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March 16, 2011 (Amending March 15 Comments to add omitted signatory)

VIA E-MAIL saharper@state.pa.us; kmilcic@state.pa.us
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Kareen Milcic, P.E., Water Management Permits Section Chief
Department of Environmental Protection
Southwest Regional Office
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Re: Comments on Draft NPDES Permit No. PA0253723, Amendment No. 1

Dear Mr. Harper and Ms. Milcic:

On behalf of Clean Water Action and the 18 undersigned organizations, we thank you for the opportunity to comment on draft NPDES Permit No. PA0253723, Amendment No. 1 (the "Amendment"), published in the Pennsylvania Bulletin on January 29, 2011. The Amendment proposes to modify NPDES Permit No. PA0253723 (the "NPDES Permit"), which authorizes Shallenberger Construction, Inc. ("Shallenberger") to discharge partially treated oil and gas wastewater from the Ronco Wastewater Treatment Facility (the "Ronco Facility") into the Monongahela River. We submit these comments in a timely manner pursuant to the 15-day extension of the public comment period granted in a letter dated February 25, 2011, from the Department of Environmental Protection ("DEP" or the "Department") to Emily Collins of the University of Pittsburgh.

On its face, the Amendment is an improvement over the NPDES Permit. Unlike the NPDES Permit, the Amendment includes the effluent limitations required for Centralized Waste Treatment facilities under 40 C.F.R. Part 437 and the limitations required under 25 Pa. Code Ch. 95 ("Chapter 95") for total dissolved solids ("TDS"), sulfate, barium, and strontium. The Amendment also proposes effluent limits for other parameters of concern known to be present in oil and gas wastes, including heavy metals; benzene, toluene, ethylbenzene, and xylene ("BTEX compounds"); and radioactive materials. Nevertheless, the Amendment remains deficient for a variety of reasons, including that the Department: (a) failed to develop technology-based effluent limitations based on best professional judgment ("BPJ") before selecting the most stringent effluent limitations forthe Amendment; (b) assumed that water quality criteria constitute adequate effluent limitations; (c) failed to adopt the Chapter 95 discharge limits for chloride; (d) failed to demonstrate that influent samples are representative of wastes to be treated at the Ronco Facility; (e) adopted standards less stringent than water

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quality-based effluent limitations ("WQBELs") developed through the Department's PENTOXSD calculations; and (f) failed to analyze 2-butoxyethanol ("2-BE").

In addition, the terms of the Amendment are misleading, because the Department has no intention of enforcing them as written. Instead, the Department has entered into a Consent Order and Agreement (the "2011 CO&A") with Shallenberger that will allow "some amount of time" before the Ronco Facility will be required to come into compliance with the Amendment's WQBELs for TDS and sulfate.[1] The Amendment does not disclose the compliance schedule, and the 2011 CO&A is not available for public review. Only the Fact Sheet associated with the Amendment, which has not been published but may be obtained from Department files, reveals the deal with Shallenberger. As the Department well knows, and as we explain in the comments below, the 2011 CO&A is unenforceable.

We recently learned that the Department independently discovered deficiencies in the Amendment, which it intends to cure by publishing another draft amended permit after receipt of our comments. We also understand that the Department may publish notice of the 2011 CO&A when the next draft amended permit appears in the Pennsylvania Bulletin. We sincerely hope that the Department will commit itself to full transparency in the future and that the concerns set forth below will be fully addressed in the next round of noticed documents, so that there will be legally adequate protection of the Monongahela River.

I. The Department Repeatedly Has Attempted to Evade Clean Water Act Requirements Applicable to the Ronco Facility.

These comments should come as no surprise to the Department. In 2009, Clean Water Action appealed another secret consent order and agreement between DEP and Shallenberger (the "2009 CO&A"), which created an unlawful schedule for compliance with WQBELs.[2] The compliance schedule was unlawful because, under the Clean Water Act, each "new source" – including the Ronco Facility – must meet WQBELs right from the start. To avoid construction delays, Shallenberger decided to begin operating the plant as a zero-discharge facility, and since construction, the plant has been providing some treatment for gas wastes and sending the effluent back to the drillers for reuse. The Ronco Facility still cannot treat TDS, however, and therefore it cannot meet the WQBELs for TDS or sulfate in the Amendment. Under the Amendment, the plant must continue operation as a zero-discharge facility until it can treat TDS and sulfate to the requisite standards. The compliance schedule in the 2011 CO&A is no more lawful now than it was in 2009.

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[1] DEP, Fact Sheet/Statement of Basis 4 (Jan. 4, 2011) ("2011 Fact Sheet"); *id.* at 9 (identifying WQBELs for TDS and sulfate).

[2] *See* Consent Order and Agreement, *In re Shallenberger Construction, Inc*., at 5 (Aug. 28, 2009) (attached hereto as Exhibit A).

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A. Procedural History

As originally issued in September 2008, the NPDES Permit contained only a few numeric effluent limitations – for flow, iron, oil and grease, total suspended solids, pH, osmotic pressure, and barium – and monitoring requirements for alkalinity and acidity, chloride, and TDS.[3] The NPDES Permit did not contain numeric effluent limitations for many of the parameters known to be present in oil and gas wastes, such as TDS and sulfate, heavy metals other than iron, BTEX compounds, and radioactive materials. In addition, the NPDES Permit did not contain the majority of the mandatory technology-based effluent limitations set forth at 40 C.F.R. §§ 437.31 and 437.34 (the "Part 437 limits").

Shortly after the Department issued the NPDES Permit, the Monongahela River exhibited TDS and sulfate concentrations that exceeded state water quality criteria.[4] In fact, beginning in October of 2008, TDS and sulfate levels in the Monongahela River "increased to historic highs, exceeding the water quality standards at all of the 13 potable water supply (PWS) intakes from the border of West Virginia to Pittsburgh."[5] These high TDS levels raised such concern that DEP advised residents to "use bottled water for drinking and preparing food until the exceedance is eliminated."[6]

The excessive concentrations of TDS in the Monongahela River were especially troubling given that Shallenberger – under no obligation to limit its discharges of TDS under the NPDES Permit – had estimated that the Ronco Facility would discharge wastewater containing TDS concentrations ranging from 15,900 mg/l to 78,800 mg/l.[7] Because these discharges almost certainly would have contributed to the impairment of the Monongahela River, the Department was obligated to impose WQBELs for the discharge of TDS and sulfate from the plant.[8] In addition, the U.S. Environmental Protection Agency ("EPA") had informed DEP that the Part 437 limits applied to the Ronco Facility.[9]

