BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

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	)	

NOTICE OF FILING

TO: Don Brown, Assistant Clerk
Illinois Pollution Control Board
James R. Thompson Center
100 West Randolph Street, Suite 11-500
Chicago, IL 60601

Attached Service List

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board the attached **CITIZENS GROUP'S POST-HEARING BRIEF** in the above-captioned proceeding, copies of which are served on you along with this notice.

Respectfully submitted,

_/s/ Faith Bugel_____

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Dated: July 20, 2018

Attorney for Sierra Club

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	)	
Respondents	)	

CITIZENS GROUPS' OPENING POST-HEARING BRIEF

Complainants Sierra Club, Environmental Law and Policy Center, Prairie Rivers Network and Citizens Against Ruining the Environment (collectively, "Citizens Groups") respectfully submit this Opening Post-Hearing Brief for the Illinois Pollution Control Board's ("Board") consideration in this case.

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INTRODUCTION

Midwest Generation, LLC, ("MWG") controls four properties containing coal-fired power plants—known as the Joliet 29, Powerton, Waukegan, and Will County Electric Generating Stations (collectively, the four "MWG Plants")—where constituents of coal ash have contaminated groundwater, and continue to contaminate groundwater, in violation of Section 12(a) of the Illinois Environmental Protection Act ("Act").

Since 2010, groundwater monitoring reports from the MWG Plants have recorded coal ash constituents in excess of their respective Illinois Class I groundwater standards over 1,300 times. Boron and sulfate, the two leading indicators of coal ash contamination in groundwater, continue to routinely exceed background levels and Illinois Class I groundwater standards. MWG's sole expert in this case, John Seymour, conceded that some or all of this contamination is coming from onsite coal ash at all four MWG Plants. Mr. Seymour also conceded that the contamination at the Powerton, Waukegan and Will County plants is not improving.

At all of the MWG Plants coal ash can be found in onsite impoundments (or "ash ponds") and in ash landfills and other coal ash fill areas outside of the ash ponds. MWG has owned or operated the MWG Plants since 1999 and has long known about the coal ash both in and outside of the ash ponds. MWG has not exercised adequate control to prevent groundwater contamination from the coal ash landfills, coal ash fill areas, or coal ash ponds at any of the sites. As a result, the groundwater contamination continues unabated.

MWG's failure to exercise its control over the power plants and prevent coal ash from contaminating groundwater renders it liable under Section 12(a). Additionally, because violations of Section 12(a) trigger liability under Section 620.115 of the Act's implementing regulations, 35 Ill. Adm. Code 620.115, MWG is also liable for violations of Section 620.115.

MWG is liable for violations of 35 Ill. Adm. Code 620.301(a) and 35 Ill. Adm. Code 620.405. On many occasions before the groundwater monitoring zone ("GMZ") at three of the plants became active, groundwater monitoring recorded exceedances of Illinois Class I groundwater standards. These groundwater quality standard exceedances trigger liability under Section 620.301(a) and 620.405. At Waukegan, where there is no GMZ, these exceedances continue to occur, triggering liability under Section 620.301(a) and 620.405.

Lastly, MWG's knowledge of and acquiescence to coal ash deposited at unlined repositories like the ash landfills and ash fill areas, and the subsequent water pollution caused by this coal ash, renders MWG liable for violations under Section 21(a) of the Act, which prohibits open dumping in Illinois.

SUMMARY OF THE LAW

I. BURDEN OF PROOF

In an enforcement proceeding, the burden of proof is by a preponderance of the evidence. *Rodney Nelson v. Kane County*, PCB 94-244, 1996 WL 419472, at *4 (IPCB July 18, 1996). A proposition is proved by a preponderance of the evidence when it is more probably true than not. *Id.* A complainant in an enforcement proceeding has the burden of proving violations of the Act by a preponderance of the evidence. *Id.* Once the complainant presents sufficient evidence to make a prima facie case, the burden shifts to the respondent to disprove the propositions. *Id.*

II. SECTION 12(A) OF THE ILLINOIS ENVIRONMENTAL PROTECTION ACT

Section 12(a) of the Illinois Environmental Protection Act ("Act") provides that no person shall "[c]ause or threaten or allow the discharge of any contaminants into the environment in any State so as to cause or tend to cause water pollution in Illinois." 415 ILCS 5/12. "Water"

is defined in the Act as "all accumulations of water, surface and **underground**, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this State." 415 ILCS 5/3.550 (emphasis added). "Contaminant" is defined in the Act as "any solid, liquid, or gaseous matter, any odor, or any form of energy, from whatever source." 415 ILCS 5/3.165.

The Act defines "water pollution" as the:

> [D]ischarge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish, or other aquatic life.

415 ILCS 5/3.545.

Long-standing precedent confirms that the owner of the source of water pollution causes or allows the water pollution unless the owner (1) lacked the capability to control the source or (2) undertook extensive precautions to prevent vandalism or other intervening causes of the water pollution. *See, e.g., People v. John Prior*, PCB 02-177, 2004 WL 1090239, at *18 (IPCB May 6, 2004); *Perkinson v. Ill. Pollution Control Bd*., 543 N.E.2d 901, 903-904 (Ill. App. 3d Dist. 1989); *Meadowlark Farms, Inc., v. Ill. Pollution Control Bd*, 308 N.E.2d 829, 836 (Ill. App. 5th Dist. 1974); *People v. A.J. Davinroy Contractors*, 618 N.E.2d 1282, 1286-87 (Ill. App. 5th Dist. 1993).

Parties who lease or operate the source of pollution exercise the capability to control a source of pollution. *See, e.g., People v. State Oil Co*., PCB 97-103, 2003 WL 1785038, at *15, 24-25 (IPCB Mar. 20, 2003); *People v. Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3-4 (IPCB Aug. 22, 2002) (denying lessee's motion to dismiss Section 12(a) complaint); *Allaert Rendering, Inc. v. Ill. Pollution Control Bd*., 414 N.E.2d 492, 494-95 (Ill. App. 3d Dist. 1980)

(finding plant operator liable under Section 12(a)).

Even if they did not place the contaminants at issue in the ground or water, parties with control over a source of pollution are liable for water pollution in violation of Section 12(a). "[T]he current owner may be responsible for contamination even if the current owner did not actively dispose of the contamination." *People v. Inverse Investments, LLC*, PCB 11-79, 2012 WL 586821, at *9 (IPCB Feb. 16, 2012); *see also Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3 ("a respondent with control over a site may be found in violation even if the respondent did not actively dispose of contaminants at the site"); *State Oil Co*., PCB 97-103, 2003 WL 1785038, at *15 ("the fact that the Abrahams and Millstream did not initially cause the pollution at the site is immaterial with regard to their responsibilities and duties as owners and operators of the property."); *Meadowlark Farms*, 308 N.E.2d at 836-37 (finding owner of premises liable under Section 12(a) even though owner did not operate the source of pollution on their premise); *People v. John Prior*, PCB 97-111, 1997 WL 735036, at *6-7 (IPCB Nov. 20, 1997) (rejecting respondents' argument that it is not liable for water pollution because it was not an owner of the property during the time of the violations).

In *Meadowlark Farms*, the Section 12(a) violation was caused by material that had been discarded twenty to thirty years earlier and well before the new owner purchased the property. *Meadowlark Farms*, 308 N.E.2d at 831. The court upheld the IPCB's finding that the landowner's ownership of surface rights to the property that was the source of the water pollution provided the landowner with sufficient "capability of controlling the pollutional discharge." *Id.* at 836. The court upheld the IPCB's finding the landowner liable for violating section 12(a) of the Act. *Id.*at 837. *Meadowlark* "illustrates that the courts will find liability when a landowner currently has the capability of control over pollution, even when the landowner

attributes the problem to someone else." *People v. Lincoln*, 70 N.E.3d 661, 678 (Ill. App.4th Dist. 2016) (citing *Meadowlark*).

Even where a respondent has attempted to remedy contamination, if those efforts are not completely successful, the respondent can still be held liable:

> While respondent has certainly taken steps to remediate the groundwater situation, respondent's responsibility is evident and we can reach no other conclusion but to find respondent in violation of Section 12(a) of the Act.

Int'l Union v. Caterpillar, PCB 94-240, 1996 WL 454961, at *29 (IPCB Aug. 1, 1996).

Parties can be liable for "threaten[ing] a discharge which would tend to cause water pollution" when they "fail[] to properly monitor the groundwater." *People v. ESG Watts*, PCB 96-233, 1998 WL 54022, at *13 (IPCB Feb. 5, 1998). In finding ESG Watts liable, the Board explained that:

> [B]y failing to install the monitoring equipment, monitor groundwater beneath the landfill and submit the monitoring reports as required, ESG Watts operated its landfill in a manner which constitutes a threat to waters, which [sic] in this case, groundwaters of the State. ESG Watts thereby violated Sections 12(a) and 21(d)(2) of the Act.

People v. ESG Watts, PCB 96-233, 1997 WL 114108, at *5 (IPCB Mar. 6, 1997).

Parties can be liable for creating a "water pollution hazard" or the "threat of pollution" even when there is no actual contamination:

> The fourth count alleged that Allaert deposited contaminants on land so as to create a water pollution hazard. As discussed above, it is not necessary to show actual pollution in order to show a threat of pollution. Therefore, the failure to allege actual pollution does not render this count insufficient.

Allaert, 414 N.E.2d at 495.

Parties with control over the premises or source of pollution cannot avoid liability unless that party has "exercise[d] control to prevent pollution." *Meadowlark Farms*, 308 N.E.2d at 836.

Petitioner further argues that it has not caused, threatened or allowed the

> discharge of contaminants within the meaning of section 12(a) of the Act (Ill.Rev.Stats. 1971, ch. 111 1/2, s 1012(a)). Petitioner contends that its mere ownership of the surface estate from which the discharge originates is the only relationship to the transaction responsible for the discharge and that ***to expect the petitioner to exercise control to prevent pollution*** would be unreasonable. In conjunction, the petitioner states that its lack of knowledge that the discharge of contaminants was occurring is a defense to the complaint. We find these arguments without merit.

Id. (emphasis added).

The Board has made clear that water pollution exists when regulated contaminants are present in excess of either Class I or Class II groundwater quality standards. *See, e.g., John Prior*, PCB 97-111, 1997 WL 735036, at *7 (finding respondent liable for exceeding groundwater quality standards and, subsequently, liable for violation of Section 12(a) of the Act); *Int'l Union*, PCB 94-240, 1996 WL 454961, at *28-29 (finding respondent exceeded groundwater quality standards and, subsequently, liable for violation of Section 12(a) of the Act).

Water pollution occurs even when a party is immune from violations of groundwater quality standards, as is the case when a GMZ is in effect. *See* 35 Ill. Adm. Code §§ 620.250(e), 740.530(d). The GMZ only provides immunity "from violating the Part 620 standards." *People v. Texaco*, PCB 02-03, 2003 WL 22761195, at *9 (Nov. 6, 2003). In *Texaco*, the Board rejected respondent Texaco's argument that a GMZ provides immunity from Section 12(a) violations. *Id*. Therefore, exceedances of groundwater quality standards constitute water pollution under Section 12(a) regardless of the existence of a GMZ.

Furthermore, as noted above, water pollution is present when a discharge of any contaminant into groundwater "will or is likely to… render such waters harmful or detrimental or injurious to public health, safety or welfare." 415 ILCS § 5/3.545. When the Board adopted the groundwater quality standards in 1991, it noted that the Class I: Potable Resource Groundwater quality standards were being set at levels "equal to the USEPA's Maximum Concentration

Levels," ("MCLs") which are health-based standards intended to be protective of human health. 42 USC § 300g-1(b)(4)(A)-(B). Class I standards were intended to fulfill "the principle that groundwaters that are naturally potable should be available for drinking water supply without treatment." *In Re: Groundwater Quality Standards: 35 Ill. Adm. Code 620*, PCB R89-014(B), Final Order at 18 (Nov. 7, 1991).

Therefore, regardless of whether the standards are in effect, contamination in excess of those standards leaves the affected groundwater "harmful or detrimental or injurious to public health, safety or welfare" under § 415 ILCS 5/3.545. When groundwater quality standards are set to prevent harm to public health, exceedances of those standards in a water body constitute water pollution, even if the polluter cannot be held liable under Part 620 because of a GMZ.

Other Board decisions similarly support the principle that contamination in excess of health-based standards constitutes water pollution. *See Int'l Union*, PCB 94-240, 1996 WL 454961, at *29 (finding that "exceedences [*sic*] of the Part 620 standards… constitutes degradation of one of the State's water resources and indicates the presence of water pollution caused by respondent"); *People v. CSX Transp., Inc.*, PCB 07-16, 2007 WL 2050813, at *16 (IPCB July 12, 2007) (finding § 12(a) violation based on exceedance of soil remediation objectives because "exposure above the remediation objective levels would be hazardous to human health").

Lastly, "[t]hat the discharges were accidental and not intentional, or that they occurred in spite of Petitioner's efforts to prevent them, is not a defense" to liability under Section 12(a) of the Act. *Freeman Coal Mining Corp., v. Ill. Pollution Control. Bd.*, 313 N.E.2d 616, 621 (Ill. App. 5th Dist. 1974). In *Freeman Coal*, the court concluded:

> As the court stated in Meadowlark, The Environmental Protection Act is Malum prohibitum, no proof of guilty knowledge or Mens rea is necessary to a finding of

> guilt. The facts of Petitioner's construction of a treatment facility and subsequent improvements thereto go to mitigation, not to the primary issue of liability.

Id.

In summary, Illinois law clearly creates liability on the part of owners and/or operators for causing or allowing groundwater pollution by failing to exercise control over the site and abate ongoing pollution. Part 620 Class I and Class II standards provide a useful measuring stick to evaluate contamination, and evidence of exceedances of those standards at a given site establishes that groundwater pollution exists at that site. Thus, if a party has allowed groundwater to exceed groundwater quality standards, it has caused or allowed water pollution and is liable under Section 12(a).

III. PART 620 OF THE BOARD'S REGULATIONS

The Board's Part 620 regulations prohibit violations of the Illinois Environmental Protection Act and prohibit exceedances of Class I groundwater quality standards. There are three relevant regulations at issue.

Section 620.115 provides that:

> No person shall cause, threaten or allow a violation of the Act, the IGPA or regulations adopted by the Board thereunder, including but not limited to this Part.

35 Ill. Adm. Code 620.115. Therefore, violations of Section 12(a) of the Act also trigger violations of Section 620.115.

Section 620.301(a), provides that:

> No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that:
>
> (1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or
>
> (2) An existing or potential use of such groundwater is precluded.

35 Ill. Adm. Code 620.301(a).

For purposes of Section 620.301(a), Class I groundwater is considered "resource groundwater" under Part 620. *See* 35 Ill. Adm. Code 620.201 (defining Class I groundwater as "Potable Resource Groundwater"). Therefore, exceedances of Class I groundwater quality standards constitute a violation of Section 620.301(a).

Lastly, Section 620.405 provides that:

> No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard set forth in this Subpart to be exceeded.

35 Ill. Adm. Code 620.405.

A GMZ only provides a defense to liability for exceedances of Part 620 groundwater quality standards and, therefore, a defense to liability under Section 620.301(a) and 620.405. *See Texaco,* PCB 02-03, 2003 WL 22761195, at *8-9. Exceedances of groundwater quality standards trigger liability under Part 620 when those exceedances occur outside of an active GMZ (either geographically or temporally). If a facility never had a GMZ, then all exceedances of groundwater quality standards trigger liability under Part 620. If a facility has or had a GMZ, then all exceedances that took place before and/or after an active GMZ trigger liability under Section 620.301(a) and 620.405.

A GMZ, however, does not provide a defense to liability for violations of Section 620.115. Section 620.115 liability attaches to any violation of the Illinois Environmental Protection Act. "No person shall cause, threaten or allow a violation of the Act. . ." 35 Ill. Adm. Code 620.115; *see also* 35 Ill. Adm. Code 620.110 ("'Act' means the Environmental Protection Act [415 ILCS 5]"). Therefore, a violation of Section 12(a) of the Act would also trigger liability under Section 620.115 regardless of whether a GMZ exists.

IV. SECTION 21(A) OF THE ILLINOIS ENVIRONMENTAL PROTECTION ACT

Section 21(a) of the Act provides that "[n]o person shall cause or allow the *open dumping* of any waste." 415 ILCS 5/21(a). The Act defines "open dumping" as "the consolidation of refuse from one or more sources at a disposal site that does not fulfill the requirements of a sanitary landfill." 415 ILCS 5/3.305. "Refuse" is defined as "waste." 415 ILCS 5/3.385 (emphasis added). "Waste" is defined in relevant part as "any garbage… or other discarded material, including solid, liquid, semi-solid… material resulting from industrial, commercial… operations.…" 415 ILCS 5/3.535.

In other words, a party is liable under Section 21(a) when that party causes or allows the consolidation of discarded materials resulting from industrial or commercial operations and deposits them in a disposal site that does not fulfill the requirements of a sanitary landfill. Coal ash is "waste" under Section 21(a) because it is a discarded material resulting from an industrial operation—the burning of coal to generate electricity. 415 ILCS 5/3.535 and 3.385.[1]

As the Board explained earlier in the present case, "an area on which waste is deposited can be a 'disposal site' if the waste deposition is conducted in a manner that allows waste material to enter the environment, including groundwater." *Sierra Club et al v. Midwest Generation, LLC*, PCB 13-15, 2013 WL 5524474, at *26 (Oct. 3, 2013).[2]

The Act references federal law in order to define "sanitary landfills": "facilit[ies]

[1] The Illinois Environmental Protection Act specifically identifies coal ash as "coal combustion waste." 415 ILCS 5/3.140 (defining "coal combustion waste" as "any fly ash, bottom ash, slag, or flue gas or fluid bed boiler desulfurization by-products generated as a result of the combustion of: (1) coal, or (2) coal in combination with…other fossil fuel…."). Although the Act excludes "coal combustion byproducts" ("CCB") from its definition of "waste," 415 ILCS 5/3.535, none of the coal ash deposited outside of the coal ash ponds at Waukegan, Powerton, and Will County meets the definition of CCB. CCB only includes coal combustion waste that is recycled and used beneficially. *See* 415 ILCS 5/3.135.

[2] Under the Act, a "waste disposal site" is a "site on which solid waste is disposed," 415 ILCS 5/3.540, and "disposal" means "the discharge, deposit, injection, dumping, spilling, leaking or placing of any waste or hazardous waste into or on any land or water or into any well so that such waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, *including ground waters*." 415 ILCS 5/3.185 (emphasis added).

permitted by the Agency for the disposal of waste on land meeting the requirements of the Resource Conservation and Recovery Act [42 USCA § 6901 et seq.] and regulations thereunder…." 415 ILCS 5/3.445. The Resource Conservation and Recovery Act ("RCRA")'s implementing regulations, in turn, set forth specific criteria to distinguish between sanitary landfills and prohibited open dumps.

The Board has previously held in this case that "an exceedance of the MCLs at one or more power plants may be evidence tending to show a violation of Section 21(a) of the Act." *Sierra Club*, PCB 13-15, 2013 WL 5524474, at *25. During the period in which the violations alleged in the Second Amended Complaint took place, the applicable regulations were those set forth at 40 CFR Part 257, Subpart A. Under 40 CFR § 257.1(a)(1), "[f]acilities[3] failing to satisfy any of the criteria in §§ 257.1 through 257.4 or §§ 257.5 through 257.30 or §§ 257.50 through 257.107 are considered [prohibited] open dumps."[4] The criteria in section 257.3-4, which relate to groundwater, provide that "contaminat[ion of] an underground drinking water source" means exceeding one of the MCLs set forth in 40 CFR pt. 257 Appendix I.[5]

Federal law now includes more detailed regulations for some coal ash impoundments in 40 CFR pt. 257, often described as the "coal ash rule" or "CCR rule." 40 CFR 257.50-257.107. While not binding on the Board, EPA's expectations for proper handling of coal ash bear mention. In particular, EPA requires that new and existing coal ash impoundments, and new coal ash landfills, be located at least five feet above "the upper limit of the uppermost aquifer," 40

[3] Under 40 CFR § 257.2, "facility" means "all contiguous land and structures, other appurtenances, and improvements on the land used for the disposal of solid waste."

[4] RCRA's regulations provide that sanitary landfills cannot: (1) "contaminate an underground drinking water source" (2) "beyond the solid waste boundary or beyond an alternative compliance boundary." 40 C.F.R. § 257.3-4(a). Under RCRA, "solid waste boundary" means "the outermost perimeter of the solid waste (projected in the horizontal plane) as it would exist at completion of the disposal activity." 40 C.F.R. § 257.3-4(c)(5).

[5] The exceedance must occur in either an actual drinking water source or in an aquifer with less than 10,000 mg/L total dissolved solids. 40 CFR § 257.3-4(c)(2). Groundwater qualifies as an "underground drinking water" if it contains less than 10,000 mg/L of total dissolved solids ("TDS"). 40 CFR § 257.3-4(d)(4).

CFR 257.60(a), and requires, for existing impoundments, liners "consisting of a minimum of two feet of compacted soil with a hydraulic conductivity of no more than 1 x 10-7 cm/sec," or something with an equivalent hydraulic conductivity. 40 CFR 257.71(a).

As the Board explained in its Order denying MWG's Motion to Dismiss: "[t]o cause or allow open dumping, the alleged polluter must have the capability of control over the pollution or control of the premises where the pollution occurred." *Sierra Club*, PCB 13-15, 2013 WL 5524474, at *26 (Oct. 3, 2013)*; see also Lincoln*, 70 N.E.3d at 670 ("[K]nowledge, awareness, or intent are not elements of a violation of section 21(a) and (p) of the Act.").

As is the case under Section 12(a),[6] under Section 21(a) of the Act a party may be liable for violating the open dumping prohibitions even if they did not place the contaminating material at issue on the land or water. "A clear standard of landowner liability has also been stated by the Illinois Pollution Control Board in proceedings in which landowners attributed violations to others." *Lincoln*, 70 N.E.3d at 678; *see also State Oil Co.*, PCB 97-103, 2003 WL 1785038, at *19, (holding owners liable for open dumping when they "knew of the pollution and allowed it to persist" even though they did not place the leaking underground storage tank on the land); *Illinois EPA v. Rawe*, AC 92-5, 1992 WL 315780, *3-5 (IPCB Oct. 16, 1992) (holding son liable for allowing open dumping when, approximately 30 years earlier, his father placed abandoned cars on a site the son controlled and the son did not remove them); *Illinois EPA v. Coleman*, AC 04-46, 2004 WL 2578712, at *7 (IPCB Nov. 4, 2004) (holding current owner liable for open dumping by failing to remove gravel and barrel on site even though prior owner had placed those materials there).

Also like Section 12(a) of the Act, under Section 21(a) the Board looks to whether the alleged violator has taken precautions to prevent pollution. "[I]t is illegal to fail to remedy

[6] Section 21(a)'s standard is identical to "cause or allow" standard applicable to Section 12(a) of the Act.

pollution on one's land, even if someone else, even unknown others, created the problem." *Lincoln,* 70 N.E.3d at 678. Parties with control over the premises or source of pollution cannot avoid liability unless that party has taken "extensive precautions" to prevent vandalism or intervening causes of pollution. *See, e.g., Gonzalez v. Ill. Pollution Control Bd*, 960 N.E.2d 772, 779 (Ill. App. 1st Dist. 2011); *Perkinson,* 543 N.E.2d at 904.

When a party is aware of a source of contamination on its property but does not remove that source, the party has not taken sufficient precautions to prevent pollution. *Gonzalez*, 960 N.E.2d at 779 (Petitioners violated the Act when they "were aware of the preexisting fly-dumped waste at the time of the purchase but failed to remove it for over 14 months"). In *State Oil Co.*, the Board held a property owner liable because they failed to remove contaminated soil:

> The Anests allowed the waste to be consolidated on the Site when they failed to conduct any soil removal. Although the Anests tested the underground storage tanks and made repairs to one tank, the Anests did not address the removal of the waste from the Site.

State Oil Co., PCB 97-103, 2003 WL 1785038, at *19. Similarly, in *Rawe,* a violation of Section 21(a) was found based on the standard of "allowing" pollution. Specifically, the court held that "passive conduct amounts to acquiescence sufficient to find a violation." *Illinois EPA v. Rawe*, AC 92-5, 1992 WL 315780, at *4. In the Board's words, "Present inaction on the part of the landowner to remedy the disposal of waste that was previously placed on the site, constitutes 'allowing' litter in that the owner allows the illegal situation to continue." *Id.*

In summary, a party is liable under Section 21(a) when it causes or allows consolidation of coal ash in a disposal site that does not fulfill the requirements of a sanitary landfill.

SUMMARY OF FACTS APPLICABLE TO ALL OF THE MWG PLANTS

1. MWG Conducts Groundwater Monitoring at the MWG Plants

According to Maria Race, Director of Federal Environmental Programs at NRG Energy

(parent company of MWG),[7] MWG installed groundwater monitoring wells at the MWG Plants at the request of Illinois EPA. Race Tr. Oct. 23, 44:12-45:1. To install groundwater monitoring wells, a boring is required and each boring is logged. Hr'g. Tr. Oct. 23, 76:3-14. Each boring log contains a record of what was found in the soil or rock while boring. Hr'g. Tr. Oct. 23, 81:15-20.

MWG has conducted sampling of the groundwater monitoring wells at all four MWG Plants since 2010, and those results are reported on a quarterly basis. Hr'g. Tr. Feb. 1, 86:2-8, 87:16-20. Initially, the groundwater monitoring was conducted by Patrick Engineering. Hr'g. Tr. Feb. 1, 85:19-85:23. Richard Gnat's company, KPRG, took over the groundwater monitoring at the MWG facilities in 2012. Hr'g. Tr. Feb. 1, 85:13-85:18. "CCA sampling" is the "sampling that's done on a quarterly basis in accordance with the compliance commitment agreement that was signed with IEPA." Hr'g. Tr. Oct. 25, 60:6-9. "CCR sampling" is the sampling done to comply with federal regulations concerning coal combustion byproducts. Hr'g. Tr. Oct. 25, 59:21-60:5.

2. MWG's Monitoring Revealed Groundwater Contamination Levels Consistently Above State Standards

Since 2010, concentrations of coal ash constituents[8] have exceeded Illinois Class I groundwater standards over 1,300 times at the MWG Plants. *See* **Appendix A.**

3. Coal Ash, Coal Cinders, and Slag are Byproducts of Coal Burning at the MWG Plants

According to Rebecca Maddox, former Environmental Specialist at MWG and NRG Energy,[9] "bottom ash" and "slag" are both by-products of coal combustion. Hr'g. Tr. Oct. 24, 179:2-5, 179:13-15. According to Fred Veenbaas, Environmental Specialist at MWG's

[7] Hr'g. Tr. Oct. 23, 30:1-9.
[8] Coal ash contains many chemicals. These include the "constituents" for which the U.S. EPA requires groundwater monitoring: antimony, arsenic, barium, beryllium, boron, cadmium, calcium, chloride, chromium, cobalt, fluoride, lead, lithium, mercury, molybdenum, selenium, sulfate, thallium, total dissolved solids, and radium. 40 C.F.R. Part 257, Appendices III and IV.
[9] Hr'g. Tr. Oct. 24, 174:3-8.

Waukegan plant,[10] "slag" is a by-product from a cyclone boiler whereas "bottom ash" is from a pulverized coal boiler. Hr'g. Tr. Feb. 1, 7:17-20. According to Maria Race, Director of Federal Environmental Programs, bottom ash is a cinder-like material that is too heavy to go up the stacks, whereas fly ash is light enough that it does go up the stacks. Hr'g. Tr. Oct. 23, 193:20-21; Tr. Oct. 26, 31:3-30; *see also* Comp. Ex. 43. According to Christopher Lux, Engineering Manager for MWG at Waukegan,[11] bottom ash ends up in the tanks of the operating boilers and then is sluiced out to the ash ponds. Hr'g. Tr. Oct. 24, 38:20-23.

4. Coal Ash Placed in Unlined Areas Poses a Risk of Groundwater Contamination

Illinois EPA and MWG both acknowledge that there is risk associated with ash in unlined areas. Christopher Lux, Engineering Manager for MWG at Waukegan, acknowledges that the purpose of a liner is to separate the ash from the ground. Hr'g. Tr. Oct. 24, 39:6-9 ("Q. And what purpose does the liner in the west ash pond serve? A. I assume it's there to separate the bottom ash from the ground.") Maria Race, Director of Federal Environmental Programs, also acknowledged that there are risks associated with ash being placed, unlined, in the ground:

> Q. What was your understanding then as to whether there were any risks from coal ash placed in or on the ground?
> A. Well, my understanding was that we needed to use lined impoundments or lined areas for any coal ash, that coal ash wasn't going to just be placed on the ground.

Hr'g. Tr. Jan. 29, 208:2-8.

IEPA prohibits the use of unlined areas for placement of ash, acknowledging the risk of groundwater contamination from placing ash in unlined areas. Resp. Ex. 636 at MWG-13-

[10] Hr'g. Tr. Oct. 23, 24:16-17.
[11] Hr'g. Tr. Oct. 24, 33:8-14.

15_555 (Powerton CCA)[12] ("Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling."). MWG also takes the view that liners prevent contamination: Q. "[D]id the existence of liners form any part of the reason why Midwest Gen's position was the ash ponds weren't the source of the impacts? A. Absolutely." Hr'g. Tr. Jan. 30, 29:12-16. The logical corollary is that there is nothing to prevent groundwater contamination when ash is stored in unlined areas.

The movement of water, including groundwater, through coal ash increases the risk of leaching and contamination. Hr'g. Tr. Oct. 26 Afternoon, 83:19-84:1. MWG's expert witness John Seymour argued that risks are higher from (unlined) active surface impoundments than dry, inactive landfills: "Ponds have a lot water and we call it a driving head or pressure…". Hr'g. Tr., Feb. 1, 225:14-15. "Q. So if I understand you correctly, it's sort of the weight or the pressure of the water that causes the head, is that right? A. Yes, a head is a pressure which is developed by the height of water and the weight of water." Hr'g. Tr. Feb. 1, 225:20-226:1. Like surface water, groundwater also creates hydraulic pressure: "Groundwater has a head. If it goes from high pressure to low pressure, that's a head…". Hr'g. Tr. Feb. 1, 226:4. In other words, when any water, including groundwater, comes into contact with ash fill, it will have a hydraulic head that creates the risk of groundwater contamination.

5. Boron and Sulfate Are Known Indicators of Coal Ash Pollution

Both parties agree that boron is a good indicator of coal ash. According to counsel for MWG, "boron is a primary indicator of potential coal ash impacts to groundwater..." Comp. Ex. 8B (Letter from Nijman Franzetti on behalf of MWG to Illinois EPA re: Violation Notice W-2012-0059, July 27, 2012); Hr'g.Tr. Oct. 23, 66:17-67:7; *see also* Comp. Ex. 10B (Letter from

[12] Whenever an exhibit has a Bates stamp, the citations will refer to the Bates number that appears at the bottom of the page in the exhibit.

Nijman Franzetti on behalf of MWG to Illinois EPA re: Violation Notice W-2012-0056, July 27, 2012); Tr. Oct. 23, 68:3-13. According to MWG's expert John Seymour, one reason that boron is a good indicator is that it is mobile in the environment.[13] Hr'g. Tr. Feb. 2, 258:1-4; *see also* Hr'g. Tr. Oct. 26 (afternoon), 55:20-23.

If boron is found with other coal ash indicators, it strengthens the conclusion that coal ash is the source of groundwater contamination. Hr'g. Tr. Feb. 2, 257:6-13; *see also* Hr'g. Tr. Oct. 26 (afternoon), 34:8-11. Boron and sulfate together are indicators of coal ash: "Boron and sulfate are constituents known to be associated with coal ash." Comp. Ex. 9B (Letter from Nijman Franzetti on behalf of MWG to Illinois EPA re: Violation Notice W-2012-0057, July 27, 2012); Tr. Oct. 23, 67:11-21; *see also* Comp. Ex. 11B (Letter from Nijman Franzetti on behalf of MWG to Illinois EPA re: Violation Notice W-2012-0058, July 27, 2012); Hr'g. Tr. Oct. 23, 69:1-3 ("[B]oron and sulfate levels . . . are two typical ash leachate indicators.").

Both the U.S. EPA and the Illinois EPA agree that boron and sulfate are good coal ash indicators. The U.S. EPA chose to use boron and sulfate as detection monitoring constituents in the 2015 coal ash rule (40 C.F.R. 257, Appendix III), noting that "[t]he high mobility of boron and sulfate explains the prevalence of these constituents in damage cases that are associated with groundwater impacts." 80 Fed. Reg. 21,456.

The Illinois EPA, in a Technical Support Document for a proposed coal ash regulation, stated that "in addition to calcium (Ca), some of the more soluble [inorganic chemical] contaminants that leach from coal ash are: B [boron], SO_4 [sulfate], and Mn [manganese]." Comp. Ex. 405 at Comp. 019069 (Technical Support Document: Coal Combustion Waste Impoundments at Electrical Coal Fired Power Plants). The Illinois EPA went on to observe that:

[13] When groundwater is impacted by waste, it is not the waste itself that is moving with the groundwater, but the constituents. According to MWG's expert John Seymour, some constituents can be adsorbed so they move more slowly; others move more freely. Tr. Feb. 2, 150:12-17.

> Boron, sulfate, and manganese are the same contaminants that have been found in recent hydrogeologic assessments of groundwater in multiple confirmed sample results collected from down-gradient dedicated monitoring wells adjacent to surface impoundment units containing CCW [coal combustion waste] at power generating facilities in Illinois. These contaminants were found to be attributable to these surface impoundment units.

Ex. 405 at Comp. 019069 (Technical Support Document: Coal Combustion Waste Impoundments at Electrical Coal Fired Power Plants).

6. MWG's Groundwater Monitoring Shows Elevated Levels of Coal Ash Indicator Pollutants When Compared to Background Levels

Illinois EPA implements a statewide "ambient groundwater monitoring network." Comp. Ex. 405 at Comp. 19071. One of the purposes of this network is to "establish background of water quality within the principle aquifers." *Id.* at Comp. 19072. In 2013, Illinois EPA prepared a "Technical Support Document" that included summary statistics for boron, sulfate, and other pollutants in the statewide ambient monitoring network. The data were summarized with median values, 90th percentile values, and other statistics in diagrams known as "box plots;" medians were also presented in tabular form. *Id.* at 19071-75.

Complainants' expert compared the median concentrations of coal ash indicators in each well at the MWG Plants (other than Powerton) to statewide median background values. Comp. Ex. 401 at 8; *Id*. at Table 3; Hr'g. Tr. Oct. 26, 60:18-63:12; Comp. Ex. 411 at pdf p. *5, *42, and *59. At the January hearing, MWG suggested that a more appropriate comparison would be to the upper-bound, 90th percentile background estimates. Hr'g. Tr. Jan. 29, 31:22-36:16; Tr. Feb. 1, 104:2-106:6. According to MWG's expert, if onsite groundwater data are greater than the 90th percentile value from the Illinois EPA database, then "you're sure that it is above background." Seymour, Tr. Feb. 2, 32:1-33:6.

