of Waukegan, Lake County, State of Illinois, commonly known as Waukegan Station, Waukegan, Illinois and more particularly described as:

COMMON ADDRESS:

Waukegan Station (portion)
401 E. Greenwood Avenue
Waukegan, Illinois 60087

LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

08-15-200-006 (partial)

EXHIBIT B
Maps

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

414 Plaza Drive, Suite 176 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1331

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

SITE MAP WITH PROPERTY BOUNDARY

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 550'	Date: January 14, 2013
KPRG Project No. 18311.31	EXHIBIT B-1

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1380 Facsimile 630-325-1553

14663 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/2012

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 14, 2013

KPRG Project No. 18311.31 | EXHIBIT B-2

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

414 Plaza Drive, Suite 136 Westmont, Illinois 60559 Telephone 630-325-1100 Facsimile 630-325-1990

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500'	Date: January 14, 2013
KPRG Project No. 18311.3	EXHIBIT B-3

0 500'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1100 Facsimile 630-325-1581

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED ELUC BOUNDARY EXTENSION

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 14, 2013

KPRG Project No. 18311.31 | EXHIBIT B-4

EXHIBIT F:

Proposed Environmental Land Use Controls for Will County

MIDWEST GENERATION EME, LLC

Amy L. Hanrahan
Senior Environmental Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Will County Station; ID No. 6283
Violation Notice W-2012-00058

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00058 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (h) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the area of the proposed Groundwater Management Zone (GMZ; application provided under separate cover) with the exception of that portion of the GMZ which is owned by ComEd. The proposed ELUC is to be submitted to IEPA within 90 days of the effective date of the CCA.

Attached is a proposed ELUC for the Will County Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC.

The areal extent of the proposed ELUC is provided with the attached documentation (Exhibit B Figure B-4). Groundwater flow in the vicinity of the subject ash ponds is in a westerly direction with discharge to the adjoining Des Plaines River. The western (downgradient) extent of the proposed ELUC corresponds with this hydraulic boundary. The eastern boundary is defined by the Chicago Sanitary and Ship Canal (CSSC) which forms a hydraulic boundary on the east side of the facility. The north and south sides of the proposed ELUC are based on the flow system and location of the four ash ponds. The vertical extent of the ELUC would be the first underlying aquitard identified as the Maquoketa Shale, approximately 140 feet below ground surface. The ELUC would

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Bolingbrook, IL 60440
Tel: 630 771 7864
Fax: 919 225 0815
ahanrahan@mwgen.com

therefore vertically include the unconsolidated overburden and the Silurian dolomite, both of which are hydraulically connected and overlie the Maquoketa Shale.

This submittal fulfills the requirements set forth under Item 5 (h) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Ms. Rebecca Maddox, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Will County Station, 529 E. 135th Street, Romeoville, Illinois 60446 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property.

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Will, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Will County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control; or until the IEPA, upon written request, issues a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. Future Improvement of Property: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _____)

I, _____ the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. : 11-04-02-300-007-0000
(Partial)
11-04-02-100-030-0020
(Partial)

Exhibit A

The subject property is located in the City of Romeoville, Will County, State of Illinois, commonly known as Will County Station, Romeoville, Illinois and more particularly described as:

COMMON ADDRESS:

Will County Station (portion)
529 E. 135th Street
Romeoville, Illinois 60446

LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

11-04-02-300-007-0000 (Partial)
11-04-02-100-030-0020 (Partial)

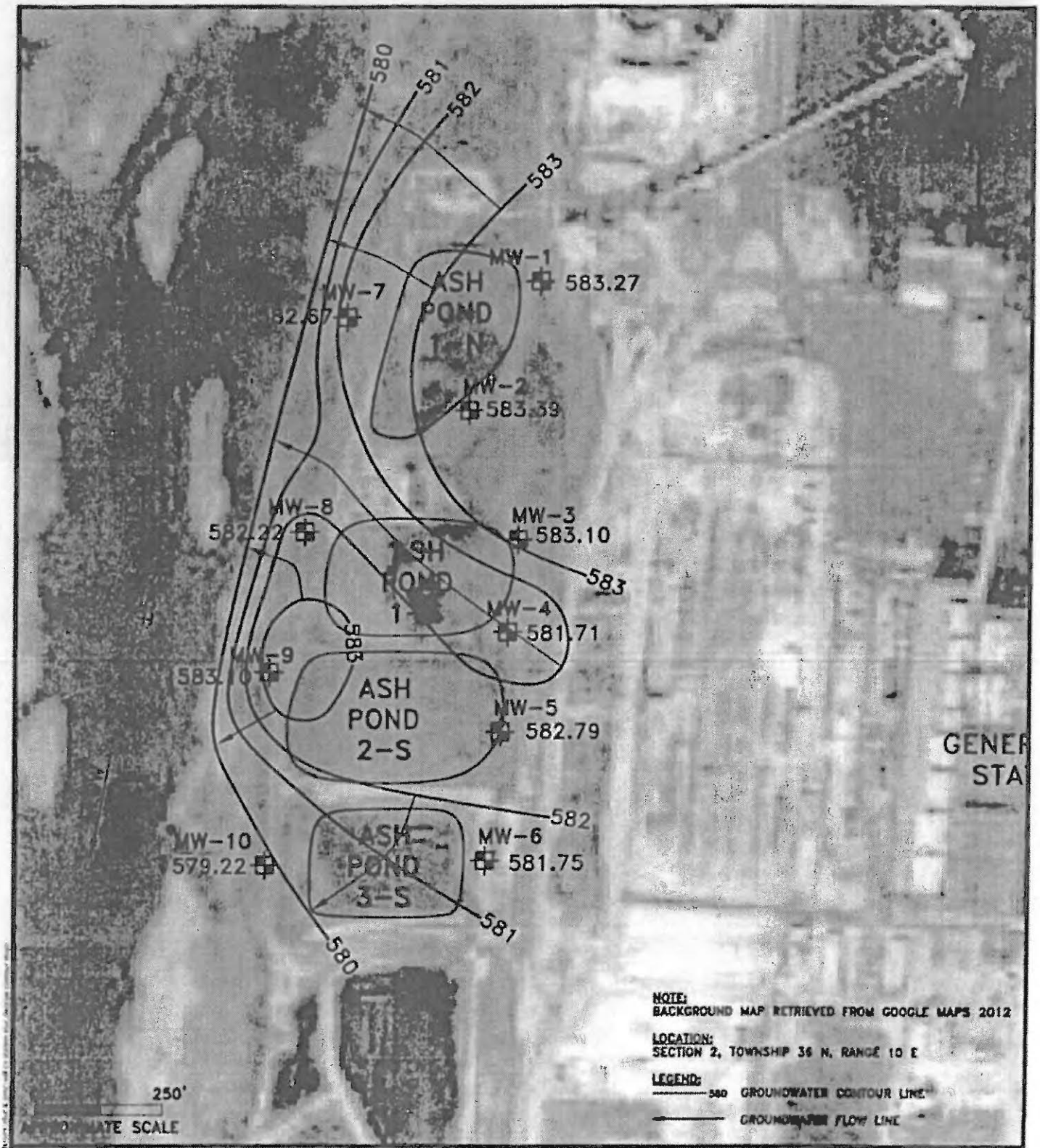
EXHIBIT B
Maps

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

PROPERTY MAP WITH BOUNDARY LINE	
WILL COUNTY STATION ROMEOVILLE, ILLINOIS	
Scale: 1" = 500'	Date: January 17, 2013
KPRG Project No. 18311.41	EXHIBIT B-1