Rather than immediately revoking the NPDES Permit and reissuing a new permit with all of the legally-required effluent limits, the Department evidently bowed to political pressure

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[3] *See* NPDES Permit No. 0253723, at 2 (effective as of Oct. 1, 2008).
[4] *See* DEP, Fact Sheet/Statement of Basis 8 (Mar. 7, 2009) ("2009 Fact Sheet").
[5] DEP, Coordinating National Pollutant Discharge Elimination System (NPDES) Permitting in the Monongahela River Watershed, No. 362-2100-001, at 1 (May 1, 2010) ("*May 2010 Permit Guidance*"), *available at* http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-79820/362-2100-001.pdf.
[6] DEP, Press Release, DEP Investigates Source of Elevated Total Dissolved Solids in Monongahela River (Oct. 22, 2008), *at* http://www.portal.state.pa.us/portal/server.pt/community/search_articles/14292 (enter date of article, follow "start search," and locate article by title).
[7] 2009 Fact Sheet, *supra* note 4, at 2.
[8] *See id*. at 9 ("In light of the impairment in the Monongahela River for total dissolved solids and sulfates, the Department must impose effluent limitations for total dissolved solids and sulfates at the criteria so as not to cause or contribute to violation of water quality standards.").
[9] *See id*. at 7.

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"to accommodate Shallenberger's business plan."[10] In March 2009, the Department admitted that the Ronco Facility was a "new source," acknowledged that the Part 437 limits applied to the plant, and recognized that the plant's proposed discharges would contain TDS concentrations in excess of the state water quality criteria.[11] The Department decided that it would amend the NPDES Permit to cure these deficiencies but would extend the time for Shallenberger to comply with TDS limits in the amended permit.

On August 28, 2009, without notice to the public, the Department and Shallenberger executed the 2009 CO&A, modifying the terms under which the Ronco Facility would operate. The 2009 CO&A attached a draft amended NPDES permit with the Part 437 limits and WQBELs for TDS and sulfates at the levels of state water quality criteria. The 2009 CO&A acknowledged, however, that the Ronco Facility would be unable meet the TDS limits without additional treatment facilities (the "Phase 2 Treatment Plant"). To accommodate the need for additional construction, the 2009 CO&A purported to allow operation of the Ronco Facility for up to three and a half years before complying with the limits for TDS and sulfate. Clean Water Action learned of the 2009 CO&A shortly after its execution and promptly filed an appeal with the Environmental Hearing Board.

Meanwhile, concentrations of TDS and sulfate in the Monongahela River continued to exceed state water quality criteria throughout 2009. In August 2009, DEP issued a press release indicating that TDS concentrations in the Monongahela River were exceeding state drinking water standards and again advised concerned residents to "use bottled water for drinking and preparing food until the levels of TDS decrease to normal levels."[12] DEP since has indicated that TDS and sulfate levels in the Monongahela River exceeded state water quality criteria in April, late July, early August, September, and October of 2009.[13]

In January 2010, the Department noticed the amendment to the NPDES Permit (the "January 2010 Draft") that had been attached to the 2009 Agreement. Because DEP still proposed to offer Shallenberger a compliance schedule for the TDS and sulfate limits, Clean Water Action went back to the Environmental Hearing Board and asked it not to allow operation of the Ronco Facility. In addition, EPA notified DEP on February 8, 2010, that a

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[10] *Id.* at 1 (describing a meeting among the Department, Shallenberger, and State Senator Richard Kasunic).

[11] *Id*. at 3-4, 9. The state water quality standard for TDS is 500 mg/l as a monthly average and 750 mg/l as a maximum. 25 Pa. Code § 93.7(a) (2010). The state water quality standard for sulfate is maximum 250 mg/l. *Id*. In addition, Chapter 95 of the Department's regulations prohibits new and expanding discharges of treated wastewater produced by fracturing, production, field exploration, drilling or well completion of natural gas wells from containing TDS concentrations of more than 500 mg/l as a monthly average. *Id*. § 95.10(b)(3)(iii).

[12] DEP, Press Release, DEP Detects Elevated Levels of Total Dissolved Solids in Monongahela River (Aug. 7, 2009), *at* http://www.portal.state.pa.us/portal/server.pt/community/search_articles/14292 (enter date of article, follow "start search," and locate article by title).

[13] *May 2010 Permit Guidance*, *supra* note 5, at 1.

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consent order could not be used to vary express permit terms. In no uncertain terms, EPA wrote:

> It is noted that there is a CO&A dated August 28, 2009 for this facility. We have concerns as to how a CO&A could be developed for a facility that has yet to commence discharging and, therefore, has not had any non-compliance issues to date. This CO&A cannot be used to amend the NPDES permit. As you know, 40 CFR 122.47(a)(2) states, "The first NPDES permit issued to a new source or a new discharger shall contain a schedule of compliance only when necessary to allow a reasonable opportunity to attain compliance with requirements issued or revised after commencement of construction but less than three years before commencement of the relevant discharge.'" To my knowledge, the Ronco facility had not commenced construction prior to acknowledgement of the TDS, sulfate, and Part 437 requirements and would not be entitled to a compliance schedule. . . . As a result, the permit must be written to achieve compliance with all conditions of the permit upon permit issuance.[14]

Clean Water Action also requested that DEP revoke the deficient NPDES Permit. Shortly thereafter, the parties agreed that the plant could operate as a zero-discharge facility, and it has done so ever since.

B. The Current Draft Amended Permit

On January 29, 2011, the Department published the Amendment in the Pennsylvania Bulletin. Like the January 2010 Draft, the Amendment contains the Part 437 limits and WQBELs for TDS and sulfate. The Department has explained that the WQBELs for TDS set at the water quality criteria are necessary both (1) to ensure that discharges do not cause or contribute to violations of water quality standards and (2) to meet the Department's newly-promulgated prohibition against discharges of gas wastewater containing TDS concentrations above 500 mg/l as a monthly average.[15] In addition, the Amendment contains effluent limitations and monitoring requirements for a greater number of parameters than both the original NPDES Permit and the January 2010 Draft.

Unfortunately, the Amendment cannot be taken at face value. We now know that DEP plans to allow Shallenberger "some amount of time" to construct the Phase 2 Treatment Plant and thereby meet the TDS and sulfate limits. Because the Department has not made the 2011 CO&A with the compliance schedule available for public review, it is unclear whether it will alter any of the other limits proposed in the Amendment. One thing is clear, however: like the

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[14] E-mail from Brian Trulear, EPA Region 3, to Ryan Decker, DEP Southwest Region, (Feb. 8, 2010, 15:38 EST) (attached hereto as Exhibit B).