The Illinois EPA database contains summary statistics for two groups of aquifers—sand and gravel aquifers, and bedrock aquifers. Comp. Ex. 405 at Comp. 19075–76. According to

Complainants' expert, the groundwater at Joliet 29, Powerton, and Waukegan should be compared to the sand and gravel aquifer data, while the groundwater at Will County should be compared to the bedrock aquifer data. Hr'g. Tr. Oct. 26, 61:12-62:2. For sand and gravel aquifers, the 90th percentile boron value is approximately 0.7 mg/L. Comp. Ex. 405 at Comp. 19074; Hr'g. Tr. Feb. 1, 105:12-106:6. The 90th percentile sulfate value is approximately 175 mg/L. Comp. Ex. 405 at Comp. 19074. For bedrock aquifers, the 90th percentile boron and sulfate values are approximately 1.25 and 550 mg/L, respectively. *Id* at Comp. 19075.

Table 1, below, shows median and 90th percentile background values from the Illinois EPA ambient monitoring network. *Id*. at Comp. 19074-76.

Table 1: Illinois EPA ambient monitoring network background values for boron and sulfate. Comp. Ex. 405 at Comp. 19074-76.

	Boron, sand and gravel aquifer (mg/L)	**Sulfate, sand and gravel aquifer (mg/L)**
Median	0.12	54
90th percentile	0.70	175
	Boron, shallow bedrock aquifer (mg/L)	**Sulfate, shallow bedrock aquifer (mg/L)**
Median	0.28	106
90th percentile	1.25	550

As discussed in more detail in the site-specific sections below, groundwater data at all of the MWG Plants routinely exceeds median background values, and groundwater at Powerton, Waukegan and Will County routinely exceeds upper-bound, 90th percentile background values.

7. There is Coal Ash Contamination in the Groundwater at all Four MWG Plants

It is uncontested that the groundwater at all the MWG Plants has been contaminated by coal ash. MWG's expert, John Seymour, made numerous statements during his testimony about

the presence of coal ash constituents in groundwater. *See, e.g.*, Hr'g. Tr. Feb 2, 43:24-44:5, 46:10-46:13, 80:4-80:8, 137:1-7, 175:11-175:23, 303:14-15. Mr. Seymour conducted a "matching" analysis[14] in which he observed that boron and sulfate were detected in every groundwater monitoring well at each site. Resp. Ex. 904 at Table 5-5; Resp. Ex. 901 at slides 21, 36, 50, and 64.[15] Mr. Seymour also selected an additional indicator of coal ash contamination—barium—and again found it in every groundwater monitoring well at each site. *See* Resp. Ex. 904 at Table 5-5. Although Seymour originally claimed that his "matching" analysis did not find a match between bottom ash leachate and groundwater, this was only because some of the elements detected in groundwater were not, in his opinion, indicators of coal ash. *Id*. However, Mr. Seymour later testified that the presence of non-coal ash indicators in groundwater should not count against the possibility of coal ash contamination. Tr. Feb. 2, 237:6-238:4. This makes sense because contaminated groundwater may also contain, for example, naturally occurring iron. The presence of iron does not make the groundwater any less contaminated by coal ash.

If non-indicators of coal ash were left out of Seymour's matching exercise, as he conceded they should be, then Seymour would have found a 100 percent match between bottom ash leachate and groundwater at Waukegan. Hr'g. Tr. Feb. 2, 241:10-245:24. The same is true for the other three MWG Plants, where the only chemicals that do not "match" are the non-coal ash indicators found in groundwater. Resp. Ex. 901 at slides 21, 36, 50, and 64.[16]

In short, MWG's expert acknowledged that coal ash indicators, including boron and

[14] MWG's expert John Seymour conducted two versions of his "matching" analysis. His primary analysis can be found in various places as a multi-page "Table 5-5." Resp. Ex. 903 at Table 5-5; Resp. Ex. 904 at Table 5-5; Resp. Ex. 901 at Table 5-5. His "backup" analysis can be found in Table 5-4. *See, e.g.*, Hr'g. Tr. Feb. 2, 18:17-19:16.

[15] The cited slides do not include page numbers, but each one has a title of the form "[Plant name] – Updated Table 5-5." In the document filed with the Board as "Additional Demonstrative Exhibits" on January 30, 2018, these slides can be found on pdf p. 46, 61, 75, and 89.

[16] The cited slides do not include page numbers, but each one has a title of the form "[Plant name] – Updated Table 5-5." In the document filed with the Board as "Additional Demonstrative Exhibits" on January 30, 2018, these slides can be found on pdf p. 46, 61, 75, and 89.

sulfate, were detected in every groundwater monitoring well at the MWG Plants. Seymour's matching analysis, if done correctly, should have found a perfect match between onsite bottom ash leachate and groundwater contamination at all of the MWG Plants. This is consistent with Seymour's general observations that the groundwater at the MWG Plants contains coal ash constituents. In fact, as discussed in more detail below, the concentrations of coal ash indicators are quite high in many groundwater wells at the MWG Plants, particularly at Powerton, Waukegan, and Will County.

8. Illinois EPA Determined that the Groundwater Contamination at the MWG Plants Violated State Groundwater Standards

In 2012, Illinois EPA found groundwater violations at the MWG Plants. Attachment A to the 2012 violation notices contains the following statement for all four MWG Plants in the first paragraph: "A review of information available to the Illinois EPA indicate the following on-going violations of statutes, regulations or permits." *See, e.g.*, Comp. Ex. 1A, at MWG13-15_330; Comp. Ex. 2A at MWG13-15_335; Comp. Ex. 3A at MWG13-15_344; Comp. Ex. 4A at MWG13-15_350. Under the "Violation Description" in all four violations notices, there is the statement that "[o]perations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-[XX] for the following constituents. . . ." Comp. Ex. 1A, at MWG13-15_330; Comp. Ex. 2A at MWG13-15_335; Comp. Ex. 3A at MWG13-15_344; Comp. Ex. 4A at MWG13-15_350. After the sentence describing the violations is a list of individual groundwater monitoring wells at each facility at which violations were found and, for each monitoring well, a list of parameters (or constituents) for which there were exceedances, the sample value that exceeded the groundwater standard, the "GW" standard, and the date on which the sample was taken ("Collection Date"). Comp. Ex. 1A, at MWG13-15_330; Comp. Ex. 2A at MWG13-15_335; Comp. Ex. 3A at MWG13-15_344; Comp. Ex. 4A at MWG13-15_350.

Similarly, the 2012 Compliance Commitment Agreements ("CCAs") for all four MWG Plants contained a section entitled "Allegation of Violations" but also contained the following statement without the term "alleged":

> Pursuant to Violation Notice ("VN") [W-2012-number] issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:
>
> a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW [X through X]. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Resp. Ex. 626 at MWG-13-15_572; Resp. Ex. 636 at MWG-13-15_553; Resp. Ex. 647 at MWG-13-15_566; Resp. Ex. 656 at MWG-13-15_560. The CCAs for all four MWG Plants were signed and agreed to by John Kennedy, Senior Vice President, of Generation for MWG.

9. MWG Entered Into CCAs with the Illinois EPA That Failed to Address All Possible Sources of Coal Ash Contamination

The CCAs entered into by MWG with IEPA, referenced above, were intended to set up a process to bring the MWG ash impoundments into compliance. *See* Resp. Ex. 626 (Joliet CCA); Resp. Ex. 636 (Powerton CCA); Resp. Ex. 647 (Waukegan CCA); Resp. Ex. 656 (Will County CCA). As part of that process, the CCAs for three of the four MWG Plants—Powerton, Joliet 29, and Will County—contained requirements for MWG to apply for and establish a GMZ. Resp. Ex. 626 at MWG-13-15_573; Resp. Ex. 636 at MWG-13-15_555; Resp. Ex. 656 at MWG-13-15_562. A GMZ designates an area within which Class I groundwater standards are no longer applicable. Hr'g. Tr. Feb. 1, 107:11-17. There was no GMZ established at the Waukegan Station and, therefore, the Class I Groundwater Quality Standards have continued to apply since the signing of the CCA.

Both the Violation Notices and the CCAs issued by Illinois EPA were explicitly limited to the violations caused by coal ash impoundments. "Operations ***at ash impoundments*** have

resulted in violations of the Groundwater Quality Standards…" Resp. Ex. 626 at MWG-13-15_572; Resp. Ex. 636 at MWG-13-15_553; Resp. Ex. 647 at MWG-13-15_566; Resp. Ex. 656 at MWG-13-15_560. In terms of corrective action, three of the CCAs required relining of the coal ash impoundments. Resp. Ex. 626 at MWG-13-15_573; Resp. Ex. 636 at MWG-13-15_554; Resp. Ex. 656 at MWG-13-15_561. Other actions were limited to restricting which impoundments could be used for active ash handling and closure of impoundments. Resp. Ex. 636 at MWG-13-15_555 (prohibiting East Yard Runoff basin from being used as part of ash sluicing flow system); Resp. Ex. 626 at MWG-13-15_561 (requiring that ponds 1N and 1S be removed from service). None of the CCAs addressed coal ash outside of the coal ash impoundments. The CCAs do not provide for any sort of controls to prevent groundwater contamination by coal ash landfills or fill areas.

10. MWG Was on Notice as to the Presence of Historic Coal Ash at the Four Plants

In 1998, Commonwealth Edison, the previous owner/operator of the MWG Plants, hired a consultant to prepare Environmental Site Assessments ("ESAs") for the four plants as part of Commonwealth Edison's sale of the plants to MWG. Hr'g. Tr. Oct. 23, 99:14-100:17. For each site, the consultant prepared a "Phase I" ESA and a "Phase II" ESA. *See* Comp. Ex. 17D (Powerton Phase II ESA); Comp. Ex. 18D (Will County Phase II ESA); Comp. Ex. 19D (Waukegan Phase II ESA); Comp. Ex. 20D (Joliet Phase II ESA); Comp. Ex. 21 (Joliet Phase I ESA); Comp. Ex. 38 (Waukegan Phase I ESA).

MWG employees have long been aware of the contents of the ESAs and used the documents as important reference points. Hr'g. Tr. Oct. 23, 225:11-23. Maria Race, Director of

Federal Environmental Programs,[17] stated that she "looked at [an ESA] as a historic document that gave me some information that could be helpful at times of interest." Hr'g. Tr. Oct. 23, 103:10-12. Maria Race explained how she used the ESAs:

> [S]ometimes when I would look at the information, you know, something like these borings you could look at it and think, well, this is what they were finding the way that they were sampling, you know, in this area or if you looked at one of the maps in here you could gather information about where an old switch yard was or, you know, if the coal pile had always been in the same place and things like that. You would just look for information and I wasn't looking at it as the Gospel truth, but it would give me additional information when we were performing work.

Hr'g. Tr. Oct. 23, 103:15-104:2. Ms. Race also turned to ESAs to answer site-specific questions:

> [I]f someone asked me a question from a site, I might go back and take a peek and look and see did we ever have a well at this -- did they ever put a well in over here or did they ever monitor for anything over here.

Hr'g. Tr. Oct. 23, 226:19-23. Ms. Race also looked at the ESAs to get a sense of past activities at the properties. "I looked at these documents for their historic information." Tr. Oct. 23, 226:18-19. Ms. Race went on to testify that it was her view that after looking at the ESAs, MWG should "develop [its] own information." Hr'g. Tr. Jan. 29, 204:18-205:1.

Ms. Race was aware of both the site maps and the boring logs for the MWG Plants. She reviewed these parts of the ESAs[18] and it was these pages of the ESAs that indicated that there were ash landfills, ash storage areas, and ash fill outside of the ponds at all four sites.[19]

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[17] Maria Race, Director of Federal Environmental Programs at NRG Energy, the current owner of MWG, became Director of Federal Environmental Programs in September of 2015. Hr'g. Tr. Oct. 23, 32:20-22. Previously, Ms. Race was Director of Asset Management at MWG. Hr'g. Tr. Jan. 29, 160:11-16; Hr'g. Tr. Oct. 23, 31:24-32:2. Ms. Race's responsibilities when she started with MWG included taking on the position of the "[NPDES] permitting person, compliance person, and the landfill management person. . . ." Hr'g. Tr. Jan. 29, 159:20-22; Hr'g. Tr. Jan. 30, 267:22-268:2. These responsibilities entailed, among other things, "ensuring that we are in compliance with the regulations." Hr'g. Tr. Jan. 29, 160:1-4.

[18] Hr'g. Tr. Oct. 23, 100:3-24, 110:21-111:20, 112:15-113:9, 113:24-114:16, 121:16-122:18, 134:24-135:18, 136:19-137:12.

[19] Comp. Ex. 17D at MWG13-15_3297, 3298, 3299-3342 (Powerton ESA Phase II); Comp. Ex. 18D at MWG13-15_5739, 5742, 5746-63 (Will County ESA Phase II); Comp. Ex. 19D at MWG13-15_45814, 45820-45842 (Waukegan ESA Phase II); Comp. Ex. 20D at MWG13-15_23339 (Joliet ESA Phase II); Comp. Ex. 21 at MWG13-15_25149 (Joliet ESA Phase I); Comp. Ex. 38 at MWG13-15_12012 (Waukegan ESA Phase I).

ARGUMENT

As has been shown above, and will be shown in more detail below, the groundwater beneath the MWG Plants is being contaminated by coal ash. This is plainly evident by the fact that groundwater monitoring at the Powerton, Waukegan, and Will County plants shows routine exceedances of both background levels and groundwater quality standards for boron and sulfate (as well as other known constituents of coal ash). At the Joliet 29 plant, boron and sulfate levels routinely exceed background levels, and periodically exceed groundwater quality standards. Both parties agree that boron and sulfate are indicators of coal ash, and their presence at elevated concentrations establishes that coal ash is the source of the groundwater contamination.

MWG has known about the existence of unlined coal ash repositories like the ash landfills and ash fill areas at each of its power plants since it first purchased the plants in 1999. However, despite being on notice as to the presence of ash on its properties, MWG still has not exercised control to prevent groundwater contamination. As a result, the groundwater contamination at Powerton, Waukegan, and Will County is not improving—and the groundwater at Joliet continues to show periodic exceedances of state groundwater standards.

MWG's failure to exercise control over the power plants and prevent coal ash from contaminating groundwater renders it liable under Section 12(a). Furthermore, because violations of Section 12(a) trigger liability under Section 620.115 of the Act's implementing regulations, 35 Ill. Adm. Code 620.115, MWG is also liable for violations of Section 620.115.

MWG is additionally liable for violations of 35 Ill. Adm. Code 620.301(a) and 35 Ill. Adm. Code 620.405, for direct violation of Illinois Class I groundwater standards. On many occasions before the GMZs at three of the plants became active, groundwater monitoring recorded exceedances of the Class I standards. These groundwater quality standard exceedances

trigger liability under Section 620.301(a) and 620.405. At Waukegan, where there is no GMZ, these exceedances continue to occur and trigger liability under Section 620.301(a) and 620.405.

Lastly, MWG's knowledge of and acquiescence to coal ash deposited at unlined repositories like the ash landfills and ash fill areas, and the subsequent water pollution caused by this coal ash, renders MWG liable for violations under Section 21(a) of the Act, which prohibits open dumping in Illinois.

I. JOLIET 29

MWG operates and leases the Joliet 29 Generating Station. Hr'g. Tr. Jan. 29, 178:22-179:3. The layout of the site is shown in **Appendix C**. Until 2013, MWG stored ash in three onsite ash ponds, Ponds 1, 2 and 3. Coal ash was removed from Pond 3 in 2013, and removed from Pond 1 in 2015. Hr'g Tr. Jan. 29, 191:22-192:2; 198:13-16. The Joliet 29 property also includes two large onsite coal ash landfills, one on the northeast portion of the property ("Northeast Ash Landfill") and one on the southwest portion of the property ("Southwest Ash Landfill").[20] Comp. Ex. 20D (Phase II ESAs for Joliet), MWG13-15_23339; Hr'g Tr. Oct. 25, 81:19-82:24.

A. The Groundwater at Joliet 29 is Contaminated with Coal Ash Constituents

Since monitoring began in 2010, the groundwater at Joliet 29 has exceeded Illinois Class I Groundwater Quality Standards for coal ash constituents 69 times, including 8 exceedances in 2016 and 4 exceedances in the first half of 2017. *See* **Appendix A**. Onsite concentrations of coal ash indicators boron and sulfate are higher than background values developed by Illinois EPA, and not naturally occurring. Specifically, as shown in Table 2 below, the median boron and

[20] In this Brief, Complainants refer to the areas where coal ash is stored and disposed in the ground at Joliet as "Ash Landfills" because that is how the two areas in the northeast and southwest portions of the property are identified in the Phase I and Phase II Environmental Site Assessments performed in 1998 shortly before the sale of the Joliet Station (among others) to MWG.

sulfate concentrations in all eleven groundwater monitoring wells are greater than the median background values. The median boron concentration in well MW-11 exceeds the upper-bound, 90th percentile background value;[21] the same is true for sulfate in well MW-9. According to MWG's expert, if onsite groundwater data are greater than the 90th percentile from the Illinois EPA database, then "you're sure that it is above background." Hr'g. Tr. Feb. 2, 32:17-33:6.

Table 2: Boron and sulfate data for the Joliet 29 site.[22] Highlighted (red) values are medians that exceed the 90th percentile value from Illinois EPA's statewide database for sand and gravel aquifers. Highlighted (light orange) values are medians that exceed the median value from Illinois EPA's statewide database.[23]

Monitoring Well	Boron median (mg/L)	Sulfate median (mg/L)
MW-1	0.25	81
MW-2	0.25	100
MW-3	0.37	120
MW-4	0.37	110
MW-5	0.57	170
MW-6	0.25	110
MW-7	0.23	120
MW-8	0.16	73
MW-9	0.34	1100
MW-10	0.43	110
MW-11	1.20	120
Background (Sand and Gravel Aquifer)		
Illinois EPA median	0.12	54
Illinois EPA 90th percentile	0.70	175

[21] *See* discussion of Illinois EPA background values. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 6.
[22] Source data was extracted from Respondent's Exhibit 809.
[23] Comp. Ex. 405 at 7.

B. MWG Has Long Known About the Ash Disposal Areas at Joliet 29

Respondent MWG has been aware of the Northeast Ash Landfill since 1999 when it began operating the plant, and it has been aware of the Southwest Ash Landfill since approximately 2002-2003. Hr'g. Tr. Oct. 23, 116:24-117:6, 122:19-22, 225:11-23; Hr'g. Tr. Jan. 29, 179:1-2; 183:11-13; Comp. Ex. 20D at MWG13-15_23339; Comp. Ex. 21, at MWG13-15_25149. The Phase II Environmental Site Assessment, which was done at the time of the sale of the Joliet property to MWG (Hr'g. Tr. Jan. 29, 183:11-13), identified both landfills. Comp. Ex. 20D at MWG13-15_23339. Maria Race is currently the Director of Federal Environmental Programs (Hr'g Tr. Oct. 23, 30:1-6), and had been the "compliance person, and the landfill management person," (Hr'g. Tr. Jan. 29. 159:20-22) with "environmental compliance responsibilities,…at times [for] the ash ponds at the stations" at MWG. Hr'g. Tr. Jan. 29, 161:19-23. Ms. Race has known about both of these old ash disposal areas since approximately 2002-2003. Hr'g Tr. Oct. 23, 115:11-15, 116:24-117:6, 122:19-22, 225:11-23; Hr'g Tr. Jan. 29, 183:11-13, in part through her review of the Phase II ESA. Hr'g. Tr. Oct. 23, 114:5-10, 122:15, 123:20-21.[24] Ms. Race indicated in testimony that she was aware that the Phase II ESA identified the two ash landfills; when referring to the "Alleged Former Ash Placement Areas" in a MWG Demonstrative Exhibit,[25] Ms. Race stated, "[I]n the ENSR surveys[26] that were done at the time of the sale to Midwest Generation, those were the labels that were put on those two areas.". Hr'g. Tr. Jan. 29, 183:11-13; Comp. Ex. 20D at MWG13-15_23339.

Similarly, the Joliet Phase I ESA also identified both coal ash areas. Maria Race has reviewed this document and was familiar with it. Hr'g. Tr. Oct. 23, 122:15. She reviewed it for

[24] Race testified: "Q. Are you familiar with this document? A. Yes, I am. Q. And have you previously reviewed this document? A. Yes, I have.". Hr'g. Tr. Oct. 23, 114:5-10.
[25] Respondent, Midwest Generation, LLC's Additional Demonstrative Exhibits at 7 (Jan. 29, 2018) .
[26] Referring to the Phase I and II ESAs which were conducted by ENSR Consulting. Comp. Exs. 20D, 21.

the purpose of "see[ing] what a prior consultant's thoughts were on the site." Hr'g. Tr. Oct. 23, 122:15, 123:20-21. Just like the Joliet Phase II ESA, the Phase I ESA also identifies two "ash landfill[s]" in the same locations as the Phase II ESA. Comp. Ex. 21, MG13-15_25149. This Phase I ESA indicates that coal ash from the Joliet 29 and Joliet 9 stations was disposed in the landfills. *See, e.g.*, Comp. Ex. 21, MWG13-15_25150, 25153, 25160. Ms. Race indicated that she had reviewed the page of the Phase I that contains the statements that, "Coal ash was primarily disposed in a landfill on the eastern portion of the site. A second abandoned ash disposal landfill lies on the southwest portion of the site between the coal pile and the Caterpillar, Inc. site." Hr'g Tr. Jan. 31, 35:12-36:4 citing Comp. Ex. 21, 25150.[27] This Phase I goes so far as to say, in the portion of the section discussing "Onsite Contamination Potential" that, in reference to the abandoned ash disposal landfill at the east side of the property "It is unknown whether leachate from the ash has had an adverse impact on soil and/or groundwater quality." Comp. Ex. 21, 25150. Ms. Race indicated that she had previously reviewed the page containing this statement. Hr'g Tr. Jan. 31, 37:24-39:3.

Ms. Race was also aware of the Northeast Ash Landfill as a result of requirements contained in the NPDES permit for the Joliet Station. Hr'g. Tr. Oct. 23, 115:11-15.[28] "I know that there is an ash fill area in the northeastern section of the property that we maintain under our NPDES storm water permit or storm water plan under our NPDES permit." Hr'g. Tr. Oct. 23, 115:19-21. Ms. Race does not dispute her knowledge of ash being present at the Northeast Ash Landfill. "I know that for the northern area, the northeastern area, that there is ash placed

[27] The single ash landfill located at the far right of the site plan, Comp. Ex. 21 at MWG13-15_25149, can be described as being located at the eastern end of the property or the northeastern end since the property is oriented from the northeast to the southwest (and is wider than it is tall).

[28] Race testified: "I am familiar with an area where there is ash on the—which side of the property is this? It must be northeast side of the property because we have -- it's part of our NPDES storm water permit." Hr'g. Tr. Oct. 23, 115:11-15.

there…". Hr'g. Tr. Jan. 29, 183:17-18.

MWG's consultant, Richard Gnat of KPRG, was also aware of areas at Joliet where ash was landfilled: "Midwest Generation Joliet stations No. 29 include areas where ash and slag resultant from the combustion of coal were formerly placed on the ground surface." Hr'g Tr. Oct. 25, 95:6-11. KPRG performed the necessary work to maintain that area under the NPDES permit. In doing this work, KPRG repeatedly confirmed the presence of coal ash in the area. Gnat carried out inspections at the Northeast Ash Landfill. Hr'g. Tr. Feb. 1, 193:3-11. Gnat also testified as to repairs made to the Northeast Ash Landfill. Hr'g. Tr. Feb. 1, 194:22-195:11. "KPRG identified five areas outside the fenced boundary of the Joliet No. 29 facility where either sheet wash erosion or rilling has exposed the underlying ash slag and may transport the material to the Des Plaines River." Hr'g Tr. Oct. 25, 116:6-10.[29] Gnat testified that the erosion at the Northeast Ash Landfill at Joliet that was exposing the coal ash was being caused by surface water runoff. Hr'g. Tr. Feb. 1, 204:14-205:10. Mr. Gnat stated that MWG needed to ensure that Joliet's Northeast Ash Landfill remained covered. Hr'g Tr. Jan. 30, 259:10-14. MWG did so by installing soil and vegetation to repair the exposed areas of the ash landfill. (Hr'g. Tr. Jan. 30, 259:15-17.)

C. Coal Ash at Joliet is Causing Groundwater Contamination

Historic ash at Joliet has caused some or all of the groundwater contamination. MWG's expert witness John Seymour has confirmed that coal ash constituents have been found in the groundwater at Joliet: "Q. Now, we see that there have been – you just identified a few coal ash constituents in the past that have been detected in the monitoring wells. You would agree? A. Yes." Hr'g Tr. Feb. 2, 43:24-44:5. Mr. Seymour acknowledged that the groundwater impacts

[29] Outside the fenced boundary is still on MWG leased property. Hr'g. Tr. Oct. 25, 116:14-22. There is a fence surrounding the operational portion of the facility but the facility's property extends beyond the fence line. Hr'g. Tr. Oct. 25, 116:14-22.

show "ash-related constituents" originating from the site. "It's a power plant and so there's ash-related constituents at the site. It's just that we haven't identified a specific source." Hr'g Tr. Feb. 2, 46:10-46:13; *see also* Hr'g Tr. Feb. 2, 158:15-19.[30] Mr. Seymour also affirmed his deposition testimony that "[t]he power plant is over 50 years old and there are many historic uses at the site that may have caused the impacts that we're seeing, and they have caused the impacts that we're seeing, and they may be related to coal ash from historic uses." Hr'g Tr. Feb. 2, 158:14-160:10.

MWG's expert purported to "rule out" certain coal ash deposits on the basis of leach test results. Hr'g Tr. Feb. 2, 161-165; Id. at 160:21-161:1 ("Q: And specifically, the material that you can rule out is the material for which you have leach test data; is that right? A: Correct."). Yet MWG has not performed leach tests on the ash from either onsite landfill. The single leach test done at Joliet 29 did not come from either the Northeast Ash Landfill or the Southwest Ash Landfill, but from another ash fill area northwest of the ash ponds. Hr'g Tr. Feb. 2, 161:8-14. MWG's expert cannot, therefore, "rule out" either landfill on the basis of leach tests.

MWG tries to argue that the Northeast and Southwest Ash Landfills are not contaminating groundwater, but neither the evidence nor common sense support this position. Seymour has already identified historic uses and historic sources as the cause of the coal ash constituents in the groundwater at Joliet Station. Hr'g Tr. Feb. 2, 46:10-46:13, 159:22-160:14, 158:15-19. Without ever sampling, leach testing, or taking borings at the two onsite Ash Landfills. Hr'g. Tr. Jan. 30, 258:21-259:9, 260:12-24, or monitoring the groundwater closer to these Landfills. Hr'g. Tr. Oct. 23, 77:2-13; Hr'g. Tr. Feb. 2, 21:6-10, MWG cannot credibly claim that we know anywhere near enough about the Landfills to dismiss them as sources of contamination.

[30] "I don't understand the specific source, but it appears to be historic uses." Hr'g Tr. Feb. 2, 158:15-19

MWG will not even admit that the Southwest ash landfill is a landfill or has ash in it,[31] but MWG's expert claims to know enough about the ash there to dismiss it as a source of the coal ash constituents impacting the groundwater. Neither MWG nor its expert know the contents of the Landfills—whether they contain fly ash, for example. MWG cannot claim on the one hand to have no information about the ash in these areas but then claim to know enough about these areas to dismiss them as sources. The Landfills are potential sources of contamination to which MWG has turned a blind eye.

D. MWG Failed to Exercise Control to Prevent Groundwater Contamination from Coal Ash at Joliet

MWG failed to exercise control of the sources of coal ash to prevent groundwater contamination at Joliet by failing to develop information about, monitor, leach test, cap, or line the two coal ash landfills at Joliet. Despite being on notice about the two coal ash landfills discussed above, and despite Ms. Race's insistence that MWG should develop its own information about issues covered in the ESAs Hr'g. Tr. Jan. 29, 205:1,[32] MWG did not develop additional information about the two ash landfills:

> Q. Did that information in this report[33] and the advice you got from others, did that influence Midwest Gen's decision about whether any further investigation of the former ash placement areas at Joliet 29 was necessary?
> A. Definitely.
> Q. And what conclusion did Midwest Gen reach?
> A. We concluded that we didn't need to do any further investigation or remediation in those areas.

Hr'g. Tr. Jan. 29, 207:5-13. Maria Race testified that "we don't know what is there except for what we have in our stormwater plan for NPDES." Hr'g. Tr. Jan. 30, 273:10-12.

MWG has failed to monitor the groundwater under and around the two coal ash landfills

[31] Referring to the Southwest Ash Landfill, Race stated "I don't know that that's a landfill and I don't know that there is ash there . . . ." Hr'g. Tr. Jan. 30, 273:19-20.
[32] "We should develop our own information." Hr'g. Tr. Jan. 29, 205:1
[33] Referring to the Comp. Ex. 20D, Joliet Phase II ESA. Hr'g Tr. Jan. 29, 205:22-207:4.)

at Joliet. MWG's expert John Seymour testified that at there is no groundwater monitoring at historic onsite ash areas. Hr'g. Tr. Feb. 2, 21:6-21:10. Maria Race testified that the groundwater monitoring wells at Joliet were installed outside of and around Joliet ash ponds 1, 2, and 3 and there is no groundwater monitoring around either coal ash landfill. Hr'g. Tr. Oct. 23, 77:2-13.[34]

With regard to the Northeast Ash Landfill, MWG has not taken any soil borings, conducted any leach tests, or estimated the volume of ash in that landfill. Hr'g. Tr. Jan. 30, 258:21-259:9. MWG has not investigated the area in any manner other than the visual inspections for erosion, rilling or other surficial exposure of the ash stored there. Hr'g Tr. Feb. 1, 198:9-28. Although MWG was aware that the Northeast Ash Landfill was covered with soil, it did not investigate the cover to determine if it was impermeable, Hr'g. Tr. Jan. 30, 259:18-24, 260:2-6, nor did it cap the Northeast Ash Landfill with an impermeable cap. Hr'g Tr. Feb.1, 193: 15-23. MWG also failed to determine whether the Northeast Ash Landfill was lined, and failed to install a liner. Hr'g. Tr. Jan. 30, 272:12-24.

MWG also failed to investigate the Southwest Ash Landfill - it failed to take borings, conduct leach tests, estimate the volume of ash in that area, or gather any other information. Hr'g. Tr. Jan. 30, 260:12-24. All of Maria Race's testimony on MWG's failure to investigate the Southwest ash area was confirmed by Richard Gnat.[35] MWG also failed to cap[36] or line the Southwest ash landfill at Joliet. Hr'g. Tr. Jan. 30, 273:13-274:11.

One action MWG has taken to try to control contamination issues at Joliet 29 has been to enter into a CCA concerning groundwater contamination, Resp. Ex. 626, at MWG13-15_572-74, but that plan has failed to prevent ongoing contamination because the CCA's required actions are

[34] *See also* testimony of Richard Gnat. Hr'g Tr. Oct. 25, 90:21-91:9.
[35] Hr'g Tr. Feb. 1, 196:16-197:2, 197:3-198:7.
[36] Capping a pond means that an impervious cover is placed over the top of the pond. Hr'g. Tr. Feb. 1, 8:10-9:2. This means that the pond is impervious to rainwater entering the pond from above. Hr'g. Tr. Feb. 1, 8:20-9:2.

limited to improvements at the site's active ash ponds. There is no mention anywhere in the agreement of the Northeast or Southwest ash landfills. *Id.* Thus, MWG's measures under the CCA fall far short of its obligation to exercise control to prevent groundwater contamination at Joliet.

E. MWG is Liable for the Contamination at Joliet

Since MWG's property is the source of contamination, MWG is liable. Parties who lease or operate the source of pollution exercise the capability to control a source of pollution. *See, e.g., People of Illinois v. State Oil Co*., PCB 97-103, 2003 WL 1785038, at *24-25 (IPCB Mar. 20, 2003) (finding current owners and operators liable under Section 12(a)); *People v. Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3-4 (IPCB Aug. 22, 2002) (denying lessee's motion to dismiss Section 12(a) complaint); *Allaert Rendering, Inc. v. Ill. Pollution Control Bd*., 414 N.E.2d 492, 494-95 (Ill. App. 3d Dist. 1980) (finding plant operator liable under Section 12(a)). The expert witnesses for both parties agree that coal ash from the Joliet site is the source of the groundwater pollution: Mr. Seymour says it is historic sources/uses from the site, Hr'g Tr. Feb. 2, 46:10-46:13, 159:22-160:10, 158:15-19, and Dr. Kunkel points to it being either the ponds or the landfills Hr'g Tr. Oct. 27, 189:15-19.

Parties with control over a source of pollution are liable for water pollution in violation of Section 12(a) even if they did not place the contaminants at issue in the ground or water. "[T]he current owner may be responsible for contamination even if the current owner did not actively dispose of the contamination." *People of Illinois v. Inverse Investments, LLC*, PCB 11-79, 2012 WL 586821, at *9 (IPCB Feb. 16, 2012); *see also Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3; *Meadowlark Farms*, 308 N.E.2d at 836-37; *People v. Lincoln*, 70 N.E.3d 661, 678, 410 Ill.Dec. 534, 551. Even if MWG did not place the ash in the northeast or southwest ash landfills at Joliet, MWG owns the property where the coal as contamination is coming from. If it

is from the ponds or the landfills, or even from some other coal ash source on the site, MWG is liable.

The expert witnesses for both parties agree that coal ash from the Joliet site is a source of the groundwater pollution. MWG's expert John Seymour says it is historic sources/uses from the site. Resp. Ex. 903 at 43; Hr'g. Tr. Feb. 2, 159:22-14. Complainants' expert James Kunkel agrees. Comp. Ex. 401 at 12.

Finally, MWG was aware of the coal ash landfills but did not exercise control to prevent coal ash from contaminating the groundwater. Parties with control over the premises or source of pollution cannot avoid liability unless that party has "exercise[d] control to prevent pollution." *See, e.g.,* *Meadowlark Farms, Inc. v. Illinois Pollution Control Bd.*, 17 Ill. App. 3d 851, 860, 308 N.E.2d 829, 836 (1974); *Perkinson*, 543 N.E.2d at 904. When pollution "ha[s] its source on [a party's] land and in a waste facility under [a party's] control," the Board will hold them liable and find a violation of the Act. *Perkinson v. Illinois Pollution Control Bd.*, 187 Ill. App. 3d 689, 694–95, 543 N.E.2d 901, 904 (1989). MWG was aware of both the Northeast and Southwest landfill but took no efforts to either get more information about the landfills (i.e., testing, monitoring) or to prevent contamination (i.e., place an impermeable cap on the landfills, remove the coal ash). The source of the pollution was on MWG's land and in a waste facility (either the ponds or the landfills) under MWG's control. That is sufficient for the Board to find a violation under the Act.