ENVIRONMENTAL CONSULTATION & REMEDIATION

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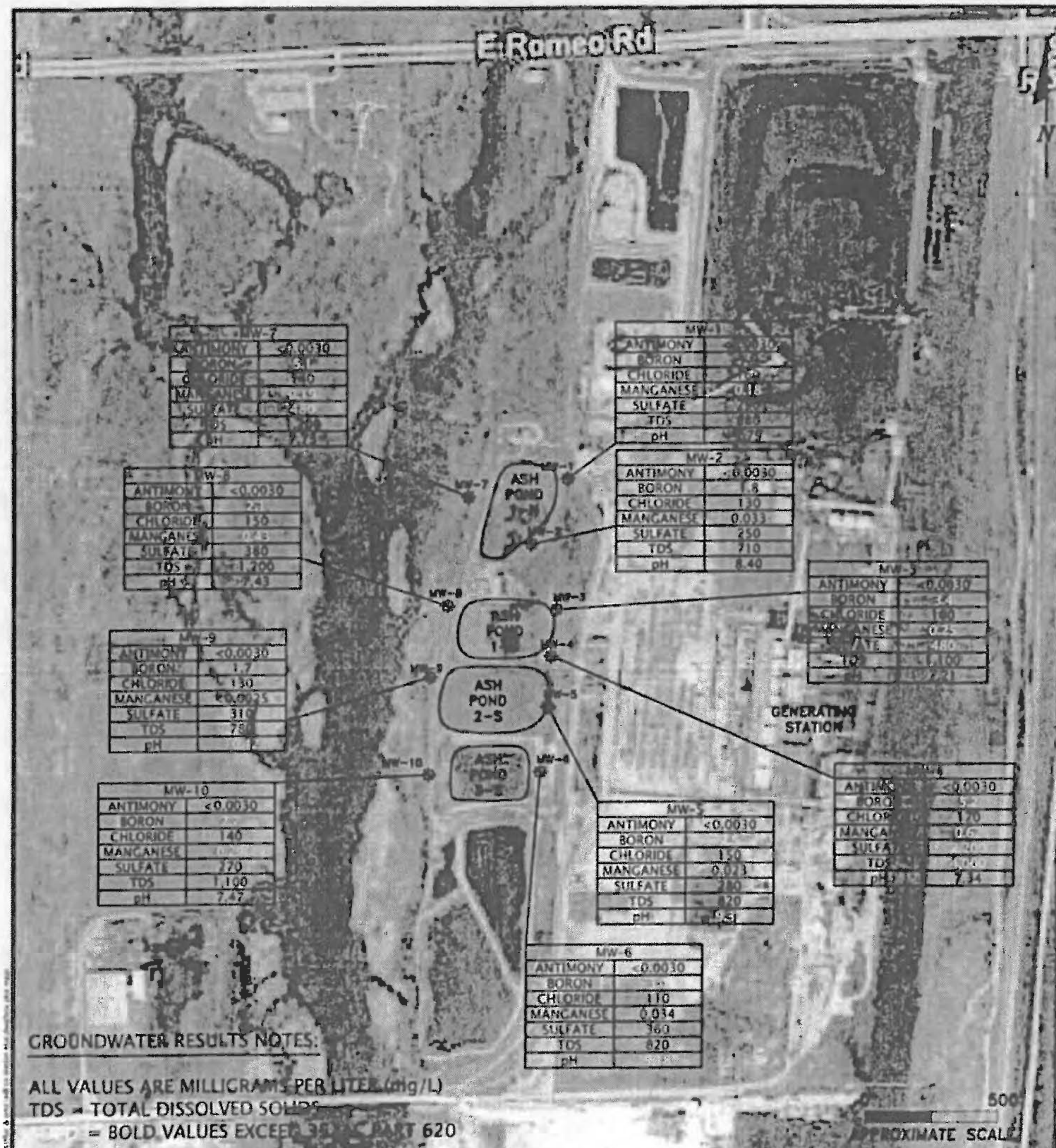
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1400 Facsimile 630-325-1393

16665 West Lisbon Road, Suite 7E Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/18/12

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'	Date: January 14, 2013
KPRG Project No. 18311.41	EXHIBIT B-2



ENVIRONMENTAL CONSULTATION & REMEDIATION

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AREAL DISTRIBUTION OF GROUNDWATER IMPACTS	
WILL COUNTY STATION ROMEOVILLE, ILLINOIS	
Scale: 1" = 500'	Date: January 17, 2013
KPRG Project No. 18311.41	EXHIBIT B-3

ENVIRONMENTAL CONSULTATION & REMEDIATION

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PROPOSED ELUC BOUNDARY

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500'	Date: January 14, 2013
KPRG Project No. 18311.41	EXHIBIT B-4

EXHIBIT G:

Expert Declaration of Dr. Remy J.-C. Hennet

In the Matter of:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
	)	PCB No-2013-015
Complainants,	)	(Enforcement – Water)
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondents	)	

DECLARATION OF DR. REMY J.-C. HENNET

1. My name is Remy J.-C. Hennet. I reside in Bethesda, MD. I am 57 years old and capable of making this declaration.

2. I am a Principal with S.S. Papadopulos & Associates, Inc. I have over 25 years of research and field experience in investigating the origin, fate, and transport of organic and inorganic chemicals in the environments. My areas of expertise include the interpretation of chemical data, the analysis of geochemical fingerprints, and geochemical modeling. I hold a Ph.D. degree in geochemistry and a Master's degree in Geology from Princeton University, and university degrees in hydrogeology and geology from the University of Neuchatel, Switzerland. I have authored or co-authored over thirty publications on both inorganic and organic geochemistry, and have conducted numerous studies in the fields of environmental characterization, remediation, monitoring, cost allocation, and litigation. I was awarded the Woods Hole Oceanographic Institution's Postdoctoral Scholarship in 1987, and am a member of the American Academy of Forensic Sciences, the American

Chemical Society, the Geochemical Society of America, and the National Ground Water Association.

3. My Curriculum vitae with a list of publications, depositions, and court testimony is attached as Exhibit G.

4. I was retained by the Complainants to assist in ongoing litigation over groundwater contamination at four coal-fired power plants owned by Midwest Generation in Illinois, namely the Joliet 29, Powerton, Waukegan, and Will County power plants. In this capacity, I have been asked to review documents specific to each plant related to hydrology, geochemistry and geology. I reviewed the data and information that evidence and characterize the degree and spatial extent of groundwater contamination at each of the four coal power plants.

5. In preparing this declaration, I was specifically asked to review the adequacy of four Compliance Commitment Agreements ("CCA") concerning the Joliet 29, Will County, Waukegan and Powerton power plants which were entered into between the Illinois Environmental Protection Agency ("IEPA") and Midwest Generation on October 24, 2012. (*See* Mot. to Dismiss, Ex. 1-4.) I evaluated the ability of each CCA to remedy ongoing groundwater contamination and violations at each of the four power plant sites. To conduct my evaluation I considered the available data and information for each of the four coal power plants and the commitments described within the four CCAs. Based on my review of these data, information and commitments, I reached conclusions on the adequacy of the CCAs to remedy ongoing groundwater contamination and violations at each of the four sites. To determine the extent of contamination at each of the four sites, I considered the violations of Illinois Groundwater Quality Standards alleged in the Complaint, Midwest

Generation's groundwater monitoring reports, the groundwater quality criteria as defined under 40 C.F.R. § 257, Appendix I, and the Illinois Class I and Class II Groundwater Quality Standards. (Compl. ¶¶ 42-63.)

6. Based on my evaluation and thorough review of the available data and information, of Midwest Generation's groundwater monitoring reports, and of the terms and conditions of the CCA for each of the four coal power plants, it is my scientific opinion that implementing the commitments described in the CCAs will not remedy the existing groundwater contamination at any of the four coal power plant sites, and the violations of Illinois Groundwater Quality Standards, as alleged in the Complaint, are unlikely to be addressed by the commitments described in the CCAs for the four coal power plants. (*See* Mot. to Dismiss, Ex. 1-4; *see also* Ex. J, K, L.)

7. In my scientific opinion, remediation of the existing groundwater contamination at the four sites would require, at a minimum, removal of the coal ash and waste materials that are in contact with groundwater at Will County and Waukegan, and the pumping and treating of the already-contaminated groundwater at Joliet 29, Powerton, Waukegan, and Will County. Removal of coal ash and waste materials, including contaminated fill, together with groundwater pumping and treatment, is the appropriate and necessary remedy where such materials are in contact with groundwater. Where groundwater is not in contact with coal ash or contaminated fill materials but contaminated groundwater results from the leaching of those materials, removal of the contaminated materials coupled with groundwater pumping and treatment is the appropriate and necessary remedy. Where the source of groundwater contamination cannot be determined, pumping to capture groundwater in the contaminated area and treatment is the appropriate and necessary remedy. Under all

circumstances, groundwater pumping and treatment is required for as long as monitoring indicates that contaminated groundwater is present. The extent of coal ash and waste materials removal and the extent and duration of groundwater pumping are site-specific determinations that depend on the history of site operations and the nature of the soils and subsurface at the individual sites. The appropriate methods of groundwater treatment at each site would be determined by a site-specific analysis.