[15] *See* 2011 Fact Sheet, *supra* note 1, at 4 (citing 25 Pa. Code § 95.10(b)(3)(iii)), 9 ("[T]o ensure that there is no contribution to a TDS excursion, TDS criteria shall be imposed as effluent limitations at Outfall 001").

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January 2010 Draft and the NPDES Permit before it, the Amendment establishes certain effluent limitations that the Department has no intention of enforcing when it issues the final permit.

II. The Department May Not Extend the Time for the Ronco Facility, a New Source, to Comply with the WQBELs Proposed in the Amendment.

If the Department proceeds with its plan to grant Shallenberger "some amount of time" to come into compliance with the TDS and sulfate limits established on the face of the Amendment, it will violate provisions of the federal Water Pollution Control Act ("Clean Water Act") and the Pennsylvania Clean Streams Law that are designed to ensure that all new sources immediately achieve standards protective of water quality. Regulations promulgated under the Clean Water Act and the Clean Streams Law prohibit the Department from issuing a NPDES permit to a new source "if the discharge from its construction or operation will cause or contribute to the violation of water quality standards."[16] Where the Department finds that technology-based effluent limits would not be sufficient to prevent a discharge from causing or contributing to a violation of water quality standards, it must impose WQBELs in a NPDES permit to prevent the violation.[17] To ensure that new sources are capable of meeting all necessary WQBELs from the outset of their operations, the regulations require that all new sources "install and have in operating condition . . . pollution control equipment required to meet the conditions of its permits before beginning to discharge."[18]

The Department may not provide a grace period for a new source to comply with WQBELs established in its NPDES Permit. In fact, the Department's regulations expressly prohibit the Department from granting a new source any extension of time to achieve WQBELs.[19] Schedules extending the time for a permittee to achieve compliance with its permit limits are allowed only in limited circumstances and only for existing dischargers.[20] Thus, neither the Clean Water Act nor the Clean Streams Law authorizes the Department to establish a compliance schedule providing Shallenberger with extra time to comply with the WQBELs for TDS and sulfate proposed in the Amendment.[21]

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[16] 40 C.F.R. § 122.4(i) (2010); *id.* at § 123.25 (40 C.F.R. § 122.4 is applicable to state NPDES programs); 25 Pa. Code § 92a.5(a) (incorporating 40 C.F.R. § 122.4 by reference).
[17] *See* 33 U.S.C. § 1312(a) (2010).
[18] 40 C.F.R. § 122.29(d)(4); 25 Pa. Code § 92a.35 (incorporating 40 C.F.R. § 122.29 by reference); *see also* 49 Fed. Reg. 37,998, 38,043 (Sept. 26, 1984) (stating that "new facilities have the opportunity to install the best and most efficient production processes and wastewater treatment technologies").
[19] 25 Pa. Code § 95.4(b)(1).
[20] *See id*. § 92a.51 (providing that compliance schedules are allowed for existing discharges that are not in compliance with water quality standards and effluent limitations).
[21] *See* 40 C.F.R. § 122.4(i); 25 Pa. Code §§ 92a.51, 95.4(b)(1).

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III. A Consent Order and Agreement May Not Authorize Violations of the Law.

There is no provision of Pennsylvania law that authorizes the Department to use a CO&A to permit an activity or discharge that otherwise is illegal. In this case, none of the statutes that the Department cited as authority supporting the 2009 CO&A allow the Department to execute a CO&A that unlawfully extends the time for a new source to comply with WQBELs in a NPDES permit.[22] In fact, one of the statutes cited by the Department specifically provides that it is "unlawful" for a permittee "to conduct the activity regulated *except* pursuant to a permit issued by the department."[23] The Clean Streams Law authorizes the Department to issue a CO&A only where it has the effect of protecting water quality or it is otherwise necessary to implement or enforce the provisions of the Clean Streams Law.[24] Moreover, the Department must provide public notice of any legitimate CO&A that it issues.[25]

The Department appears to regard both the 2009 and 2011 CO&As as means of accommodating Shallenberger's business interests. The Department's duty is to enforce and uphold the Clean Streams Law, however, not to help Shallenberger avoid compliance with mandatory permit limits until it builds additional pollution control technology.[26] The Department has no authority to issue a CO&A that extends the time for Shallenberger to comply with the WQBELs established in the Amendment, because such an agreement effectively would authorize illegal activity. As EPA indicated, a CO&A also is inappropriate because there have been no discharges from the Ronco Facility and therefore no violations of the NPDES Permit for which an enforcement order is required. Even in those instances where a CO&A would be appropriate for purpose of enforcing an existing permit, the Department must notify the public that it has issued a CO&A for that purpose.

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[22] *See* 2009 CO&A, *supra* note 2, at 4 (stating that the 2009 CO&A was authorized and issued under sections 5, 402, 501, and 610 of the Clean Streams Law, 35 P.S. §§ 691.5, 691.402, 691.501, and 691.610, as well as section 1917-A of the Administrative Code, 71 P.S. § 510-17).

[23] 35 P.S. § 691.402(b) (emphasis added).

[24] *See id*. §§ 691.5(b)(7) (authorizing the Department to "issue such orders as may be necessary to implement the provisions of [the Clean Streams Law] or the rules and regulations of the department"), 691.501 (authorizing the Department "to make, adopt, promulgate and enforce reasonable orders and regulations for the protection of any source of water for present or future supply to the public and prohibiting the pollution of any source of water rendering the same inimical or injurious to the public health or objectionable for public water supply purposes"), 691.610 (authorizing the Department to "issue such orders as are necessary to aid in the enforcement of the provisions of [the Clean Streams Law]").

[25] *See id*. § 691.501 (providing that the Department may issue orders for the protection of water supplies "after due notice and public hearing").

[26] *See id*. § 691.5 (setting forth the Department's duties to enforce, implement, and uphold the Clean Streams Law).

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IV. The Draft Amended Permit Does Not Adequately Protect Water Quality of the Monongahela River.