II. POWERTON

As at the other three sites, MWG has operated Powerton since 1999. (Hr'g. Tr. Jan. 30, 49:2-9). The layout of the site is shown in **Appendix D**. The Powerton site contains several active impoundments: the Ash Surge Basin, the Secondary Ash Settling Basin, the Metal

Cleaning Basin, and the Ash Bypass Basin. Hr'g. Tr. Jan. 30, 57:10-18. The site also contains a "Former Ash Basin" located northeast of the current ash ponds, which was previously the ash impoundment but now serves as an emergency overflow for the ash surge basin. Hr'g. Tr. Jan. 30, 61:16-22. In addition, there is coal ash fill throughout the site, as seen in borings for the groundwater monitoring wells and other soil borings (discussed in more detail below). Groundwater monitoring data show widespread and ongoing coal ash contamination.

Despite the persistent contamination, MWG has failed in the almost 20 years it has been operating the site to take sufficient steps to prevent or reduce that contamination. As a result of these failures, MWG has allowed the Powerton site to discharge contaminants into the environment so as to cause water pollution, in violation of 415 ILCS 5/12(a). MWG also has placed coal ash contaminants upon the land in a place and manner that created a water pollution hazard, in violation of 415 ILCS 5/12(d), both by allowing ash deposits to persevere throughout the site and by at least on one occasion storing ash cinders directly on the ground with no protections to prevent contaminants leaching out from that ash into the groundwater.

A. The Groundwater at Powerton is Contaminated with Coal Ash Constituents

The Powerton site has had a long history of groundwater contamination at levels exceeding the Illinois Class I Groundwater standards. Since monitoring began in 2010, groundwater has exceeded Illinois Class I Groundwater Quality Standards for coal ash constituents 406 times, including 81 exceedances in 2016 and 45 exceedances in the first half of 2017. *See* **Appendix A**. MWG's expert acknowledges that the contamination is not improving. Hr'g. Tr. Feb. 2, 77:8-15.

The Powerton site has one onsite, upgradient background well, well MW-16, which was added to the site's groundwater monitoring network on November 27 and 28, 2012. Comp. Ex. 23, MWG13-15_21747. Well MW-16 was added because the previously designated upgradient

wells were discovered to be affected by coal ash. Comp. Ex. 255, MWG13-15_11235 ("IEPA requests that monitoring wells MW-1, MW-9 and MW-10 not be identified as 'upgradient' … they are not believed to be reliable up gradient monitoring points for historical ash related activities that may be impacting groundwater proximate to these wells"); *Id*. at MWG13-15_11236 ("Well MW-16 is considered an upgradient monitoring well, outside the area of groundwater impacts associated with historical ash-related handling activities."). Unlike nearly all of the other wells at the Powerton site, MW-16 was installed far from the ash impoundments, and the soil boring for the well showed no traces of coal ash. Comp. Ex. 23, MWG13-15_21750.

The concentrations of coal ash indicators boron and sulfate in downgradient wells are much higher than they are in upgradient well MW-16. See Table 3, below. Median boron concentrations exceed the upgradient median in every downgradient well, in some cases by an order of magnitude or more. The same is true for sulfate. Downgradient boron and sulfate concentrations are also much higher than the statewide background data developed by Illinois EPA. Specifically, median concentrations in downgradient Powerton wells exceed upper-bound 90th percentile background values from the Illinois EPA database in nine wells for boron, and in seven wells for sulfate. According to MWG's expert, if onsite groundwater data are greater than the 90th percentile, then "you're sure that it is above background." Hr'g. Tr. Feb. 2, 32:17-33:6.

Table 3: Boron and sulfate data for the Powerton site.[37] Highlighted (red) values are medians that exceed the 90th percentile value from Illinois EPA's statewide database for sand and gravel aquifers. Highlighted (light orange) values are medians that exceed the median value from Illinois EPA's statewide database.[38]

[37] Source data was extracted from Resp. Ex. 810.
[38] Comp. Ex. 405 at 7.

Monitoring Well	Boron median (mg/L)	Sulfate median (mg/L)
MW-1	0.31	57
MW-2	0.32	57
MW-3	0.32	65
MW-4	0.78	100
MW-5	0.72	170
MW-6	0.40	380
MW-7	0.38	49
MW-8	0.86	300
MW-9	2.60	130
MW-10	0.52	67
MW-11	1.40	420
MW-12	0.92	420
MW-13	3.20	1100
MW-14	1.90	880
MW-15	1.40	420
Background (Sand and Gravel Aquifer)		
MW-16	0.18	40
Illinois EPA median	0.12	54
Illinois EPA 90th percentile	0.70	175

B. MWG Has Long Known About the Ash Disposal Areas at Powerton

1. Ash Ponds

The potential sources of coal ash contamination at Powerton include coal ash stored in the onsite ash ponds, and coal ash that is buried in the ground across the property. Most of the currently active basins were originally constructed with a Poz-o-Pac liner on the bottom and a Hypalon liner on the sides, including the Ash Surge Basin, which is the primary ash basin at Powerton. Hr'g. Tr. Jan. 30, 58:8-11, 19-21, 59:10-16, 61:4-7; Hr'g. Tr. Jan. 31, 143:22-144:1.

The Bypass Basin and the Metal Cleaning Basin were relined with 60 mil HDPE in 2010. The Ash Surge Basin and the Secondary Ash Settling Basin were relined with HDPE in 2013. *Id.*, at 61:7-9, 101:1-3, 101:4-6; Stips 20-30.

MWG has had multiple issues with the active ash ponds at Powerton. Because the river levels periodically rise, multiple MWG employees have made reference to concerns that water has infiltrated some of the existing basins, and could push up liners, exposing them to damage during cleaning events. *See, e.g.*, Comp. Ex. 107 (discussing possibility of water infiltration damaging Secondary Ash Basin lining); Comp. Ex. 714 (mentioning "the water infiltration [the Secondary Ash Basin is] currently experiencing" and expressing concerns about a new liner being damaged during cleaning); Comp. Ex. 108 (confirming issues that actually arose during Secondary Ash Basin de-watering, and confirming that the Illinois River rose above the level of the bottom of the pond).

MWG staff also discussed needing to reline the Bypass Basin in 2012 based on damage to that liner. Comp. Ex. 716, MWG13-15_21335. And as a general practice, at multiple times MWG has had to repair rips and tears in the liners around the site, all of which may have contributed to groundwater contamination. *See, e.g.*, Hr'g. Tr. Jan. 31, 85:2-12 (describing "rips and tears" in the Ash Surge Basin), 195:7-15 (describing "rips and tears" around the Bypass Basin), 164:5-12 (describing "rips and tears" in the Secondary Basin), 181:14-17 (describing "rips and tears" in the East Yard Runoff Basin), 210:7-24 (describing four repairs of liners in the Metal Cleaning Basin and Bypass Basin since 2010).

The Powerton site also contains a "Former Ash Basin" located northeast of the current ash ponds, which, as Maria Race testified, was once "the ash impoundment" but now serves as an emergency overflow for the ash surge basin. Hr'g. Tr. Jan. 30, 61:16-22. Thus, although it is

not used regularly, Ms. Race indicated that the Former Ash Basin is part of Powerton's permitted water flow management system. Hr'g. Tr. Jan 30, 142:14-18. Specifically, this basin has been used as an emergency overflow basin twice in the past three years: in 2015 and again at the end of 2017. Hr'g. Tr. Oct. 23, 164:18-21; Hr'g. Tr. Jan. 31, 158:23-160:3. MWG's employees and contractors have openly discussed the presence of ash layers up to 10 feet thick, starting at least in 2008 when Patrick Engineering completed several probes and found up to nine feet of coal ash located over a clay layer. Comp. Ex. 32*; see also* Comp. Ex. 31, MWG-13-15_14225-26 (email between Patrick Engineering and Maria Race discussing the "former ash pond at Powerton" and mentioning up to 10 feet thick of ash being located in that pond).[39] In fact, some of the borings from 2008 show ash up to 30 feet thick near the delineated area of the Former Ash Basin. Comp. Ex. 31, MWG-13-15_14247-49 (boring APB-1-08 showing cinders from 1 to 31 ft.); MWG-13-15_14247-48; MWG-113-15_14250-51 (boring APB-2-08 showing cinders from 1 to 23 ft.)

None of the ash ponds at Powerton meet EPA criteria for existing ash ponds. Specifically, none of the ponds have liners that meet the criteria found in 40 CFR 257.71(a), and some or all of the ponds are located less than five feet above the high water table. Hr'g. Tr. Feb. 2, 143:5-148:4 (none of the liners at the four MWG coal plants meet the liner criteria in the coal ash rule); *Id*. at 58:14-59:7 ("the average groundwater level is elevation 441.5" and "they had built it [the Secondary Ash Settling Basin], you know, at 440.").

2. Coal Ash Fill Areas

Perhaps the most likely source of onsite groundwater contamination is the coal ash buried outside of the ash ponds. MWG has been aware of these extensive ash deposits since it took over the site in 1999. The Phase II Environmental Site Assessment for Powerton, prepared by MWG's

[39] This exhibit also contains multiple pages of boring logs showing coal ash and/or cinders was spread across the site. *See* Comp. Ex. 31 at MWG-13-15_14229-30, 14232-35, 14238-39, 14241, 14243, 14245, 14247-48, 14250-51.

predecessor in ownership at the time of sale in 1998, included nine soil borings that showed "coal/slag," "slag/coal," or "slag" in fill that extends from the surface to as deep as sixteen feet below the surface. Comp. Ex. 17D, MWG13-15_3309-3324. Another five borings performed by MWG consultant KPRG in 2005 showed "bottom ash" and/or "slag" in fill that extends from the surface to as deep as fifteen feet below the surface. Comp. Ex. 201, MWG13-15_24300, 24306-24310. When MWG installed the groundwater monitoring well network in 2010, many of the soil borings for the wells showed thick layers of ash. Specifically, the borings for groundwater monitoring wells MW-5 through MW-9, MW-11, and MW-12 show "cinders," "black cinders," "black coal cinders," and/or "red coal cinders" in fill that extends from the surface to as much as 24.5 feet below the surface. Comp. Ex. 13C, MWG13-15_7102-7121; Ex. 30.5E, MWG13-15_40059-40062; Hr'g. Tr. Oct. 23, 77:20-86:1. Complainants' expert summarized these boring log results in his initial expert report. Comp. Ex, 401 at Table 6.

The coal ash fill at Powerton is frequently in contact with groundwater, which facilitates the leaching of coal ash constituents.[40] Groundwater elevations at Powerton generally fluctuate between 430 and 452 feet above mean sea level. Resp. Ex. 903, Table 4-3. Coal ash is buried at elevations as low as 443 feet. Comp. Ex. 13C, MWG13-15_7113. This means that up to nine feet of buried ash is at times saturated with groundwater. Comparisons of coal ash and groundwater elevations in individual wells provides more specific evidence of this fact. For example, in monitoring well MW-8, coal ash described as "black cinders," and also described as "saturated," is found down to an elevation of 444 feet. Comp. Ex. 13C, MWG13-15_7119. The same boring log shows the groundwater level on that date at an elevation of 448 feet, *Id.*, and MWG's expert shows that the groundwater in well MW-8 fluctuates between 446 and 449 feet. Resp. Ex, 903,

[40] When groundwater periodically rises into coal ash, it facilitates the movement of coal ash constituents into groundwater. Hr'g Tr. Oct. 26 Afternoon, 83:19-84:1.

Table 4-3. In other words, in the vicinity of monitoring well MW-8, between 2 and 5 feet of buried coal ash is saturated with groundwater at all times.

Finally, MWG employees are also aware of having stored coal ash cinders directly on the ground for at least a couple of months in an area just south of the Bypass Basin. Hr'g. Tr. Jan. 31, 184:20-185:21. During the time they were stored there, these ash cinders were not insulated from contact with the ground in any way, nor were they protected from the elements. *Id.*

3. Flooding at Powerton Exposed Groundwater to Coal Ash Contamination

MWG employees recall periodic flooding at Powerton. Hr'g. Tr. Oct. 23, 164:18-21; Hr'g. Tr. Jan. 31, 211:10-21. Maria Race recalled the specific water elevations during one large flooding event. Hr'g. Tr. Oct. 23, 164:18-21("I do remember that the river water rose up to probably, you know—it got up very high in elevation during the big flooding that happened and that was around 470 probably."). Water at an elevation of 470 feet would have been thirty feet above the bottom of the secondary ash settling basin. Comp. Ex. 33, MWG13-15_9728 (showing the bottom of the secondary ash settling basin at an elevation of 440 feet). MWG employee Mark Kelly recalled flooding leading to river water entering the Former Ash Basin.[41] Hr'g. Tr. Jan. 31, 211:10-21. Mr. Kelly in fact indicated that the former ash basin is part of the river's floodplain, such that water from the river comes directly into the former ash basin and then recedes. Hr'g. Tr. Jan. 31, 211:10-21. Christopher Lux, another MWG employee, also recalled flooding at Powerton. *See also* Hr'g Tr. Oct. 24, 95:24-96:3 ("It was my understanding that there was some high river levels near the Powerton station. So it was very possible it could have come from, you know, the river flooding."). Rising river levels may also cause groundwater

[41] "Well, it is -- it is -- that area is connected to the river. The river -- the river is just on the -- it's a floodplain for the river. So if the river in the spring, if it comes up high, the water will come up into that area and then when the water recedes it will go back. Q. So the water will come into that former ash basin and then does it drain back out to the river? Yes, it goes back out. Q. To the river? A. Yes." Hr'g. Tr. Jan. 31, 211:10-21.

levels to rise. *See,* e.g., Hr'g Tr. Feb. 2, 10:18-11:12, 59:8-24; Comp. Ex 107, Hr'g Tr. Oct. 24, 94:9-11 and 93:7 ("If we do have to clean the basin periodically in the future, NRT expressed concern about the water infiltration we are currently experiencing."). Finally, MWG documents groundwater leaching into an ash basin on one occasion. Comp. Ex. 108, Hr'g. Tr. Oct. 24, 102:13-14 and 101:13 ("It appears the groundwater is leaching into the basin and under the existing liner.").

Flooding, both river water flooding the site and high groundwater levels, poses the risk of groundwater contamination from coal ash at Powerton. High groundwater levels result in groundwater going up into ash fill and back down, carrying ash constituents into the groundwater. Hr'g. Tr. Oct. 26 Afternoon, 83:19-84:1; Hr'g. Tr. Feb. 1, 225:2-226:12.[42] River water flooding and saturating ash fill could also carry ash constituents and contamination into the groundwater or the surface waters.

C. Coal Ash at Powerton is Causing Groundwater Contamination

The groundwater contamination at Powerton is being caused by coal ash, including the ash stored inactive ash ponds and/or the ash buried across the site. MWG's expert, John Seymour, acknowledged that the contamination at Powerton includes constituents of coal ash. Hr'g. Tr. Feb. 2, 80:4-80:8 (Q: "Now, we just saw from a couple of your slides that there are constituents of coal ash found in groundwater above Class I [standards] at Powerton, correct?" A: "Yes."). Mr. Seymour also acknowledged the presence of more than one coal ash indicator:

> Q. Now, some of the inorganics we are talking about here are boron and sulfate; is that right?
> A. Some of them are, yes, boron and – inorganic compounds – sulfate.
> Q. And so when you use the phrase 'groundwater impact,' that included in some cases elevated boron and sulfate?
> A. In the groundwater data, it had, in some cases, elevated boron and sulfate.

[42] *See* discussion of hydraulic head or water head above. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 4.

Hr'g Tr. Feb. 2, 139:9-19; see also *id*. at 257:6-13 (boron found with other coal ash indicators support conclusion of coal ash as source); Comp. Ex. 11B (("[B]oron and sulfate levels . . . are two typical ash leachate indicators.").

Mr. Seymour also affirmed what he stated in his report, when asked about the following quote:

> Q. So what it says here is, "Thus, it is my opinion that the recent groundwater impacts are not a result of the ash currently stored in the ponds at the sites, but instead are more likely than not a result of historical uses at the sites and the surrounding industrial companies and conditions."
> A. Yes. It is still my opinion.

Hr'g. Tr. Feb. 2, 142:5-142:24; Resp. Exhibit 903, at 43. The onsite historical uses causing coal ash contamination include historical deposits of coal ash, about which the record provides ample evidence (discussed above). Again, MWG's expert also indicated that coal ash constituents in the groundwater are not decreasing. "Overall, the groundwater concentrations are neither increasing nor decreasing. They're about the same." Hr'g. Tr. Feb. 2, 77:12-15. The specific sources of coal ash that have caused contamination in the past continue to cause contamination today.

IEPA also attributes specific groundwater impacts seen at the site at certain wells to "historical ash-related activities." The fact that the coal ash found outside of the ponds is impacting the groundwater at Powerton is seen in statements from the Illinois EPA. Ex. 255, MWG13-15_11235 ("IEPA requests that monitoring wells MW-1, MW-9 and MW-10 not be identified as 'upgradient' … they are not believed to be reliable up gradient monitoring points for historical ash related activities that may be impacting groundwater proximate to these wells."); *Id*. at MWG13-15_11236 ("Well MW-16 is considered an upgradient monitoring well, outside the area of groundwater impacts associated with historical ash-related handling activities.").

While MWG's expert purported to "rule out" certain coal ash deposits at Powerton as the source of contamination based on leach test results, MWG has not performed leach tests on the ash buried in the ground outside of the impoundments. Hr'g. Tr. Feb. 2, 170:5-20. Material in the limestone basin was leach tested (Hr'g. Tr. Feb. 2, 170:17-20), and Mr. Seymour tried to suggest that the single leach test could somehow rule out other sources by "process of elimination:" "Answer: My point is that the ash that we sampled and analyzed and where we evaluated it, it doesn't appear to be contributing enough to cause what we're seeing. And so I'm concluding by process of elimination there's something else.". Hr'g. Tr. Feb. 2, 138:24-139:5. MWG has not "sampled and analyzed" any of the coal ash fill at the site, and Mr. Seymour cannot rule this fill out as a source of contamination.

D. MWG Failed to Exercise Control to Prevent Groundwater Contamination from Coal Ash at Powerton

MWG failed to exercise control of the sources of coal ash to prevent groundwater contamination at Powerton. MWG failed to conduct environmental sampling of, leach test, cap, or line the ash fill areas at Powerton. First, aside from the hydrogeological monitoring required by IEPA, MWG has not conducted environmental sampling of the Former Ash Basin. Hr'g. Tr. Oct. 23, 159:15-16. Complainants Exhibit 32 makes it clear that even though MWG's consultant was aware of the presence of ash in the Former Ash Basin, ("There is up to 9 feet of ash (black coarse to fine sand - maybe cinders) over medium stiff clay."), it did not intend to follow up with "environmental" testing. Hr'g. Tr. Oct. 23, 158:18-159:16. Jeffrey Schuh of Patrick Engineering explicitly stated, "We did not sample for any environmental reason, and I do not intend to." Comp. Ex. 32; Hr'g. Tr. Oct. 23, 158:18-24.

According to MWG employees, the Former Ash Basin is not capped, and neither Maria Race nor Mark Kelly think it is lined. Hr'g. Tr. Jan. 30, 61:20-24; Hr'g. Tr. Jan. 31, 176:8-15.

MWG also has not undertaken any efforts to remove the ash from the Former Ash Basin, despite having been on notice since taking over operation of the site in 1999 that it was there. Hr'g. Tr. Jan 30, 142:14-18 (stating that Former Ash Basin was part of permitted water flow management system). Instead MWG intends to merely move the ash from one area of the pond to another for when the company closes the pond in the future. Hr'g. Tr. Jan. 30, 102:19-103:11. Finally, the Former Ash Basin has water in it and has not been dewatered. Hr'g. Tr. Jan. 30, 103:5-11. This of course increases the risk of the hydraulic "head" in the pond driving contaminants into the groundwater. Hr'g. Tr. Feb. 1, 225:14-226:12.[43]

MWG has entered into a CCA concerning groundwater contamination at Powerton. Resp. Ex. 636, at MWG13-15_555. But this agreement has failed to prevent ongoing contamination, likely because the CCA did not include any corrective action to address the Former Ash Basin or the coal ash fill buried throughout the site. Instead, it focuses almost entirely on proposals to replace liners and improve operation of the currently active ash ponds. Predictably, the groundwater contamination at Powerton has not improved. Hr'g. Tr. Feb. 2, 77:8-15.

E. MWG is Liable for the Contamination at Powerton

As the previous sections demonstrate, MWG has "allow[ed] the discharge of [] contaminants" into the groundwater at the Powerton site in violation of section 12(a) of the Illinois Environmental Protection Act, because even if it did not place the ash there, it knew about the coal ash issue at Powerton for years and failed to act. MWG has known about onsite coal ash, including the Former Ash Basin and coal discovered in borings all over the site, since it purchased the plant in 1999. Hr'g. Tr. Jan 30, 142:14-18 (stating that Former Ash Basin was part of permitted water flow management system); Comp. Ex. 201, MWG13-15_24300, 24306-

[43] *See* discussion of hydraulic head or water head above. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 4.

24310. Parties with control over a source of pollution are liable for water pollution in violation of Section 12(a) even if they did not place the contaminants at issue in the ground or water. *People of Illinois v. Inverse Investments, LLC*, PCB 11-79, 2012 WL 586821, at *9 (IPCB Feb. 16, 2012); *see also Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3; *Meadowlark Farms*, 308 N.E.2d at 836-37; *People v. Lincoln*, 70 N.E.3d 661, 678, 410 Ill.Dec. 534, 551.

The expert witnesses for both parties agree that coal ash from the Powerton site is a source of the groundwater pollution. MWG's expert John Seymour says it is historic sources/uses from the site. Resp. Ex. 903 at 43; Hr'g. Tr. Feb. 2, 142:5-24. Complainants' expert James Kunkel agrees, and believes that ash stored in the ash ponds may also be a source. Comp. Ex. 401 at 18. IEPA also attributes specific groundwater impacts seen at the site at certain wells to "historical ash-related activities." Comp. Ex. 255, MWG13-15_11235.

MWG is liable for groundwater contamination caused by historical ash sources on its Powerton property. MWG, as operator and lessee of Powerton, has had "capability and control" over the site since 1999. *See, e.g., People of Illinois v. State Oil Co*., PCB 97-103, 2003 WL 1785038, at *24-25 (IPCB Mar. 20, 2003); *People v. Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3-4 (IPCB Aug. 22, 2002); *Allaert Rendering, Inc. v. Ill. Pollution Control Bd*., 414 N.E.2d 492, 494-95 (Ill. App. 3d Dist. 1980). MWG has not exercised control to prevent pollution from the ash in the Former Ash Basin or scattered across the site. Parties with control over the premises or source of pollution cannot avoid liability unless that party has "exercise[d] control to prevent pollution." *See, e.g.*, *Meadowlark Farms, Inc. v. Illinois Pollution Control Bd.*, 17 Ill. App. 3d 851, 860, 308 N.E.2d 829, 836 (1974); *Perkinson*, 543 N.E.2d at 904; *Perkinson v. Illinois Pollution Control Bd*., 187 Ill. App. 3d 689, 694–95, 543 N.E.2d 901, 904 (1989).

MWG also violated the open dumping prohibitions in section 21(a) of the Illinois

Environmental Protection Act by maintaining coal ash "disposal sites" that do not "fulfill the requirements of a sanitary landfill." 415 ILCS 5/21(a); 415 ILCS 5/3.305. Under Illinois law, sanitary landfills "must meet the requirements of the Resource Conservation and Recovery Act and regulations thereunder." 415 ILCS 5/3.445. The relevant regulations include a set of MCLs at 40 C.F.R. Part 257, Appendix I. The Board cannot enforce these federal regulations, but has held that "an exceedance of the MCLs at one or more power plants may be evidence tending to show a violation of Section 21(a) of the Act." Order of the Board at 25 (Oct. 3, 2013). As shown in **Appendix B**, the groundwater at Powerton has exceeded the relevant MCLs 62 times since 2010, and continues to exceed these MCLs in 2017. Again, is the case under Section 12(a),[44] under Section 21(a) of the Act a party may be liable for violating the open dumping prohibitions even if they did not place the contaminating material at issue on the land or water. *People v. Lincoln, Ltd.*, 70 N.E.3d 661, 678 (Ill. App. 1st 2016). *See also State Oil Co., PCB 97-103, 2003 WL 1785038, at *19*; *Illinois EPA v. Rawe*, AC 92-5, 1992 WL 315780, *3-5 (IPCB Oct. 16, 1992); *Illinois EPA v. Coleman*, AC 04-46, 2004 WL 2578712, at *7 (IPCB Nov. 4, 2004).

To summarize, coal ash at Powerton has contaminated groundwater, and continues to contaminate groundwater. The Former Ash Basin is one identifiable source of contamination, and onsite ash ponds may be an additional source. Onsite boring logs consistently show that coal ash is buried deep in the ground throughout the site. This coal ash fill represents a major legacy contamination issue that MWG has failed to address.

III. WAUKEGAN

MWG owns and operates the Waukegan Generating Station, which has two active coal ash impoundments known as the East and West Ponds, and has owned and operated the site since 1999. Hr'g. Tr. Jan. 30, 107:21-108:2, 110:22-111:1. The area immediately west of the two ash

[44] This standard is identical to "cause or allow" standard applicable to Section 12(a) of the Act.

ponds is a coal ash storage area identified in drawings as the "Former Slag/Fly Ash Storage Area," (hereinafter "ash storage area"). Comp. Ex. 19D at MWG13-15_45814. The layout of the Waukegan site is shown in **Appendix E**. As described in more detail below, the groundwater at Waukegan is contaminated with coal ash constituents. MWG's expert concedes that at least some of the contamination is coming from onsite coal ash, and that the contamination is not improving over time. MWG's expert also concedes that the levels of coal ash indicators in groundwater increase as groundwater moves through the onsite ash storage area. The record shows that the ash storage area is a large, unlined coal ash landfill; that it is contaminating groundwater and has been since at least 2010; and that MWG has done nothing to investigate or remediate that area. Other onsite sources of coal ash may also be adding to the groundwater contamination.

A. The Groundwater at Waukegan is Contaminated with Coal Ash Constituents

Since monitoring began in 2010, groundwater has exceeded Illinois Class I Groundwater Quality Standards for coal ash constituents 396 times, including 87 exceedances in 2016, and 55 exceedances in the first half of 2017. *See* **Appendix A;** Comp. Exs. 267P, 268P, 269P, 270P, 271. Boron alone has exceeded Class I Groundwater Quality Standards 170 times since 2010, including 40 exceedances in 2016 and 21 exceedances in the first half of 2017. As MWG's expert concedes, groundwater contamination at Waukegan is not improving. Hr'g. Tr. Feb. 2, 96:9-19[45]; Resp. Ex. 901 at slides 54 and 55.[46]

Onsite concentrations of coal ash indicators boron and sulfate are not naturally occurring. The following table (Table 4) compares mean and median boron and sulfate values for each well at Waukegan to both median and upper-bound (90th percentile) background values from Illinois

[45] "[T]hey are neither increasing nor decreasing for the same reasons. You have about the same number of wells and parameters increasing as decreasing. So you can't make a -- it's not going up or down." Hr'g. Tr. Feb. 2, 96:15-19.
[46] Slides 54 and 55 can be found on pages 79 and 80 of the pdf document filed with the Board by MWG on Jan. 30, 2018.

EPA's statewide database.[47] The table demonstrates that most wells at Waukegan have boron and sulfate concentrations that are much higher than upper-bound background values. According to MWG's expert, we can be "sure that it is above background," (Hr'g. Tr. Feb. 2, 32:17-33:6), and onsite levels of boron and sulfate are therefore not naturally occurring.

Table 4: Boron and sulfate data for the Waukegan site.[48] Highlighted (red) values are medians that exceed the 90th percentile value from Illinois EPA's statewide database for sand and gravel aquifers. Highlighted (light orange) values are medians that exceed the median value from Illinois EPA's statewide database.[49]

Monitoring Well	Boron median (mg/L)	Sulfate median (mg/L)
MW-1	2.10	260
MW-2	2.50	220
MW-3	1.90	170
MW-4	2.10	210
MW-5	32.00	840
MW-6	2.80	190
MW-7	39.00	690
MW-8	24.00	420
MW-9	14.00	390
MW-10	1.05	140
MW-11	3.25	160
MW-12	1.95	190
MW-14	1.00	140
MW-15	5.10	250
Background (Sand and Gravel Aquifer)		
Illinois EPA median	0.12	54
Illinois EPA 90th percentile	0.70	175

[47] *See* discussion of Illinois EPA background values. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 6.
[48] Source data was extracted from Resp. Ex. 811.
[49] Comp. Ex. 405 at 7.

B. MWG Has Long Known About the Ash Disposal Areas (Lined and Unlined) at Waukegan

The Former Slag/Fly Ash Storage Area at Waukegan appears to be the primary onsite source of groundwater contamination. There is voluminous evidence indicating that the ash storage area continues to contain coal ash, and MWG has long known about the ash in this area.

The ash storage area was identified as early as 1998, in a Phase II Environmental Site Assessment that was produced by a consultant for the Waukegan Station's prior owner during the sale of the site to MWG. Comp. Ex. 19D at MWG13-15_45814; Hr'g. Tr. Oct. 23, 99:14-100:17. It was also identified in the Phase I Environmental Site Assessment that preceded the Phase II ESA. Comp. Ex. 38; Hr'g. Tr. Oct. 23, 137:1-138:1. MWG employees, including Maria Race (Director of Federal Environmental Programs), have long known about these documents and used them as a source of historic information. Hr'g. Tr. Oct. 23, 103:10-104:2, 112:15-113:7, 136:19-137:10, 225:11-23, 226:18-227.

Other MWG employees are also familiar with the ash storage area. MWG employee Frederick Veenbaas testified that he had seen photographs of ash in Former Slag/Fly Ash Storage Area. Hr'g. Tr. Feb. 1, 9:3-10:8. "I've seen pictures where ash is located there. They're from like the 1960s." Hr'g. Tr. Feb. 1, 10:7-8. "Again, from a historical basis, that area to the west of the west basin was used as a slag retention area.". Hr'g. Tr. Feb 1, 62:16-18. Mr. Veenbaas also testified that he was not aware of ash ever being removed from the area. Hr'g. Tr. Feb. 1, 10:9-18.

In 2011, MWG was made aware that MW-5 had been installed along the eastern side of the ash storage area and the boring for the well went through over 16 feet of "black coal cinders"[50] mixed with other material. Comp. Ex. 14C,[51] at MWG13-15_7166, 7175. Again,

[50] Coal "cinders" are coal ash. Hr'g. Tr. Oct. 23, 193:20-22; Hr'g. Tr. Jan. 31, 69:6-11, 92:6-10, 150:14-15.

Maria Race was aware that there was ash in the boring log for MW-5. "[A]t this point, which was several years ago now when I did my deposition, I remembered that there was shown to be ash in Monitoring Well 5. But as I sit here today, I do not remember that.". Hr'g. Tr. Jan. 30, 264:9-13.

In 2012, one of MWG's consultants, interpreting groundwater monitoring results, stated in an email to Maria Race that "[t]he elevated concentrations of compounds of interest in MW-5 appear to be the result of the well being installed in a former ash area." Comp. Ex. 16 at MWG13-15_14167; Hr'g. Tr. Oct. 23, 86:23-87:18. Ms. Race acknowledged that the initial groundwater results for MW-5 showed elevated "constituents" and that the results were consistent with her knowledge of the "old historic area":

> Q. What did the results of that first quarter groundwater sampling show?
> A. Well, the first round showed that Monitoring Well 5, which was the upgradient monitoring well from the ash impoundments, was higher in many constituents than the downgradient wells were.
> Q. Okay. Did that surprise you?
> A. Yeah.
> Q. All right. What --
> A. In a way but—let me continue—in a way it did not because I know this is an old historical area.

Hr'g. Tr. Jan. 30, 162:4-16.

In 2014, MWG learned that there was ash ("slag"[52]) buried along the northern and western edges of the ash storage area when its consultant drilled borings for groundwater monitoring wells MW-8 and MW-9. Comp. Ex. 203 at MWG13-15_45648-45649; Hr'g. Tr. Oct. 25, 53:5-54:17.

The name of the "Former Slag/Fly Ash Storage Area" indicates that it contains both slag

[51] Comp. Ex. 14C is the Hydrogeological Assessment Report for Waukegan. Patrick Engineering prepared this assessment in cooperation with and on behalf of MWG in February 2011. Comp. Ex. 14C at MWG13-15_7148; Hr'g. Tr. Oct. 23, 69:21-75:12.

[52] "Slag" is a form of coal ash. Hr'g. Tr. Feb. 1, 7:17-8:6; Hr'g. Tr. Jan. 31, 150:16-20.

and fly ash. Comp. Ex. 19D; Comp. Ex. 38.

MWG has failed to investigate the ash storage area at Waukegan and has failed to exercise control to prevent coal ash from contaminating the groundwater. Despite extensive evidence that the ash storage area contains ash and continues to contaminate groundwater, and despite MWG's contention that it should "develop [its] own information" about historic coal ash deposits (Hr'g. Tr. Jan 29, 204:18-205:3), MWG has done nothing to investigate or remediate the area. Hr'g. Tr. Jan. 30, 261:4-262:8; Hr'g. Tr. Feb. 2, 192:20-193:14.9. MWG has not, for example, extracted borings from the center of the area to determine how much ash is located there, or performed leach tests to determine what might be leaching out of the area. Hr'g. Tr. Jan. 30, 261:4-262:8. When asked whether MWG ever conducted leach tests for the ash buried in the ash storage area, Maria Race responded that "[w]e don't know that there is ash buried in that area. We haven't done investigation within this whole area to characterize it." *Id.* MWG's expert, John Seymour, stated that "[t]here's nothing – there's no borings or samples from that area.". Hr'g. Tr. Feb. 2, 192:20-193:14.

In terms of exercising control to prevent contamination or remediate the area, there no evidence that MWG took any action at all. MWG never installed a liner under the ash storage area, Hr'g. Tr. Oct. 23, 137:20-138:1,[53] and MWG employees are not aware of the area being lined by anyone else. Hr'g. Tr. Feb.1, 11:3-5.[54] MWG employees have no knowledge of an impermeable cap over the ash storage area. Hr'g. Tr. Jan. 30, 264:14-265:24; Hr'g. Tr. Feb. 1, 9:3-11:15. Finally, there is no evidence that MWG removed the ash from this area. Hr'g. Tr. Feb 1, 10:16-18.

[53] "Q. And has Midwest Generation installed a liner under the former slag/fly ash storage area? A. No Midwest Generation has not installed a liner under a former slag/fly ash storage area." Hr'g. Tr. Oct. 23, 137:20-138:1.
[54] "Q. Have you seen any evidence that this area is lined? A. No." Hr'g. Tr. Feb. 1, 11:3-5.

C. Coal Ash at Waukegan is Causing Groundwater Contamination

MWG's expert John Seymour concedes that at least some of the contamination is coming from onsite coal ash:

> Q. Is it your opinion that some of the contamination at Waukegan is coming from on-site historic uses of coal ash?
> A. Is that the same kind of statement in my deposition report, Mr. Russ? I think we're going over the same questions, is that correct?
> Q. Yes.
> A. I think that's a fair understanding if put in the proper context.

Hr'g. Tr. Feb. 2, 184:12-21. *See also id.* at 190:6-10. Seymour goes on to say that some of the boron contamination, specifically, is coming from onsite coal ash. Hr'g. Tr. Feb. 2, 192:6-10 ("Q. Do you still have the opinion that some of the boron in the monitor wells at Waukegan was coming from an on-site source? A. Yes, I believe so. I think that's clearly stated in my deposition.").