8. The CCAs include actions that are already mandated for normal operations at the four facilities. The committed additions of monitoring wells and closure or lining of ponds are most likely insufficient to resolve the alleged violations. (Mot. to Dismiss, Ex. 1, ¶¶ (d)-(f), Ex. 2, ¶¶ (d), (f), Ex. 3, ¶¶ (d)-(e), Ex. 4, ¶¶ (d)-(e).)

9. The commitments to establish a Groundwater Monitoring Zone ("GMZ") at Joliet 29, Powerton, and Will County (Mot. to Dismiss, Ex. 1, ¶¶ 5(g),(j), Ex. 2, ¶¶ 5(g),(i), Ex. 3, ¶¶ 5(f)-(g)), and to establish an Environmental Land Use Control ("ELUC") at Powerton, Waukegan, and Will County (*Id.*, Ex. 1, ¶¶ 5(h)-(i), Ex. 2, ¶¶ 5(h)-(i), Ex. 4, ¶¶ 5(f)-(g)) are reasonable. However, based on my review of the GMZ applications Midwest Generation submitted for each site, it is my scientific opinion that the proposed GMZs for Joliet 29, Powerton, and Will County are inadequate commitments to address the violations and remedy groundwater contamination; this is discussed further in paragraphs 12, 13, and 15 below. (*See* Ex. J, K, L.)

10. For the four coal power plant sites, the compliance activities mandated by paragraph 5, subparagraphs (a) through (c) in each of the four CCAs represent commitments that are already required for normal operations at these facilities, and thus do not impose any new obligations to the operator of the four coal power plants. (Mot. to Dismiss, Ex. 1-4, ¶¶

5(a)-(c).) The commitment not to use the operating ash ponds as permanent disposal is not new because the use of ponds for processing coal ash already requires the accumulated ash to be periodically removed, and therefore I do not anticipate this commitment to have any substantial effect on the ongoing groundwater contamination. (*Id.* ¶¶ 5(a).) The commitment to maintain and operate the ash ponds in a manner that protects the integrity of the existing liners is normal operation and maintenance for coal ash ponds, and I do not anticipate this to improve groundwater protection at any of the sites unless prior maintenance of the pond liners was inadequate. (*Id.* ¶¶ 5(b).) The commitment to visually inspect the ash ponds to identify any signs of a breach in the integrity of the pond liners is also normal operation and maintenance for coal ash ponds, and I do not anticipate this to improve groundwater impacts unless past breaches were ignored or unnoticed. (*Id.* ¶¶ 5(c).)

11. The inadequacy of the CCAs is further amplified by the fact that Midwest Generation may install dry sorbent injection systems to control sulfur dioxide emissions at some or all of the units at Joliet 29, Powerton, Will County, and Waukegan. (*See* Midwest Generation 2011 Annual 10-K Report, attached hereto as Exhibit H; *see also* Construction Permit to install Dry Sorbent Injection systems at Powerton, attached hereto as Exhibit I.) As a geochemist, it is my opinion that the use of sorbent to control sulfur dioxide emissions generates a waste stream that is highly leachable. Dry sorbent injection systems are implemented to decrease the concentrations of sulfur oxides in power plant flue gas emissions. The chemicals that dry sorbent injection help remove include sulfur oxides (SO_x), nitrogen oxides (NO_x), hydrogen sulfide, hydrochloric acid, hydrofluoric acid, and mercury. The dry sorbent reacts with chemicals in flue gas and the spent sorbent is a waste stream that

contains elevated sulfate, sodium, chloride, fluoride, mercury, and other chemicals. Once the spent sorbent is commingled with coal ash for disposal, the chemical load of the spent sorbent becomes part of the coal ash waste. The chemicals in the spent sorbent can readily be leached when water comes into contact with waste materials. In addition, the presence of spent sorbent with coal ash increases the ionic strength of the water contacting the waste (i.e., increased dissolved sodium, sulfate, chloride). The higher ionic strength condition will result in increased leaching of the hazardous substances that are "sorbed" onto the coal ash. I am aware of studies that support the conclusion that the mixing of spent sorbent with coal ash leads to an increase of the leachability of arsenic, selenium, sulfate, and other constituents from coal ash. In my scientific opinion, the use of dry sorbent injection and the disposal of the sorbent waste stream with coal ash at the Midwest Generation plants are likely to increase the amount of hazardous substances and other coal ash constituents released from the ponds and waste piles that receive the coal ash waste. The measures proposed in the CCAs are inadequate to address the increased leachable load from the generation of a spent sorbent waste stream at the power plants.

12. Joliet 29. Based on the groundwater monitoring data, IEPA issued a Violation Notice on June 11, 2012 (W-2012-00059). (Compl., Ex. K.) Groundwater at the Joliet 29 site is contaminated by pollutants that include antimony, boron, chloride, iron, manganese, and sulfate. (Compl. ¶ 53.) In addition, groundwater is affected by high Total Dissolved Solids ("TDS"). (*Id.*) In my scientific opinion, the additional commitments in the CCA for Joliet 29 would not remedy the noticed and alleged violations at this particular power plant because:

a. The additional commitments in the CCA for Joliet 29 require neither removal of contaminated materials nor treatment of groundwater to remove existing contamination. (Mot. to Dismiss, Ex. 3, ¶ 5.) It is my scientific opinion that the alleged violations and existing groundwater contamination cannot be remedied without, at minimum, groundwater pumping and treatment at Joliet 29. Determining adequate methods and extent of treatment would require a site-specific analysis depending on the contaminants present and the subsurface conditions in the groundwater environment itself. For example, because antimony, boron, chloride, iron, manganese, and sulfate are pollutants of concern at Joliet 29 (Compl. ¶ 53), several types of treatment that include reverse osmosis or ion exchange could be used to remove those pollutants from the groundwater. Nothing in the additional commitments requires Midwest Generation to address the already contaminated groundwater at Joliet 29. (Mot. to Dismiss, Ex. 3, ¶ 5.)

b. The commitment to monitor the existing wells on a quarterly basis will not in itself address the alleged violations. (*Id.* ¶ 5(d).)

c. Data from the existing monitoring wells is insufficient for purposes of fulfilling the commitment to produce a meaningful potentiometric surface map on a quarterly basis. In my scientific opinion, additional monitoring wells would be required, in particular wells up-gradient from the ponds, to adequately monitor a water table mounding that would be indicative of pond leakage and to confirm the apparent water table mounding at MW-9.

d. The commitment to monitor quarterly for constituents in 35 Ill. Adm. Code § 620.410(a) is limited to inorganic constituents. (*Id.*) The monitoring of inorganic

constituents is not sufficient to monitor site activities that include handling and storage of materials that contain organic substances and waste generation from the burning of coal. The monitoring requirements should be amended to include additional parameters to monitor site-related organic substances. In my scientific opinion, at a minimum pH, phenols, BTEX (benzene, toluene, ethylbenzene and xylenes), and polycyclic aromatic hydrocarbons should be part of site characterization and monitoring. The CCAs for the three other sites (Powerton, Waukegan, and Will County) require quarterly monitoring for constituents under both (a) and (d) of 35 Ill. Adm. Code § 620.410. (Mot. to Dismiss, Ex 1, ¶ 5(d), Ex. 2, ¶ 5(d), Ex. 4, ¶ 5(e).) There is no explanation as to why monitoring for constituents in 35 Ill. Adm. Code § 620.410(d) would not also be required at Joliet 29.

e. The commitment to re-line Pond #3 with a high-density polyethylene ("HDPE") liner might improve groundwater quality at some of the wells next to the pond and down gradient from the pond. (Mot. to Dismiss, Ex. 3, ¶ 5(e).) However, re-lining of Pond #3 will most likely not improve groundwater impacts in the other contaminated monitoring wells at the site.

f. The commitment to establish a GMZ (*Id.* ¶¶ 5(f), (g)) might address some of the noticed and alleged violations at the Joliet 29 site. However, based on my review of the GMZ application for Joliet 29, attached hereto as Exhibit J, the GMZ commitment does not prevent contaminated groundwater from migrating and eventually discharging to the intake channel. (*See* Ex. J.) There are no monitoring points along the intake channel and the chemical composition of the groundwater

that actually discharges to the channel has not been sampled and analyzed. In my scientific opinion, the commitments in the CCA and the GMZ will not address these deficiencies. (*See id.*; Mot. to Dismiss, Ex. 3, ¶¶ 5(f), (g).)