The Amendment, Fact Sheet, Water Quality Protection ("WQP") Report, and other related documents demonstrate that the Department did not perform the analyses required to calculate the appropriate effluent limitations. Many of the proposed effluent limitations are flawed for one or more reasons, including that the Department: (1) failed to develop technology-based effluent limitations based on BPJ before adopting the most stringent effluent limitations available; (2) assumed that water quality criteria always can serve as adequate effluent limitations; (3) failed to adopt the Chapter 95 numeric effluent limitations for chloride; (4) failed to show that influent samples are representative; (5) adopted standards less stringent than the WQBELs developed through the Department's PENTOXSD calculations; and (6) failed to analyze 2-BE.

A. The Department Failed to Develop Technology-Based Effluent Limitations Before Selecting the Amendment's Effluent Limitations for Osmotic Pressure, TDS, Sulfate, and Chloride.

There is no evidence that the Department developed, as it is required to do, technology-based effluent limitations for osmotic pressure, TDS, sulfate, or chloride. The Department's *Technical Guidance for the Development and Specification of Effluent Limitations* expressly states: "In any given discharge situation, the most stringent effluent limit(s) (i.e. water quality-based, technology-based, or effluent standard-based) shall govern and shall be incorporated into the permit."[27] Unless technology-based effluent limitations are developed for the four pollutants, the Department cannot establish that it has adopted the most stringent limit for each.[28]

According to the Clean Water Act, where effluent limitation guidelines ("ELGs") exist for a particular industry, the permit writer must implement technology-based effluent limitations for all pollutants covered by the ELGs unless more stringent WQBELs are required. When there is a lack of either ELGs for a particular industry or applicable ELGs for a particular pollutant, the permit writer must use BPJ on a case-by-case basis to develop an appropriate technology-based effluent limitation.[29] In the absence of applicable ELGs, the Department cannot adopt WQBELs (under 25 Pa. Code Ch. 93 ("Chapter 93")) or effluent standards under Chapter 95, without first exercising BPJ to develop technology-based effluent limitations for the pollutants at issue.[30]

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[27] DEP, Technical Guidance for the Development and Specification of Effluent Limitations, No. 362-0400-001 ("*Effluent Limitations Guidance*"), at ch. 4 p. 1 (lasted edited Dec. 27, 2007), *available at* http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8332).

[28] *See* 25 Pa. Code § 92a.12(a).

[29] *See* 40 C.F.R. § 125.3(c).

[30] *See* 33 U.S.C. §§ 1311(b)(2), 1312(a); 40 C.F.R. 125.3(c)(2); *see also Shenango Inc. v. DEP*, 934 A.2d 135, 142 (Pa. Commw. Ct. 2007) (affirming a decision made by the Environmental Hearing Board that a site-

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The Department's *Effluent Limitations Guidance* echoes these requirements. To ensure that the most stringent effluent limit governs, permit writers may not simply skip directly to developing WQBELs when there is no applicable ELG. Rather, "[t]echnology-based effluent limitations for industrial dischargers are to be developed based upon *either* effluent limitation guidelines (ELG's) officially promulgated by EPA, *or* (in the absence of a promulgated EPA ELG) through the use of "best professional judgment" (BPJ) of the Permit Writer."[31] For osmotic pressure, TDS, sulfate, and chloride – pollutants not addressed by ELGs applicable to the Ronco Facility under 40 C.F.R. Part 437 – the Department must demonstrate that it exercised BPJ to develop technology-based effluent limitations and compared those limitations with WQBELs or effluent standards, before selecting an effluent limitation for incorporation into the Amendment.

B. Water Quality Criteria May Not Always Serve as Adequate Effluent Limitations.

The Department also was required, but failed, to develop all of the relevant WQBELs. Rather than perform the requisite analyses, the Department simply adopted water quality criteria values for TDS and sulfate as WQBELs.[32] When the receiving water is not meeting water quality criteria, when the flow is low, or when high mass loadings of TDS are discharged, however, using the criteria as WQBELs may not prevent discharges from contributing to exceedances of the criteria in the receiving water body. Although the water quality criteria may protect the Monongahela River under current conditions (and the data available in support of the Amendment do not show that they do), they would not have done so in late 2008 and much of 2009. The Department therefore must recognize that the effluent limitations may need revision if conditions change again for the worse. In any event, the effluent limitation for TDS in the Amendment may not exceed the Chapter 95 standards.[33]

Water quality criteria and effluent limitations serve completely different functions and are based on completely different rationales. Water quality criteria are defined as "[n]umeric concentrations, levels or surface water conditions that need to be maintained or attained to protect existing and designated uses."[34] Water quality criteria are one of two component parts of a state's water quality standards[35] – the other one being "water uses to be protected."[36] Once

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specific BPJ analysis was not necessary only where EPA had promulgated ELGs for the particular industry and pollutant at issue).

[31] *Effluent Limitations Guidance*, *supra* note 27, at ch. 2, p. 1 (emphasis in original); *see id.* at ch. 4 p. 13 (stating that, where the wastes to be treated at a treatment facility are not covered by any ELG, "technology-based limitations would have to be developed based upon Best Professional Judgment").

[32] 2011 Fact Sheet, *supra* note 1, at 9.

[33] 25 Pa. Code § 95.10(b)(3).

[34] 25 Pa. Code § 93.1.

[35] 33 U.S.C. § 1313(a) & (c)(2)(A).

[36] 25 Pa. Code § 92a.2 (defining "water quality standards").

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a protected use is determined, water quality criteria are developed "that will yield the desired water conditions" required to maintain and to protect that use.[37] With regard to this Amendment, the protected use is Potable Water Supply,[38] and the relevant water quality criteria developed to ensure that the use remains protected are 250 mg/l (maximum) for sulfates, and 500 mg/l (monthly average) and 750 mg/l (maximum) for TDS.[39] Effluent limitations are discharge concentrations set so as not to cause or contribute to an excursion of the in-stream water quality criteria.

The Department claims that the applicable water quality standards (the protected use and the criteria) will be protected if effluent limitations for TDS and sulfate are established at the water quality criteria for TDS and sulfate.[40] This conclusion does not necessarily hold. The only way to know whether a particular effluent limitation will cause or contribute to an excursion of the criteria is to run a model that accounts for the anticipated discharge of an untreated pollutant, the stream flow, and the background concentrations of the pollutant in the relevant stream segment.