Based on the groundwater monitoring data, the most likely source of coal ash contamination is the Former Fly Ash/Slag Storage Area. Groundwater generally flows through the ash storage area from the west/northwest to the east/southeast. *See* the site map with groundwater flow contours in **Appendix E**; *see also* Resp. Ex. 901 at slide 49. The best indications of upgradient groundwater quality can therefore be found in wells MW-11 through MW-14 (located downgradient of the adjacent tannery site and upgradient of the ash storage area), and MW-6 (located immediately downgradient of the adjacent general boiler site and upgradient of the ash storage area). Groundwater monitoring wells MW-8 and MW-9 are located on the upgradient edge of the ash storage area, but are both screened in ash, which shows that they are in fact within the area, and likely affected by it, rather than upgradient of it. Comp. Ex. 203 at MWG13-15_45648-45649; Hr'g. Tr. Feb. 2, 196:1-4.

Table 4, above, shows that the groundwater migrating onto the site from the upgradient

properties has between 1 and 4 mg/L of boron (in wells MW-11 through MW-14 and well MW-6). After crossing the former slag/fly ash storage area, boron concentrations increase more than tenfold, to 30-40 mg/L (in wells MW-5 and MW-7). A similar pattern can be seen in the sulfate data: Sulfate concentrations are roughly 100-200 mg/L upgradient of the ash storage area, but 700-800 mg/L in downgradient wells MW-5 and MW-7. In short, the data plainly show that something in the ash storage area is adding coal ash constituents to groundwater.

MWG's expert John Seymour admits that the groundwater contamination increases as groundwater flows through the Former Slag/Fly Ash Storage Area:

> Q. Do the concentrations of boron and sulfate increase moving from upgradient to downgradient across the former fly ash slag storage area; is that accurate?
> A. It is for this data series that's shown.

Hr'g. Tr. Feb. 2, 229:16-21. Mr. Seymour also concedes that MW 5 and MW 7 have the highest onsite concentrations of coal ash indicators boron and sulfate. Hr'g. Tr. Feb. 2, 219:1-5, 221:11-222:15.

The coal ash in the Former Slag/Fly Ash Storage Area is in direct contact with groundwater, facilitating the leaching and migration of coal ash contamination.[55] Groundwater elevations at Waukegan fluctuate between 579 and 585 feet above mean sea level. Resp. Ex. 903, Table 4-5. Soil borings for the groundwater monitoring wells around the edge of the Former Slag/Fly Ash Storage Area show ash as low as 582 feet above mean sea level. Comp. Ex. 203 at MWG13-15_45648-45649. The coal ash buried in the center of the ash storage area may be even deeper, but the available evidence shows the potential for at least three feet of overlap between buried coal ash and groundwater.

Other onsite sources of coal ash may also be contributing to the contamination. The two

[55] *See* discussion of hydraulic head or water head above. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 4.

ash ponds at Waukegan were last relined in 2003 and 2004, well before this complaint was filed. Hr'g. Tr. Jan. 30, 111:18-22. The two ponds do not meet federal design criteria. Specifically, they are less than five feet above the underlying groundwater, and they do not have the type of liner that the U.S. EPA requires for new and existing coal ash ponds. Hr'g. Tr. Feb. 2, 84:22-85:4, 306:7-307:16 (the bottoms of the pond liners are 1-2 feet above average groundwater elevations); Id. at 143:5-148:4 (none of the liners at the four MWG coal plants meet the liner criteria in the coal ash rule). If these substandard ponds were leaking when Complainants filed their complaint, then they are almost certainly still leaking. In addition, the berms of the ash ponds were constructed, at least in part, with coal ash, and now contain ash to a depth of 10-20 feet; this can be seen in the soil borings for the groundwater monitoring wells east of the ponds. Comp. Ex. 14C at MWG13-15_7166-7174; Comp. Ex. 401 at Table 7. The coal ash in the berms of the ponds is likely leaching coal ash constituents into groundwater. Comp. Ex. 401 at 24-25; Hr'g. Tr. Oct. 27, 24:9-26:3.

All of the above-cited evidence shows that the "Former Slag/Fly ash Storage Area" is now a large, unlined (Hr'g. Tr. Oct. 23, 137:20-138:1) coal ash landfill that is actively contaminating groundwater with coal ash constituents, with the possibility of additional contamination coming from the ash ponds (including their berms). Given the weight of the evidence described above, the Board should conclude that the Former Slag/Fly Ash Storage Area contains coal ash, and that the Waukegan property, particularly the Former Slag/Fly Ash Storage Area, is actively contaminating the groundwater.

D. MWG Failed to Exercise Control to Prevent Groundwater Contamination from Coal Ash at Waukegan

MWG has entered into a CCA concerning groundwater contamination at Waukegan, but that plan notably fails to prescribe any corrective action that MWG might take to reduce or

eliminate ongoing contamination. Resp. Ex. 649 at MWG13-15_50550 ("The CCA that IEPA approved for Waukegan, didn't include a corrective action (hence no GMZ) . . . .")[56] ; *see also* Resp. Ex. 647. Unlike the CCAs for the other facilities, the Waukegan CCA did not require the relining of any ponds. If the ponds were leaking before, they are almost certainly still leaking.

Both the Violation Notice and the CCA were explicitly limited to the violations caused by impoundments. The CCA does not, therefore, contain any conditions that could reduce contamination from the Former Slag/Fly Ash Storage Area. All told, nothing in the CCA requires any action by MWG to control the source of the coal ash constituents that are contaminating groundwater. Predictably, the groundwater contamination at Waukegan has not improved since the CCA was signed. Hr'g. Tr. Feb. 2, 96:9-19[57]; MWG Ex. 901 at slides 54 and 55.[58]

E. MWG is Liable for the Contamination at Waukegan

MWG's property is a source of contamination, and MWG is therefore liable for the contamination. Parties who lease or operate the source of pollution exercise the capability to control a source of pollution. *See, e.g., State Oil Co*., PCB 97-103, 2003 WL 1785038, at *24-25 (finding current owners and operators liable under Section 12(a)); *Michel Grain*, PCB No. 96-143, 2002 WL 2012414, at *3-4 (denying lessee's motion to dismiss Section 12(a) complaint); *Allaert Rendering*, 414 N.E.2d at 494-95 (finding plant operator liable under Section 12(a)).

The expert witnesses for both parties agree that coal ash from the Waukegan site is a source of the groundwater pollution. MWG's expert John Seymour concluded that at least some of the contamination is coming from onsite coal ash at Waukegan. Hr'g. Tr. Feb.2, 184:12-21; 192:6-10. Dr. Kunkel identifies the source of contamination as the ponds (including their berms)

[56] IEPA never eliminated the ash storage area as a source of groundwater contamination at Waukegan. Resp. Ex. 649.

[57] "[T]hey are neither increasing nor decreasing for the same reasons. You have about the same number of wells and parameters increasing as decreasing. So you can't make a -- it's not going up or down." Hr'g. Tr. Feb. 2, 96:15-19.

[58] Slides 54 and 55 can be found on pages 79 and 80 of the pdf document filed with the Board by MWG on Jan. 30, 2018.

and/or the ash storage areas. Comp. Ex. 401 at 3, 23-25; Hr'g. Tr. Oct. 27, 24:9-26:3, 189:15-19. And again, the contamination is not improving. Hr'g. Tr. Feb. 2, 96:9-19[59]; Ex. 901 at slides 54 and 55.[60] In the first half of 2017 alone, there were over fifty exceedances of Class I Groundwater Quality Standards for arsenic, boron, sulfate, and other coal ash constituents. *See* **Appendix A.** Regardless of the relative contributions of these two sources, it is clear that coal ash on the Waukegan property is causing groundwater contamination. MWG is responsible for that contamination.

Parties with control over a source of pollution, like MWG has over Waukegan, are liable for water pollution in violation of Section 12(a) even if they did not place the contaminants at issue in the ground or water. "[T]he current owner may be responsible for contamination even if the current owner did not actively dispose of the contamination." *Inverse Investments*, PCB 11-79, 2012 WL 586821, at *9; *see also Michel Grain*, PCB No. 96-143, 2002 WL 2012414, at *3; *Meadowlark Farms*, 308 N.E.2d at 836-37; *Lincoln*, 70 N.E.3d at 678. Even though Midwest Generation may not have placed ash in the Former Fly Ash/Slag Storage Area at Waukegan, MWG owns the property where the coal ash contamination is occurring.

Finally, MWG has long been aware of the Former Fly Ash/Slag Storage Area but has not exercised control to prevent coal ash from contaminating the groundwater. Parties with control over the premises or source of pollution cannot avoid liability unless that party has "exercise[d] control to prevent pollution." *See, e.g.*, *Meadowlark Farms*, 308 N.E.2d at 851, 860, 308 N.E.2d 829, 836 (1974); *Perkinson*, 543 N.E.2d at 904. When pollution "ha[s] its source on [a party's] land and in a waste facility under [a party's] control," the PCB will hold them liable and find a

[59] "[T]hey are neither increasing nor decreasing for the same reasons. You have about the same number of wells and parameters increasing as decreasing. So you can't make a -- it's not going up or down." Hr'g. Tr. Feb. 2, 96:15-19.
[60] Slides 54 and 55 can be found on pages *79 and *80 of the pdf document filed with the Board by MWG on Jan. 30, 2018.

violation of the Act. *Perkinson*, 543 N.E.2d at 901, 904 (1989). MWG was aware of the Former Slag/Fly Ash Storage Area but took no efforts to either get more information about the area (e.g., through testing or monitoring) or to remove the source of contamination or otherwise prevent contamination. The source of the pollution is on MWG's land and in a disposal area under MWG's control. That is sufficient for the PCB to find ongoing violations under the Act.

MWG also violated the open dumping prohibitions in section 21(a) of the Illinois Environmental Protection Act by maintaining a coal ash "disposal site" that did not "fulfill the requirements of a sanitary landfill." 415 ILCS 5/21(a); 415 ILCS 5/3.305. Under Illinois law, sanitary landfills "must meet the requirements of the Resource Conservation and Recovery Act and regulations thereunder." 415 ILCS 5/3.445. The relevant regulations include a set of MCLs at 40 C.F.R. Part 257, Appendix I. The Board cannot enforce these federal regulations, but has held that "an exceedance of the MCLs at one or more power plants may be evidence tending to show a violation of Section 21(a) of the Act." Order of the Board at 25 (Oct. 3, 2013). As shown in **Appendix B**, the groundwater at Waukegan has exceeded the relevant MCLs 106 times since 2010, and continues to exceed these MCLs in 2017. Again, as is the case under Section 12(a),[61] under Section 21(a) of the Act a party may be liable for violating the open dumping prohibitions even if they did not place the contaminating material at issue on the land or water. "A clear standard of landowner liability has also been stated by the Illinois Pollution Control Board in proceedings in which landowners attributed violations to others." *Lincoln,* 70 N.E.3d at 661, 678. *See also State Oil Co.*, PCB 97-103, 2003 WL 1785038, at *19; *Rawe*, AC 92-5, 1992 WL 315780, at *3-5; *Coleman*, AC 04-46, 2004 WL 2578712, at *7 (IPCB Nov. 4, 2004).

IV. WILL COUNTY

MWG has owned and operated the Will County Station since 1999. Hr'g. Tr. Jan. 30,

[61] This standard is identical to "cause or allow" standard applicable to Section 12(a) of the Act.

187:4-9. The site has four ash ponds, two of which are actively being used. Hr'g. Tr. Jan. 30, 191:20-192:3. The layout of the Will County site is shown in **Appendix F**. Will County is located on a narrow peninsula, which means that any groundwater contamination detected at the site must be coming from onsite sources. Hr'g. Tr. Feb. 2, 172:5-20. As MWG's expert acknowledges, there are coal ash constituents in the groundwater at Will County, which means that there must be an onsite source of coal ash contamination. Hr'g. Tr. Feb. 2, 122:20-23, 175:11-23. The contamination is likely coming from two places—the four ash ponds, which are sitting in groundwater and two of which have not been relined since they were constructed in 1977, and up to twelve feet of coal ash buried along the eastern edge of the ash pond. Hr'g. Tr. Jan. 30, 191:20-23; Comp. Ex. 201 at MWG13-15_24282-24287;[62] Comp. Ex. 15C at MWG13-15_7251-7256.[63] MWG has known about the poor condition of the ash pond liners, and about the coal ash buried next to the ponds, since at least 2010, but has done virtually nothing to control the continuous release of contamination. Comp. Ex. 34 at MWG13-15_23614; Resp. Ex. 606 at MWG13-15_23647; Comp. Ex. 15C at MWG13-15_7251-7256. As a result, and as admitted by MWG's expert, the contamination has not improved over time. Hr'g. Tr. Feb. 2, 123:20-124:6.

A. The Groundwater at Will County is Contaminated with Coal Ash Constituents

Since monitoring began in 2010, groundwater at the Will County site has exceeded Illinois Class I Groundwater Quality Standards for coal ash constituents 443 times, including 70 exceedances in 2016 and 37 exceedances in the first half of 2017. *See* **Appendix A**. Again,

[62] These borings were located between ponds 1N and 1S (boring GT-2), east of pond 1S (boring WC-GT-3), and at the southwest corner of pond 2S (boring WC-GT-4). Comp. Ex. 201 at MWG13-15_24282-24287.

[63] Ex. 15C is the Hydrogeological Assessment Report for Will County. Patrick Engineering prepared this assessment in cooperation with and on behalf of MWG in February 2011. Comp. Ex. 15C at MWG13-15_7230; Hr'g. Tr. Oct. 23, 72:23-74:7.

MWG's expert acknowledges that the contamination is not improving. Hr'g. Tr. Feb. 2, 123:20-124:6; Resp. Ex. 901 at slides 70 and 72.[64]

Onsite concentrations of the coal ash indicators boron and sulfate are higher than background values developed by Illinois EPA, and not naturally occurring. Median boron concentrations exceed the upper-bound, 90th percentile background concentration in all wells.[65] *See* Table 5 below. According to MWG's expert, if onsite groundwater data are greater than the 90th percentile value from the Illinois EPA database, then "you're sure that it is above background." Hr'g. Tr. Feb. 2, 32:17-33:6. Onsite sulfate values are generally below the 90th percentile background value, but two to five times higher than the median background value. Sulfate concentrations in well MW-4 (which has the highest onsite boron levels) are roughly three times higher than the 90th percentile background value.

Table 5: Boron and sulfate data for the Will County site.[66] Highlighted (red) values are medians that exceed the 90th percentile value from Illinois EPA's statewide database for sand and gravel aquifers. Highlighted (light orange) values are medians that exceed the median value from Illinois EPA's statewide database.[67]

[64] Slides 70 and 71 can be found on pages 95 and 96 of the pdf document filed with the Board by MWG on Jan. 30, 2018.
[65] *See* discussion of Illinois EPA background values. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 6.
[66] Source data was extracted from Respondent's Exhibit 809.
[67] Comp. Ex. 405 at 7.

Monitoring Well	Boron median (mg/L)	Sulfate median (mg/L)
MW-1	1.60	270
MW-2	2.40	340
MW-3	3.20	390
MW-4	4.60	1500
MW-5	3.50	540
MW-6	2.90	360
MW-7	3.90	530
MW-8	2.30	450
MW-9	1.70	310
MW-10	2.80	300
Background (Bedrock Aquifer)		
Illinois EPA median	0.28	106
Illinois EPA 90th percentile	1.25	550

B. MWG Has Long Known About Likely Sources of Coal Ash Contamination at Will County

The contamination at Will County must be coming from onsite sources because the plant is located on a peninsula, with surface water on either side acting as a barrier against contamination from offsite. Hr'g. Tr. Feb. 2, 172:5-20. Given the high concentrations of coal ash indicators boron and sulfate, the contamination must be coming from, specifically, onsite coal ash. Hr'g. Tr. Feb. 2, 122:20-23, 175:11-23. Both the ash ponds and the coal ash fill located outside the ash ponds are likely contributing to the contamination.

The four ash ponds were lined with poz-o-pac[68] in 1977. Hr'g. Tr. Jan. 30, 191:20-23. In 2006, a consultant for MWG rated the condition of all four pond liners as "poor." Comp. Ex. 34 at MWG13-15_23614; Resp. Ex. 606 at MWG13-15_23647. Since then, the poz-o-pac liner in at

[68] "Poz-o-pac" is a cementitious material made of fly ash and other materials. Hr'g. Tr. Feb. 2, 148:6-12.

least one pond has cracked, allowing water to seep through. Comp. Ex. 303; Hr'g. Tr. Oct. 24, 214:5-215:12.[69] A core sample of poz-o-pac from the liner of one of the Will County ponds also contained hairline cracks. Comp. Ex. 286; Hr'g. Tr. Oct. 25, 221:6-223:2. [70] The two southernmost ponds (ponds 2S and 3S) have been relined with HDPE and other materials. Hr'g. Tr. Oct. 24, 192:5-194:23, 204:2-22. Yet MWG employees expressed concerns about how easy it would be for the new liners to be damaged during the dredging process (Comp. Ex. 306), and in at least one instance the new liner was "extremely damaged" and "completely torn up," with the torn section of liner buried under ash and not discovered for potentially "many months." Comp. Ex. 307.

The two northern ponds, ponds 1N and 1S, which still contain ash and are not capped, remain lined with nothing more than forty-year-old poz-o-pac. Hr'g. Tr. Oct. 23, 169:18-21, 170:1-19[71]; Hr'g. Tr. Oct. 24, 14:2-15:19. None of the four active ash ponds at Will County meet federal design criteria. Specifically, they are less than five feet above the underlying groundwater, and they do not have the type of liner that the U.S. EPA requires for new and existing coal ash ponds. Hr'g. Tr. Feb. 2, 309:21-310:19 (the bottoms of the pond liners are at least a foot below average groundwater elevations); Id. at 143:5-148:4 (none of the liners at the four MWG coal plants meet the liner criteria in the coal ash rule). Evidence indicates that groundwater has, in fact leaked through the poz-o-pac liners. Comp. Ex. 302; Hr'g. Tr. Oct. 24, 211:18-213:20, 213:1-6 ("Q. What was the purpose of this field change request? A. So the description of the change request is written as 'cut holes in liner to pump out groundwater.'

[69] "Water is seeping through cracks in 2nd p-o-p layer." Comp. Ex. 303. MWG's expert testified about the conditions that would lead poz-o-pac to crack: Q: "And Poz-o-Pac liners can crack, right?" A. "The conditions that they would crack would have to, of course, be between the loading and weathering of those like freeze/thaw so they can crack." Hr'g. Tr. Feb. 2, 148:16-21.

[70] "It says, 'Additionally, the samples inspected for science [sic] of cracking and discoloration -- if cracking and discoloration. Hairline cracks were noted at the ends of the core,' yes." Hr'g. Tr. Oct. 25, 222:7-10.

[71] "Q. And they still have ash in them, correct? A. Yes, they do still have ash in them." Hr'g. Tr. Oct. 23, 170:8-10.

CAWS, C-A-W-S, will then patch the holes."). Since the bottoms of ponds 1N and 1S are sitting below the water table, cracks in the poz-o-pac liners would allow groundwater to leak into the ponds and ash constituents to leak out of the ponds into the groundwater.[72] Hr'g. Tr. Feb. 2, 149:15-18 ("[O]f course, if you have crack in a material, the water can flow through if you put the water head on top of it."). In short, all of the coal ash ponds at Will County, but particularly ponds 1N and 1S, are substandard and likely to be leaking coal ash constituents into the underlying groundwater.

MWG has also long been aware of coal ash fill in the ground surrounding the ash ponds, particularly along their eastern edge. In 2005, a consultant for MWG implemented a soil boring program around MWG's coal ash ponds. At Will County, three borings identified "bottom ash" and/or "slag" mixed with other materials, primarily in the top two feet of soil, but also as deep as nine feet beneath the surface. Comp. Ex. 201 at MWG13-15_24282-24287.[73] In 2010 and 2011, when MWG was installing groundwater monitoring wells, the borings for the wells showed a thick layer of coal ash buried along the eastern edge of the four ash ponds. Comp. Ex. 15C at MWG13-15_7251-7256.[74] Specifically, the soil borings for groundwater monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-6 all show layers of fill, between five and twelve feet thick, containing "black coal cinders," "black coal ash," and/or "black ash." Comp. Ex. 15C at MWG13-15_7251-7256.[75]

[72] *See* discussion of hydraulic head or water head above. *Supra* "Summary of Facts Applicable to All of the MWG Plants" § 4.

[73] These borings were located between ponds 1N and 1S (boring GT-2), east of pond 1S (boring WC-GT-3), and at the southwest corner of pond 2S (boring WC-GT-4). Comp. Ex. 201 at MWG13-15_24282-24287.

[74] Comp. Ex. 15C is the Hydrogeological Assessment Report for Will County. Patrick Engineering prepared this assessment in cooperation with and on behalf of MWG in February 2011. Comp. Ex. 15C at MWG13-15_7230; Hr'g. Tr. Oct. 23, 72:23-74:7.

[75] Comp. Ex. 15C is the Hydrogeological Assessment Report for Will County. Patrick Engineering prepared this assessment in cooperation with and on behalf of MWG in February 2011. Comp. Ex. 15C at MWG13-15_7230; Hr'g. Tr. Oct. 23, 72:23-74:7.

The coal ash fill in this area is at least periodically saturated with groundwater, which increases the risk of contamination. Groundwater elevations at Will County fluctuate between 579 and 584 feet above mean sea level. MWG Ex. 903 at Table 4-7. Coal ash is buried at elevations as low as 578.6 feet. Comp. Ex. 15C at MWG13-15_7252. Monitoring well MW-2 provides a useful example. When the boring log for monitoring well MW-2 was made, coal ash was found down to 578.6 feet, and the groundwater elevation in that well was at 580.6 feet. *Id*. (showing a layer of fill that contains "black coal cinders" extending two feet beneath the groundwater level). This was an unusually low groundwater reading for this well, which generally has groundwater elevations between 582 and 584 feet. MWG Ex. 903 at Table 4-7. In other words, three to five feet of coal ash in the vicinity of monitoring well MW-2 is constantly saturated with groundwater.

C. Coal Ash at Will County is Causing Groundwater Contamination

MWG's expert John Seymour conceded that the contamination at Will County is characteristic of coal ash and that it is coming from onsite sources, but claims that "there's no specific source that could be identified." Hr'g. Tr. Feb 2, 122:20-23, 126:1-14; 172:22-176:12. One obvious culprit is the coal ash that surrounds groundwater monitoring wells MW-1 through MW-6. There is no evidence in the record that this area is capped or lined. Consequently, it is exposed to precipitation from above and to groundwater.

Mr. Seymour attempts to eliminate this ash as a potential source by assuming that it will have the same leachate characteristics as coal ash from an aboveground "CCR Placement Area." MWG Ex. 901 at slide 59; MWG Ex. 804, pdf p. 84. This argument has three fatal flaws. First, there is no reason to believe that the coal ash tested by MWG is representative of the coal ash buried along the edge of the ponds. The tested material was described as "bottom ash/slag," Comp. Ex. 284 at MWG13-15_49568, while the material found in the boring logs for the

groundwater monitoring wells was described as "coal cinders," "coal ash," or simply "black ash." Comp. Ex. 15C at MWG13-15_7251-7256. The material in the boring logs may include, for example, fly ash. Second, the leach test used by MWG is not intended to simulate leaching in the field. Comp. Ex. 407, 4-5; Hr'g. Tr. Oct. 26, 46:24-48:13. Third, the leach test results, which detected boron and did not test for sulfate, are not inconsistent with the presence of boron and sulfate in groundwater. *See* Comp. Ex. 284.

The ponds are also a likely source of contamination. According to one of MWG's consultants, there is only one monitoring well upgradient of the ash ponds: Well MW-1. Comp Ex. 16 at MWG13-15_14171. As shown in Table 5 above, monitoring well MW-1 has lower boron and sulfate concentrations than any of the other wells. Basic principles of hydrology suggest that something between the upgradient well and the downgradient wells is adding coal ash indicators to the groundwater. For example, as groundwater moves from MW-1 toward MW-7, it travels beneath and potentially through[76] ash pond 1N, which contains coal ash, remains poorly lined, and may be leaking. By the time groundwater reaches monitoring well MW-7, the concentrations of boron and sulfate have doubled. The only thing between wells MW-1 and MW-7, and the only possible source of the increase in boron and sulfate, is the 1N ash pond.

D. MWG Failed to Exercise Control to Prevent Groundwater Contamination from Coal Ash at Will County

MWG failed to exercise control of the source of coal ash constituents to prevent groundwater contamination. Ash ponds 1N and 1S continue to have coal ash in them, the same ash that has been there since they were last dredged. Hr'g. Tr. Oct. 24, 14:21-24. These ponds were never relined and, therefore, have the same poz-o-pac liners that they were originally lined with in 1977. Hr'g. Tr. Jan. 30, 280:12-20; Hr'g. Tr. Oct. 24, 184:2-9, 188: 7-10, 188:13-17.

[76] See, e.g., Comp. Ex. 15C at MWG13-15_7249, showing a cross-section from MW-1 to MW-7 in which the groundwater level is higher than the bottom ash pond 1N.

Ponds 1N and 1S are not capped. Hr'g. Tr. Oct. 23, 170:16-19; Hr'g. Tr. Oct. 24, 185:9-12, 188:18-19. The ponds are also open to precipitation. Hr'g. Tr. Oct. 24, 16:8-11. There is no evidence in the record that MWG has ever investigated or tested, much less taken steps to remove, the coal ash buried along the eastern edge of the ash ponds. Finally, the contents of One North and One South have not been completely dewatered and are allowed to sit in up to one foot of standing water. Resp. Ex. 656 at MWG-13-15_561. Due to MWG's lack of precautions, the coal ash in ash ponds 1N and 1S presents an ongoing threat to groundwater.

MWG has entered into a CCA with the Illinois EPA in a purported effort to try to control contamination issues at Will County. Resp. Ex. 656 at MWG13-15_560-562. But MWG's efforts under the CCA were limited to listed ash ponds at the site, and even those required actions were not sufficient to prevent ongoing contamination. Missing from the list of corrective actions under the CCA are any efforts to remove the coal ash from the eastern edge of the ash ponds. *Id.* Also missing is any requirement that MWG remove coal ash from ponds 1N and 1S. The terms of the CCA are therefore inadequate to control the ongoing contamination at Will County, and as a result, the groundwater contamination problem has not improved. Hr'g. Tr. Feb. 2, 123:20-124:6; Resp. Ex. 901 at slides 70 and 72.[77]

E. MWG is Liable for the Contamination at Will County

Ultimately, the answer to whether it is the coal ash ponds or the coal ash fill causing the contamination, or both, doesn't affect MWG's liability. If MWG's property is the source, then MWG is liable for the violations. Parties who lease or operate the source of pollution exercise the capability to control a source of pollution. *See, e.g., State Oil Co.*, PCB 97-103, 2003 WL 1785038, at *24-25 (finding current owners and operators liable under Section 12(a)); *Michel*

[77] Slides 70 and 71 can be found on pages 95 and 96 of the pdf document filed with the Board by MWG on Jan. 30, 2018.

Grain, PCB 96-143, 2002 WL 2012414, at *3-4 (denying lessee's motion to dismiss Section 12(a) complaint); *Allaert Rendering*,414 N.E.2d at #492, 494-95 (finding plant operator liable under Section 12(a)).

The expert witnesses for both parties agree that coal ash from the Will County site is the source of the groundwater pollution. MWG's expert John Seymour concluded that the contamination is coming from onsite coal ash at Will County. Hr'g. Tr. Feb. 2, 122:19-23. Complainants' expert Dr. Kunkel points to it being either the ponds or ash fill. Hr'g. Tr. Oct. 27, 189:15-19.

Parties with control over a source of pollution, like MWG over Will County, are liable for water pollution in violation of Section 12(a) even if they did not place the contaminants at issue in the ground or water. "[T]he current owner may be responsible for contamination even if the current owner did not actively dispose of the contamination." *Inverse Investments*, PCB 11-79, 2012 WL 586821, at *9; *see also Michel Grain*, PCB 96-143, 2002 WL 2012414, at *3; *Meadowlark Farms*, 308 N.E.2d at 836-37; *Lincoln*, 70 N.E.3d 661, at 678. Even though MWG did not place the ash fill in the ground at Will County, MWG owns the property where the coal as contamination is coming from. If it is from the ponds or from ash fill or some other coal ash source on the site, MWG is liable.

Finally, MWG did not exercise control to prevent coal ash from contaminating the groundwater. Parties with control over the premises or source of pollution cannot avoid liability unless that party has "exercise[d] control to prevent pollution." *See, e.g., Meadowlark Farms*, 308 N.E.2d at 836; *Perkinson*, 543 N.E.2d at 904. When pollution "ha[s] its source on [a party's] land and in a waste facility under [a party's] control," the PCB will hold them liable and find a violation of the Act. *Perkinson*, 543 N.E.2d at, 904. MWG has known about onsite coal ash fill

since as early as 2005, see Comp. Ex. 201, and gained additional knowledge of coal ash fill when it installed groundwater monitoring wells in 2010. Comp Ex. 15C. MWG has known about onsite groundwater contamination since at least 2010. *Id*. Despite this knowledge, MWG did not take efforts to control the contamination from Ponds 1N and 1S or the fill. The source of the pollution was on MWG's land and in disposal areas under MWG's control. That is sufficient for the PCB to find violations under the Act.

MWG also violated the open dumping prohibitions in section 21(a) of the Illinois Environmental Protection Act by maintaining a coal ash "disposal site" that did not "fulfill the requirements of a sanitary landfill." 415 ILCS 5/21(a); 415 ILCS 5/3.305. Under Illinois law, sanitary landfills "must meet the requirements of the Resource Conservation and Recovery Act and regulations thereunder." 415 ILCS 5/3.445. The relevant regulations include a set of MCLs at 40 C.F.R. Part 257, Appendix I. The Board cannot enforce these federal regulations, but has held that "an exceedance of the MCLs at one or more power plants may be evidence tending to show a violation of Section 21(a) of the Act." Order of the Board at 25 (Oct. 3, 2013).

As shown in **Appendix B**, the groundwater at Will County has exceeded the relevant MCLs 25 times since 2010, and continues to exceed these MCLs in 2017. Again, is the case under Section 12(a),[78] under Section 21(a) of the Act a party may be liable for violating the open dumping prohibitions even if they did not place the contaminating material at issue on the land or water. "A clear standard of landowner liability has also been stated by the Illinois Pollution Control Board in proceedings in which landowners attributed violations to others." *Lincoln*, 70 N.E.3d at 661, 678; s*ee also State Oil Co.*, PCB 97-103, 2003 WL 1785038, at *19; *Rawe*, AC 92-5, 1992 WL 315780, at *3-5; *Coleman*, AC 04-46, 2004 WL 2578712, at *7.

[78] This standard is identical to "cause or allow" standard applicable to Section 12(a) of the Act.

CONCLUSION

The evidence clearly shows that the groundwater at Joliet 29, Powerton, Waukegan, and Will County is contaminated with coal ash constituents, that coal ash at the four MWG Plants is the source of the contamination, and that MWG has done little to control the ongoing contamination. MWG has therefore violated Section 12(a) of the Act; 35 Ill. Adm. Code §§ 620.115, 620.301(a), 620.405; and Section 21(a) of the Act.

Dated: July 20, 2018

Respectfully submitted,

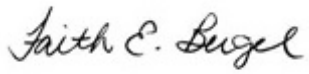

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TABLE OF APPENDICES

Appendix A: Groundwater monitoring results that exceed Illinois Class I Groundwater Quality Standards……..1

The data in Appendix A was extracted from Respondent's Exhibits 809-812. While these exhibits do not include all onsite groundwater monitoring data, they do include sufficient data to document the severity and persistence of contamination.

Appendix A only includes data for constituents of coal ash, as defined by the U.S. EPA in the coal ash rule's groundwater monitoring requirements. 40 C.F.R. Part 257, Appendices III ("constituents for detection monitoring") and IV ("constituents for assessment monitoring").

Appendix B: Groundwater monitoring results that exceed "open dumping" Maximum Contaminant Levels (MCLs) …….35

The data in Appendix B were extracted from Respondent's Exhibits 809-812 and only include data for constituents of coal ash as defined by the U.S. EPA in the coal ash rule's groundwater monitoring requirements. 40 C.F.R. Part 257, Appendices III ("constituents for detection monitoring") and IV ("constituents for assessment monitoring"). The data were compared to the "open dumping" MCLs found at 40 C.F.R. Part 257, Appendix I. See also 40 C.F.R. § 257.3-4(c)(2) (groundwater criteria for classification of solid waste disposal facilities and practices).

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Appendix D: Powerton site map…….43

Exhibit 259O at MWG13-15_62221.

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Appendix F: Will County site map…….47

Exhibit 280Q at MWG13-15_58393.