13. Powerton. Based on the groundwater monitoring data, IEPA issued a Violation Notice on June 11, 2012 (W-2012-00057). (Compl., Ex. L.) Groundwater at the Powerton site is contaminated by pollutants that include arsenic, boron, chloride, iron, lead, manganese, mercury, nitrate, selenium, sulfate, and thallium. (Compl. ¶ 56.) In addition, groundwater is affected by elevated pH and high TDS. (*Id.*) In my scientific opinion, the additional commitments in the CCA for Powerton would not remedy the noticed and alleged violations at this particular power plant because:

a. The additional commitments in the CCA for Powerton require neither removal of contaminated materials nor treatment of groundwater to remove existing contamination. (Mot. to Dismiss, Ex. 1, ¶ 5.) It is my scientific opinion that the alleged violations and existing groundwater contamination cannot be remedied without, at minimum, groundwater pumping and treatment at Powerton. Determining adequate methods and extent of treatment would require a site-specific analysis depending on the contaminants present and the subsurface conditions in the groundwater environment itself. For example, because arsenic, boron, chloride, iron, lead, manganese, mercury, nitrate, selenium, sulfate, and thallium are pollutants of concern at Powerton (Compl. ¶ 56), several types of treatment that include reverse osmosis or ion exchange could be used to remove those pollutants from the groundwater. Nothing in the additional commitments

requires Midwest Generation to address the already contaminated groundwater at Powerton. (Mot. to Dismiss, Ex. 1, ¶ 5.)

b. The Commitment to install one additional monitoring well and to monitor new and existing wells on a quarterly basis will not in itself address the alleged violations. (*Id.* ¶¶ 5(d), (f).)

c. Data from the existing monitoring wells is insufficient for purposes of fulfilling the commitment to produce a meaningful potentiometric surface map on a quarterly basis. (*Id.* ¶ 5(d).) In my scientific opinion, additional monitoring wells in the silt/clay unit to the east of the ponds would be required to adequately monitor the water table mounding that would be indicative of pond leakage. Furthermore, groundwater quality to the west of the intake channel has not been sampled and analyzed; there are no monitoring wells identified in that portion of the site. That area of the site hosts the coal pile and three ponds that have not been investigated for releases to groundwater. The extent of contamination to the west of the intake channel is unknown and needs to be characterized to delineate the full extent of groundwater contamination at the Powerton site. The commitments in the CCA will not address these deficiencies. (*Id.* ¶ 5.)

d. The commitment to re-line the Ash Surge Basin and the Secondary Ash Settling Basin with a HDPE liner will provide better groundwater protection around those basins. (*Id.* ¶ 5(e).) Re-lining the two basins with HDPE liners might improve groundwater quality at the monitoring wells down gradient or close-by to the basins. However, this measure will not remedy violations at up gradient and far away wells. The measures will most likely not prevent the continuous release of

contaminants to groundwater from impacted materials that will remain in place beneath and around the lined basins.

e. The commitment to segregate the East-Yard Run-off Basin from the ash sluicing flow system may result in a reduction in the volume of waste stream discharged by the plant. (*Id.* ¶ 5(l).) The commitment to provide monitoring for a minimum of 4 quarters and provide monitoring results from water contained in the East-Yard Run-off Basin will provide useful data and information to characterize the nature and discharge volume of run-off at the site. However, the commitment is likely of too short a duration (i.e., 1 data point per season) to provide the necessary data and information to characterize the variability in composition and volume for run-off events at the site. (*Id.*)

f. To the extent that such activities went on for many years, the commitment to stop using unlined areas for permanent or temporary ash storage or ash handling may not have a substantial effect on groundwater quality in the monitoring wells at the Powerton power plant. (*Id.* ¶ 5(m).)

g. The commitment to establish a GMZ and enter into an ELUC might address some of the noticed and alleged violations. (*Id.* ¶¶ 5(g), (h), (i), (j).) However, the GMZ commitment for the Powerton site does not address groundwater in the area west of the intake channel that hosts the coal pile and three ponds. (*Id.* ¶¶ 5(g), (j); *see also* Ex. K.) In my scientific opinion, it is likely that groundwater in that portion of the site is impacted by contaminants from the coal pile and ash ponds. Based on my review of the GMZ application for Powerton, attached hereto as Exhibit K, the GMZ commitment does not prevent contaminated groundwater

from migrating and eventually discharging to the river and the intake channels. (*See* Ex. K.) In my scientific opinion, the commitments in the CCA and the GMZ will not address these deficiencies. (*See id.*; Mot. to Dismiss, Ex. 1, ¶¶ 5(g), (j).)

14. Waukegan. Based on the groundwater monitoring data, IEPA issued a Violation Notice on June 11, 2012 (W-2012-00056). (Compl., Ex. M.) Groundwater at the Waukegan site is contaminated by pollutants that include antimony, arsenic, boron, chloride, iron, manganese, and sulfate. (Compl. ¶ 59.) In addition, groundwater is affected by elevated pH and high TDS down gradient from the ponds. (*Id.*) In my scientific opinion, the additional commitments in the CCA for Waukegan will not remedy the violations alleged at this particular power plant because:

a. Portions of the coal ash and waste materials in Ash Pond 1 and Ash Pond 2 at Waukegan are situated below the water table.

b. The lining of Ash Pond 1 and Ash Pond 2 has been ineffective to protect groundwater at Waukegan.

c. Coal ash waste materials at Ash Ponds 1 and 2 will not be removed under the commitments in the CCA. (Mot. to Dismiss, Ex. 4, ¶ 5.) Coal ash and waste materials that might be present beneath the liners and/or in the submerged fill beneath or around those ponds needs to be removed to remedy existing groundwater contamination and to prevent further groundwater contamination. Absent adequate removal of the materials that are the source of contamination, groundwater contamination will persist indefinitely. Because nothing in the CCA requires removal of the coal ash and waste materials that cause groundwater

contamination at Ash Pond 1 or Ash Pond 2, the additional commitments in the CCA for Waukegan will not remedy the noticed and alleged violations. (*See id.*)

d. The additional commitments in the CCA for Waukegan do not require treatment of groundwater to remove existing contamination. (*Id.*) It is my scientific opinion that the alleged violations and existing groundwater contamination cannot be remedied without groundwater pumping and treatment at Waukegan. Determining adequate methods and extent of treatment would require a site-specific analysis depending on the contaminants present and the subsurface conditions in the groundwater environment itself. For example, because antimony, arsenic, boron, chloride, iron, manganese, and sulfate are pollutants of concern at Waukegan (Compl. ¶ 59), several types of treatment that include reverse osmosis or ion exchange could be used to remove those pollutants from the groundwater. Nothing in the additional commitments requires Midwest Generation to address the already-contaminated groundwater at Waukegan. (Mot. to Dismiss, Ex. 4, ¶ 5.)

e. The Commitment to install two additional monitoring wells and to monitor new and existing wells on a quarterly basis will not in itself address the alleged violations. (*Id.* ¶¶ 5(d), (e).)

f. Data from the existing monitoring wells is insufficient for purposes of fulfilling the commitment to produce a meaningful potentiometric surface map on a quarterly basis. (*Id.* ¶ 5(e).) In my scientific opinion, additional monitoring wells will be required to adequately monitor the water table mounding that would be indicative of pond leakage. The installation and monitoring of two additional

wells is insufficient to fill the data gap for drawing the potentiometric surface at the site. (*Id.* ¶¶ 5(d), (e).) The existing monitoring network has only 5 wells, 4 of which are located at the edge of Ash Pond 1 and the other at the up-gradient edge of Ash Pond 2. Groundwater is not monitored elsewhere at the site and the locations of the two new wells are not identified in the reviewed information.

g. The extent to which the CCA and ELUC commitments for Waukegan would improve or remedy groundwater contamination is unclear at this time because, to my knowledge, the site-specific terms and conditions of the ELUC have not yet been proposed or developed for this site. (*Id.* ¶¶ 5(f)-(i).)