The Department recognized this point in its 2007 WQP Report, where it performed an actual water quality-based analysis to establish TDS effluent limitations.[41] In that report, the Department provided the following analysis to ensure that maintaining the 500 mg/l monthly average in-stream criterion for TDS would protect the Potable Water Supply use:

> **TDS** – The background Total Dissolved Solids (TDS) for the water supply intake of 1.93 mg/l was determined by the [sic] using the average of available total dissolved solids at the COE water quality station 4GRP11002. Discharge TDS concentration is 56,640 mg/l, and is a weighted average of the brine and frac fluids. The mass balance calculation for TDS at the potable water supply shows a concentration of 91.2 mg/l, which is below the in-stream criterion (30-day average) of 500 mg/l.
>
> ((0.7736 cfs x 56,640 mg/l) + (490 cfs x 1.93 mg/l)) / (0.7736 + 490 cfs) = 91.1 mg/l.[42]

We question some of the variable inputs from the above-referenced analysis,[43] but at least the 2007 WQP Report contained an actual water quality-based analysis that utilized crucial

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[37] *See NRDC v. County of Los Angeles*, No. 10-56017, 2011 WL 815099, at *3 (9th Cir. 2011).
[38] *See* 25 Pa. Code § 93.3.
[39] *Id*. § 93.7
[40] 2011 Fact Sheet, *supra* note 1, at 9.
[41] *See* DEP, Water Quality Protection Report for NPDES Permit No. 0253723 (June 2007).
[42] *Id.* at 4.
[43] There is serious doubt whether the proper input for background TDS concentration was a mere 1.93 mg/l, especially given the Department's extensive documentation of excursions above the TDS criteria in the Monongahela River in 2008 and 2009. *See, e.g.*, 2009 Fact Sheet, *supra* note 4, at 8; 2011 Fact Sheet, *supra* note 1, at 8.

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variables such as flow, background concentration, and anticipated discharge concentration. The analysis from 2007 did not use the criterion value of 500 mg/l in the formula, because the formula is supposed to generate an anticipated in-stream concentration at the water supply intake to compare against the water quality criterion.[44]

Replacing the inputs from the 2007 analysis with more recent and more accurate inputs illustrates the importance of the variables for discharge concentration and background concentration. For the Amendment, the Department apparently used a TDS discharge concentration value of 121,066 mg/l.[45] In the Department's October-December 2008 sampling of the Monongahela River at River Mile Index 75, the maximum background concentration for TDS was 800 mg/l.[46] At present, the updated stream flow rate is 497 cfs.[47] Therefore, the formula with more up-to-date inputs, and the resulting in-stream concentration, would be:

((0.7736 cfs x 121,066 mg/l) + (497 cfs x 800 mg/l)) / (0.7736 + 497 cfs) = 986.91 mg/l

With updated inputs for anticipated discharge and background concentration, and assuming the same flow numbers (an assumption that should be evaluated for the ultimate amended WQP Report), the resulting in-stream concentration violates the water quality criterion by just over 95 percent.

Significantly, even if the effluent limitation for TDS is 500 mg/l (average monthly), which is where the Department would like to set it, there still can be excursions of the criteria. To illustrate this, a table with multiple mass-balance calculations is attached.[48] Cells I-1 to I-4 represent the resulting in-stream concentrations of TDS based on three uniform inputs (effluent limitation of 500 mg/l, effluent discharge rate of 0.7336 cfs, and a stream flow rate of 497 cfs) and four distinct background concentrations that respectively represent the average TDS concentrations for October, November, and December 2008, and a combined average of all three months. Based on background concentrations measured in October and November 2008, a 500 mg/l effluent limitation would have caused or contributed to an excursion of the water quality

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[44] *See* 25 Pa. Code § 96.3(d).

[45] *See* 2011 Fact Sheet, *supra* note 1, at 8.

[46] Mon River Data Master Spreadsheet (attached hereto as Exhibit C). An "updated" spreadsheet is available on the Department's website, but it contains no data for sampling at River Mile Index 75 after December 2008. *See* DEP, Monongahela River TDS, Chloride, Sulfate, and Bromide Sampling Results Collected by Carnegie Mellon University, *available at* http://files.dep.state.pa.us/RegionalResources/SWRO/SWROPortalFiles/monongahelarivertdschlorideandsulfatesamplingresults.pdf. In addition, the Department apparently neglected to use available background concentrations for aluminum, antimony, arsenic, barium, benzene, copper, dissolved iron, lead, manganese, nickel, selenium, toluene, total iron, and zinc. *See id*. at 8.

[47] DEP, Water Quality Protection Report prepared in connection with NPDES Permit No. PA0253723-A1, at Section V (Jan. 2011) ("2011 WQP Report") (presenting modeling input data used in the Department's PENTOXSD analyses).

[48] *See* Soumitri Sarkar, Ph.D, Mass-Balance Calculation Table ("Calculation Table") (attached hereto as Exhibit D).

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criterion.[49] Similarly, the calculations for sulfate and chloride demonstrate that effluent limits set at the water quality criteria for those parameters would not prevent excursions of the water quality criteria when the in-stream concentrations rise above the water quality criteria.[50]

As is stated above, while a 500 mg/l effluent limitation for TDS serves as a ceiling under Chapter 95, the Department may have to set an effluent limitation that is lower than 500 mg/l in order to prevent an excursion of the water quality criteria. At present, it appears that the Department has not performed a water quality-based analysis for discharges of TDS, chloride, or sulfate. To prevent excursions of the state water quality criteria for TDS, chloride, and sulfate, the Department must use appropriate inputs and perform a water quality-based analysis for each of these parameters.

C. The Department Failed to Incorporate Appropriate Effluent Limitations for Chloride.

The Department has provided good reasons for addressing TDS and sulfate that apply equally to chloride.[51] As with TDS and sulfate, there is an applicable water quality criterion for chloride, which is 250 mg/l (daily maximum) for Potable Water Supply.[52] Like TDS and sulfate, chloride is a conservative pollutant that persists in the water column.