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1	2010	Joliet 29	MW-02	Antimony	12/6/2010	0.006	0.012
2	2010	Joliet 29	MW-09	Sulfate	12/6/2010	400	1600
3	2010	Joliet 29	MW-09	TDS	12/6/2010	1200	2600
4	2010	Powerton	MW-07	Arsenic	12/6/2010	0.01	0.026
5	2010	Powerton	MW-07	Lead	12/6/2010	0.0075	0.039
6	2010	Powerton	MW-09	Boron	12/16/2010	2	2.1
7	2010	Powerton	MW-13	Arsenic	12/15/2010	0.01	0.011
8	2010	Powerton	MW-13	Boron	12/15/2010	2	3.9
9	2010	Powerton	MW-13	Sulfate	12/15/2010	400	1400
10	2010	Powerton	MW-13	TDS	12/15/2010	1200	2600
11	2010	Powerton	MW-14	Arsenic	12/15/2010	0.01	0.024
12	2010	Powerton	MW-14	Sulfate	12/15/2010	400	960
13	2010	Powerton	MW-14	TDS	12/15/2010	1200	1800
14	2010	Waukegan	MW-01	Arsenic	10/25/2010	0.01	0.054
15	2010	Waukegan	MW-01	Boron	10/25/2010	2	2.6
16	2010	Waukegan	MW-02	Antimony	10/25/2010	0.006	0.015
17	2010	Waukegan	MW-02	Arsenic	10/25/2010	0.01	0.025
18	2010	Waukegan	MW-02	Boron	10/25/2010	2	2.2
19	2010	Waukegan	MW-05	Boron	10/25/2010	2	28
20	2010	Waukegan	MW-05	Sulfate	10/25/2010	400	920
21	2010	Waukegan	MW-05	TDS	10/25/2010	1200	1500
22	2010	Will	MW-01	Sulfate	12/13/2010	400	530
23	2010	Will	MW-02	Sulfate	12/13/2010	400	430
24	2010	Will	MW-03	Boron	12/13/2010	2	2.7
25	2010	Will	MW-04	Boron	12/13/2010	2	3.7
26	2010	Will	MW-04	Sulfate	12/13/2010	400	1500
27	2010	Will	MW-04	TDS	12/13/2010	1200	2500
28	2010	Will	MW-05	Boron	12/13/2010	2	2.6
29	2010	Will	MW-05	Sulfate	12/13/2010	400	580
30	2010	Will	MW-06	Boron	12/13/2010	2	2.7
31	2010	Will	MW-06	Sulfate	12/13/2010	400	500
32	2010	Will	MW-07	Boron	12/13/2010	2	4.7
33	2010	Will	MW-07	Sulfate	12/13/2010	400	610
34	2010	Will	MW-07	TDS	12/13/2010	1200	1300
35	2010	Will	MW-08	Sulfate	12/13/2010	400	440
36	2010	Will	MW-09	Boron	12/13/2010	2	2.2
37	2010	Will	MW-09	Sulfate	12/13/2010	400	410
38	2010	Will	MW-10	Boron	12/13/2010	2	2.1
39	2011	Joliet 29	MW-03	Antimony	9/14/2011	0.006	0.0065

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
40	2011	Joliet 29	MW-03	Antimony	12/7/2011	0.006	0.016
41	2011	Joliet 29	MW-04	Antimony	12/7/2011	0.006	0.0067
42	2011	Joliet 29	MW-09	Sulfate	3/23/2011	400	1100
43	2011	Joliet 29	MW-09	Sulfate	6/14/2011	400	580
44	2011	Joliet 29	MW-09	Sulfate	9/14/2011	400	750
45	2011	Joliet 29	MW-09	TDS	3/23/2011	1200	2400
46	2011	Joliet 29	MW-09	TDS	6/14/2011	1200	1500
47	2011	Joliet 29	MW-09	TDS	9/14/2011	1200	1700
48	2011	Joliet 29	MW-09	TDS	12/7/2011	1200	2400
49	2011	Joliet 29	MW-11	Boron	3/23/2011	2	2.6
50	2011	Joliet 29	MW-11	Boron	6/14/2011	2	2.2
51	2011	Powerton	MW-07	Arsenic	3/25/2011	0.01	0.085
52	2011	Powerton	MW-07	Arsenic	6/16/2011	0.01	0.12
53	2011	Powerton	MW-07	Arsenic	9/19/2011	0.01	0.18
54	2011	Powerton	MW-07	Arsenic	12/12/2011	0.01	0.23
55	2011	Powerton	MW-07	TDS	6/16/2011	1200	1300
56	2011	Powerton	MW-07	TDS	9/19/2011	1200	1300
57	2011	Powerton	MW-07	TDS	12/12/2011	1200	1300
58	2011	Powerton	MW-09	Boron	9/19/2011	2	2.5
59	2011	Powerton	MW-09	Boron	12/12/2011	2	2.7
60	2011	Powerton	MW-12	Arsenic	2/15/2011	0.01	0.013
61	2011	Powerton	MW-13	Arsenic	12/12/2011	0.01	0.023
62	2011	Powerton	MW-13	Boron	2/15/2011	2	3.1
63	2011	Powerton	MW-13	Boron	4/25/2011	2	2.6
64	2011	Powerton	MW-13	Boron	6/16/2011	2	3
65	2011	Powerton	MW-13	Boron	8/9/2011	2	2.7
66	2011	Powerton	MW-13	Boron	10/13/2011	2	3
67	2011	Powerton	MW-13	Boron	12/12/2011	2	4.1
68	2011	Powerton	MW-13	Sulfate	2/15/2011	400	770
69	2011	Powerton	MW-13	Sulfate	4/25/2011	400	580
70	2011	Powerton	MW-13	Sulfate	6/16/2011	400	540
71	2011	Powerton	MW-13	Sulfate	8/9/2011	400	440
72	2011	Powerton	MW-13	Sulfate	10/13/2011	400	660
73	2011	Powerton	MW-13	Sulfate	12/12/2011	400	1100
74	2011	Powerton	MW-13	TDS	2/15/2011	1200	1600
75	2011	Powerton	MW-13	TDS	4/25/2011	1200	1400
76	2011	Powerton	MW-13	TDS	6/16/2011	1200	1300
77	2011	Powerton	MW-13	TDS	10/13/2011	1200	1500
78	2011	Powerton	MW-13	TDS	12/12/2011	1200	2100

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
79	2011	Powerton	MW-14	Arsenic	2/15/2011	0.01	0.019
80	2011	Powerton	MW-14	Arsenic	10/13/2011	0.01	0.015
81	2011	Powerton	MW-14	Selenium	4/25/2011	0.05	0.065
82	2011	Powerton	MW-14	Sulfate	2/15/2011	400	820
83	2011	Powerton	MW-14	Sulfate	4/25/2011	400	770
84	2011	Powerton	MW-14	Sulfate	6/16/2011	400	810
85	2011	Powerton	MW-14	Sulfate	8/9/2011	400	940
86	2011	Powerton	MW-14	Sulfate	10/13/2011	400	850
87	2011	Powerton	MW-14	Sulfate	12/12/2011	400	880
88	2011	Powerton	MW-14	TDS	2/15/2011	1200	1700
89	2011	Powerton	MW-14	TDS	4/25/2011	1200	1800
90	2011	Powerton	MW-14	TDS	6/16/2011	1200	1900
91	2011	Powerton	MW-14	TDS	8/9/2011	1200	2000
92	2011	Powerton	MW-14	TDS	10/13/2011	1200	1800
93	2011	Powerton	MW-14	TDS	12/12/2011	1200	1800
94	2011	Powerton	MW-14	Thallium	4/25/2011	0.002	0.0035
95	2011	Powerton	MW-14	Thallium	6/16/2011	0.002	0.0039
96	2011	Powerton	MW-14	Thallium	8/9/2011	0.002	0.0027
97	2011	Powerton	MW-15	Arsenic	10/13/2011	0.01	0.011
98	2011	Powerton	MW-15	Sulfate	6/16/2011	400	650
99	2011	Powerton	MW-15	TDS	6/16/2011	1200	1600
100	2011	Waukegan	MW-01	Arsenic	3/24/2011	0.01	0.04
101	2011	Waukegan	MW-01	Arsenic	6/13/2011	0.01	0.17
102	2011	Waukegan	MW-01	Arsenic	9/13/2011	0.01	0.077
103	2011	Waukegan	MW-01	Arsenic	12/6/2011	0.01	0.057
104	2011	Waukegan	MW-01	Boron	6/13/2011	2	2.6
105	2011	Waukegan	MW-01	Boron	9/13/2011	2	2.5
106	2011	Waukegan	MW-01	Boron	12/6/2011	2	2.8
107	2011	Waukegan	MW-02	Arsenic	3/24/2011	0.01	0.016
108	2011	Waukegan	MW-02	Arsenic	6/13/2011	0.01	0.012
109	2011	Waukegan	MW-02	Boron	3/24/2011	2	2.2
110	2011	Waukegan	MW-03	Boron	3/24/2011	2	2.2
111	2011	Waukegan	MW-03	Boron	6/13/2011	2	2.3
112	2011	Waukegan	MW-04	Boron	3/24/2011	2	2.1
113	2011	Waukegan	MW-04	Boron	12/6/2011	2	2.1
114	2011	Waukegan	MW-05	Boron	3/24/2011	2	33
115	2011	Waukegan	MW-05	Boron	6/13/2011	2	12
116	2011	Waukegan	MW-05	Boron	9/13/2011	2	30
117	2011	Waukegan	MW-05	Boron	12/6/2011	2	37

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
118	2011	Waukegan	MW-05	Sulfate	3/24/2011	400	780
119	2011	Waukegan	MW-05	Sulfate	6/13/2011	400	1100
120	2011	Waukegan	MW-05	Sulfate	9/13/2011	400	810
121	2011	Waukegan	MW-05	Sulfate	12/6/2011	400	1100
122	2011	Waukegan	MW-05	TDS	3/24/2011	1200	1800
123	2011	Waukegan	MW-05	TDS	6/13/2011	1200	3300
124	2011	Waukegan	MW-05	TDS	9/13/2011	1200	2300
125	2011	Waukegan	MW-05	TDS	12/6/2011	1200	2300
126	2011	Will	MW-01	Antimony	12/8/2011	0.006	0.0063
127	2011	Will	MW-02	Antimony	9/15/2011	0.006	0.0073
128	2011	Will	MW-02	Antimony	12/8/2011	0.006	0.017
129	2011	Will	MW-02	Boron	6/15/2011	2	2.3
130	2011	Will	MW-02	Boron	9/15/2011	2	2.3
131	2011	Will	MW-03	Boron	3/28/2011	2	2.4
132	2011	Will	MW-03	Boron	6/15/2011	2	2.6
133	2011	Will	MW-03	Boron	9/15/2011	2	3.3
134	2011	Will	MW-03	Boron	12/8/2011	2	2.8
135	2011	Will	MW-04	Boron	3/28/2011	2	3.3
136	2011	Will	MW-04	Boron	6/15/2011	2	3.6
137	2011	Will	MW-04	Boron	9/15/2011	2	4.3
138	2011	Will	MW-04	Boron	12/8/2011	2	3
139	2011	Will	MW-04	Sulfate	3/28/2011	400	1500
140	2011	Will	MW-04	Sulfate	6/15/2011	400	1600
141	2011	Will	MW-04	Sulfate	9/15/2011	400	4800
142	2011	Will	MW-04	Sulfate	12/8/2011	400	1600
143	2011	Will	MW-04	TDS	3/28/2011	1200	2600
144	2011	Will	MW-04	TDS	6/15/2011	1200	2800
145	2011	Will	MW-04	TDS	9/15/2011	1200	6000
146	2011	Will	MW-04	TDS	12/8/2011	1200	3100
147	2011	Will	MW-05	Boron	3/28/2011	2	2.7
148	2011	Will	MW-05	Boron	6/15/2011	2	3.2
149	2011	Will	MW-05	Boron	9/15/2011	2	4
150	2011	Will	MW-05	Boron	12/8/2011	2	3.2
151	2011	Will	MW-05	Sulfate	3/28/2011	400	570
152	2011	Will	MW-05	Sulfate	6/15/2011	400	540
153	2011	Will	MW-05	Sulfate	9/15/2011	400	690
154	2011	Will	MW-05	Sulfate	12/8/2011	400	500
155	2011	Will	MW-05	TDS	3/28/2011	1200	1300
156	2011	Will	MW-05	TDS	6/15/2011	1200	1400

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
157	2011	Will	MW-05	TDS	9/15/2011	1200	1500
158	2011	Will	MW-06	Boron	3/28/2011	2	2.5
159	2011	Will	MW-06	Boron	6/15/2011	2	2.4
160	2011	Will	MW-06	Boron	9/15/2011	2	3
161	2011	Will	MW-06	Boron	12/8/2011	2	2.5
162	2011	Will	MW-06	Sulfate	3/28/2011	400	540
163	2011	Will	MW-06	Sulfate	6/15/2011	400	570
164	2011	Will	MW-06	Sulfate	9/15/2011	400	420
165	2011	Will	MW-06	Sulfate	12/8/2011	400	440
166	2011	Will	MW-07	Boron	3/28/2011	2	5
167	2011	Will	MW-07	Boron	6/15/2011	2	5.7
168	2011	Will	MW-07	Boron	9/15/2011	2	3.4
169	2011	Will	MW-07	Boron	12/8/2011	2	5
170	2011	Will	MW-07	Sulfate	3/28/2011	400	650
171	2011	Will	MW-07	Sulfate	6/15/2011	400	1000
172	2011	Will	MW-07	Sulfate	9/15/2011	400	710
173	2011	Will	MW-07	Sulfate	12/8/2011	400	710
174	2011	Will	MW-07	TDS	3/28/2011	1200	1500
175	2011	Will	MW-07	TDS	6/15/2011	1200	1600
176	2011	Will	MW-07	TDS	9/15/2011	1200	1400
177	2011	Will	MW-07	TDS	12/8/2011	1200	1300
178	2011	Will	MW-08	Arsenic	9/15/2011	0.01	0.014
179	2011	Will	MW-08	Arsenic	12/8/2011	0.01	0.012
180	2011	Will	MW-08	Boron	9/15/2011	2	2.3
181	2011	Will	MW-08	Sulfate	3/28/2011	400	440
182	2011	Will	MW-08	Sulfate	6/15/2011	400	420
183	2011	Will	MW-08	Sulfate	9/15/2011	400	600
184	2011	Will	MW-08	TDS	9/15/2011	1200	1300
185	2011	Will	MW-09	Sulfate	6/15/2011	400	410
186	2011	Will	MW-10	Boron	6/15/2011	2	2.2
187	2011	Will	MW-10	Boron	9/15/2011	2	2.8
188	2011	Will	MW-10	Boron	12/8/2011	2	2.5
189	2011	Will	MW-10	Sulfate	9/15/2011	400	420
190	2012	Joliet 29	MW-03	Antimony	3/15/2012	0.006	0.013
191	2012	Joliet 29	MW-09	Sulfate	3/15/2012	400	1600
192	2012	Joliet 29	MW-09	Sulfate	6/19/2012	400	1500
193	2012	Joliet 29	MW-09	Sulfate	9/19/2012	400	1600
194	2012	Joliet 29	MW-09	Sulfate	12/20/2012	400	1100
195	2012	Joliet 29	MW-09	TDS	3/15/2012	1200	2600

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
196	2012	Joliet 29	MW-09	TDS	6/19/2012	1200	2800
197	2012	Joliet 29	MW-09	TDS	9/19/2012	1200	2900
198	2012	Joliet 29	MW-09	TDS	12/20/2012	1200	2000
199	2012	Powerton	MW-06	Sulfate	6/25/2012	400	450
200	2012	Powerton	MW-06	Sulfate	12/12/2012	400	440
201	2012	Powerton	MW-06	TDS	6/25/2012	1200	1300
202	2012	Powerton	MW-07	Arsenic	3/19/2012	0.01	0.23
203	2012	Powerton	MW-07	Arsenic	6/25/2012	0.01	0.15
204	2012	Powerton	MW-07	Arsenic	9/18/2012	0.01	0.18
205	2012	Powerton	MW-07	Arsenic	12/12/2012	0.01	0.26
206	2012	Powerton	MW-07	TDS	3/19/2012	1200	1400
207	2012	Powerton	MW-07	TDS	6/25/2012	1200	1300
208	2012	Powerton	MW-07	TDS	9/18/2012	1200	1300
209	2012	Powerton	MW-08	Sulfate	6/25/2012	400	440
210	2012	Powerton	MW-09	Boron	3/19/2012	2	2.6
211	2012	Powerton	MW-09	Boron	6/25/2012	2	2.6
212	2012	Powerton	MW-09	Boron	9/18/2012	2	2.9
213	2012	Powerton	MW-09	Boron	12/12/2012	2	3.2
214	2012	Powerton	MW-11	Arsenic	12/12/2012	0.01	0.03
215	2012	Powerton	MW-11	Boron	3/19/2012	2	2.3
216	2012	Powerton	MW-11	Boron	9/18/2012	2	2.6
217	2012	Powerton	MW-12	Arsenic	6/25/2012	0.01	0.014
218	2012	Powerton	MW-12	Arsenic	9/18/2012	0.01	0.011
219	2012	Powerton	MW-12	Arsenic	12/12/2012	0.01	0.022
220	2012	Powerton	MW-12	Sulfate	6/25/2012	400	430
221	2012	Powerton	MW-13	Arsenic	4/10/2012	0.01	0.027
222	2012	Powerton	MW-13	Arsenic	12/14/2012	0.01	0.041
223	2012	Powerton	MW-13	Boron	4/10/2012	2	4
224	2012	Powerton	MW-13	Boron	12/14/2012	2	3.6
225	2012	Powerton	MW-13	Sulfate	4/10/2012	400	1100
226	2012	Powerton	MW-13	Sulfate	12/14/2012	400	1100
227	2012	Powerton	MW-13	TDS	4/10/2012	1200	2300
228	2012	Powerton	MW-13	TDS	12/14/2012	1200	1900
229	2012	Powerton	MW-14	Sulfate	4/10/2012	400	990
230	2012	Powerton	MW-14	Sulfate	12/14/2012	400	810
231	2012	Powerton	MW-14	TDS	4/10/2012	1200	2200
232	2012	Powerton	MW-14	TDS	12/14/2012	1200	1700
233	2012	Powerton	MW-14	Thallium	4/10/2012	0.002	0.0034
234	2012	Powerton	MW-14	Thallium	12/14/2012	0.002	0.0025

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
235	2012	Powerton	MW-15	Arsenic	12/14/2012	0.01	0.011
236	2012	Waukegan	MW-01	Arsenic	3/14/2012	0.01	0.078
237	2012	Waukegan	MW-01	Arsenic	6/18/2012	0.01	0.07
238	2012	Waukegan	MW-01	Arsenic	9/28/2012	0.01	0.07
239	2012	Waukegan	MW-01	Arsenic	12/19/2012	0.01	0.091
240	2012	Waukegan	MW-01	Boron	3/14/2012	2	2.5
241	2012	Waukegan	MW-02	Arsenic	6/18/2012	0.01	0.011
242	2012	Waukegan	MW-02	Arsenic	9/28/2012	0.01	0.011
243	2012	Waukegan	MW-02	Boron	6/18/2012	2	2.6
244	2012	Waukegan	MW-02	Boron	9/28/2012	2	2.1
245	2012	Waukegan	MW-04	Boron	3/14/2012	2	2.2
246	2012	Waukegan	MW-04	Boron	6/18/2012	2	2.5
247	2012	Waukegan	MW-04	Boron	9/28/2012	2	2.2
248	2012	Waukegan	MW-04	Boron	12/19/2012	2	2.5
249	2012	Waukegan	MW-05	Arsenic	9/28/2012	0.01	0.012
250	2012	Waukegan	MW-05	Arsenic	12/19/2012	0.01	0.011
251	2012	Waukegan	MW-05	Boron	3/14/2012	2	44
252	2012	Waukegan	MW-05	Boron	6/18/2012	2	47
253	2012	Waukegan	MW-05	Boron	9/28/2012	2	41
254	2012	Waukegan	MW-05	Boron	12/19/2012	2	27
255	2012	Waukegan	MW-05	Sulfate	3/14/2012	400	980
256	2012	Waukegan	MW-05	Sulfate	6/18/2012	400	800
257	2012	Waukegan	MW-05	Sulfate	9/28/2012	400	710
258	2012	Waukegan	MW-05	Sulfate	12/19/2012	400	550
259	2012	Waukegan	MW-05	TDS	3/14/2012	1200	2000
260	2012	Waukegan	MW-05	TDS	6/18/2012	1200	2000
261	2012	Waukegan	MW-05	TDS	9/28/2012	1200	1900
262	2012	Waukegan	MW-05	TDS	12/19/2012	1200	1800
263	2012	Waukegan	MW-07	Boron	12/19/2012	2	43
264	2012	Waukegan	MW-07	Sulfate	12/19/2012	400	630
265	2012	Waukegan	MW-07	TDS	12/19/2012	1200	1800
266	2012	Will	MW-01	Boron	6/20/2012	2	2.1
267	2012	Will	MW-01	Sulfate	3/16/2012	400	430
268	2012	Will	MW-02	Boron	9/24/2012	2	2.2
269	2012	Will	MW-03	Boron	3/16/2012	2	2.7
270	2012	Will	MW-03	Boron	6/20/2012	2	3.1
271	2012	Will	MW-03	Boron	9/24/2012	2	3.9
272	2012	Will	MW-03	Boron	12/18/2012	2	3.4
273	2012	Will	MW-03	Sulfate	6/20/2012	400	500

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
274	2012	Will	MW-03	Sulfate	9/24/2012	400	440
275	2012	Will	MW-03	Sulfate	12/18/2012	400	480
276	2012	Will	MW-03	TDS	6/20/2012	1200	1400
277	2012	Will	MW-04	Boron	3/16/2012	2	4
278	2012	Will	MW-04	Boron	6/20/2012	2	5.3
279	2012	Will	MW-04	Boron	9/24/2012	2	6.2
280	2012	Will	MW-04	Boron	12/18/2012	2	5.2
281	2012	Will	MW-04	Sulfate	3/16/2012	400	2000
282	2012	Will	MW-04	Sulfate	6/20/2012	400	2800
283	2012	Will	MW-04	Sulfate	9/24/2012	400	3200
284	2012	Will	MW-04	Sulfate	12/18/2012	400	2200
285	2012	Will	MW-04	TDS	3/16/2012	1200	3700
286	2012	Will	MW-04	TDS	6/20/2012	1200	4300
287	2012	Will	MW-04	TDS	9/24/2012	1200	4400
288	2012	Will	MW-04	TDS	12/18/2012	1200	4000
289	2012	Will	MW-05	Boron	3/16/2012	2	2.9
290	2012	Will	MW-05	Boron	6/20/2012	2	2.3
291	2012	Will	MW-05	Boron	9/24/2012	2	3.8
292	2012	Will	MW-05	Boron	12/18/2012	2	2.5
293	2012	Will	MW-05	Sulfate	6/20/2012	400	410
294	2012	Will	MW-05	Sulfate	9/24/2012	400	540
295	2012	Will	MW-06	Boron	3/16/2012	2	2.5
296	2012	Will	MW-06	Boron	6/20/2012	2	2.9
297	2012	Will	MW-06	Boron	9/24/2012	2	3
298	2012	Will	MW-06	Boron	12/18/2012	2	3
299	2012	Will	MW-06	Sulfate	6/20/2012	400	450
300	2012	Will	MW-06	Sulfate	9/24/2012	400	550
301	2012	Will	MW-07	Boron	3/16/2012	2	5.1
302	2012	Will	MW-07	Boron	6/20/2012	2	5.6
303	2012	Will	MW-07	Boron	9/24/2012	2	5.5
304	2012	Will	MW-07	Boron	12/18/2012	2	5.1
305	2012	Will	MW-07	Sulfate	3/16/2012	400	770
306	2012	Will	MW-07	Sulfate	6/20/2012	400	670
307	2012	Will	MW-07	Sulfate	9/24/2012	400	600
308	2012	Will	MW-07	Sulfate	12/18/2012	400	480
309	2012	Will	MW-07	TDS	3/16/2012	1200	1400
310	2012	Will	MW-07	TDS	6/20/2012	1200	1300
311	2012	Will	MW-08	Arsenic	6/20/2012	0.01	0.013
312	2012	Will	MW-08	Arsenic	9/24/2012	0.01	0.018

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
313	2012	Will	MW-08	Boron	9/24/2012	2	2.6
314	2012	Will	MW-08	Boron	12/18/2012	2	2.1
315	2012	Will	MW-08	Sulfate	9/24/2012	400	630
316	2012	Will	MW-10	Boron	3/16/2012	2	2.1
317	2012	Will	MW-10	Boron	6/20/2012	2	2.1
318	2012	Will	MW-10	Boron	9/24/2012	2	3.2
319	2012	Will	MW-10	Boron	12/18/2012	2	2.7
320	2013	Joliet 29	MW-03	TDS	5/22/2013	1200	1300
321	2013	Joliet 29	MW-04	Antimony	5/22/2013	0.006	0.012
322	2013	Joliet 29	MW-09	Sulfate	3/5/2013	400	700
323	2013	Joliet 29	MW-09	Sulfate	5/23/2013	400	1300
324	2013	Joliet 29	MW-09	Sulfate	7/22/2013	400	1000
325	2013	Joliet 29	MW-09	Sulfate	10/15/2013	400	680
326	2013	Joliet 29	MW-09	TDS	3/5/2013	1200	1700
327	2013	Joliet 29	MW-09	TDS	5/23/2013	1200	3000
328	2013	Joliet 29	MW-09	TDS	7/22/2013	1200	2300
329	2013	Joliet 29	MW-09	TDS	10/15/2013	1200	1700
330	2013	Powerton	MW-02	Antimony	5/29/2013	0.006	0.015
331	2013	Powerton	MW-02	Boron	10/21/2013	2	2.7
332	2013	Powerton	MW-06	Sulfate	5/29/2013	400	560
333	2013	Powerton	MW-06	Sulfate	7/31/2013	400	440
334	2013	Powerton	MW-06	TDS	5/29/2013	1200	1400
335	2013	Powerton	MW-07	Arsenic	2/27/2013	0.01	0.17
336	2013	Powerton	MW-07	Arsenic	5/31/2013	0.01	0.12
337	2013	Powerton	MW-07	Arsenic	7/31/2013	0.01	0.22
338	2013	Powerton	MW-07	Arsenic	10/23/2013	0.01	0.2
339	2013	Powerton	MW-07	TDS	7/31/2013	1200	1300
340	2013	Powerton	MW-08	Sulfate	5/30/2013	400	460
341	2013	Powerton	MW-08	TDS	5/30/2013	1200	1300
342	2013	Powerton	MW-08	TDS	7/31/2013	1200	1300
343	2013	Powerton	MW-08	TDS	10/23/2013	1200	1300
344	2013	Powerton	MW-09	Boron	2/27/2013	2	4.3
345	2013	Powerton	MW-09	Boron	5/30/2013	2	3.2
346	2013	Powerton	MW-09	Boron	7/30/2013	2	2.5
347	2013	Powerton	MW-10	Lead	5/29/2013	0.0075	0.012
348	2013	Powerton	MW-11	Arsenic	2/27/2013	0.01	0.045
349	2013	Powerton	MW-11	Arsenic	5/30/2013	0.01	0.028
350	2013	Powerton	MW-11	Arsenic	7/30/2013	0.01	0.038
351	2013	Powerton	MW-11	Arsenic	10/22/2013	0.01	0.038

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
352	2013	Powerton	MW-12	Arsenic	7/29/2013	0.01	0.016
353	2013	Powerton	MW-12	Arsenic	10/22/2013	0.01	0.018
354	2013	Powerton	MW-12	Boron	5/30/2013	2	3.7
355	2013	Powerton	MW-12	Sulfate	5/30/2013	400	410
356	2013	Powerton	MW-12	Sulfate	7/29/2013	400	420
357	2013	Powerton	MW-13	Arsenic	2/28/2013	0.01	0.029
358	2013	Powerton	MW-13	Arsenic	5/30/2013	0.01	0.031
359	2013	Powerton	MW-13	Arsenic	7/30/2013	0.01	0.029
360	2013	Powerton	MW-13	Arsenic	10/22/2013	0.01	0.024
361	2013	Powerton	MW-13	Boron	2/28/2013	2	4.2
362	2013	Powerton	MW-13	Boron	7/30/2013	2	3.8
363	2013	Powerton	MW-13	Boron	10/22/2013	2	3.5
364	2013	Powerton	MW-13	Sulfate	2/28/2013	400	730
365	2013	Powerton	MW-13	Sulfate	5/30/2013	400	880
366	2013	Powerton	MW-13	Sulfate	7/30/2013	400	1000
367	2013	Powerton	MW-13	Sulfate	10/22/2013	400	690
368	2013	Powerton	MW-13	TDS	2/28/2013	1200	1600
369	2013	Powerton	MW-13	TDS	5/30/2013	1200	2000
370	2013	Powerton	MW-13	TDS	7/30/2013	1200	2000
371	2013	Powerton	MW-13	TDS	10/22/2013	1200	1700
372	2013	Powerton	MW-14	Selenium	2/27/2013	0.05	0.15
373	2013	Powerton	MW-14	Sulfate	5/30/2013	400	800
374	2013	Powerton	MW-14	Sulfate	7/30/2013	400	900
375	2013	Powerton	MW-14	Sulfate	10/23/2013	400	840
376	2013	Powerton	MW-14	TDS	2/27/2013	1200	1300
377	2013	Powerton	MW-14	TDS	5/30/2013	1200	2000
378	2013	Powerton	MW-14	TDS	7/30/2013	1200	2100
379	2013	Powerton	MW-14	TDS	10/23/2013	1200	2100
380	2013	Powerton	MW-14	Thallium	2/27/2013	0.002	0.0043
381	2013	Powerton	MW-14	Thallium	5/30/2013	0.002	0.0025
382	2013	Powerton	MW-14	Thallium	7/30/2013	0.002	0.0043
383	2013	Powerton	MW-14	Thallium	10/23/2013	0.002	0.0022
384	2013	Powerton	MW-15	Sulfate	5/30/2013	400	570
385	2013	Powerton	MW-15	Sulfate	7/30/2013	400	460
386	2013	Powerton	MW-15	Sulfate	10/23/2013	400	420
387	2013	Powerton	MW-15	TDS	5/30/2013	1200	1700
388	2013	Powerton	MW-15	TDS	7/30/2013	1200	1400
389	2013	Powerton	MW-15	TDS	10/23/2013	1200	1400
390	2013	Waukegan	MW-01	Arsenic	3/7/2013	0.01	0.098

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
391	2013	Waukegan	MW-01	Arsenic	6/7/2013	0.01	0.036
392	2013	Waukegan	MW-01	Arsenic	7/25/2013	0.01	0.055
393	2013	Waukegan	MW-01	Arsenic	11/4/2013	0.01	0.046
394	2013	Waukegan	MW-01	Boron	3/7/2013	2	2.2
395	2013	Waukegan	MW-01	Boron	6/7/2013	2	2.2
396	2013	Waukegan	MW-01	Boron	7/25/2013	2	2.3
397	2013	Waukegan	MW-01	Boron	11/4/2013	2	3.1
398	2013	Waukegan	MW-01	Selenium	3/7/2013	0.05	0.056
399	2013	Waukegan	MW-02	Arsenic	3/7/2013	0.01	0.012
400	2013	Waukegan	MW-02	Boron	3/7/2013	2	2.2
401	2013	Waukegan	MW-02	Boron	7/25/2013	2	2.1
402	2013	Waukegan	MW-02	Boron	11/4/2013	2	2.2
403	2013	Waukegan	MW-03	Boron	6/7/2013	2	2.5
404	2013	Waukegan	MW-03	Selenium	6/7/2013	0.05	0.067
405	2013	Waukegan	MW-04	Boron	3/7/2013	2	2.4
406	2013	Waukegan	MW-04	Boron	6/6/2013	2	2.3
407	2013	Waukegan	MW-04	Boron	7/25/2013	2	2.5
408	2013	Waukegan	MW-04	Boron	11/4/2013	2	2.8
409	2013	Waukegan	MW-05	Arsenic	3/7/2013	0.01	0.012
410	2013	Waukegan	MW-05	Boron	3/7/2013	2	33
411	2013	Waukegan	MW-05	Boron	6/6/2013	2	12
412	2013	Waukegan	MW-05	Boron	7/25/2013	2	29
413	2013	Waukegan	MW-05	Boron	11/5/2013	2	32
414	2013	Waukegan	MW-05	Sulfate	3/7/2013	400	650
415	2013	Waukegan	MW-05	Sulfate	6/6/2013	400	1200
416	2013	Waukegan	MW-05	Sulfate	7/25/2013	400	890
417	2013	Waukegan	MW-05	Sulfate	11/5/2013	400	870
418	2013	Waukegan	MW-05	TDS	3/7/2013	1200	1600
419	2013	Waukegan	MW-05	TDS	6/6/2013	1200	3500
420	2013	Waukegan	MW-05	TDS	7/25/2013	1200	2000
421	2013	Waukegan	MW-05	TDS	11/5/2013	1200	1600
422	2013	Waukegan	MW-06	Boron	3/7/2013	2	2.8
423	2013	Waukegan	MW-06	Boron	6/6/2013	2	6.7
424	2013	Waukegan	MW-06	Boron	7/25/2013	2	4.3
425	2013	Waukegan	MW-06	Boron	11/5/2013	2	2.4
426	2013	Waukegan	MW-07	Arsenic	3/7/2013	0.01	0.012
427	2013	Waukegan	MW-07	Arsenic	7/25/2013	0.01	0.011
428	2013	Waukegan	MW-07	Arsenic	11/4/2013	0.01	0.012
429	2013	Waukegan	MW-07	Boron	3/7/2013	2	49

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
430	2013	Waukegan	MW-07	Boron	6/6/2013	2	42
431	2013	Waukegan	MW-07	Boron	7/25/2013	2	44
432	2013	Waukegan	MW-07	Boron	11/4/2013	2	45
433	2013	Waukegan	MW-07	Sulfate	3/7/2013	400	710
434	2013	Waukegan	MW-07	Sulfate	6/6/2013	400	650
435	2013	Waukegan	MW-07	Sulfate	7/25/2013	400	860
436	2013	Waukegan	MW-07	Sulfate	11/4/2013	400	770
437	2013	Waukegan	MW-07	TDS	3/7/2013	1200	1800
438	2013	Waukegan	MW-07	TDS	6/6/2013	1200	1800
439	2013	Waukegan	MW-07	TDS	7/25/2013	1200	1800
440	2013	Waukegan	MW-07	TDS	11/4/2013	1200	1800
441	2013	Will	MW-01	Boron	5/23/2013	2	2.4
442	2013	Will	MW-01	Boron	8/14/2013	2	2.3
443	2013	Will	MW-01	Boron	10/29/2013	2	2.6
444	2013	Will	MW-01	Sulfate	5/23/2013	400	460
445	2013	Will	MW-01	Sulfate	8/14/2013	400	540
446	2013	Will	MW-01	Sulfate	10/29/2013	400	430
447	2013	Will	MW-01	TDS	8/14/2013	1200	1300
448	2013	Will	MW-01	TDS	10/29/2013	1200	1300
449	2013	Will	MW-02	Boron	8/14/2013	2	2.2
450	2013	Will	MW-02	Boron	10/28/2013	2	2.4
451	2013	Will	MW-03	Boron	3/5/2013	2	3.2
452	2013	Will	MW-03	Boron	5/22/2013	2	3.7
453	2013	Will	MW-03	Boron	8/14/2013	2	3.6
454	2013	Will	MW-03	Boron	10/28/2013	2	3.5
455	2013	Will	MW-03	Sulfate	5/22/2013	400	610
456	2013	Will	MW-03	Sulfate	8/14/2013	400	530
457	2013	Will	MW-03	Sulfate	10/28/2013	400	540
458	2013	Will	MW-04	Boron	3/5/2013	2	4.5
459	2013	Will	MW-04	Boron	5/22/2013	2	3.8
460	2013	Will	MW-04	Boron	8/14/2013	2	5.1
461	2013	Will	MW-04	Boron	10/28/2013	2	5.6
462	2013	Will	MW-04	Sulfate	3/5/2013	400	2000
463	2013	Will	MW-04	Sulfate	5/22/2013	400	1500
464	2013	Will	MW-04	Sulfate	8/14/2013	400	2200
465	2013	Will	MW-04	Sulfate	10/28/2013	400	1300
466	2013	Will	MW-04	TDS	3/5/2013	1200	3600
467	2013	Will	MW-04	TDS	5/22/2013	1200	2900
468	2013	Will	MW-04	TDS	8/14/2013	1200	3500