15. Will County. Based on the groundwater monitoring data, IEPA issued a Violation Notice on June 11, 2012 (W-2012-00058). (Compl., Ex. N.) Groundwater at the Will County site is contaminated by pollutants that include antimony, boron, chloride, iron, manganese, and sulfate. (Compl. ¶ 62.) In addition, groundwater is affected by elevated pH and high TDS. (*Id.*) In my scientific opinion, the additional commitments in the CCA for Will County would not remedy the noticed and alleged violations at this particular power plant because:

a. The lining of the ponds has been ineffective to protect groundwater at Will County.

b. Portions of the coal ash and waste materials in ash ponds 1N and 1S at Will County are situated both above and below the water table.[1] The interaction of groundwater and infiltration water with coal ash materials results in the leaching of contaminants from the materials to groundwater.

[1] There is insufficient information to determine whether or not the 3 other active ash ponds and any former ponds at Will County intersect the water table.

c. The commitment to remove ponds 1N and 1S from service and to install a dewatering system to keep water levels to within no more than one foot of the bottoms of those units may result in some improvement of groundwater quality down gradient from those ponds. (Mot. to Dismiss, Ex. 2, ¶ 5(e).) However, in my scientific opinion, a one-foot separation between the water table and the coal ash waste materials that will remain in the ponds is not protective of groundwater and the removal of the coal ash and waste materials from the ponds is necessary to remedy existing groundwater contamination and to prevent further groundwater contamination. Absent adequate removal of the materials that are the source of contamination, groundwater contamination will persist indefinitely. Because nothing in the CCA requires removal of the coal ash and waste materials that cause groundwater contamination, the additional commitments in the CCA for Will County will not remedy the alleged violations. (*See id.* ¶ 5.) The operation and monitoring of the dewatering system is not described in the CCA, making it impossible to evaluate the effectiveness of that commitment at controlling the release and transport of contaminants to groundwater. (*See id.* ¶ 5(e).) The dewatering of groundwater beneath the ponds will likely require treatment prior to discharge and this aspect of the commitment is not described in the CCA.

d. The additional commitments in the CCA for Will County do not require treatment of groundwater to remove existing contamination. (*See id.* ¶ 5.) It is my scientific opinion that the alleged violations and existing groundwater contamination cannot be remedied without groundwater pumping and treatment at Will County. Determining adequate methods and extent of treatment would

require a site-specific analysis depending on the contaminants present and the subsurface conditions in the groundwater environment itself. For example, because antimony, boron, chloride, iron, manganese, and sulfate are pollutants of concern at Will County (Compl. ¶ 62), several types of treatment that include reverse osmosis or ion exchange could be used to remove those pollutants from the groundwater. Nothing in the additional commitments requires Midwest Generation to address the already-contaminated groundwater at Will County. (Mot. to Dismiss, Ex. 2, ¶ 5.)

e. The Commitment to monitor existing wells on a quarterly basis will not in itself address the alleged violations. (Mot. to Dismiss, Ex. 2, ¶ 5(d).)

f. Data from the existing monitoring wells is insufficient for purposes of fulfilling the commitment to produce a meaningful potentiometric surface map on a quarterly basis. (*Id.*) In my scientific opinion, additional monitoring wells would be required to adequately monitor the water table mounding that is indicative of pond leakage.

g. The commitment to re-line Pond 2S with a HDPE liner will likely provide better groundwater protection around this basin. (*Id.* ¶ 5(f).) However, lining the pond with HDPE liners or the equivalent will only improve groundwater quality at some of the monitoring wells down gradient from and at close proximity to Pond 2S. This measure will not remedy violations at up gradient and far away wells. The measures will most likely not prevent the continuous release of contaminants to groundwater from impacted materials that will remain in place beneath and around the lined pond.

h. The commitment to establish a GMZ and enter into an ELUC might address some of the noticed and alleged violations. (*Id.* ¶¶ 5(g), (h), (i).) I note that the GMZ for the Will County site is based on an incomplete potentiometric surface map. (*See* Ex. L, Attach. 2A.) The ponds at the site represent a mound between the river to the west and a canal to the east.[2] Under this water elevation condition the groundwater flow direction is expected to be away from the ponds toward both the river to the west and the canal to the east. The existing monitoring well network is incomplete and fails to adequately monitor groundwater between the ponds and the canal. The extent of groundwater contamination to the east of the pond is unknown and remains to be characterized.

i. Based on my review of the GMZ application for Will County, attached hereto as Exhibit L, the GMZ commitment does not prevent contaminated groundwater from migrating and eventually discharging to the river and the canal. (*See* Ex. L.) There are no monitoring points along the canal. (*See id.*) The chemical composition of the groundwater that discharges to the river and to the canal has not been sampled and analyzed. (*See id.*) In my scientific opinion, the commitments in the CCA and the GMZ will not address these deficiencies. (*See id.*; Mot. to Dismiss, Ex. 2, ¶ 5.)

16. In summary, it is my scientific opinion that the commitments described in the CCAs will not adequately remedy the ongoing groundwater contamination and violations at any of the four coal power plant sites owned and operated by Midwest Generation. The commitments

[2] The elevation of surface water in the ponds is approximately 590 feet above mean sea level (msl) and the water table under the ponds is about 583 ft msl; the elevation of surface water in the river and canal is 580 ft msl and 578 ft msl, respectively.

described in the CCAs are unlikely to result in groundwater quality meeting the criteria of Appendix I MCLs or of Illinois Class I and Class II Groundwater Quality Standards. (Compl. ¶¶ 42-62.)

17. Insofar as the relief requested by the Complainants includes remediation of the contaminated groundwater so that it meets applicable Illinois groundwater standards, the terms and conditions of the CCAs are distinct from the relief sought by the Complainants. (*See* Compl. at 18; *see also* Mot. to Dismiss, Ex. 1-4, ¶¶ 5.)

I declare under penalty of perjury under the laws of the United States of America that the forgoing is true and correct.

Dated: June 18, 2013

Remy J.-C. Hennet

GRETCHEN M. AUER
NOTARY PUBLIC STATE OF MARYLAND
My Commission Expires March 22, 2016

EXHIBIT H:

Curriculum Vitae of Dr. Remy J.-C. Hennet

REMY J.-C. HENNET

Geochemist

AREAS OF EXPERTISE

- Geochemistry, Hydrogeology, and Geology
- Origin, Fate, and Transport of Chemicals in the Environment
- Environmental Forensics
- Litigation Support

SUMMARY OF QUALIFICATIONS

A geochemist with 25 years of research and professional experience, Dr. Hennet specializes in evaluating the origin, fate, and transport of organic and inorganic chemicals in the environment. Dr. Hennet is often retained as an expert witness for litigation providing services to industry, law firms, and the U.S. Department of Justice. His areas of expertise include the analysis of geochemical fingerprints, the evaluation of the timing of chemical releases, allocation of responsibilities, geochemical modeling, and the evaluation and application of novel on-site technologies to solve environmental problems. He is a member of the American Academy of Forensic Sciences, the American Chemical Society, and the Association of Groundwater Scientists and Engineers. He was awarded the Woods Hole Oceanographic Institution's Postdoctoral Scholarship in 1987 and has numerous publications in the fields of inorganic and organic geochemistry.