The Department concedes in the 2011 Fact Sheet that the Chapter 95 requirements for new and expanding mass loadings of TDS (section 95.10) apply to the Ronco Facility.[53] Section 95.10(b)(3) contains effluent limitation requirements for four pollutants: TDS, total chlorides, total barium, and total strontium.[54] With respect to chlorides, "[t]he discharge may not contain more than 250 mg/l of total chlorides as a monthly average."[55]

Despite the Chapter 95 discharge limitations, the Fact Sheet never mentions chloride, and the Amendment fails to require any limitation on the discharge of chlorides. The Amendment merely requires the facility to monitor and report for chlorides, in clear contravention of the section 95.10(b)(3)(iv) limitation. Therefore, even if a Chapter 93 analysis yields nothing more than a requirement to monitor and report (and we believe it requires more), the final permit for the Ronco Facility still must contain an average monthly limitation of 250 mg/l for chloride.[56] The fact that there are effluent limitations for TDS in the Amendment

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[49] *Id*. at cells I-1 and I-2.
[50] *See id*. at cell I-4.
[51] *See* 2011 Fact Sheet, *supra* note 1, at 8-9.
[52] *See* 25 Pa. Code § 93.7(a).
[53] *See* 2011 Fact Sheet, *supra* note 1, at 4 (citing 25 Pa. Code § 95.10).
[54] 25 Pa. Code § 95.10(b)(3)(iii)-(vi).
[55] *Id.* § 95.10(b)(3)(iv).
[56] "In any given discharge situation the most stringent effluent limit(s) (i.e. water quality-based, technology-based, or effluent standard-based) shall govern and shall be incorporated into the permit…." *Effluent Limitation Guidance*, *supra* note 27, at ch. 1, p. 1.

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does not mean that effluent limitations for chloride can be excluded. Section 95.10 requires effluent limitations for both.

D. DEP Has Failed to Demonstrate That Representative Influent Samples Were Used in Developing Effluent Limitations.

The Clean Streams Law requires applicants and permittees to provide "such information, under oath, as the department may require with regard to [industrial waste to be discharged to waters of the Commonwealth], including the kind, characteristics, and rate of flow thereof."[57] The Department's rules allow it to request "information or data needed to assess the discharges from the facility and any impact on receiving waters, and to determine whether to issue an NPDES permit, or what conditions or effluent limitations (including water quality based effluent limitations) to place in the permit."[58]

The Department has established the information and data needed to assess discharge impacts in the instructions for filling out a NPDES application. The instructions for industrial dischargers mandate that applicants provide "representative" samples of wastewater influent and effluent quality.[59] The application instructions specifically state the following:

> The purpose of this part is to develop as clear a picture as possible concerning the chemical constituents of the wastewater being discharged or expected to be discharged. *Information gathered in support of this must therefore be representative of normal plant operations*, with all processes which contribute wastewater in normal operation, and with a properly operating treatment facility (where treatment is provided) which is not experiencing "upset" conditions.
>
> Normally, only sample results from the past year should be reported; however, data from samples taken less recently may be used provided that:
>
> a. All data quality requirements are met; and
> b. Sampling was done no more than 3 years before application submittal; and
> c. All data are representative of the present discharge.
>
> Factors which can result in unrepresentative data include significant changes in production levels, raw materials, manufacturing processes or final products, and wastewater treatment processes.[60]

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[57] 35 P.S. § 691.303.

[58] 25 Pa. Code § 92a.21(d).

[59] DEP, National Pollutant Discharge Elimination System (NPDES) Application for Permit to Discharge Industrial Wastewater Instructions, No. 3800-PM-WSFR0008a, at 8 (Rev. Oct. 2010) (emphasis added), *available at* http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-82021/3800-PM-WSFR0008a%20Inst.pdf.

[60] *Id.*

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The application instructions provide that the permittee must present representative information on the treatment facility influent quality as well as the effluent quality for each outfall.[61]

The Department determined the effluent limitations in the Amendment by relying on samples provided by the Applicant. The Project Narrative in the permit application describes the samples as follows:

> Raw influent sampling data of the Ronco facilities includes data that the Marcellus Shale Group has collected and which is attached. The Marcellus Shale Frac Wastewater Summary is generally made-up of approximately 22 individual samples, collected from frac wastewater producing systems located in northeastern Pennsylvania and southwestern New York State. [62]

There appears to be only one sample of influent actually delivered to the Ronco Facility. The remaining samples often date back more than three years (contrary to DEP's own instructions), and there is no reason to believe that influent from the locations sampled by the industry is representative of the waste that the Ronco Facility will treat. The samples must be compared to influent being treated at other facilities treating shale gas wastewater in the region before they can be considered representative. Moreover, the Ronco Facility has been operating for some time (as a zero-discharge facility), and Shallenberger therefore can provide analyses of numerous samples of influent delivered to the plant within the past year, to establish that the samples used are representative of the wastes that the plant has been and will be treating.

E. The Recommended Effluent Limitations in the Department's PENTOXSD Analysis Differ Substantially from the Effluent Limitations in the Draft Permit.

Even if the outdated and unrepresentative influent concentrations collected by an industry group could legitimately be used in the Department's modeling, the Amendment would be deficient, because DEP fails to adopt the effluent limitations generated by its own water quality model. The Department's PENTOXSD model run produced recommended average monthly and maximum daily effluent limitations that are not used in the Amendment. Although the *Effluent Limitations Guidance* requires a full explanation of assumptions, supporting calculations, and data sources that form the basis for permit requirements,[63] the

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[61] *Id*.

[62] Shallenberger Construction, Inc., NPDES (PA 0253753) Permit Amendment Application, Project Narrative at 2 (submitted to DEP Aug. 10, 2010). The Project Narrative also states that "[t]his available data has been evaluated/used based on actual samples taken from influent wastewater, to the Ronco facilities, and analyzed at Pace Laboratories; also attached. Modules 4 through 8, covering Pollutant Groups 1 through 5 have been prepared using the included data." *Id*.

[63] *Effluent Limitations Guidance, supra* note 27, at ch. 1, p. 2 ("The supporting calculations, data sources,

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Department does not provide any justification for the ignoring the results of its model. A comparison between the PENTOXSD recommended effluent limits and those incorporated into the Amendment is provided in the following table.