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
469	2013	Will	MW-04	TDS	10/28/2013	1200	2400
470	2013	Will	MW-05	Boron	3/5/2013	2	2.6
471	2013	Will	MW-05	Boron	6/5/2013	2	3.6
472	2013	Will	MW-05	Boron	8/14/2013	2	3.5
473	2013	Will	MW-05	Boron	10/28/2013	2	4.1
474	2013	Will	MW-05	Selenium	10/28/2013	0.05	0.17
475	2013	Will	MW-05	Sulfate	6/5/2013	400	650
476	2013	Will	MW-05	Sulfate	8/14/2013	400	500
477	2013	Will	MW-05	Sulfate	10/28/2013	400	560
478	2013	Will	MW-05	TDS	6/5/2013	1200	1600
479	2013	Will	MW-05	TDS	10/28/2013	1200	1300
480	2013	Will	MW-06	Boron	3/5/2013	2	2.7
481	2013	Will	MW-06	Boron	5/22/2013	2	2.8
482	2013	Will	MW-06	Boron	8/14/2013	2	2.9
483	2013	Will	MW-06	Boron	10/28/2013	2	3.7
484	2013	Will	MW-07	Boron	3/5/2013	2	4.3
485	2013	Will	MW-07	Boron	5/22/2013	2	2.6
486	2013	Will	MW-07	Boron	8/15/2013	2	3.5
487	2013	Will	MW-07	Boron	10/29/2013	2	3
488	2013	Will	MW-07	Sulfate	8/15/2013	400	460
489	2013	Will	MW-07	Sulfate	10/29/2013	400	530
490	2013	Will	MW-08	Arsenic	8/15/2013	0.01	0.016
491	2013	Will	MW-08	Boron	8/15/2013	2	2.4
492	2013	Will	MW-08	Boron	10/28/2013	2	3.2
493	2013	Will	MW-08	Sulfate	8/15/2013	400	440
494	2013	Will	MW-08	Sulfate	10/28/2013	400	650
495	2013	Will	MW-08	TDS	10/28/2013	1200	1600
496	2013	Will	MW-09	Boron	10/29/2013	2	2.2
497	2013	Will	MW-10	Arsenic	10/28/2013	0.01	0.012
498	2013	Will	MW-10	Boron	3/5/2013	2	2.7
499	2013	Will	MW-10	Boron	5/22/2013	2	2.7
500	2013	Will	MW-10	Boron	8/15/2013	2	2.3
501	2013	Will	MW-10	Boron	10/28/2013	2	3.8
502	2014	Joliet 29	MW-08	Sulfate	5/1/2014	400	460
503	2014	Joliet 29	MW-08	TDS	5/1/2014	1200	2100
504	2014	Joliet 29	MW-09	Sulfate	2/17/2014	400	560
505	2014	Joliet 29	MW-09	Sulfate	5/1/2014	400	560
506	2014	Joliet 29	MW-09	Sulfate	8/18/2014	400	880
507	2014	Joliet 29	MW-09	Sulfate	10/23/2014	400	960

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
508	2014	Joliet 29	MW-09	TDS	2/17/2014	1200	1600
509	2014	Joliet 29	MW-09	TDS	5/1/2014	1200	1700
510	2014	Joliet 29	MW-09	TDS	8/18/2014	1200	2100
511	2014	Joliet 29	MW-09	TDS	10/23/2014	1200	1700
512	2014	Powerton	MW-06	Arsenic	5/29/2014	0.01	0.2
513	2014	Powerton	MW-06	Sulfate	3/6/2014	400	410
514	2014	Powerton	MW-06	Sulfate	5/29/2014	400	530
515	2014	Powerton	MW-06	TDS	5/29/2014	1200	1400
516	2014	Powerton	MW-06	TDS	8/27/2014	1200	1300
517	2014	Powerton	MW-07	Arsenic	3/5/2014	0.01	0.15
518	2014	Powerton	MW-07	Arsenic	8/27/2014	0.01	0.19
519	2014	Powerton	MW-07	Arsenic	10/29/2014	0.01	0.31
520	2014	Powerton	MW-07	TDS	8/27/2014	1200	1300
521	2014	Powerton	MW-07	TDS	10/29/2014	1200	1300
522	2014	Powerton	MW-08	TDS	5/28/2014	1200	1400
523	2014	Powerton	MW-08	TDS	8/27/2014	1200	1400
524	2014	Powerton	MW-09	Boron	5/29/2014	2	2.5
525	2014	Powerton	MW-09	Boron	8/26/2014	2	2.4
526	2014	Powerton	MW-10	Boron	3/6/2014	2	2.1
527	2014	Powerton	MW-10	Boron	5/30/2014	2	3.2
528	2014	Powerton	MW-11	Arsenic	3/4/2014	0.01	0.057
529	2014	Powerton	MW-11	Arsenic	5/29/2014	0.01	0.036
530	2014	Powerton	MW-11	Arsenic	8/26/2014	0.01	0.068
531	2014	Powerton	MW-11	Arsenic	10/28/2014	0.01	0.045
532	2014	Powerton	MW-12	Sulfate	3/4/2014	400	530
533	2014	Powerton	MW-12	Sulfate	5/29/2014	400	560
534	2014	Powerton	MW-12	Sulfate	10/28/2014	400	420
535	2014	Powerton	MW-12	TDS	3/4/2014	1200	1400
536	2014	Powerton	MW-12	TDS	5/29/2014	1200	1300
537	2014	Powerton	MW-13	Arsenic	3/4/2014	0.01	0.028
538	2014	Powerton	MW-13	Arsenic	5/28/2014	0.01	0.024
539	2014	Powerton	MW-13	Arsenic	8/27/2014	0.01	0.031
540	2014	Powerton	MW-13	Arsenic	10/29/2014	0.01	0.028
541	2014	Powerton	MW-13	Boron	3/4/2014	2	2.9
542	2014	Powerton	MW-13	Boron	5/28/2014	2	3.5
543	2014	Powerton	MW-13	Boron	8/27/2014	2	3
544	2014	Powerton	MW-13	Boron	10/29/2014	2	2.2
545	2014	Powerton	MW-13	Sulfate	3/4/2014	400	660
546	2014	Powerton	MW-13	Sulfate	5/28/2014	400	630

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
547	2014	Powerton	MW-13	Sulfate	8/27/2014	400	740
548	2014	Powerton	MW-13	Sulfate	10/29/2014	400	1400
549	2014	Powerton	MW-13	TDS	3/4/2014	1200	1900
550	2014	Powerton	MW-13	TDS	5/28/2014	1200	2100
551	2014	Powerton	MW-13	TDS	8/27/2014	1200	2300
552	2014	Powerton	MW-13	TDS	10/29/2014	1200	2200
553	2014	Powerton	MW-14	Boron	10/29/2014	2	2.2
554	2014	Powerton	MW-14	Sulfate	3/4/2014	400	680
555	2014	Powerton	MW-14	Sulfate	5/28/2014	400	720
556	2014	Powerton	MW-14	Sulfate	8/28/2014	400	1100
557	2014	Powerton	MW-14	Sulfate	10/29/2014	400	1300
558	2014	Powerton	MW-14	TDS	3/4/2014	1200	1900
559	2014	Powerton	MW-14	TDS	5/28/2014	1200	1700
560	2014	Powerton	MW-14	TDS	8/28/2014	1200	2400
561	2014	Powerton	MW-14	TDS	10/29/2014	1200	2200
562	2014	Powerton	MW-14	Thallium	3/4/2014	0.002	0.0023
563	2014	Powerton	MW-14	Thallium	5/28/2014	0.002	0.0026
564	2014	Powerton	MW-14	Thallium	8/28/2014	0.002	0.0023
565	2014	Powerton	MW-15	Sulfate	8/27/2014	400	620
566	2014	Powerton	MW-15	Sulfate	10/28/2014	400	660
567	2014	Powerton	MW-15	TDS	3/6/2014	1200	1300
568	2014	Powerton	MW-15	TDS	5/28/2014	1200	1300
569	2014	Powerton	MW-15	TDS	8/27/2014	1200	1800
570	2014	Powerton	MW-15	TDS	10/28/2014	1200	1600
571	2014	Waukegan	MW-01	Arsenic	3/10/2014	0.01	0.031
572	2014	Waukegan	MW-01	Arsenic	5/16/2014	0.01	0.036
573	2014	Waukegan	MW-01	Arsenic	8/21/2014	0.01	0.019
574	2014	Waukegan	MW-01	Arsenic	11/6/2014	0.01	0.21
575	2014	Waukegan	MW-01	Boron	11/6/2014	2	2.2
576	2014	Waukegan	MW-02	Boron	3/10/2014	2	2.8
577	2014	Waukegan	MW-02	Boron	5/15/2014	2	2.6
578	2014	Waukegan	MW-02	Boron	8/21/2014	2	3
579	2014	Waukegan	MW-02	Boron	11/6/2014	2	3
580	2014	Waukegan	MW-03	Boron	8/21/2014	2	2.3
581	2014	Waukegan	MW-03	Boron	11/6/2014	2	2.3
582	2014	Waukegan	MW-04	Boron	3/11/2014	2	3
583	2014	Waukegan	MW-04	Boron	5/16/2014	2	2.7
584	2014	Waukegan	MW-05	Boron	3/11/2014	2	31
585	2014	Waukegan	MW-05	Boron	5/16/2014	2	36

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
586	2014	Waukegan	MW-05	Boron	8/21/2014	2	35
587	2014	Waukegan	MW-05	Boron	11/5/2014	2	36
588	2014	Waukegan	MW-05	Sulfate	3/11/2014	400	640
589	2014	Waukegan	MW-05	Sulfate	5/16/2014	400	630
590	2014	Waukegan	MW-05	Sulfate	8/21/2014	400	640
591	2014	Waukegan	MW-05	Sulfate	11/5/2014	400	840
592	2014	Waukegan	MW-05	TDS	3/11/2014	1200	1400
593	2014	Waukegan	MW-05	TDS	5/16/2014	1200	1500
594	2014	Waukegan	MW-05	TDS	8/21/2014	1200	1600
595	2014	Waukegan	MW-05	TDS	11/5/2014	1200	1500
596	2014	Waukegan	MW-06	Boron	5/15/2014	2	2.2
597	2014	Waukegan	MW-06	Boron	8/21/2014	2	2.9
598	2014	Waukegan	MW-06	Boron	11/5/2014	2	3.7
599	2014	Waukegan	MW-07	Arsenic	8/21/2014	0.01	0.011
600	2014	Waukegan	MW-07	Boron	3/10/2014	2	39
601	2014	Waukegan	MW-07	Boron	5/15/2014	2	27
602	2014	Waukegan	MW-07	Boron	8/21/2014	2	40
603	2014	Waukegan	MW-07	Boron	11/5/2014	2	41
604	2014	Waukegan	MW-07	Sulfate	3/10/2014	400	540
605	2014	Waukegan	MW-07	Sulfate	8/21/2014	400	690
606	2014	Waukegan	MW-07	Sulfate	11/5/2014	400	880
607	2014	Waukegan	MW-07	TDS	3/10/2014	1200	1600
608	2014	Waukegan	MW-07	TDS	5/15/2014	1200	1300
609	2014	Waukegan	MW-07	TDS	8/21/2014	1200	1600
610	2014	Waukegan	MW-07	TDS	11/5/2014	1200	1500
611	2014	Waukegan	MW-08	Boron	5/15/2014	2	19
612	2014	Waukegan	MW-08	Boron	8/22/2014	2	24
613	2014	Waukegan	MW-08	Boron	11/5/2014	2	28
614	2014	Waukegan	MW-08	Sulfate	11/5/2014	400	500
615	2014	Waukegan	MW-09	Boron	5/15/2014	2	16
616	2014	Waukegan	MW-09	Boron	8/22/2014	2	6.3
617	2014	Waukegan	MW-09	Boron	11/5/2014	2	13
618	2014	Waukegan	MW-09	Sulfate	11/5/2014	400	430
619	2014	Waukegan	MW-09	TDS	5/15/2014	1200	1600
620	2014	Waukegan	MW-09	TDS	8/22/2014	1200	1300
621	2014	Waukegan	MW-09	TDS	11/5/2014	1200	1400
622	2014	Waukegan	MW-10	Arsenic	8/22/2014	0.01	0.75
623	2014	Waukegan	MW-10	Arsenic	11/6/2014	0.01	0.4
624	2014	Waukegan	MW-11	Arsenic	8/22/2014	0.01	1.3

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
625	2014	Waukegan	MW-11	Arsenic	11/6/2014	0.01	1
626	2014	Waukegan	MW-11	Boron	8/22/2014	2	5.1
627	2014	Waukegan	MW-11	Boron	11/6/2014	2	3.5
628	2014	Waukegan	MW-14	Arsenic	8/22/2014	0.01	0.13
629	2014	Waukegan	MW-14	Arsenic	11/6/2014	0.01	0.049
630	2014	Waukegan	MW-14	TDS	8/22/2014	1200	1300
631	2014	Waukegan	MW-15	Arsenic	11/5/2014	0.01	0.012
632	2014	Waukegan	MW-15	Boron	8/22/2014	2	3.7
633	2014	Waukegan	MW-15	Boron	11/5/2014	2	5.1
634	2014	Will	MW-01	Boron	2/20/2014	2	2.4
635	2014	Will	MW-01	Boron	5/20/2014	2	2.5
636	2014	Will	MW-01	TDS	2/20/2014	1200	1300
637	2014	Will	MW-02	Arsenic	10/20/2014	0.01	0.013
638	2014	Will	MW-02	Boron	2/20/2014	2	2.4
639	2014	Will	MW-02	Boron	5/20/2014	2	2.8
640	2014	Will	MW-02	Boron	8/13/2014	2	3
641	2014	Will	MW-02	Boron	10/20/2014	2	3.6
642	2014	Will	MW-02	Sulfate	10/20/2014	400	510
643	2014	Will	MW-03	Boron	2/13/2014	2	3.2
644	2014	Will	MW-03	Boron	5/21/2014	2	3.3
645	2014	Will	MW-03	Boron	8/12/2014	2	3.5
646	2014	Will	MW-03	Boron	10/20/2014	2	3.6
647	2014	Will	MW-03	Sulfate	2/13/2014	400	560
648	2014	Will	MW-03	Sulfate	5/21/2014	400	560
649	2014	Will	MW-03	Sulfate	8/12/2014	400	570
650	2014	Will	MW-03	Sulfate	10/20/2014	400	570
651	2014	Will	MW-04	Boron	2/13/2014	2	4.6
652	2014	Will	MW-04	Boron	5/21/2014	2	4.2
653	2014	Will	MW-04	Boron	8/13/2014	2	4.8
654	2014	Will	MW-04	Boron	10/20/2014	2	4.5
655	2014	Will	MW-04	Sulfate	2/13/2014	400	1400
656	2014	Will	MW-04	Sulfate	5/21/2014	400	1100
657	2014	Will	MW-04	Sulfate	8/13/2014	400	1200
658	2014	Will	MW-04	Sulfate	10/20/2014	400	1600
659	2014	Will	MW-04	TDS	2/13/2014	1200	2800
660	2014	Will	MW-04	TDS	5/21/2014	1200	2500
661	2014	Will	MW-04	TDS	8/13/2014	1200	2200
662	2014	Will	MW-04	TDS	10/20/2014	1200	2600
663	2014	Will	MW-05	Boron	2/13/2014	2	2.7

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
664	2014	Will	MW-05	Boron	5/21/2014	2	2.9
665	2014	Will	MW-05	Boron	8/12/2014	2	2.7
666	2014	Will	MW-05	Boron	10/20/2014	2	4.7
667	2014	Will	MW-05	Sulfate	2/13/2014	400	690
668	2014	Will	MW-05	Sulfate	5/21/2014	400	1700
669	2014	Will	MW-05	Sulfate	8/12/2014	400	610
670	2014	Will	MW-05	Sulfate	10/20/2014	400	840
671	2014	Will	MW-05	TDS	2/13/2014	1200	1400
672	2014	Will	MW-05	TDS	5/21/2014	1200	1600
673	2014	Will	MW-05	TDS	8/12/2014	1200	1400
674	2014	Will	MW-05	TDS	10/20/2014	1200	2100
675	2014	Will	MW-06	Boron	2/13/2014	2	3
676	2014	Will	MW-06	Boron	5/20/2014	2	2.9
677	2014	Will	MW-06	Boron	8/12/2014	2	2.8
678	2014	Will	MW-06	Boron	10/20/2014	2	3.4
679	2014	Will	MW-06	Sulfate	10/20/2014	400	420
680	2014	Will	MW-07	Boron	2/20/2014	2	4
681	2014	Will	MW-07	Boron	5/20/2014	2	4.8
682	2014	Will	MW-07	Boron	8/12/2014	2	3.9
683	2014	Will	MW-07	Boron	10/21/2014	2	5.1
684	2014	Will	MW-07	Sulfate	5/20/2014	400	540
685	2014	Will	MW-07	Sulfate	8/12/2014	400	570
686	2014	Will	MW-07	Sulfate	10/21/2014	400	680
687	2014	Will	MW-07	TDS	2/20/2014	1200	1300
688	2014	Will	MW-07	TDS	5/20/2014	1200	1300
689	2014	Will	MW-07	TDS	8/12/2014	1200	1300
690	2014	Will	MW-07	TDS	10/21/2014	1200	1500
691	2014	Will	MW-08	Arsenic	8/12/2014	0.01	0.014
692	2014	Will	MW-08	Boron	5/20/2014	2	2.5
693	2014	Will	MW-08	Boron	8/12/2014	2	2.4
694	2014	Will	MW-08	Boron	10/21/2014	2	2.8
695	2014	Will	MW-08	Sulfate	5/20/2014	400	450
696	2014	Will	MW-08	Sulfate	8/12/2014	400	430
697	2014	Will	MW-08	Sulfate	10/21/2014	400	730
698	2014	Will	MW-08	TDS	2/20/2014	1200	1300
699	2014	Will	MW-08	TDS	5/20/2014	1200	1400
700	2014	Will	MW-08	TDS	10/21/2014	1200	1500
701	2014	Will	MW-09	Sulfate	10/21/2014	400	430
702	2014	Will	MW-10	Boron	2/20/2014	2	2.5

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
703	2014	Will	MW-10	Boron	5/20/2014	2	2.2
704	2014	Will	MW-10	Boron	8/13/2014	2	2.1
705	2014	Will	MW-10	Boron	10/20/2014	2	3.3
706	2015	Joliet 29	MW-08	Sulfate	2/10/2015	400	600
707	2015	Joliet 29	MW-08	TDS	2/10/2015	1200	2000
708	2015	Joliet 29	MW-09	Sulfate	2/10/2015	400	820
709	2015	Joliet 29	MW-09	Sulfate	5/27/2015	400	1100
710	2015	Joliet 29	MW-09	Sulfate	8/4/2015	400	1900
711	2015	Joliet 29	MW-09	Sulfate	10/27/2015	400	1100
712	2015	Joliet 29	MW-09	TDS	2/10/2015	1200	2400
713	2015	Joliet 29	MW-09	TDS	5/27/2015	1200	3100
714	2015	Joliet 29	MW-09	TDS	8/4/2015	1200	3900
715	2015	Joliet 29	MW-09	TDS	10/27/2015	1200	2600
716	2015	Joliet 29	MW-11	Cadmium	2/11/2015	0.005	0.0077
717	2015	Joliet 29	MW-11	Lead	2/11/2015	0.0075	0.023
718	2015	Joliet 29	MW-11	TDS	2/11/2015	1200	1300
719	2015	Powerton	MW-06	Sulfate	11/17/2015	400	490
720	2015	Powerton	MW-06	TDS	5/11/2015	1200	1300
721	2015	Powerton	MW-06	TDS	8/18/2015	1200	1400
722	2015	Powerton	MW-07	Arsenic	2/23/2015	0.01	0.18
723	2015	Powerton	MW-07	Arsenic	5/11/2015	0.01	0.18
724	2015	Powerton	MW-07	Arsenic	8/18/2015	0.01	0.23
725	2015	Powerton	MW-07	Arsenic	11/16/2015	0.01	0.13
726	2015	Powerton	MW-07	TDS	8/18/2015	1200	1300
727	2015	Powerton	MW-08	Sulfate	11/18/2015	400	530
728	2015	Powerton	MW-09	Boron	2/24/2015	2	3
729	2015	Powerton	MW-09	Boron	5/12/2015	2	3.2
730	2015	Powerton	MW-09	Boron	8/19/2015	2	3.3
731	2015	Powerton	MW-09	Boron	11/18/2015	2	2.2
732	2015	Powerton	MW-11	Arsenic	2/24/2015	0.01	0.022
733	2015	Powerton	MW-11	Arsenic	5/12/2015	0.01	0.052
734	2015	Powerton	MW-11	Arsenic	8/19/2015	0.01	0.027
735	2015	Powerton	MW-11	Arsenic	11/19/2015	0.01	0.015
736	2015	Powerton	MW-12	Sulfate	2/24/2015	400	450
737	2015	Powerton	MW-12	Sulfate	5/12/2015	400	530
738	2015	Powerton	MW-12	Sulfate	11/19/2015	400	750
739	2015	Powerton	MW-12	TDS	2/24/2015	1200	1300
740	2015	Powerton	MW-12	TDS	5/12/2015	1200	1400
741	2015	Powerton	MW-12	TDS	8/19/2015	1200	1300

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
742	2015	Powerton	MW-12	TDS	11/19/2015	1200	1400
743	2015	Powerton	MW-13	Arsenic	2/26/2015	0.01	0.028
744	2015	Powerton	MW-13	Arsenic	5/13/2015	0.01	0.033
745	2015	Powerton	MW-13	Arsenic	8/19/2015	0.01	0.03
746	2015	Powerton	MW-13	Arsenic	11/19/2015	0.01	0.027
747	2015	Powerton	MW-13	Boron	2/26/2015	2	3.5
748	2015	Powerton	MW-13	Boron	5/13/2015	2	3.8
749	2015	Powerton	MW-13	Boron	8/19/2015	2	3.6
750	2015	Powerton	MW-13	Boron	11/19/2015	2	3.2
751	2015	Powerton	MW-13	Sulfate	2/26/2015	400	1000
752	2015	Powerton	MW-13	Sulfate	5/13/2015	400	1100
753	2015	Powerton	MW-13	Sulfate	8/19/2015	400	1300
754	2015	Powerton	MW-13	Sulfate	11/19/2015	400	1700
755	2015	Powerton	MW-13	TDS	2/26/2015	1200	2300
756	2015	Powerton	MW-13	TDS	5/13/2015	1200	2600
757	2015	Powerton	MW-13	TDS	8/19/2015	1200	2500
758	2015	Powerton	MW-13	TDS	11/19/2015	1200	2400
759	2015	Powerton	MW-14	Boron	2/26/2015	2	2.2
760	2015	Powerton	MW-14	Boron	11/18/2015	2	2.5
761	2015	Powerton	MW-14	Sulfate	2/26/2015	400	850
762	2015	Powerton	MW-14	Sulfate	5/13/2015	400	1200
763	2015	Powerton	MW-14	Sulfate	8/19/2015	400	1000
764	2015	Powerton	MW-14	Sulfate	11/18/2015	400	1200
765	2015	Powerton	MW-14	TDS	2/26/2015	1200	2200
766	2015	Powerton	MW-14	TDS	5/13/2015	1200	2700
767	2015	Powerton	MW-14	TDS	8/19/2015	1200	2400
768	2015	Powerton	MW-14	TDS	11/18/2015	1200	2300
769	2015	Powerton	MW-14	Thallium	5/13/2015	0.002	0.0044
770	2015	Powerton	MW-14	Thallium	8/19/2015	0.002	0.0065
771	2015	Powerton	MW-14	Thallium	11/18/2015	0.002	0.0033
772	2015	Powerton	MW-15	Selenium	2/26/2015	0.05	0.068
773	2015	Powerton	MW-15	Selenium	5/14/2015	0.05	0.051
774	2015	Powerton	MW-15	Sulfate	2/26/2015	400	460
775	2015	Powerton	MW-15	Sulfate	5/14/2015	400	930
776	2015	Powerton	MW-15	Sulfate	8/19/2015	400	640
777	2015	Powerton	MW-15	Sulfate	11/18/2015	400	1500
778	2015	Powerton	MW-15	TDS	2/26/2015	1200	1400
779	2015	Powerton	MW-15	TDS	5/14/2015	1200	2500
780	2015	Powerton	MW-15	TDS	8/19/2015	1200	1900

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
781	2015	Powerton	MW-15	TDS	11/18/2015	1200	2400
782	2015	Powerton	MW-17	Sulfate	11/19/2015	400	850
783	2015	Powerton	MW-17	TDS	11/19/2015	1200	1800
784	2015	Waukegan	MW-01	Arsenic	2/17/2015	0.01	0.05
785	2015	Waukegan	MW-01	Arsenic	4/21/2015	0.01	0.056
786	2015	Waukegan	MW-01	Arsenic	8/12/2015	0.01	0.034
787	2015	Waukegan	MW-01	Arsenic	11/2/2015	0.01	0.073
788	2015	Waukegan	MW-02	Arsenic	8/12/2015	0.01	0.042
789	2015	Waukegan	MW-02	Arsenic	11/2/2015	0.01	0.015
790	2015	Waukegan	MW-02	Boron	2/17/2015	2	3.2
791	2015	Waukegan	MW-02	Boron	4/21/2015	2	2.9
792	2015	Waukegan	MW-02	Boron	8/12/2015	2	2.5
793	2015	Waukegan	MW-02	Boron	11/2/2015	2	2.5
794	2015	Waukegan	MW-05	Arsenic	4/20/2015	0.01	0.017
795	2015	Waukegan	MW-05	Boron	2/17/2015	2	32
796	2015	Waukegan	MW-05	Boron	4/20/2015	2	24
797	2015	Waukegan	MW-05	Boron	8/13/2015	2	11
798	2015	Waukegan	MW-05	Boron	11/3/2015	2	12
799	2015	Waukegan	MW-05	Sulfate	2/17/2015	400	660
800	2015	Waukegan	MW-05	Sulfate	4/20/2015	400	700
801	2015	Waukegan	MW-05	Sulfate	8/13/2015	400	1200
802	2015	Waukegan	MW-05	Sulfate	11/3/2015	400	910
803	2015	Waukegan	MW-05	TDS	2/17/2015	1200	1700
804	2015	Waukegan	MW-05	TDS	4/20/2015	1200	2200
805	2015	Waukegan	MW-05	TDS	8/13/2015	1200	3500
806	2015	Waukegan	MW-05	TDS	11/3/2015	1200	2700
807	2015	Waukegan	MW-06	Boron	2/18/2015	2	3.5
808	2015	Waukegan	MW-07	Arsenic	2/17/2015	0.01	0.011
809	2015	Waukegan	MW-07	Arsenic	4/20/2015	0.01	0.014
810	2015	Waukegan	MW-07	Arsenic	11/3/2015	0.01	0.011
811	2015	Waukegan	MW-07	Boron	2/17/2015	2	37
812	2015	Waukegan	MW-07	Boron	4/20/2015	2	37
813	2015	Waukegan	MW-07	Boron	8/12/2015	2	32
814	2015	Waukegan	MW-07	Boron	11/3/2015	2	26
815	2015	Waukegan	MW-07	Sulfate	2/17/2015	400	710
816	2015	Waukegan	MW-07	Sulfate	4/20/2015	400	470
817	2015	Waukegan	MW-07	Sulfate	8/12/2015	400	760
818	2015	Waukegan	MW-07	Sulfate	11/3/2015	400	770
819	2015	Waukegan	MW-07	TDS	2/17/2015	1200	1600

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
820	2015	Waukegan	MW-07	TDS	4/20/2015	1200	1400
821	2015	Waukegan	MW-07	TDS	8/12/2015	1200	1700
822	2015	Waukegan	MW-07	TDS	11/3/2015	1200	1500
823	2015	Waukegan	MW-08	Boron	2/18/2015	2	24
824	2015	Waukegan	MW-08	Boron	4/21/2015	2	23
825	2015	Waukegan	MW-08	Boron	8/12/2015	2	22
826	2015	Waukegan	MW-08	Boron	11/4/2015	2	22
827	2015	Waukegan	MW-08	Sulfate	2/18/2015	400	420
828	2015	Waukegan	MW-08	Sulfate	11/4/2015	400	470
829	2015	Waukegan	MW-08	TDS	8/12/2015	1200	1300
830	2015	Waukegan	MW-09	Boron	2/18/2015	2	7.5
831	2015	Waukegan	MW-09	Boron	4/21/2015	2	20
832	2015	Waukegan	MW-09	Boron	8/13/2015	2	15
833	2015	Waukegan	MW-09	Boron	11/4/2015	2	12
834	2015	Waukegan	MW-09	Sulfate	8/13/2015	400	450
835	2015	Waukegan	MW-09	TDS	2/18/2015	1200	1300
836	2015	Waukegan	MW-09	TDS	4/21/2015	1200	1400
837	2015	Waukegan	MW-09	TDS	8/13/2015	1200	2200
838	2015	Waukegan	MW-09	TDS	11/4/2015	1200	1600
839	2015	Waukegan	MW-10	Arsenic	2/18/2015	0.01	0.12
840	2015	Waukegan	MW-10	Arsenic	4/20/2015	0.01	0.74
841	2015	Waukegan	MW-10	Arsenic	11/4/2015	0.01	0.63
842	2015	Waukegan	MW-11	Arsenic	2/18/2015	0.01	0.96
843	2015	Waukegan	MW-11	Arsenic	4/20/2015	0.01	0.79
844	2015	Waukegan	MW-11	Arsenic	8/11/2015	0.01	0.81
845	2015	Waukegan	MW-11	Arsenic	11/5/2015	0.01	0.82
846	2015	Waukegan	MW-11	Boron	2/18/2015	2	2.8
847	2015	Waukegan	MW-11	Boron	4/20/2015	2	2.5
848	2015	Waukegan	MW-11	Boron	8/11/2015	2	5
849	2015	Waukegan	MW-11	Boron	11/5/2015	2	4.4
850	2015	Waukegan	MW-12	Arsenic	4/20/2015	0.01	0.012
851	2015	Waukegan	MW-12	Arsenic	8/11/2015	0.01	0.46
852	2015	Waukegan	MW-12	Boron	4/20/2015	2	10
853	2015	Waukegan	MW-12	TDS	2/18/2015	1200	1400
854	2015	Waukegan	MW-14	Arsenic	4/20/2015	0.01	0.05
855	2015	Waukegan	MW-14	Arsenic	8/11/2015	0.01	0.32
856	2015	Waukegan	MW-14	Arsenic	11/5/2015	0.01	0.23
857	2015	Waukegan	MW-15	Arsenic	8/11/2015	0.01	0.32
858	2015	Waukegan	MW-15	Boron	4/20/2015	2	4.8

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
859	2015	Waukegan	MW-15	Boron	11/3/2015	2	6.8
860	2015	Will	MW-02	Arsenic	7/28/2015	0.01	0.013
861	2015	Will	MW-02	Arsenic	11/10/2015	0.01	0.018
862	2015	Will	MW-02	Boron	2/4/2015	2	3.8
863	2015	Will	MW-02	Boron	5/1/2015	2	3.8
864	2015	Will	MW-02	Boron	7/28/2015	2	4
865	2015	Will	MW-02	Boron	11/10/2015	2	4.4
866	2015	Will	MW-02	Sulfate	5/1/2015	400	460
867	2015	Will	MW-02	Sulfate	7/28/2015	400	610
868	2015	Will	MW-02	Sulfate	11/10/2015	400	600
869	2015	Will	MW-02	TDS	7/28/2015	1200	1300
870	2015	Will	MW-03	Boron	2/4/2015	2	2.9
871	2015	Will	MW-03	Boron	5/1/2015	2	2.9
872	2015	Will	MW-03	Boron	7/28/2015	2	4.1
873	2015	Will	MW-03	Boron	11/10/2015	2	3
874	2015	Will	MW-03	Sulfate	7/28/2015	400	520
875	2015	Will	MW-04	Boron	2/4/2015	2	3.9
876	2015	Will	MW-04	Boron	5/1/2015	2	4
877	2015	Will	MW-04	Boron	7/28/2015	2	5.4
878	2015	Will	MW-04	Boron	11/11/2015	2	5
879	2015	Will	MW-04	Sulfate	2/4/2015	400	1100
880	2015	Will	MW-04	Sulfate	5/1/2015	400	860
881	2015	Will	MW-04	Sulfate	7/28/2015	400	1600
882	2015	Will	MW-04	Sulfate	11/11/2015	400	870
883	2015	Will	MW-04	TDS	2/4/2015	1200	2600
884	2015	Will	MW-04	TDS	5/1/2015	1200	2300
885	2015	Will	MW-04	TDS	7/28/2015	1200	3200
886	2015	Will	MW-04	TDS	11/11/2015	1200	1900
887	2015	Will	MW-05	Boron	2/3/2015	2	2.4
888	2015	Will	MW-05	Boron	5/1/2015	2	3.7
889	2015	Will	MW-05	Boron	7/28/2015	2	5.3
890	2015	Will	MW-05	Boron	11/11/2015	2	5.9
891	2015	Will	MW-05	Sulfate	2/3/2015	400	430
892	2015	Will	MW-05	Sulfate	5/1/2015	400	480
893	2015	Will	MW-05	Sulfate	7/28/2015	400	770
894	2015	Will	MW-05	Sulfate	11/11/2015	400	780
895	2015	Will	MW-05	TDS	5/1/2015	1200	1600
896	2015	Will	MW-05	TDS	7/28/2015	1200	2000
897	2015	Will	MW-05	TDS	11/11/2015	1200	1900

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
898	2015	Will	MW-06	Boron	2/3/2015	2	3.2
899	2015	Will	MW-06	Boron	4/30/2015	2	3
900	2015	Will	MW-06	Boron	7/28/2015	2	3.6
901	2015	Will	MW-06	Boron	11/10/2015	2	3.4
902	2015	Will	MW-07	Boron	2/3/2015	2	3
903	2015	Will	MW-07	Boron	4/30/2015	2	3.3
904	2015	Will	MW-07	Boron	7/27/2015	2	3.1
905	2015	Will	MW-07	Boron	11/9/2015	2	2.9
906	2015	Will	MW-07	Sulfate	4/30/2015	400	440
907	2015	Will	MW-07	Sulfate	7/27/2015	400	420
908	2015	Will	MW-07	Sulfate	11/9/2015	400	420
909	2015	Will	MW-08	Boron	2/3/2015	2	2.3
910	2015	Will	MW-08	Boron	4/30/2015	2	2.3
911	2015	Will	MW-08	Boron	7/27/2015	2	2.8
912	2015	Will	MW-08	Boron	11/9/2015	2	4
913	2015	Will	MW-08	Sulfate	2/3/2015	400	530
914	2015	Will	MW-08	Sulfate	4/30/2015	400	520
915	2015	Will	MW-08	Sulfate	7/27/2015	400	650
916	2015	Will	MW-08	Sulfate	11/9/2015	400	800
917	2015	Will	MW-08	TDS	2/3/2015	1200	1400
918	2015	Will	MW-08	TDS	4/30/2015	1200	1400
919	2015	Will	MW-08	TDS	11/9/2015	1200	1600
920	2015	Will	MW-09	Boron	11/11/2015	2	2.1
921	2015	Will	MW-10	Arsenic	2/3/2015	0.01	0.012
922	2015	Will	MW-10	Arsenic	4/30/2015	0.01	0.014
923	2015	Will	MW-10	Arsenic	11/10/2015	0.01	0.017
924	2015	Will	MW-10	Boron	2/3/2015	2	3.3
925	2015	Will	MW-10	Boron	4/30/2015	2	3.6
926	2015	Will	MW-10	Boron	7/27/2015	2	3.1
927	2015	Will	MW-10	Boron	11/10/2015	2	4.4
928	2016	Joliet 29	MW-09	Sulfate	2/9/2016	400	3600
929	2016	Joliet 29	MW-09	Sulfate	5/11/2016	400	12000
930	2016	Joliet 29	MW-09	Sulfate	8/30/2016	400	8100
931	2016	Joliet 29	MW-09	Sulfate	11/1/2016	400	3600
932	2016	Joliet 29	MW-09	TDS	2/9/2016	1200	4700
933	2016	Joliet 29	MW-09	TDS	5/11/2016	1200	19000
934	2016	Joliet 29	MW-09	TDS	8/30/2016	1200	15000
935	2016	Joliet 29	MW-09	TDS	11/1/2016	1200	6100
936	2016	Powerton	MW-06	Sulfate	5/17/2016	400	500