YEARS OF EXPERIENCE: 25+

EDUCATION

PhD - Geochemistry, Princeton University, 1987
MA - Geology, Princeton University, 1983
Diplôme - 3eme Cycle, Hydrogeologie, Université de Neuchatel, 1981
Diplôme - Geologie, Sciences Exactes, Université de Neuchatel, 1980

REGISTRATIONS

Certified Professional Geological Scientist:
No. 10572, American Institute of Professional Geologists
Licensed Professional Geoscientist:
Texas No. 425

PROFESSIONAL HISTORY

S.S. Papadopulos & Associates, Inc.
Principal, 1989 to present
Woods Hole Oceanographic Institution
Postdoctoral Scholar, 1987–1989
Princeton University
Research Assistant, 1983–1987
Teaching Assistant, 1982–1985
Université de Neuchatel
Research Assistant, 1980–1981

REPRESENTATIVE EXPERIENCE

S.S. Papadopulos & Associates, Inc., Bethesda, Maryland

- **U.S. Department of Justice** — Served as an expert witness for several environmental litigation cases. Examples of this work are the quantification of the history of benzene flux from the subsurface to ambient air following the release of military jet fuel; the evaluation of multi-source petroleum hydrocarbon releases and their individual extent; the evaluation of the impact of bleaching agent when released in a desert environment; the impact and duration of large scale pesticide applications (fumigants, herbicides, and other products); and the origin, fate, transport, and timing of the release of chlorinated solvents at several military bases.
- **Atlantic Richfield Company, Montana —** Provided technical support for natural resource damage litigation and testified as an expert witness. For the Anaconda tailings ponds site, collected data for a modeling simulation of the fate and transport of dissolved arsenic and cadmium in the alluvium beneath and down-gradient of the ponds. For the Butte mining district, evaluated the background condition for metals, arsenic, and sulfur chemical species. For the Montana Pole wood treatment site, evaluated the mobility of arsenic and pentachlorophenol (PCP) in the groundwater environment. For the Milltown Reservoir on the Clark Fork River; evaluated the background conditions and the mobility of metals and arsenic chemical species in sediments accumulated behind the reservoir.

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- **Atlantic Richfield/BP, California, Nevada —** Detailed evaluation of the design and performance of abatement measures at closed sulfur and copper mines. Application of geochemical fingerprints and modeling to evaluate the origin fate and transport of contamination.
- **Rhone Poulenc Corporation, Pennsylvania, California, and New Jersey** — Studied arsenic fixation in soil material by various physicochemical treatments as part of a collaborative effort with Pennsylvania State University, with a focus on understanding the processes that control the fixation of arsenic in soils. Advised on the interpretation of data to characterize the mobility of arsenic chemical species at the Bay Road Site in the San Francisco Bay area, and at the Factory Lane Site in New Jersey.
- **Millenium, Inc.** — Evaluation of environmental conditions and allocation of remedial costs among several parties that occupied an industrial site for different periods of time. The site was contaminated by a variety of solvent and hydrocarbon compounds.
- **Panhandle Eastern Pipeline Company** — Evaluated and characterized the fate, transport, and distribution of polychlorinated biphenyls (PCBs) in the subsurface at several sites along a major pipeline system. Pipeline liquid condensate was discharged to unlined pits located at pumping stations spread along the system. The condensate contained PCBs from the operational bleeding of oil from gas pressurization turbines. The disposal of condensate resulted in surface and subsurface contamination by PCBs and light hydrocarbon compounds. The project provided guidance in site characterization, site remediation, and to the site closure process.
- **Spectra Energy** — Evaluation of PCBs in natural gas pipeline systems.
- **Envirosafe Services Landfill, Toledo, Ohio** — Reviewed detailed organic, inorganic, and isotope data to evaluate the integrity of a large active landfill complex located in an area characterized by historical waste disposal activity.
- **Lone Pine Superfund Site, Freehold, New Jersey** — Performed data collection and interpretation to predict chemical composition for the design of a treatment facility.
- **Heleva Superfund Site, Allentown, Pennsylvania** — Conducted specialized sampling for the determination of trace amount of chlorinated hydrocarbons in acetone-rich groundwater, and acquired isotope and nutrient data to characterize subsurface conditions for natural attenuation and design of the treatment plant.
- **Love Canal (Niagara Falls, New York) and Stringfellow (Glen Avon, California) Superfund Sites** — Performed detailed data interpretations to assess the validity of expert witness' testimonies related to the fate, behavior, and migration of toxic chemicals in the subsurface.
- **Tyson Superfund Site, Pennsylvania** — Conducted a detailed technical investigation of the performance of a large vacuum-extraction system consisting of more than 250 individual extraction wells. The extraction of volatile organic compounds was impeded by subsurface heterogeneities and the presence of residual non-aqueous phase liquids in the subsurface.
- **Little Mississinewa River, Union City, Indiana, Superfund Site** — Several miles of river sediments were contaminated with waste oil containing elevated PCBs, and PCTs, PAHs, and metals. The main sources of contamination consisted of two major industrial outflows that discharged to the river over a period of several decades. Used chromatograms and raw electronic instrument response data from the analysis of about 200 samples to characterize the chemical fingerprints of both sources and to quantify relative contributions.
- **CSX Transportation, Florida** — Evaluation of the origin(s) fate and transport of arsenic in the environment.
- **Coronet Company, Florida** — Detailed evaluation of the fate and transport of boron, radium, polonium, and other chemicals in soil, ponds sediment, and groundwater at a former phosphate mining and fertilizer processing plant. Geochemical modeling.

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- **White Pine Sash Superfund Site, Missoula, Montana** — The release of wood treatment product containing pentachlorophenol (PCP) in diesel resulted in contamination of the vadose zone above a major water supply aquifer. Chlorinated-dioxins/furans were also detected in soil samples. Concurrently with the PCP product release(s), diesel/fuel oil No 2 had been released from underground storage tanks in the area. Evaluated and delineated the extent of impact of the diesel/fuel oil No 2 release independently of the PCP-diesel release(s).
- **Titan Tire Corporation, Iowa** — Evaluation of the origin of PCB contamination and the detailed review of laboratory data packages.
- **Uranium Mine Tailings, New Mexico** — Evaluated tailings piles (from the processing of uranium ore) for water balance, dewatering, contaminant flux to groundwater, the progress of groundwater plume development, and the effects of remedial measures. Recommended dose reconstruction in water wells.
- **Citizens about Rushton Rezoning, Inc., South Lyon, Michigan —** Analyzed the potential environmental and hydrogeological impacts of water treatment lagoons and infiltration spraying fields. The lagoons and spraying fields were selected as a wastewater treatment for a large residential development. The spraying fields were located on sloped glacial till that has limited permeability and capacity. Regulated surface-water bodies were located adjacent to the spraying fields and lagoons.

Woods Hole Oceanographic Institution, Woods Hole, Massachusetts

Studied the organic and inorganic chemistry of the Guaymas Basin hydrothermal system. Detailed trace analysis of metals and petroleum hydrocarbons. The research included the use of the research submarine Alvin for in-situ parameter measurements and sampling. Researched and studied the formation of natural petroleum and the effects of organic molecules' degradation and migration on the formation of geopressured zones.

Princeton University, Princeton, New Jersey

As Research Assistant, studied metal-organic interaction in natural settings, and served as Senior Thesis Advisor for an experimental study of lead-organic complexing and for an experimental study of trichloroethane in groundwater. Served as Teaching Assistant in Historical Geology and Geomorphology.

Universite de Neuchatel, Centre d'Hydrologie, Switzerland

Studied tritium in groundwater and performed related laboratory work. Conducted geochemical fingerprinting in carbonate terrains as applied to the development of water resources.

PROFESSIONAL SOCIETIES

American Academy of Forensic Sciences
American Chemical Society
American Institute of Professional Geologists
Geological Society of America
International Society of Environmental Forensics (ISEF)
National Ground Water Association – Association of Ground Water Scientists and Engineers

HONORS & AWARDS

Postdoctoral Scholar, Woods Hole Oceanographic Institution, 1987–1989
Princeton University Fellowship, 1982–1987
Swiss National Science Foundation Fellowship at Princeton University, 1981–1982
Mention Bien, Geologie, Universite de Neuchatel, 1980

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APPOINTMENTS

- 2002–2005: Geological Sciences Advisory Board, University of Alabama.
- 1996–2001: Member of Governing Board, Association of Princeton Graduate Alumni.
- 2000: Convenor, THEIS 2000 Conference: *Iron in Groundwater*, National Ground Water Association.
- 1993–1999: Technical Advisory Board, Xetex Corporation.
- 1989–1992: Member of Steering Committee, Working Group 91, Scientific Commission for Oceanic Research.