Pollutant	**PENTOXSD average monthly**	**Draft Permit average monthly**	**PENTOXSD maximum daily**	**Draft Permit maximum daily**
Acetone	7.970 mg/l	7.97 mg/l	12.434 mg/l	30.2 mg/l
Aluminum	1.440 mg/l	4.0 mg/l	2.246 mg/l	8.0 mg/l
Antimony	0.0312 mg/l	0.0312 mg/l	0.0486 mg/l	0.111 mg/l
Arsenic	0.024 mg/l	0.0199 mg/l	0.0374 mg/l	0.0993 mg/l
Barium	10 mg/l	10 mg/l	15.601 mg/l	20 mg/l
Cadmium	0.0102 mg/l	0.0102 mg/l	0.0159 mg/l	0.0172 mg/l
Chromium	0.0522 mg/l	0.0522 mg/l	0.0814 mg/l	0.167 mg/l
Cobalt	0.0703 mg/l	0.0703 mg/l	0.1096 mg/l	0.182 mg/l
Ethylbenzene	0.1 mg/l	Report	0.156 mg/l	Report
Fluoranthene	0.0268 mg/l	No requirement	0.0418 mg/l	No requirement
Lead	0.160 mg/l	0.160 mg/l	0.2496 mg/l	0.350 mg/l
MBAS	0.3224 mg/l	No requirement	0.5029 mg/l	No requirement
Mercury	0.000246 mg/l	0.000246 mg/l	0.000384 mg/l	0.000641 mg/l
Nickel	0.034 mg/l	0.309 mg/l	0.053 mg/l	0.794 mg/l
p-cresol	0.205 mg/l	0.205 mg/l	0.319 mg/l	0.698 mg/l
Phenol	1.080 mg/l	1.080 mg/l	1.684 mg/l	3.65 mg/l
Selenium	0.0698 mg/l	0.0698 mg/l	0.108 mg/l	0.176 mg/l
Silver	0.0122 mg/l	0.0122 mg/l	0.019 mg/l	0.0318 mg/l
Strontium	10 mg/l	10 mg/l	15.601 mg/l	20 mg/l
Toluene	0.1 mg/l	Report	0.156 mg/l	Report
Total Iron	3.5 mg/l	3.5 mg/l	5.460 mg/l	7 mg/l
Xylene	0.1 mg/l	Report	0.156 mg/l	Report

As a discrete example of the discrepancy between the recommended effluent limits from PENTOXSD and the limitations in the draft permit, the Department should consider the barium limit. There are at least two problems with the Amendment's effluent limitations for barium. First, there is a discrepancy between the daily maximum effluent limitation for barium in the Amendment and limit produced by the PENTOXSD model. Second, the Department failed to use BPJ to derive a technology-based effluent limitation for barium.

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assumptions, and other factors which form the basis for the permit requirements must be clearly stated in a fact sheet and must be made part of the official permit file for future reference by any interested party including future permit writers, the permittee, the permittee's legal counsel and technical consultant, the general public, interested government agencies, and environmental groups.").

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The Department explains that the 10 mg/l effluent limitation is taken from the Chapter 95 requirements.[64] However, Chapter 95 addresses only effluent limitations based on monthly averages, not on those based on daily maximums. In the Amendment, the Department adopted a daily maximum of 20 mg/l – which appears to be an arbitrary doubling of the monthly average – but in the 2011 WQP Report, the Department actually derived a daily maximum effluent limitation. In the table entitled "Recommended Effluent Limitations" from the section entitled "PENTOXSD Analysis Results," the daily maximum effluent limitation for barium is listed as 15601.61 ug/l, which is equivalent to 15.601 mg/l.[65] A limitation of 15.601 mg/l is more stringent than a limit of 20 mg/l, yet there is no explanation in the Amendment, Fact Sheet, or WQP Report why 20 mg/l was chosen as the daily maximum effluent limitation. As 15.601 mg/l was derived from a water quality-based analysis, it should replace the 20 mg/l limitation currently in the Amendment.

The Department should reconsider the average monthly and maximum daily effluent limitations in the draft permit and ensure that more stringent PENTOXSD recommended effluent limitations replace the less stringent limits in the draft Amendment. The Department should provide a written, reasoned justification for the more lax effluent limits, if no changes are made to the limits.

F. The Department Should Require Influent Testing for 2-BE.

Recent analyses of effluent from the Pennsylvania Brine Treatment, Josephine facility, suggest that the samples used to develop the effluent limitations in the Amendment may have excluded a key parameter. The Center for Healthy Environments and Communities has evidence that the anti-foaming agent, surfactant, and emulsifier 2-butoxyethanol ("2-BE") is present in effluent water from that facility, which is entering Blacklick Creek, Indiana County, at a mean of 59 parts per million ("ppm") and with a maximum of 65 ppm.[66] Discharges of 2-BE are of concern because the chemical can be absorbed dermally, has a Henry's Law Constant allowing for it to become airborne, and has health effects from direct ingestion. Therefore, it presents a threat to drinking water; workers at municipal water treatment systems; private well water users, if the well flow is sufficient to pull contaminants from surface water sources; and persons fishing, swimming, or boating in those waters, especially around effluent outfalls. The samples submitted for the Ronco Facility did not include 2-BE as an analyte. DEP should require testing of influent for 2-BE to ensure that the Amendment is not missing an important effluent limitation for a highly toxic chemical found in gas wastes treated at the plant.

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[64] 2011 Fact Sheet, *supra* note 1, at 6. Section 95.10(b)(3)(v) states that "[t]he discharge may not contain more than 10 mg/l of total barium as a monthly average."

[65] 2011 WQP Report, *supra* note 47, PENTOXSD Analysis Results, Recommended Effluent Limitations, at 1.

[66] *See* Center for Healthy Environments and Communities, Descriptive Statistics for Hart Resources PA Brine Josephine Facility (collected Dec. 10, 2010) (attached hereto as Exhibit E).

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V. Conclusion

In developing the revised draft Amendment that will be noticed for public review, the Department must conduct a full analysis of the impacts of the proposed discharge on water quality of the Monongahela River. That analysis must comply with the Clean Streams Law, regulations implementing that law, and the Department's own guidance documents. The Department must cure the deficiencies identified in these comments, as well as those it identified independently, before it publishes notice of the next draft.

If the Department proposes to issue an new CO&A, that agreement must be published contemporaneously with the next draft of Shallenberger's permit. A NPDES permit means nothing if its effluent limitations are not enforceable, and the public is entitled to know if DEP intends to alter published effluent limits through use of a side agreement. Without notice of the terms of the agreement, the public has no way of knowing what limitations actually will be imposed on discharges from the Ronco Facility. Of course, the published limits in a NPDES permit may not lawfully be nullified through a CO&A, even temporarily, and we trust that any agreement that the Department may enter will ensure the plant's immediate and full compliance with WQBELs before any discharge commences.

Respectfully submitted,

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Exhibit A

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

In the Matter of:

Shallenberger Construction, Inc.	:	Clean Streams Law
Ronco Wastewater Treatment Facility	:	Industrial Waste
Masontown Borough	:	
Fayette County	:	

CONSENT ORDER AND AGREEMENT

This Consent Order and Agreement is entered into this 28th day of August, 2009, by and between the Commonwealth of Pennsylvania, Department of Environmental Protection ("Department") and Shallenberger Construction, Inc. ("Shallenberger").