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
937	2016	Powerton	MW-06	Sulfate	11/16/2016	400	470
938	2016	Powerton	MW-06	TDS	5/17/2016	1200	1400
939	2016	Powerton	MW-07	Arsenic	2/24/2016	0.01	0.21
940	2016	Powerton	MW-07	Arsenic	5/18/2016	0.01	0.13
941	2016	Powerton	MW-07	Arsenic	8/19/2016	0.01	0.14
942	2016	Powerton	MW-07	Arsenic	11/16/2016	0.01	0.18
943	2016	Powerton	MW-07	TDS	2/24/2016	1200	1300
944	2016	Powerton	MW-07	TDS	8/19/2016	1200	1400
945	2016	Powerton	MW-08	TDS	8/17/2016	1200	1400
946	2016	Powerton	MW-08	TDS	11/15/2016	1200	1300
947	2016	Powerton	MW-09	Boron	2/25/2016	2	2.3
948	2016	Powerton	MW-09	Boron	8/17/2016	2	2.7
949	2016	Powerton	MW-09	Boron	11/17/2016	2	3.8
950	2016	Powerton	MW-11	Arsenic	5/20/2016	0.01	0.011
951	2016	Powerton	MW-11	Arsenic	8/17/2016	0.01	0.015
952	2016	Powerton	MW-12	Arsenic	11/18/2016	0.01	0.013
953	2016	Powerton	MW-12	Sulfate	2/26/2016	400	580
954	2016	Powerton	MW-12	Sulfate	5/20/2016	400	570
955	2016	Powerton	MW-12	Sulfate	8/18/2016	400	600
956	2016	Powerton	MW-12	TDS	2/26/2016	1200	1300
957	2016	Powerton	MW-12	TDS	5/20/2016	1200	1300
958	2016	Powerton	MW-12	TDS	8/18/2016	1200	1700
959	2016	Powerton	MW-12	TDS	11/18/2016	1200	1300
960	2016	Powerton	MW-13	Arsenic	2/24/2016	0.01	0.027
961	2016	Powerton	MW-13	Arsenic	5/19/2016	0.01	0.033
962	2016	Powerton	MW-13	Arsenic	8/18/2016	0.01	0.027
963	2016	Powerton	MW-13	Arsenic	11/17/2016	0.01	0.028
964	2016	Powerton	MW-13	Boron	2/24/2016	2	3.7
965	2016	Powerton	MW-13	Boron	5/19/2016	2	2.9
966	2016	Powerton	MW-13	Boron	8/18/2016	2	3
967	2016	Powerton	MW-13	Boron	11/17/2016	2	3.7
968	2016	Powerton	MW-13	Sulfate	2/24/2016	400	1300
969	2016	Powerton	MW-13	Sulfate	5/19/2016	400	1200
970	2016	Powerton	MW-13	Sulfate	8/18/2016	400	1500
971	2016	Powerton	MW-13	Sulfate	11/17/2016	400	1700
972	2016	Powerton	MW-13	TDS	2/24/2016	1200	2600
973	2016	Powerton	MW-13	TDS	5/19/2016	1200	2800
974	2016	Powerton	MW-13	TDS	8/18/2016	1200	3300
975	2016	Powerton	MW-13	TDS	11/17/2016	1200	3400

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
976	2016	Powerton	MW-14	Boron	2/24/2016	2	2.3
977	2016	Powerton	MW-14	Boron	5/19/2016	2	2.2
978	2016	Powerton	MW-14	Sulfate	2/24/2016	400	730
979	2016	Powerton	MW-14	Sulfate	5/19/2016	400	650
980	2016	Powerton	MW-14	Sulfate	8/18/2016	400	1000
981	2016	Powerton	MW-14	Sulfate	11/17/2016	400	1200
982	2016	Powerton	MW-14	TDS	2/24/2016	1200	1800
983	2016	Powerton	MW-14	TDS	5/19/2016	1200	1800
984	2016	Powerton	MW-14	TDS	8/18/2016	1200	2300
985	2016	Powerton	MW-14	TDS	11/17/2016	1200	2900
986	2016	Powerton	MW-14	Thallium	2/24/2016	0.002	0.0043
987	2016	Powerton	MW-14	Thallium	5/19/2016	0.002	0.0028
988	2016	Powerton	MW-14	Thallium	8/18/2016	0.002	0.0041
989	2016	Powerton	MW-14	Thallium	11/17/2016	0.002	0.0048
990	2016	Powerton	MW-15	Boron	2/25/2016	2	2.4
991	2016	Powerton	MW-15	Sulfate	2/25/2016	400	670
992	2016	Powerton	MW-15	Sulfate	5/19/2016	400	1100
993	2016	Powerton	MW-15	Sulfate	8/18/2016	400	620
994	2016	Powerton	MW-15	Sulfate	11/17/2016	400	570
995	2016	Powerton	MW-15	TDS	2/25/2016	1200	1600
996	2016	Powerton	MW-15	TDS	5/19/2016	1200	2800
997	2016	Powerton	MW-15	TDS	8/18/2016	1200	1900
998	2016	Powerton	MW-15	TDS	11/17/2016	1200	1900
999	2016	Powerton	MW-17	Arsenic	2/22/2016	0.01	0.021
1000	2016	Powerton	MW-17	Arsenic	5/18/2016	0.01	0.32
1001	2016	Powerton	MW-17	Arsenic	8/17/2016	0.01	0.34
1002	2016	Powerton	MW-17	Arsenic	11/14/2016	0.01	0.19
1003	2016	Powerton	MW-17	Sulfate	2/22/2016	400	960
1004	2016	Powerton	MW-17	Sulfate	5/18/2016	400	700
1005	2016	Powerton	MW-17	Sulfate	8/17/2016	400	860
1006	2016	Powerton	MW-17	Sulfate	11/14/2016	400	560
1007	2016	Powerton	MW-17	TDS	2/22/2016	1200	2100
1008	2016	Powerton	MW-17	TDS	5/18/2016	1200	1800
1009	2016	Powerton	MW-17	TDS	8/17/2016	1200	2100
1010	2016	Powerton	MW-17	TDS	11/14/2016	1200	2000
1011	2016	Powerton	MW-17	Thallium	5/18/2016	0.002	0.0028
1012	2016	Powerton	MW-17	Thallium	8/17/2016	0.002	0.0031
1013	2016	Powerton	MW-17	Thallium	11/14/2016	0.002	0.0021
1014	2016	Powerton	MW-18	TDS	8/17/2016	1200	1300

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1015	2016	Powerton	MW-18	TDS	11/18/2016	1200	1300
1016	2016	Powerton	MW-19	Boron	11/18/2016	2	3.8
1017	2016	Waukegan	MW-01	Arsenic	3/1/2016	0.01	0.12
1018	2016	Waukegan	MW-01	Arsenic	5/4/2016	0.01	0.11
1019	2016	Waukegan	MW-01	Arsenic	8/23/2016	0.01	0.12
1020	2016	Waukegan	MW-01	Arsenic	12/5/2016	0.01	0.15
1021	2016	Waukegan	MW-01	Boron	5/4/2016	2	2.1
1022	2016	Waukegan	MW-01	Boron	8/23/2016	2	2.1
1023	2016	Waukegan	MW-02	Arsenic	12/5/2016	0.01	0.015
1024	2016	Waukegan	MW-02	Boron	3/1/2016	2	3.6
1025	2016	Waukegan	MW-02	Boron	5/4/2016	2	3.3
1026	2016	Waukegan	MW-02	Boron	8/23/2016	2	3
1027	2016	Waukegan	MW-02	Boron	12/5/2016	2	3
1028	2016	Waukegan	MW-03	Boron	3/1/2016	2	2.7
1029	2016	Waukegan	MW-03	Boron	5/4/2016	2	2.4
1030	2016	Waukegan	MW-03	Boron	12/5/2016	2	2.7
1031	2016	Waukegan	MW-04	Boron	12/5/2016	2	2.9
1032	2016	Waukegan	MW-05	Arsenic	12/7/2016	0.01	0.013
1033	2016	Waukegan	MW-05	Boron	3/2/2016	2	14
1034	2016	Waukegan	MW-05	Boron	5/2/2016	2	23
1035	2016	Waukegan	MW-05	Boron	8/24/2016	2	43
1036	2016	Waukegan	MW-05	Boron	12/7/2016	2	49
1037	2016	Waukegan	MW-05	Sulfate	3/2/2016	400	1200
1038	2016	Waukegan	MW-05	Sulfate	5/2/2016	400	1000
1039	2016	Waukegan	MW-05	Sulfate	8/24/2016	400	1100
1040	2016	Waukegan	MW-05	Sulfate	12/7/2016	400	610
1041	2016	Waukegan	MW-05	TDS	3/2/2016	1200	2800
1042	2016	Waukegan	MW-05	TDS	5/2/2016	1200	2400
1043	2016	Waukegan	MW-05	TDS	8/24/2016	1200	2200
1044	2016	Waukegan	MW-05	TDS	12/7/2016	1200	2000
1045	2016	Waukegan	MW-06	Boron	2/29/2016	2	2.8
1046	2016	Waukegan	MW-06	Boron	5/3/2016	2	10
1047	2016	Waukegan	MW-06	Boron	12/6/2016	2	5.8
1048	2016	Waukegan	MW-07	Boron	2/29/2016	2	22
1049	2016	Waukegan	MW-07	Boron	5/2/2016	2	24
1050	2016	Waukegan	MW-07	Boron	8/24/2016	2	26
1051	2016	Waukegan	MW-07	Boron	12/7/2016	2	33
1052	2016	Waukegan	MW-07	Sulfate	2/29/2016	400	580
1053	2016	Waukegan	MW-07	Sulfate	5/2/2016	400	610

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1054	2016	Waukegan	MW-07	Sulfate	8/24/2016	400	620
1055	2016	Waukegan	MW-07	Sulfate	12/7/2016	400	510
1056	2016	Waukegan	MW-07	TDS	2/29/2016	1200	1300
1057	2016	Waukegan	MW-07	TDS	5/2/2016	1200	1500
1058	2016	Waukegan	MW-07	TDS	8/24/2016	1200	1500
1059	2016	Waukegan	MW-07	TDS	12/7/2016	1200	1800
1060	2016	Waukegan	MW-08	Boron	2/29/2016	2	27
1061	2016	Waukegan	MW-08	Boron	5/3/2016	2	26
1062	2016	Waukegan	MW-08	Boron	8/25/2016	2	24
1063	2016	Waukegan	MW-08	Boron	12/6/2016	2	30
1064	2016	Waukegan	MW-08	Sulfate	2/29/2016	400	480
1065	2016	Waukegan	MW-08	Sulfate	5/3/2016	400	530
1066	2016	Waukegan	MW-08	Sulfate	8/25/2016	400	450
1067	2016	Waukegan	MW-08	TDS	2/29/2016	1200	1300
1068	2016	Waukegan	MW-08	TDS	5/3/2016	1200	1300
1069	2016	Waukegan	MW-08	TDS	8/25/2016	1200	1300
1070	2016	Waukegan	MW-08	TDS	12/6/2016	1200	1300
1071	2016	Waukegan	MW-09	Boron	3/2/2016	2	29
1072	2016	Waukegan	MW-09	Boron	5/3/2016	2	31
1073	2016	Waukegan	MW-09	Boron	8/25/2016	2	3.9
1074	2016	Waukegan	MW-09	Boron	12/8/2016	2	13
1075	2016	Waukegan	MW-09	Sulfate	3/2/2016	400	920
1076	2016	Waukegan	MW-09	Sulfate	5/3/2016	400	780
1077	2016	Waukegan	MW-09	TDS	3/2/2016	1200	3000
1078	2016	Waukegan	MW-09	TDS	5/3/2016	1200	2600
1079	2016	Waukegan	MW-09	TDS	12/8/2016	1200	1400
1080	2016	Waukegan	MW-10	Arsenic	3/2/2016	0.01	0.58
1081	2016	Waukegan	MW-10	Arsenic	5/3/2016	0.01	0.46
1082	2016	Waukegan	MW-10	Arsenic	8/26/2016	0.01	0.35
1083	2016	Waukegan	MW-10	Arsenic	12/6/2016	0.01	0.42
1084	2016	Waukegan	MW-11	Arsenic	3/2/2016	0.01	0.55
1085	2016	Waukegan	MW-11	Arsenic	5/5/2016	0.01	0.48
1086	2016	Waukegan	MW-11	Arsenic	8/26/2016	0.01	0.89
1087	2016	Waukegan	MW-11	Arsenic	12/7/2016	0.01	0.87
1088	2016	Waukegan	MW-11	Boron	3/2/2016	2	3.8
1089	2016	Waukegan	MW-11	Boron	5/5/2016	2	5.2
1090	2016	Waukegan	MW-11	Boron	8/26/2016	2	3
1091	2016	Waukegan	MW-11	Boron	12/7/2016	2	3
1092	2016	Waukegan	MW-12	Boron	2/29/2016	2	8.4

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1093	2016	Waukegan	MW-12	Boron	5/4/2016	2	18
1094	2016	Waukegan	MW-12	Boron	8/25/2016	2	4.9
1095	2016	Waukegan	MW-14	Arsenic	3/2/2016	0.01	0.061
1096	2016	Waukegan	MW-14	Arsenic	5/5/2016	0.01	0.2
1097	2016	Waukegan	MW-14	Arsenic	8/25/2016	0.01	0.71
1098	2016	Waukegan	MW-14	Arsenic	12/7/2016	0.01	0.13
1099	2016	Waukegan	MW-15	Boron	2/29/2016	2	12
1100	2016	Waukegan	MW-15	Boron	5/3/2016	2	10
1101	2016	Waukegan	MW-15	Boron	8/23/2016	2	8
1102	2016	Waukegan	MW-15	Boron	12/6/2016	2	2.6
1103	2016	Waukegan	MW-16	Arsenic	12/5/2016	0.01	0.036
1104	2016	Will	MW-02	Arsenic	8/11/2016	0.01	0.018
1105	2016	Will	MW-02	Arsenic	10/27/2016	0.01	0.017
1106	2016	Will	MW-02	Boron	2/17/2016	2	4.3
1107	2016	Will	MW-02	Boron	5/25/2016	2	3.9
1108	2016	Will	MW-02	Boron	8/11/2016	2	4.1
1109	2016	Will	MW-02	Boron	10/27/2016	2	4.9
1110	2016	Will	MW-02	Sulfate	2/17/2016	400	710
1111	2016	Will	MW-02	Sulfate	5/25/2016	400	650
1112	2016	Will	MW-02	Sulfate	8/11/2016	400	510
1113	2016	Will	MW-02	Sulfate	10/27/2016	400	670
1114	2016	Will	MW-02	TDS	2/17/2016	1200	1300
1115	2016	Will	MW-02	TDS	5/25/2016	1200	1300
1116	2016	Will	MW-02	TDS	8/11/2016	1200	1500
1117	2016	Will	MW-02	TDS	10/27/2016	1200	1500
1118	2016	Will	MW-03	Boron	2/17/2016	2	3
1119	2016	Will	MW-03	Boron	5/25/2016	2	2.9
1120	2016	Will	MW-03	Boron	8/11/2016	2	3.1
1121	2016	Will	MW-03	Boron	10/27/2016	2	3.3
1122	2016	Will	MW-04	Boron	2/17/2016	2	4.9
1123	2016	Will	MW-04	Boron	5/25/2016	2	4.3
1124	2016	Will	MW-04	Boron	8/11/2016	2	4.8
1125	2016	Will	MW-04	Boron	10/27/2016	2	6.1
1126	2016	Will	MW-04	Sulfate	2/17/2016	400	1800
1127	2016	Will	MW-04	Sulfate	5/25/2016	400	1300
1128	2016	Will	MW-04	Sulfate	8/11/2016	400	880
1129	2016	Will	MW-04	Sulfate	10/27/2016	400	1400
1130	2016	Will	MW-04	TDS	2/17/2016	1200	3200
1131	2016	Will	MW-04	TDS	5/25/2016	1200	2700

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1132	2016	Will	MW-04	TDS	8/11/2016	1200	2200
1133	2016	Will	MW-04	TDS	10/27/2016	1200	2800
1134	2016	Will	MW-05	Boron	2/18/2016	2	4.1
1135	2016	Will	MW-05	Boron	5/26/2016	2	3.7
1136	2016	Will	MW-05	Boron	8/10/2016	2	4.1
1137	2016	Will	MW-05	Boron	10/26/2016	2	3.9
1138	2016	Will	MW-05	Sulfate	2/18/2016	400	730
1139	2016	Will	MW-05	Sulfate	5/26/2016	400	600
1140	2016	Will	MW-05	Sulfate	8/10/2016	400	530
1141	2016	Will	MW-05	TDS	2/18/2016	1200	1700
1142	2016	Will	MW-05	TDS	5/26/2016	1200	1500
1143	2016	Will	MW-06	Boron	2/18/2016	2	2.4
1144	2016	Will	MW-06	Boron	5/26/2016	2	2.9
1145	2016	Will	MW-06	Boron	8/11/2016	2	3.6
1146	2016	Will	MW-06	Boron	10/26/2016	2	3.9
1147	2016	Will	MW-07	Boron	2/17/2016	2	3.8
1148	2016	Will	MW-07	Boron	5/24/2016	2	2.9
1149	2016	Will	MW-07	Boron	8/9/2016	2	2.8
1150	2016	Will	MW-07	Boron	10/25/2016	2	3.2
1151	2016	Will	MW-07	Sulfate	2/17/2016	400	700
1152	2016	Will	MW-07	Sulfate	5/24/2016	400	530
1153	2016	Will	MW-07	Sulfate	10/25/2016	400	510
1154	2016	Will	MW-07	TDS	2/17/2016	1200	1300
1155	2016	Will	MW-08	Boron	2/16/2016	2	2.8
1156	2016	Will	MW-08	Boron	5/24/2016	2	2.3
1157	2016	Will	MW-08	Boron	8/9/2016	2	2.6
1158	2016	Will	MW-08	Boron	10/25/2016	2	4.1
1159	2016	Will	MW-08	Sulfate	2/16/2016	400	750
1160	2016	Will	MW-08	Sulfate	5/24/2016	400	580
1161	2016	Will	MW-08	Sulfate	8/9/2016	400	520
1162	2016	Will	MW-08	Sulfate	10/25/2016	400	680
1163	2016	Will	MW-08	TDS	2/16/2016	1200	1600
1164	2016	Will	MW-08	TDS	5/24/2016	1200	1400
1165	2016	Will	MW-08	TDS	8/9/2016	1200	1300
1166	2016	Will	MW-08	TDS	10/25/2016	1200	1700
1167	2016	Will	MW-09	Boron	10/25/2016	2	2.6
1168	2016	Will	MW-10	Arsenic	8/10/2016	0.01	0.011
1169	2016	Will	MW-10	Arsenic	10/26/2016	0.01	0.025
1170	2016	Will	MW-10	Boron	2/16/2016	2	3.6

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1171	2016	Will	MW-10	Boron	5/25/2016	2	3.8
1172	2016	Will	MW-10	Boron	8/10/2016	2	3.7
1173	2016	Will	MW-10	Boron	10/26/2016	2	3.5
1174	2017	Joliet 29	MW-09	Sulfate	2/8/2017	400	1200
1175	2017	Joliet 29	MW-09	Sulfate	4/25/2017	400	4700
1176	2017	Joliet 29	MW-09	TDS	2/8/2017	1200	2800
1177	2017	Joliet 29	MW-09	TDS	4/25/2017	1200	6500
1178	2017	Powerton	MW-06	Sulfate	5/2/2017	400	420
1179	2017	Powerton	MW-07	Arsenic	2/16/2017	0.01	0.19
1180	2017	Powerton	MW-07	Arsenic	5/2/2017	0.01	0.12
1181	2017	Powerton	MW-08	TDS	2/16/2017	1200	1400
1182	2017	Powerton	MW-08	TDS	5/2/2017	1200	1300
1183	2017	Powerton	MW-09	Boron	2/15/2017	2	3
1184	2017	Powerton	MW-09	Boron	5/3/2017	2	3.4
1185	2017	Powerton	MW-11	Sulfate	5/3/2017	400	410
1186	2017	Powerton	MW-11	TDS	5/3/2017	1200	1300
1187	2017	Powerton	MW-12	Sulfate	2/16/2017	400	550
1188	2017	Powerton	MW-12	Sulfate	5/3/2017	400	450
1189	2017	Powerton	MW-13	Arsenic	2/17/2017	0.01	0.024
1190	2017	Powerton	MW-13	Arsenic	5/4/2017	0.01	0.028
1191	2017	Powerton	MW-13	Boron	2/17/2017	2	3
1192	2017	Powerton	MW-13	Boron	5/4/2017	2	3
1193	2017	Powerton	MW-13	Sulfate	2/17/2017	400	1700
1194	2017	Powerton	MW-13	Sulfate	5/4/2017	400	1800
1195	2017	Powerton	MW-13	TDS	2/17/2017	1200	3500
1196	2017	Powerton	MW-13	TDS	5/4/2017	1200	3500
1197	2017	Powerton	MW-14	Boron	2/17/2017	2	2.3
1198	2017	Powerton	MW-14	Boron	5/4/2017	2	2.5
1199	2017	Powerton	MW-14	Sulfate	2/17/2017	400	1500
1200	2017	Powerton	MW-14	Sulfate	5/4/2017	400	1700
1201	2017	Powerton	MW-14	TDS	2/17/2017	1200	3200
1202	2017	Powerton	MW-14	TDS	5/4/2017	1200	3600
1203	2017	Powerton	MW-14	Thallium	5/4/2017	0.002	0.0028
1204	2017	Powerton	MW-15	Sulfate	2/17/2017	400	610
1205	2017	Powerton	MW-15	Sulfate	5/4/2017	400	480
1206	2017	Powerton	MW-15	TDS	2/17/2017	1200	1700
1207	2017	Powerton	MW-15	TDS	5/4/2017	1200	1500
1208	2017	Powerton	MW-17	Arsenic	2/13/2017	0.01	0.35
1209	2017	Powerton	MW-17	Arsenic	5/4/2017	0.01	0.24

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1210	2017	Powerton	MW-17	Arsenic	6/22/2017	0.01	0.41
1211	2017	Powerton	MW-17	Sulfate	2/13/2017	400	770
1212	2017	Powerton	MW-17	Sulfate	5/4/2017	400	720
1213	2017	Powerton	MW-17	Sulfate	6/22/2017	400	580
1214	2017	Powerton	MW-17	TDS	2/13/2017	1200	1600
1215	2017	Powerton	MW-17	TDS	5/4/2017	1200	1500
1216	2017	Powerton	MW-17	TDS	6/22/2017	1200	1600
1217	2017	Powerton	MW-17	Thallium	2/13/2017	0.002	0.0025
1218	2017	Powerton	MW-17	Thallium	5/4/2017	0.002	0.0065
1219	2017	Powerton	MW-17	Thallium	6/22/2017	0.002	0.0022
1220	2017	Powerton	MW-19	Boron	2/15/2017	2	4.7
1221	2017	Powerton	MW-19	Boron	5/5/2017	2	3.3
1222	2017	Powerton	MW-19	Boron	6/21/2017	2	2.3
1223	2017	Waukegan	MW-01	Arsenic	2/21/2017	0.01	0.14
1224	2017	Waukegan	MW-01	Arsenic	5/15/2017	0.01	0.11
1225	2017	Waukegan	MW-01	Boron	2/21/2017	2	2.1
1226	2017	Waukegan	MW-01	Boron	5/15/2017	2	2.3
1227	2017	Waukegan	MW-02	Arsenic	2/21/2017	0.01	0.026
1228	2017	Waukegan	MW-02	Arsenic	5/15/2017	0.01	0.016
1229	2017	Waukegan	MW-02	Boron	2/21/2017	2	2.9
1230	2017	Waukegan	MW-02	Boron	5/15/2017	2	3.4
1231	2017	Waukegan	MW-03	Arsenic	2/21/2017	0.01	0.016
1232	2017	Waukegan	MW-03	Boron	2/21/2017	2	2.1
1233	2017	Waukegan	MW-03	Boron	5/16/2017	2	3.5
1234	2017	Waukegan	MW-04	Arsenic	2/22/2017	0.01	0.018
1235	2017	Waukegan	MW-04	Boron	2/22/2017	2	2.4
1236	2017	Waukegan	MW-04	Boron	5/16/2017	2	2.6
1237	2017	Waukegan	MW-05	Arsenic	2/22/2017	0.01	0.04
1238	2017	Waukegan	MW-05	Boron	2/22/2017	2	42
1239	2017	Waukegan	MW-05	Boron	5/15/2017	2	7.7
1240	2017	Waukegan	MW-05	Sulfate	2/22/2017	400	700
1241	2017	Waukegan	MW-05	Sulfate	5/15/2017	400	1100
1242	2017	Waukegan	MW-05	TDS	2/22/2017	1200	1700
1243	2017	Waukegan	MW-05	TDS	5/15/2017	1200	2600
1244	2017	Waukegan	MW-06	Boron	2/22/2017	2	8.9
1245	2017	Waukegan	MW-07	Boron	2/22/2017	2	49
1246	2017	Waukegan	MW-07	Boron	5/16/2017	2	50
1247	2017	Waukegan	MW-07	Sulfate	2/22/2017	400	880
1248	2017	Waukegan	MW-07	Sulfate	5/16/2017	400	690

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1249	2017	Waukegan	MW-07	TDS	2/22/2017	1200	1900
1250	2017	Waukegan	MW-07	TDS	5/16/2017	1200	1800
1251	2017	Waukegan	MW-08	Boron	2/23/2017	2	32
1252	2017	Waukegan	MW-08	Boron	5/17/2017	2	21
1253	2017	Waukegan	MW-08	Cadmium	2/23/2017	0.005	0.0055
1254	2017	Waukegan	MW-08	Sulfate	2/23/2017	400	540
1255	2017	Waukegan	MW-09	Boron	2/23/2017	2	14
1256	2017	Waukegan	MW-09	Boron	5/16/2017	2	25
1257	2017	Waukegan	MW-09	Sulfate	2/23/2017	400	410
1258	2017	Waukegan	MW-10	Arsenic	2/23/2017	0.01	0.67
1259	2017	Waukegan	MW-10	Arsenic	5/17/2017	0.01	0.49
1260	2017	Waukegan	MW-11	Arsenic	2/24/2017	0.01	0.57
1261	2017	Waukegan	MW-11	Arsenic	5/18/2017	0.01	0.59
1262	2017	Waukegan	MW-11	Boron	2/24/2017	2	2.3
1263	2017	Waukegan	MW-12	Arsenic	2/22/2017	0.01	0.02
1264	2017	Waukegan	MW-12	Arsenic	5/17/2017	0.01	0.055
1265	2017	Waukegan	MW-12	Boron	5/17/2017	2	16
1266	2017	Waukegan	MW-14	Antimony	2/23/2017	0.006	0.021
1267	2017	Waukegan	MW-14	Arsenic	2/23/2017	0.01	25
1268	2017	Waukegan	MW-14	Arsenic	5/18/2017	0.01	0.66
1269	2017	Waukegan	MW-14	Chromium	2/23/2017	0.1	10
1270	2017	Waukegan	MW-14	Chromium	5/18/2017	0.1	0.2
1271	2017	Waukegan	MW-15	Arsenic	2/22/2017	0.01	0.04
1272	2017	Waukegan	MW-15	Arsenic	5/17/2017	0.01	0.031
1273	2017	Waukegan	MW-15	Boron	2/22/2017	2	4.2
1274	2017	Waukegan	MW-15	Boron	5/17/2017	2	5.8
1275	2017	Waukegan	MW-16	Arsenic	2/24/2017	0.01	0.027
1276	2017	Waukegan	MW-16	Arsenic	5/16/2017	0.01	0.043
1277	2017	Waukegan	MW-16	Thallium	5/16/2017	0.002	0.0021
1278	2017	Will	MW-02	Boron	2/2/2017	2	4.3
1279	2017	Will	MW-02	Boron	5/10/2017	2	3.6
1280	2017	Will	MW-02	Sulfate	2/2/2017	400	590
1281	2017	Will	MW-02	Sulfate	5/10/2017	400	470
1282	2017	Will	MW-02	TDS	2/2/2017	1200	1400
1283	2017	Will	MW-02	TDS	5/10/2017	1200	1300
1284	2017	Will	MW-03	Boron	2/1/2017	2	3
1285	2017	Will	MW-03	Boron	5/11/2017	2	4.1
1286	2017	Will	MW-03	Sulfate	5/11/2017	400	510
1287	2017	Will	MW-04	Boron	2/1/2017	2	5

	Year	Site	Well	Pollutant	Date	Standard (mg/L)	Concentration (mg/L)
1288	2017	Will	MW-04	Boron	5/11/2017	2	5
1289	2017	Will	MW-04	Sulfate	2/1/2017	400	1200
1290	2017	Will	MW-04	Sulfate	5/11/2017	400	1300
1291	2017	Will	MW-04	TDS	2/1/2017	1200	2700
1292	2017	Will	MW-04	TDS	5/11/2017	1200	2800
1293	2017	Will	MW-05	Boron	2/1/2017	2	4.2
1294	2017	Will	MW-05	Boron	5/11/2017	2	3.5
1295	2017	Will	MW-05	Sulfate	2/1/2017	400	500
1296	2017	Will	MW-05	Sulfate	5/11/2017	400	470
1297	2017	Will	MW-05	TDS	2/1/2017	1200	1600
1298	2017	Will	MW-06	Arsenic	5/11/2017	0.01	0.011
1299	2017	Will	MW-06	Boron	2/1/2017	2	2.9
1300	2017	Will	MW-06	Boron	5/11/2017	2	3
1301	2017	Will	MW-07	Boron	1/31/2017	2	3.7
1302	2017	Will	MW-07	Boron	5/9/2017	2	4.3
1303	2017	Will	MW-07	Sulfate	1/31/2017	400	500
1304	2017	Will	MW-07	Sulfate	5/9/2017	400	540
1305	2017	Will	MW-07	TDS	1/31/2017	1200	1500
1306	2017	Will	MW-07	TDS	5/9/2017	1200	1500
1307	2017	Will	MW-08	Boron	1/31/2017	2	2.5
1308	2017	Will	MW-08	Sulfate	1/31/2017	400	450
1309	2017	Will	MW-08	TDS	1/31/2017	1200	1500
1310	2017	Will	MW-10	Arsenic	2/2/2017	0.01	0.013
1311	2017	Will	MW-10	Boron	2/2/2017	2	3.2
1312	2017	Will	MW-10	Boron	5/10/2017	2	3
1313	2017	Will	MW-11	Arsenic	2/1/2017	0.01	0.011
1314	2017	Will	MW-11	Arsenic	5/10/2017	0.01	0.014

	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
1	2010	Waukegan	MW-01	Arsenic	10/25/2010	0.05	0.054
2	2010	Waukegan	MW-02	Selenium	10/25/2010	0.01	0.026
3	2010	Waukegan	MW-01	Selenium	10/25/2010	0.01	0.031
4	2010	Will	MW-05	Selenium	12/13/2010	0.01	0.017
5	2011	Powerton	MW-07	Arsenic	3/25/2011	0.05	0.085
6	2011	Powerton	MW-07	Arsenic	6/16/2011	0.05	0.12
7	2011	Powerton	MW-07	Arsenic	9/19/2011	0.05	0.18
8	2011	Powerton	MW-07	Arsenic	12/12/2011	0.05	0.23
9	2011	Powerton	MW-15	Selenium	4/25/2011	0.01	0.017
10	2011	Powerton	MW-14	Selenium	4/25/2011	0.01	0.065
11	2011	Waukegan	MW-01	Arsenic	6/13/2011	0.05	0.17
12	2011	Waukegan	MW-01	Arsenic	9/13/2011	0.05	0.077
13	2011	Waukegan	MW-01	Arsenic	12/6/2011	0.05	0.057
14	2011	Waukegan	MW-03	Selenium	3/24/2011	0.01	0.016
15	2011	Waukegan	MW-01	Selenium	3/24/2011	0.01	0.03
16	2011	Waukegan	MW-01	Selenium	6/13/2011	0.01	0.016
17	2011	Waukegan	MW-04	Selenium	6/13/2011	0.01	0.022
18	2011	Waukegan	MW-02	Selenium	6/13/2011	0.01	0.028
19	2011	Waukegan	MW-03	Selenium	6/13/2011	0.01	0.03
20	2011	Waukegan	MW-03	Selenium	9/13/2011	0.01	0.012
21	2011	Waukegan	MW-02	Selenium	9/13/2011	0.01	0.022
22	2011	Waukegan	MW-04	Selenium	9/13/2011	0.01	0.025
23	2011	Waukegan	MW-01	Selenium	9/13/2011	0.01	0.039
24	2011	Waukegan	MW-03	Selenium	12/6/2011	0.01	0.011
25	2011	Waukegan	MW-04	Selenium	12/6/2011	0.01	0.015
26	2011	Waukegan	MW-01	Selenium	12/6/2011	0.01	0.032
27	2011	Will	MW-05	Selenium	3/28/2011	0.01	0.014
28	2011	Will	MW-05	Selenium	6/15/2011	0.01	0.016
29	2011	Will	MW-06	Selenium	9/15/2011	0.01	0.011
30	2012	Powerton	MW-07	Arsenic	3/19/2012	0.05	0.23
31	2012	Powerton	MW-07	Arsenic	6/25/2012	0.05	0.15
32	2012	Powerton	MW-07	Arsenic	9/18/2012	0.05	0.18
33	2012	Powerton	MW-07	Arsenic	12/12/2012	0.05	0.26
34	2012	Powerton	MW-14	Selenium	4/10/2012	0.01	0.022
35	2012	Powerton	MW-15	Selenium	4/10/2012	0.01	0.025
36	2012	Waukegan	MW-01	Arsenic	3/14/2012	0.05	0.078
37	2012	Waukegan	MW-01	Arsenic	6/18/2012	0.05	0.07
38	2012	Waukegan	MW-01	Arsenic	9/28/2012	0.05	0.07
39	2012	Waukegan	MW-01	Arsenic	12/19/2012	0.05	0.091
40	2012	Waukegan	MW-01	Selenium	3/14/2012	0.01	0.037