PUBLICATIONS

Hennet, R.J.-C, 2010. PCBs in the Interstate Natural Gas Transmission System – Status and Trends. White Paper prepared for the Interstate Natural Gas Association of America.

Hennet, R.J.-C, 2010. Working with Lawyers: The Expert Witness Perspective. *United States Attorneys' Bulletin*, v. 58, no. 1, pp. 14-17.

Soderberg, K., and R.J.-C. Hennet, 2007. Uncertainty and Trend Analysis -- Radium in Groundwater and Drinking Water. *Ground Water Monitoring and Remediation,* v. 27, no. 4, pp. 122-127.

Soderberg, K., R. Hennet, and C. Muffels, 2005. Uncertainty and Trend Analysis for Radium in Groundwater and Drinking Water (*abstract).* Presentation at the 2005 National Ground Water Association Conference on Naturally Occurring Contaminants: Arsenic, Radium, Radon, and Uranium, February 24-25, 2005, Charleston, SC. in *Abstract Book,* pp. 30-44.

Hennet, R.J.-C, 2002. The Application of Stable Isotope Ratios in Environmental Forensics. in *American Academy of Forensic Sciences Proceedings,* pp. 103-104.

Hennet, R.J.-C, 2002. Life is Simply a Particular State of Organized Instability. in *Fundamentals of Life*, G. Palyi et al., editor. Paris, France: Elsevier, pp. 109-110.

Hennet, R.J.-C., and L. Chapp, 2001. Using the Chemical Fingerprint of Pharmaceutical Compounds to Evaluate the Timing and Origin of Releases to the Environment. in *Proceedings of the American Academy of Forensic Sciences*, v.4, no. 1, p. 101.

Vlassopoulos, D., C. Andrews, R. Hennet, and S. Macko, 1999. Natural Immobilization of Arsenic in the Shallow Groundwater of a Tidal Marsh, San Francisco Bay. Presentation at the American Geophysical Union Spring Meeting, Boston, MA, May 31-June 4, 1999.

Hennet, R., D. Carleton, S. Macko, and C. Andrews, 1997. Environmental Applications of Carbon, Nitrogen, and Sulfur Stable Isotope Data: Case Studies (abstract). Invited speaker at the Geological Society of America Annual Meeting, Salt Lake City, UT, November 1997.

Jiao, J., C. Zheng, and R. Hennet, 1997. Analysis of Under-pressured Reservoirs for Waste Disposal. *Hydrogeology Journal*, v.5, no. 3, pp. 19-31.

Jiao, J., C. Zheng, and R. Hennet, 1995. Study of the Feasibility of Liquid Waste Disposal in Underpressured Geological Formations. Proceedings of the American Geophysical Union Spring Meeting, Baltimore, MD, May 30-June 2, 1995. in *Eos Supplement*, v. 76, no. 17, S137.

Vlassopoulos, D., P. Lichtner, W. Guo, and R. Hennet, 1995. Long-Term Controls on Attenuation of Mine-Waste Related Contamination in Alluvial Aquifers: The Role of Aluminosilicate Clay

Minerals. Proceedings of the American Geophysical Union Spring Meeting, Baltimore, MD, May 30-June 2, 1995. in *Eos Supplement,* v. 76, no. 17, S150.

Feenstra, S., and R. Hennet, 1993. Assessment of Performance Limitations on Soil Vapor Extraction (SVE) in Variable Soils. *The Newsletter of the Association of Ground Water Scientists and Engineers*, v. 9, no. 3, pp. 112-113.

Hennet, R.J.-C., and S. Feenstra, 1993. Assessment of Performance Limitations on Soil Vapor Extraction (SVE) in Variable Soils (abstract). Presentation at the Symposium on Chlorinated Volatile Organic Compounds in Ground Water, National Ground Water Association 45th Annual Convention, Kansas City, MO, October 17-20, 1993. in *Ground Water*, v. 31, no. 5, pp. 828-829.

Hennet, R.J.-C., and C. Andrews, 1993. PCB Congeners as Tracers for Colloid Transport in the Subsurface--A Conceptual Approach. in *Manipulation of Groundwater Colloids for Environmental Restoration*. Ann Arbor, MI: Lewis Publishers, pp. 241-246.

Hennet, R.J.-C, 1992. Abiotic Synthesis of Amino Acid Under Hydrothermal Conditions and the Origin of Life: A Perpetual Phenomenon? Invited speaker at the Gordon Research Conference on Organic Geochemistry, New Hampshire.

Hennet, R.J.-C, N. Holm, and M. Engel, 1992. Abiotic Synthesis of Amino Acid Under Hydrothermal Conditions and the Origin of Life: A Perpetual Phenomenon? *Naturwissenschaften*, v. 79, pp. 361-365.

Hennet, R.J.-C, and N. Holm, 1992. Hydrothermal Systems: Their Varieties, Dynamics, and Suitability for Prebiotic Chemistry. in *Origins of Life and Evolution of the Biosphere, Netherlands*, v. 22, pp. 15-31.

Holm, N., A. Cairns-Smith, R. Daniel, J. Ferris, R. Hennet, E. Shock, B. Simoneit, and H. Yanagawa, 1992. Future Research. in *Origins of Life and Evolution of the Biosphere*, v. 22, pp. 181-190.

Hunt, J.M., and R. Hennet, 1992. Modeling Petroleum Generation in Sedimentary Basins. in *Productivity, Accumulation, and Preservation of Organic Matter Recent and Ancient Sediments*. J. Whelan and J. Farrington, eds. New York: Columbia University Press, pp. 20-52.

Hunt, J.M., M. Lewan, and R. Hennet, 1991. Modeling Oil Generation with Time-Temperature Index Graphs Based on the Arrhenius Equation. *AAPG Bulletin*, v. 75, no. 4, pp. 795-807.

Hennet, R.J.-C, D. Crerar, and J. Schwartz, 1988. The Effect of Carbon Dioxide Partial Pressure on Metal Transport in Low-Temperature Hydrothermal Systems. *Chemical Geology*, v. 69, pp. 321-330.

Hennet, R.J.-C, D. Crerar, and J. Schwartz, 1988. Organic Complexes in Hydrothermal Systems: *Economic Geology,* v. 83, pp. 742-767.

Hennet, R.J.-C, and F. Sayles, 1988. Effect of Dissolved Organic Compounds on Trace Metal Mobility in Low-Temperature Hydrothermal Systems (*abstract*). Presentation at the Joint Oceanographic Assembly, Acapulco, Mexico, August 23-31, 1988. in *Journal of Arboriculture*, v. 14, Mexico 88, p. 43.

Hennet, R.J.-C, and J.K. Whelan, 1988. In-Situ Chemical Sensors for Detecting and Exploring Ocean Floor Hydrothermal Vents. Woods Hole Oceanographic Institution Technical Report WHOI-88-53, p. 69.

Hennet, R.J.-C, 1987. The Effect of Organic Complexing and Carbon Dioxide Partial Pressure on Metal Transport in Low-Temperature Hydrothermal Systems. Unpublished PhD thesis, Department of Geochemistry, Princeton University. 308 p.

Hennet, R.J.-C, D. Crerar, E. Brown, and J. Schwartz, 1986. Transport of Base Metals in Hydrothermal Brines by Organic and Possible Thiocarbonate Complexes: The Genesis of Stratiform Sediment-Hosted Lead and Zinc Deposits. Conference Proceedings. in *Geological Science*, Stanford University, v. 20, pp. 197-198.

Hennet, R.J.-C, 1985. Partial Pressure of Carbon Dioxide and Base Metal Solubility: A Model for the Genesis of Hydrothermal Ore Deposits. Poster presentation at the Gordon Research Conference on Inorganic Geochemistry of Hydrothermal Deposits, New Hampshire.

Hennet, R.J.-C, D. Crerar, and E. Brown, 1985. Base Metal Transport by Organic Complexing in Ore-Forming Brines (abstract). in *Proceedings of the Second International Symposium on Hydrothermal Reactions*. The Pennsylvania State University, p. 43.