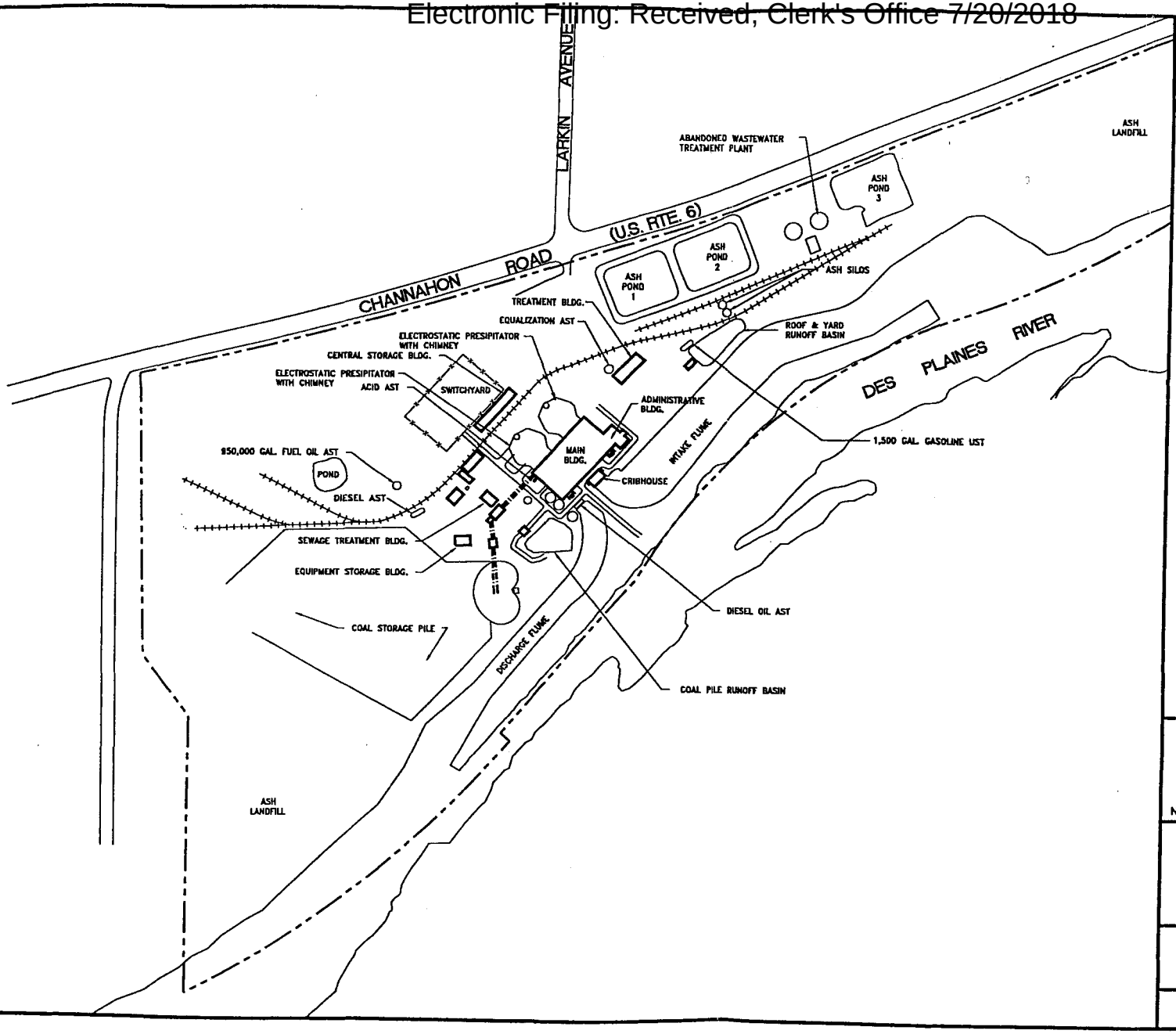
	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
41	2012	Waukegan	MW-01	Selenium	6/18/2012	0.01	0.013
42	2012	Waukegan	MW-03	Selenium	6/18/2012	0.01	0.017
43	2012	Will	MW-06	Selenium	9/24/2012	0.01	0.014
44	2012	Will	MW-05	Selenium	9/24/2012	0.01	0.017
45	2013	Joliet 29	MW-06	Selenium	3/5/2013	0.01	0.013
46	2013	Joliet 29	MW-03	Selenium	5/22/2013	0.01	0.022
47	2013	Joliet 29	MW-05	Selenium	6/5/2013	0.01	0.025
48	2013	Joliet 29	MW-03	Selenium	7/22/2013	0.01	0.012
49	2013	Joliet 29	MW-05	Selenium	7/23/2013	0.01	0.016
50	2013	Powerton	MW-07	Arsenic	2/27/2013	0.05	0.17
51	2013	Powerton	MW-07	Arsenic	5/31/2013	0.05	0.12
52	2013	Powerton	MW-07	Arsenic	7/31/2013	0.05	0.22
53	2013	Powerton	MW-07	Arsenic	10/23/2013	0.05	0.2
54	2013	Powerton	MW-04	Selenium	2/27/2013	0.01	0.013
55	2013	Powerton	MW-09	Selenium	2/27/2013	0.01	0.015
56	2013	Powerton	MW-14	Selenium	2/27/2013	0.01	0.15
57	2013	Powerton	MW-09	Selenium	5/30/2013	0.01	0.016
58	2013	Powerton	MW-09	Selenium	7/30/2013	0.01	0.014
59	2013	Powerton	MW-15	Selenium	10/23/2013	0.01	0.013
60	2013	Waukegan	MW-01	Arsenic	3/7/2013	0.05	0.098
61	2013	Waukegan	MW-01	Arsenic	7/25/2013	0.05	0.055
62	2013	Waukegan	MW-03	Selenium	3/7/2013	0.01	0.011
63	2013	Waukegan	MW-01	Selenium	3/7/2013	0.01	0.056
64	2013	Waukegan	MW-04	Selenium	6/6/2013	0.01	0.028
65	2013	Waukegan	MW-01	Selenium	6/7/2013	0.01	0.043
66	2013	Waukegan	MW-03	Selenium	6/7/2013	0.01	0.067
67	2013	Waukegan	MW-02	Selenium	7/25/2013	0.01	0.015
68	2013	Waukegan	MW-01	Selenium	7/25/2013	0.01	0.031
69	2013	Waukegan	MW-04	Selenium	7/25/2013	0.01	0.05
70	2013	Waukegan	MW-04	Selenium	11/4/2013	0.01	0.011
71	2013	Waukegan	MW-01	Selenium	11/4/2013	0.01	0.013
72	2013	Will	MW-04	Selenium	3/5/2013	0.01	0.015
73	2013	Will	MW-05	Selenium	6/5/2013	0.01	0.026
74	2013	Will	MW-08	Selenium	10/28/2013	0.01	0.015
75	2013	Will	MW-05	Selenium	10/28/2013	0.01	0.17
76	2014	Joliet 29	MW-05	Selenium	8/19/2014	0.01	0.017
77	2014	Powerton	MW-11	Arsenic	3/4/2014	0.05	0.057
78	2014	Powerton	MW-07	Arsenic	3/5/2014	0.05	0.15
79	2014	Powerton	MW-06	Arsenic	5/29/2014	0.05	0.2
80	2014	Powerton	MW-11	Arsenic	8/26/2014	0.05	0.068

	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
81	2014	Powerton	MW-07	Arsenic	8/27/2014	0.05	0.19
82	2014	Powerton	MW-07	Arsenic	10/29/2014	0.05	0.31
83	2014	Powerton	MW-14	Selenium	3/4/2014	0.01	0.02
84	2014	Powerton	MW-14	Selenium	5/28/2014	0.01	0.014
85	2014	Powerton	MW-15	Selenium	5/28/2014	0.01	0.033
86	2014	Waukegan	MW-10	Arsenic	8/22/2014	0.05	0.75
87	2014	Waukegan	MW-11	Arsenic	8/22/2014	0.05	1.3
88	2014	Waukegan	MW-14	Arsenic	8/22/2014	0.05	0.13
89	2014	Waukegan	MW-01	Arsenic	11/6/2014	0.05	0.21
90	2014	Waukegan	MW-10	Arsenic	11/6/2014	0.05	0.4
91	2014	Waukegan	MW-11	Arsenic	11/6/2014	0.05	1
92	2014	Waukegan	MW-06	Selenium	3/10/2014	0.01	0.014
93	2014	Waukegan	MW-09	Selenium	5/15/2014	0.01	0.014
94	2014	Waukegan	MW-08	Selenium	5/15/2014	0.01	0.016
95	2014	Waukegan	MW-09	Selenium	8/22/2014	0.01	0.011
96	2014	Waukegan	MW-08	Selenium	11/5/2014	0.01	0.012
97	2014	Waukegan	MW-01	Selenium	11/6/2014	0.01	0.035
98	2014	Will	MW-05	Selenium	2/13/2014	0.01	0.024
99	2014	Will	MW-05	Selenium	5/21/2014	0.01	0.013
100	2015	Joliet 29	MW-05	Selenium	2/11/2015	0.01	0.014
101	2015	Joliet 29	MW-05	Selenium	5/27/2015	0.01	0.025
102	2015	Joliet 29	MW-05	Selenium	8/4/2015	0.01	0.013
103	2015	Powerton	MW-07	Arsenic	2/23/2015	0.05	0.18
104	2015	Powerton	MW-07	Arsenic	5/11/2015	0.05	0.18
105	2015	Powerton	MW-11	Arsenic	5/12/2015	0.05	0.052
106	2015	Powerton	MW-07	Arsenic	8/18/2015	0.05	0.23
107	2015	Powerton	MW-07	Arsenic	11/16/2015	0.05	0.13
108	2015	Powerton	MW-14	Selenium	2/26/2015	0.01	0.023
109	2015	Powerton	MW-15	Selenium	2/26/2015	0.01	0.068
110	2015	Powerton	MW-09	Selenium	5/12/2015	0.01	0.014
111	2015	Powerton	MW-13	Selenium	5/13/2015	0.01	0.012
112	2015	Powerton	MW-14	Selenium	5/13/2015	0.01	0.042
113	2015	Powerton	MW-15	Selenium	5/14/2015	0.01	0.051
114	2015	Powerton	MW-15	Selenium	8/19/2015	0.01	0.013
115	2015	Waukegan	MW-10	Arsenic	2/18/2015	0.05	0.12
116	2015	Waukegan	MW-11	Arsenic	2/18/2015	0.05	0.96
117	2015	Waukegan	MW-10	Arsenic	4/20/2015	0.05	0.74
118	2015	Waukegan	MW-11	Arsenic	4/20/2015	0.05	0.79
119	2015	Waukegan	MW-01	Arsenic	4/21/2015	0.05	0.056
120	2015	Waukegan	MW-11	Arsenic	8/11/2015	0.05	0.81

	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
121	2015	Waukegan	MW-12	Arsenic	8/11/2015	0.05	0.46
122	2015	Waukegan	MW-14	Arsenic	8/11/2015	0.05	0.32
123	2015	Waukegan	MW-15	Arsenic	8/11/2015	0.05	0.32
124	2015	Waukegan	MW-01	Arsenic	11/2/2015	0.05	0.073
125	2015	Waukegan	MW-10	Arsenic	11/4/2015	0.05	0.63
126	2015	Waukegan	MW-11	Arsenic	11/5/2015	0.05	0.82
127	2015	Waukegan	MW-14	Arsenic	11/5/2015	0.05	0.23
128	2015	Waukegan	MW-09	Selenium	4/21/2015	0.01	0.018
129	2015	Waukegan	MW-01	Selenium	8/12/2015	0.01	0.017
130	2015	Waukegan	MW-09	Selenium	8/13/2015	0.01	0.011
131	2015	Waukegan	MW-05	Selenium	8/13/2015	0.01	0.024
132	2015	Waukegan	MW-03	Selenium	11/2/2015	0.01	0.013
133	2015	Waukegan	MW-05	Selenium	11/3/2015	0.01	0.014
134	2015	Will	MW-04	Selenium	5/1/2015	0.01	0.02
135	2015	Will	MW-05	Selenium	5/1/2015	0.01	0.02
136	2015	Will	MW-05	Selenium	7/28/2015	0.01	0.021
137	2015	Will	MW-07	Selenium	11/9/2015	0.01	0.012
138	2015	Will	MW-05	Selenium	11/11/2015	0.01	0.035
139	2016	Joliet 29	MW-05	Selenium	5/10/2016	0.01	0.018
140	2016	Joliet 29	MW-01	Selenium	5/11/2016	0.01	0.021
141	2016	Joliet 29	MW-05	Selenium	8/31/2016	0.01	0.019
142	2016	Powerton	MW-07	Arsenic	2/24/2016	0.05	0.21
143	2016	Powerton	MW-07	Arsenic	5/18/2016	0.05	0.13
144	2016	Powerton	MW-17	Arsenic	5/18/2016	0.05	0.32
145	2016	Powerton	MW-17	Arsenic	8/17/2016	0.05	0.34
146	2016	Powerton	MW-07	Arsenic	8/19/2016	0.05	0.14
147	2016	Powerton	MW-17	Arsenic	11/14/2016	0.05	0.19
148	2016	Powerton	MW-07	Arsenic	11/16/2016	0.05	0.18
149	2016	Powerton	MW-15	Selenium	2/25/2016	0.01	0.042
150	2016	Powerton	MW-13	Selenium	5/19/2016	0.01	0.011
151	2016	Powerton	MW-15	Selenium	5/19/2016	0.01	0.015
152	2016	Powerton	MW-14	Selenium	8/18/2016	0.01	0.023
153	2016	Powerton	MW-15	Selenium	11/17/2016	0.01	0.017
154	2016	Waukegan	MW-01	Arsenic	3/1/2016	0.05	0.12
155	2016	Waukegan	MW-10	Arsenic	3/2/2016	0.05	0.58
156	2016	Waukegan	MW-11	Arsenic	3/2/2016	0.05	0.55
157	2016	Waukegan	MW-14	Arsenic	3/2/2016	0.05	0.061
158	2016	Waukegan	MW-10	Arsenic	5/3/2016	0.05	0.46
159	2016	Waukegan	MW-01	Arsenic	5/4/2016	0.05	0.11
160	2016	Waukegan	MW-11	Arsenic	5/5/2016	0.05	0.48

	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
161	2016	Waukegan	MW-14	Arsenic	5/5/2016	0.05	0.2
162	2016	Waukegan	MW-01	Arsenic	8/23/2016	0.05	0.12
163	2016	Waukegan	MW-14	Arsenic	8/25/2016	0.05	0.71
164	2016	Waukegan	MW-10	Arsenic	8/26/2016	0.05	0.35
165	2016	Waukegan	MW-11	Arsenic	8/26/2016	0.05	0.89
166	2016	Waukegan	MW-01	Arsenic	12/5/2016	0.05	0.15
167	2016	Waukegan	MW-10	Arsenic	12/6/2016	0.05	0.42
168	2016	Waukegan	MW-11	Arsenic	12/7/2016	0.05	0.87
169	2016	Waukegan	MW-14	Arsenic	12/7/2016	0.05	0.13
170	2016	Waukegan	MW-09	Selenium	5/3/2016	0.01	0.024
171	2016	Waukegan	MW-01	Selenium	5/4/2016	0.01	0.013
172	2016	Waukegan	MW-01	Selenium	8/23/2016	0.01	0.014
173	2016	Waukegan	MW-09	Selenium	8/25/2016	0.01	0.017
174	2016	Waukegan	MW-04	Selenium	12/5/2016	0.01	0.023
175	2016	Waukegan	MW-09	Selenium	12/8/2016	0.01	0.032
176	2016	Will	MW-05	Selenium	2/18/2016	0.01	0.017
177	2016	Will	MW-04	Selenium	5/25/2016	0.01	0.012
178	2016	Will	MW-05	Selenium	5/26/2016	0.01	0.027
179	2016	Will	MW-05	Selenium	8/10/2016	0.01	0.012
180	2017	Joliet 29	MW-05	Selenium	4/26/2017	0.01	0.014
181	2017	Powerton	MW-17	Arsenic	2/13/2017	0.05	0.35
182	2017	Powerton	MW-07	Arsenic	2/16/2017	0.05	0.19
183	2017	Powerton	MW-07	Arsenic	5/2/2017	0.05	0.12
184	2017	Powerton	MW-17	Arsenic	5/4/2017	0.05	0.24
185	2017	Powerton	MW-17	Arsenic	6/22/2017	0.05	0.41
186	2017	Powerton	MW-09	Selenium	5/3/2017	0.01	0.011
187	2017	Powerton	MW-13	Selenium	5/4/2017	0.01	0.019
188	2017	Waukegan	MW-01	Arsenic	2/21/2017	0.05	0.14
189	2017	Waukegan	MW-10	Arsenic	2/23/2017	0.05	0.67
190	2017	Waukegan	MW-14	Arsenic	2/23/2017	0.05	25
191	2017	Waukegan	MW-11	Arsenic	2/24/2017	0.05	0.57
192	2017	Waukegan	MW-01	Arsenic	5/15/2017	0.05	0.11
193	2017	Waukegan	MW-10	Arsenic	5/17/2017	0.05	0.49
194	2017	Waukegan	MW-12	Arsenic	5/17/2017	0.05	0.055
195	2017	Waukegan	MW-11	Arsenic	5/18/2017	0.05	0.59
196	2017	Waukegan	MW-14	Arsenic	5/18/2017	0.05	0.66
197	2017	Waukegan	MW-14	Selenium	2/23/2017	0.01	0.017
198	2017	Waukegan	MW-09	Selenium	2/23/2017	0.01	0.018
199	2017	Waukegan	MW-08	Selenium	2/23/2017	0.01	0.031
200	2017	Waukegan	MW-02	Selenium	5/15/2017	0.01	0.022

	Year	Site	Well	Pollutant	Date	Appendix I MCL (mg/L)	Concentration (mg/L)
201	2017	Waukegan	MW-16	Selenium	5/16/2017	0.01	0.016
202	2017	Waukegan	MW-04	Selenium	5/16/2017	0.01	0.021
203	2017	Will	MW-08	Selenium	1/31/2017	0.01	0.012
204	2017	Will	MW-04	Selenium	2/1/2017	0.01	0.011
205	2017	Will	MW-05	Selenium	2/1/2017	0.01	0.027
206	2017	Will	MW-12	Selenium	5/10/2017	0.01	0.017



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET29SP1

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR

0 250'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, Inc.

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

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

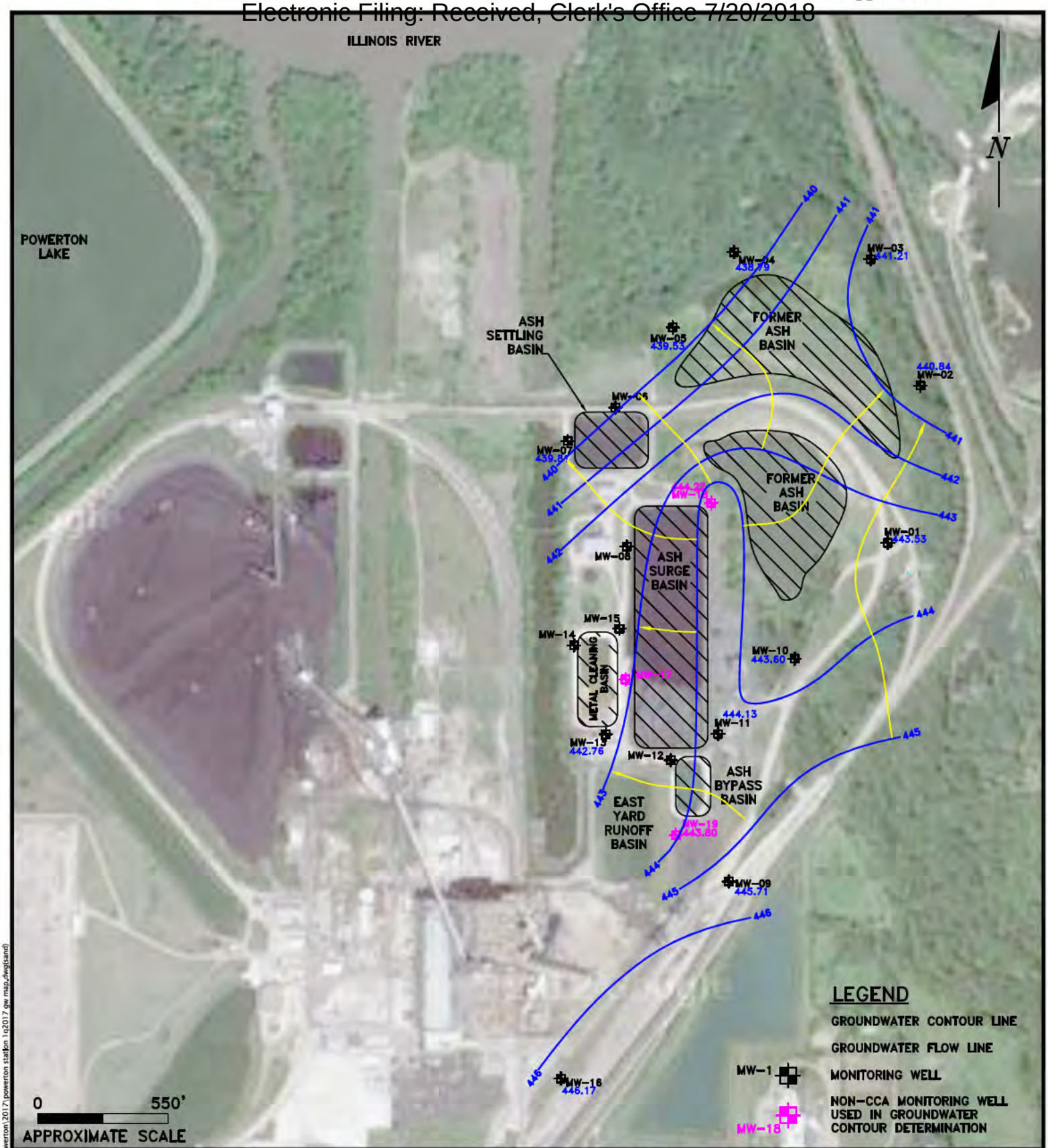
SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.0 | FIGURE 1

W:\c-pdp\projects\midwest generation\groundwater sampling\[dlt #29 gmz.dwg]site map)



ENVIRONMENTAL CONSULTATION & REMEDIATION

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GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 02/2017

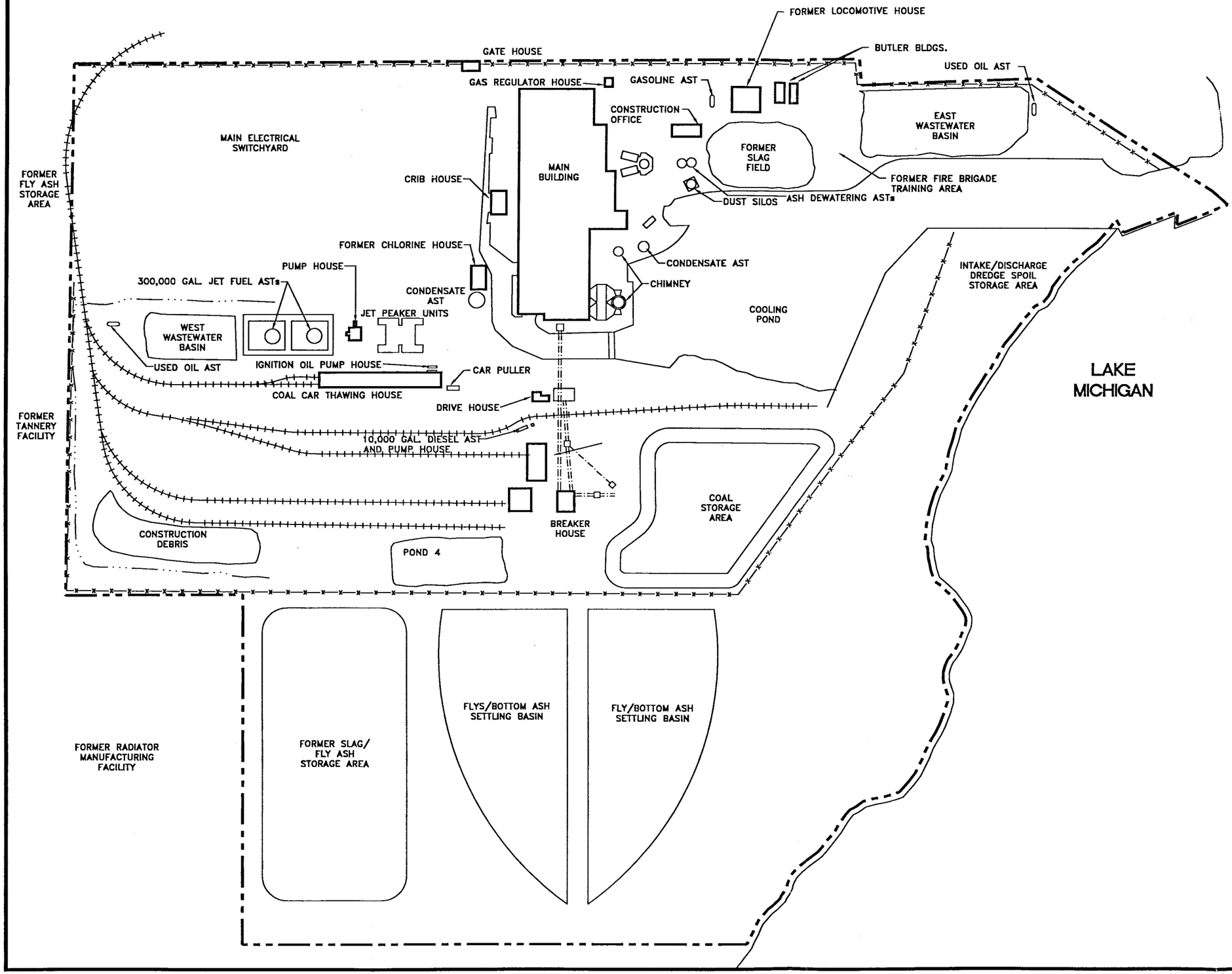
POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: April 11, 2017

KPRG Project No. 12313.1 | FIGURE 3

W:\projects\midwest generation\12313.1\figures\powerton\2017\powerton station 1q2017 gw map.dwg(sand)

JOHN MANVILLE CORPORATION



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- DRAINAGE DITCH

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSP1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

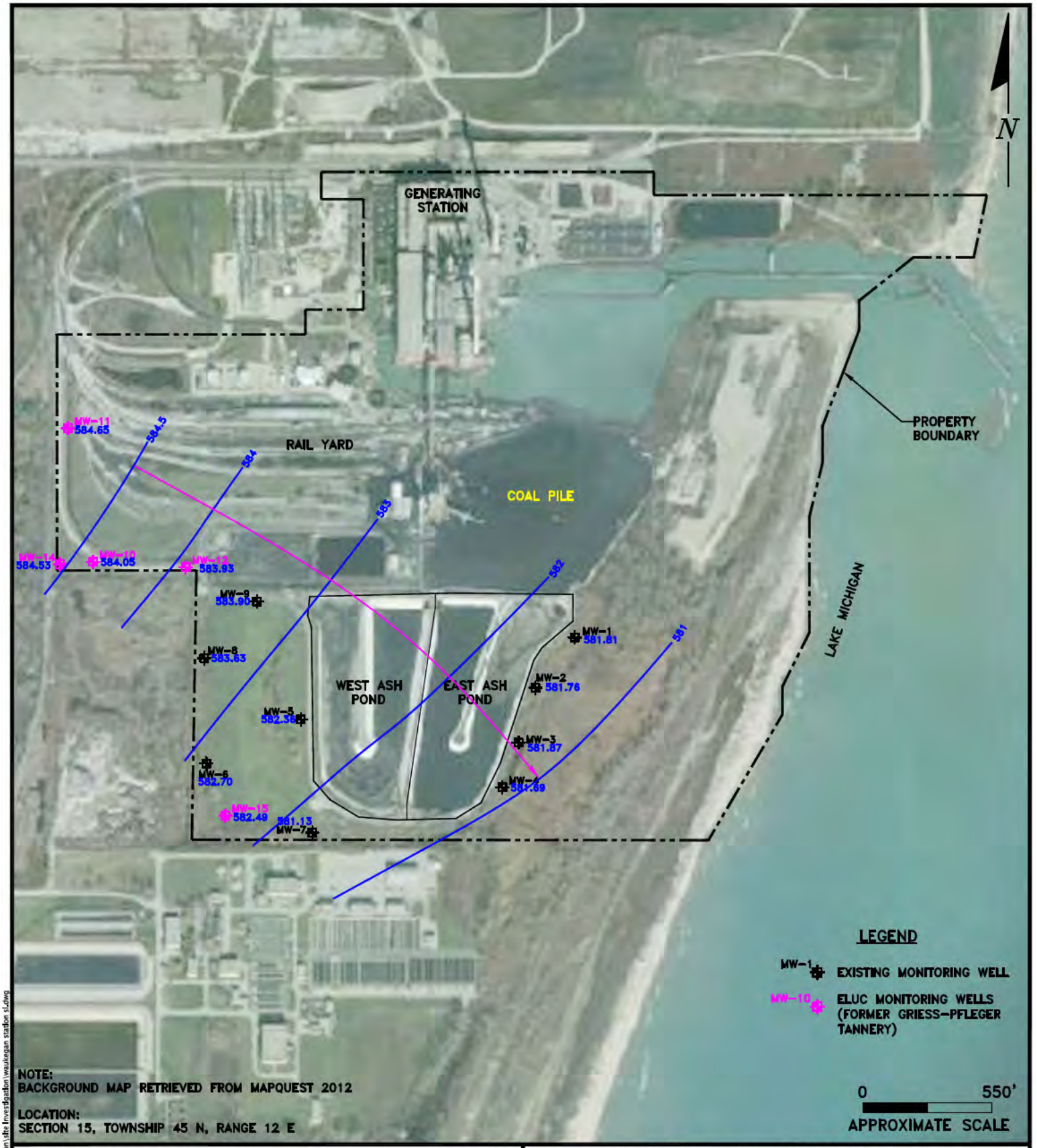
SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR



NOTE:
BACKGROUND MAP RETRIEVED FROM MAPQUEST 2012

LOCATION:
SECTION 15, TOWNSHIP 45 N, RANGE 12 E

W:\c\projects\midwest generation\waukegan station\site investigation\waukegan station s1.dwg

ENVIRONMENTAL CONSULTATION & REMEDIATION

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GROUNDWATER CONTOURS MAP AUGUST 2014

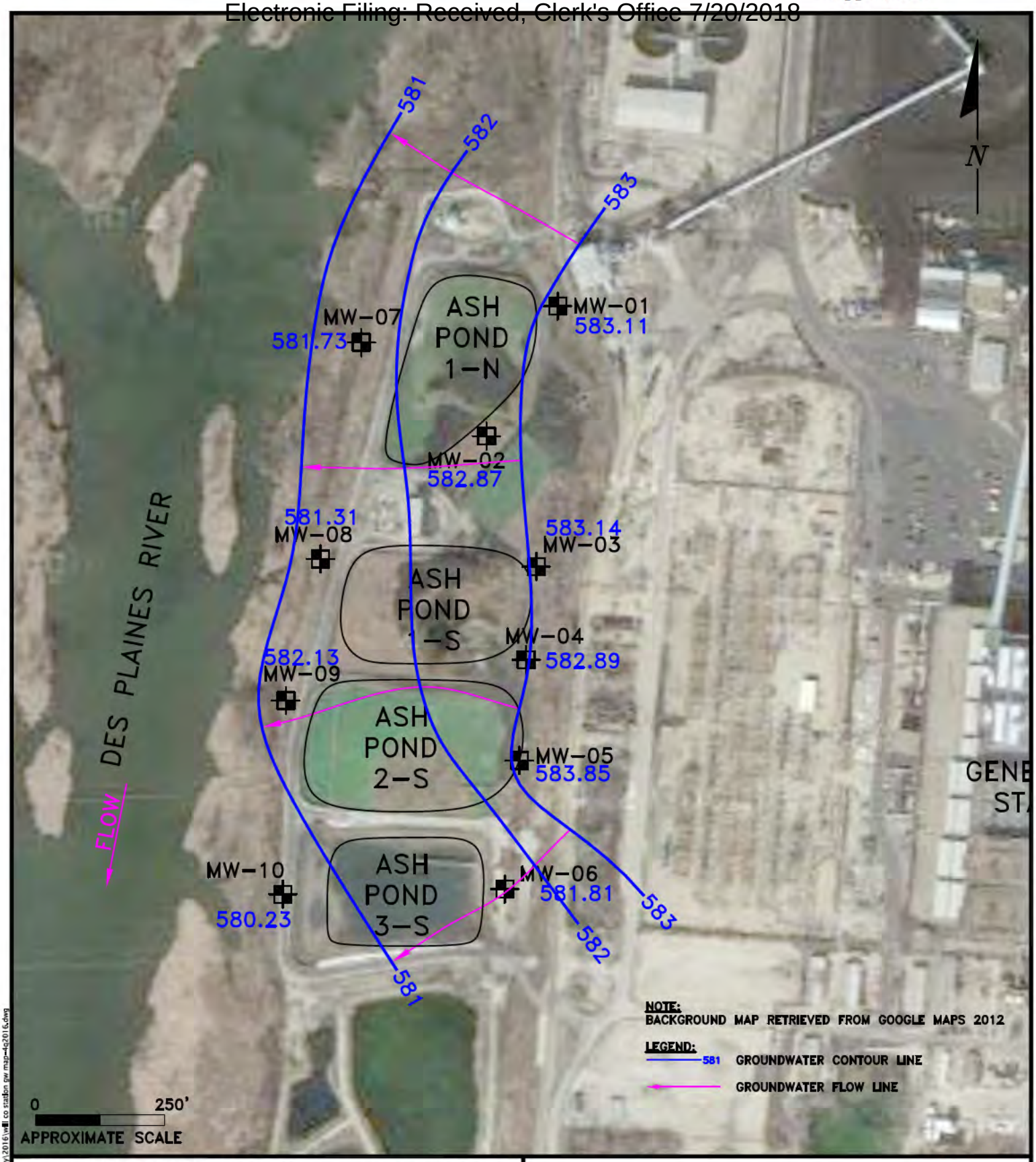
WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 550' | Date: October 14, 2014

KPRG Project No. 20013 | FIGURE X

Waukegan


Waukegan Generation Station
MW-11
MW-10
MW-12
MW-14
MW-9
MW-8
MW-5
MW-6
MW-15
MW-7
MW-16
MW-1
MW-2
MW-3
MW-4
Former Ash / Slag Storage Area
East and West Ash Ponds
Former Griess-Pfleger Tannery Site
Former General Boiler Property
Waukegan Wastewater Treatment Plant
LEGEND:
MWG/NRG Quarterly Report Wells
Griess-Pfleger ELUC Wells
2452 ft
Image USDA Farm Service Agency



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GROUNDWATER CONTOUR MAP 11/2016

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

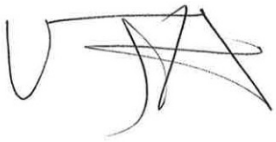
Scale: 1" = 250' | Date: December 19, 2016

KPRG Project No. 12313-3 | FIGURE 2

CERTIFICATE OF SERVICE

I hereby certify that the foregoing **CITIZENS GROUP'S POST-HEARING BRIEF** was served electronically to all parties of record listed below on July 20, 2018.

Respectfully submitted,



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