Hennet, R.J.-C, D. Crerar, and J. Schwartz, 1985. Metal-Organic Complexes in Ore-Forming Brines. Presentation at the190th National Meeting of the American Chemical Society, Division of Environmental Chemistry, Chicago, IL, September 9, 1985.

Hennet, R.J.-C, 1983. Formation Constants of Lead and Zinc Metal-Organic Complexes Using Polarography (ASV, DPP), Specific Ion Electrodes (ISE), and Nuclear Magnetic Resonance Spectroscopy (NMR). Unpublished MA thesis, Princeton University.

Hennet, R.J.-C, D. Crerar, J. Schwartz, and T. Giordano, 1983. New Ligand-Bond Mechanisms for the Transport of Zinc in the Genesis of Mississippi Valley-Type Ore Deposits. *Eos*, v. 64, no. 45, p. 885.

Flury, F.R., R. Hennet, and A. Matthys, 1981. Developpement des resources en eaux de la Ville de Delemont (Jura, Suisse). Unpublished Diplome d'Hydrogeologie. Centre d'Hydrogeologie. Universite de Neuchatel, Switzerland.

Hennet, R.J.-C, 1980. Cartographie de la Region Neuchatel-Valangin: Etude de la Mineralogie par Diffraction-X, de la Stratigraphie et des Microfacies du Valanginien. Discussion de Stratotype de Valangin. Unpublished Diplome de Geologie. University de Neuchatel, Switzerland.

DESPOSITION AND TESTIMONY EXPERIENCE

DEPOSITIONS

2013 State of New Mexico ex rel. vs. Kerr-McGee Corporation et al. State of New Mexico, County of Cibola Thirteenth Judicial District Court. No. CB-83-190-CV & CB-83-220-CV (Consolidated). April 24-26.

2012 Grant Neibaur and Sons Farms, et al vs. The United States of America. U.S. District Court for the District of Idaho. No. CIV 4:11-cv-00159-BLW. September 19.

2012 State of New Mexico ex rel. vs. Kerr-McGee Corporation et al. State of New Mexico, County of Cibola Thirteenth Judicial District Court. No. CB-83-190-CV & CB-83-220-CV (Consolidated). September 11-14.

2012 Commissioner of the Department of Planning and Natural Resources, et al. vs Century Aluminum Company, et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2005-0062. June 26.

2012 Commissioner of the Department of Planning and Natural Resources, et al. vs Century Alumina Company, et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2005-0062. June 25.

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2012 ExxonMobil Oil Corporation vs Nicoletti Oil, Inc., et al. U.S. District Court Eastern District of California. No. 1:09-cv-01498-A WI-DLB. June 14.

2012 United States of America vs Dico Inc. and Titan Corporation. U.S. District Court Southern District of Iowa. No. 4:10-cv-00503-RP-RAW. January 20.

2011 Joseph A. Pookatas, Donald L.Michel and the Confederated Tribes of the Colville Reservation and the State of Washington (Plaintiff Intervenor) vs Teck Cominco Metals, LTD. U.S. District Court Eastern District of Washington at Yakima. CB-04-0256-LRS. June 10.

2010 United States Virgin Islands Department of Planning and Natural Resources vs. St. Croix Renaissance Group, L.L.L.P., et al. District Court of the Virgin Islands Division of St. Croix. Civil No. 2007/114. October 20.

2010 In the Matter of the Application for Water Rights of Leadville Water, JV., in Park County, Colorado. District Court, Water Division No. 1, State of Colorado. 07CW251. September 22-23.

2009 Timm Adams et al. vs. United States of America et al. U.S. District Court, District of Idaho. 03-0049-E-BLW. January 15.

2008 Pennsauken Solid Waste Management Authority vs. Devoe et al. New Jersey Superior Court, Camden County, Law Division. No. L-13345-91. October 15.

2007 Arbitration in the Issue of PCB Contamination in the Little Mississinewa River, Union City, Indiana. Pittsburgh, Pennsylvania. August 22.

2007 San Diego Unified Port District vs. TDY Industries, Inc.; Ryan Aeronautical Company; Teledyne Ryan Company; Teledyne Ryan Aeronautical Company; Teledyne Industries, Inc; Allegheny Teledyne, Inc.; Allegheny Technologies, Inc. United States District Court, Southern District of California. Case Number 03 CV 1146-B (POR). January 5.

2006 Sierra Club, Natural Resources Defense Council, and Natural Parks Conservation Association vs. Robert B. Flowers, Chief of Engineers, United States Army Corps of Engineers et al. U.S. District Court, Southern District of Florida. Case No. 03-23427-CIV-Hoeveler. October 31 and November 17.

2003 Linda Akee et al. vs. The Dow Chemical Company et al., Dole Food Company, Inc., Third-Party Plaintiffs vs. The United States of America, Third-Party Defendant. U.S. District Court for the District of Hawaii. Civil Action No. CV00-00382 BMK. August 25.

2000 Chevy Chase Bank, FSB, Plaintiff/Counter-Defendant vs. Shell Oil Company and Motiva Enterprises, LLC, Defendants/Counter-Plaintiffs. U.S. District Court for the District of Maryland, Southern Division. December 14.

1999 Textron vs. Ashland, Inc. et al. Superior Court of New Jersey.

1999 McMahon vs. The United States of America. U.S. District Court, Southern District of Texas, Laredo Division. Case No. L-99-009. December 1.

1998 Kay Bettis et al. vs. Ruetgers-Nease Corp. et al. U.S. District Court for the Northern District of Ohio Eastern Division. Case No. 4:90 CV 0502.

1996 State of Montana vs. Atlantic Richfield Company. U.S. District Court, District of Montana, Helena Division. Case No. CV-83-317-HLN-PGH.

1996 Kenneth Bowers vs. The United States and Tenco Services, Inc. U.S. District Court for the District of South Carolina. Case No. 2:95-5568.

1995 Reichhold Chemicals, Inc. vs. Textron Inc. et al. U.S. District Court, Northern District of Florida. Case No. 92-30393RV.

TESTIMONY

2009 Timm Adams et al. vs. United States of America and E.I. DuPont de Nemours and Company, a Delaware corporation. U.S. District Court, District of Idaho. Case No. CIV-03-0049-E-BLW. August 4, 5, and 6.

2008 Attorney General of the State of Oklahoma and Oklahoma Secretary of the Environment vs. Tyson Foods, Inc., et al. U.S. District Court for the Northern District of Oklahoma. 4:05-CV-00329-TCK-SAJ. March 7.

2006 Sierra Club, Natural Resources Defense Council, and Natural Parks Conservation Association vs. Robert B. Flowers, Chief of Engineers, United States Army Corps of Engineers et al. U.S. District Court, Southern District of Florida. Case No. 03-23427-CIV-Hoeveler. November 28 and 29.

2004–2005 Universal Waste, Inc. and Clearview Acres, Ltd. Regarding Delisting Petition for Site Number 0633009. Adjudicatory Hearing by New York Department of Environmental Conservation, Office of Hearings and Mediation. Site Number 0633009. October 27 and February 3.

2004 Part 31, City of South Lyon and the Citizens About Rushton Rezoning, Inc., Permit No.: M 00994; and Permit No: GW186300602. State of Michigan, Department of Environmental Quality, Office of Administrative Hearings, Lansing, MI. May 20, 21, and 27.

2003 Robert McMahon vs. The United States of America. U.S. District Court, Southern District of Texas. Case No. L-99-009. February.

2001 Bolinder et al. vs. United States. U.S. District Court, District of Utah. Case No. 2:97CV0912. May.

1998 State of Montana vs. Atlantic Richfield Company. U.S. District Court, District of Montana, Helena Division. Case No. CV-83-317-HLN-PGH, Natural Resource Damage Claim. January.

1997 In the matter of the claim of Missoula White Pine Sash Company, Missoula, Montana. Administrative hearing before the Petroleum Tank Release Compensation Board vs. Department of Environmental Quality, State of Montana. Claim No. 97-960307-P-00037. October.

1996 Doria Tartsah Goombi et al. vs. U.S. Department of the Interior. U.S. Department of Interior, Office of Hearings and Appeals, Hearings Division, Oklahoma City, Oklahoma. Case No. D95-179 (1-41). August.