I. Background

A. The Department is the agency of the Commonwealth with the duty and the authority to administer and enforce The Clean Streams Law, Act of June 22, 1937, P.L. 1987, No. 394, *as amended*, 35 P.S. §§ 691.1-691.1001 ("Clean Streams Law"); Section 1917-A of the Administrative Code of 1929, the Act of April 9, 1929, P.L. 177, *as amended* ("Administrative Code"), 71 P.S. § 510-17A; and the regulations promulgated there under ("Regulations").

B. Shallenberger is a Pennsylvania corporation whose mailing address is 195 Enterprise Lane, Connellsville, PA 15425.

C. Shallenberger proposes to construct a wastewater treatment plant, known as the Ronco Wastewater Treatment Plant, to treat wastes from the oil and gas industry ("Facility"). The proposed Facility, to be located in Masontown Borough, Fayette County, will discharge to the Monongahela River, a water of the Commonwealth.

D. On September 25, 2008, the Department issued NPDES Permit No. PA0253723 to Shallenberger ("2008 NPDES Permit") authorizing the discharge of treated industrial wastes from the Facility. The 2008 NPDES Permit establishes specific effluent limitations, monitoring requirements and other permit conditions for the discharge.

E. As reported on its NPDES permit application for the Facility, Shallenberger is proposing to accept oil and gas wastewaters, specifically tophole water, brine, and fracturing wastewater.

F. Oil and gas wastewaters are industrial wastes as defined in Section 1 of the Clean Streams Law, 35 P.S. § 691.1.

G. The proposed Facility is a "Centralized Waste Treatment" facility as defined in the Code of Federal Regulations at 40 CFR Part 437. 40 CFR Part 437 contains the applicable effluent limitation guidelines ("ELG") for Centralized Waste Treatment facilities. The 2008 NPDES Permit currently contains effluent limitations different than those established in 40 CFR Part 437. The Department intends to modify the 2008 NPDES Permit to include the requirements of the applicable ELG.

H. In its May 2008 NPDES permit application, Shallenberger indicated that the discharge from the proposed Facility will contain elevated levels of Total Dissolved Solids ("TDS").

I. On October 2, 2008, Shallenberger submitted to the Department a Water Quality Management Part II Permit application seeking authorization to construct wastewater treatment facilities. ("Phase 1 Treatment Plant").

J. Shallenberger's proposed Phase 1 Treatment Plant does not include treatment for the removal of TDS.

K. The concentration of TDS in the Monongahela River has exceeded the water quality criteria for TDS as established under Section 93.7 of the Regulations, 25 Pa. Code § 93.7, both upstream and downstream of the Facility's proposed outfall on or about October, November and December 2008. The TDS criteria are established for the use and protection of the Monongahela River, a water of the Commonwealth, as a potable water supply ("PWS").

L. The elevated levels of TDS in the proposed discharge from the Facility will contribute to any exceedence of the water quality criteria that occurs.

M. Sulfates are potential components of TDS.

N. The Department intends to modify the 2008 NPDES Permit, as a permit amendment, to include effluent limitations for TDS and sulfates. The draft NPDES Permit Amendment ("Amended NPDES Permit") is attached hereto as Appendix A.

O. The Department will not issue the Amended NPDES Permit, as set forth in Appendix A, prior to one hundred and eighty (180) days after the execution of this Consent Order and Agreement.

P. In order to meet the effluent limitations for TDS and sulfates in the Amended NPDES Permit, Shallenberger must design and construct additional wastewater treatment ("Phase 2 Treatment Plant").

Q. This Consent Order and Agreement is intended to address compliance with the effluent limitations for TDS and sulfates in the Amended NPDES Permit and this Consent Order and Agreement shall govern enforcement proceedings for such limitations until the time for compliance with the requirements in Paragraph 3.f has passed.

After full and complete negotiation of all matters set forth in this Consent Order and Agreement and upon mutual exchange of covenants contained herein, the parties desiring to

avoid litigation and intending to be legally bound, it is hereby ORDERED by the Department and AGREED to by the Shallenberger as follows:

1. Authority. This Consent Order and Agreement is an Order of the Department authorized and issued pursuant to Sections 5, 402, 501 and 610 of the Clean Streams Law, 35 P.S. §§ 691.5, 691.402, 691.501, and 691.610; and Section 1917-A of the Administrative Code, 71 P.S. § 510-17.

2. Findings.

a. Shallenberger agrees that the findings in Paragraphs A through Q are true and correct and, in any matter or proceeding involving Shallenberger and the Department, Shallenberger shall not challenge the accuracy or validity of these findings.

b. The parties do not authorize any other persons to use the findings in this Consent Order and Agreement in any matter or proceeding.

3. Corrective Actions.

a. Upon issuance of the Water Quality Management Part II permit for the Phase 1 Treatment, Shallenberger may construct and place into operation the Phase 1 Treatment Plant authorized under said permit.

b. Shallenberger shall not accept any wastes at the Facility until the Phase 1 Treatment Plant is constructed and ready to commence start-up operations. Upon commencement of start-up operations, in addition to the sampling requirements set forth in Paragraph 4 of this Consent Order and Agreement, Shallenberger shall sample its discharge for TDS and sulfates consistent with the monitoring requirements set forth in the Amended NPDES Permit and submit the results to the Department in its monthly Discharge Monitoring Reports ("DMR").

c. After the Phase 1 Treatment Plant is operational, Shallenberger shall not discharge more than 500,000 gallons of oil and gas wastewater per day at the Facility.

d. Within ninety (90) days of the issuance of the Amended NPDES Permit, Shallenberger shall submit to the Department a full and complete Water Quality Management Part II Permit Amendment application for the design and construction of the Phase 2 Treatment Plant. The Water Quality Management Part II Permit application shall identify the wastes and/or byproducts and the volumes of each that are generated from the Phase 2 Treatment Plant and the disposition of these wastes and/or byproducts. The Phase 2 Treatment Plant shall be designed to meet the effluent limitations in the Amended NPDES Permit. The Water Quality Management Part II Permit Amendment application shall contain a plan and schedule to allow for the completion of the Phase 2 Treatment Plant that complies with the milestones set forth in this Consent Order and Agreement.

e. Within sixty (60) days of the issuance of the Water Quality Management Part II Permit Amendment or no later than two years after issuance of the Amended NPDES Permit, whichever is later, Shallenberger shall commence construction of the Phase 2 Treatment Plant.

f. Shallenberger shall complete construction and place into operation the Phase 2 Treatment Plant by not later than three (3) years from the issuance of the Amended NPDES Permit. Until such time as the Phase 2 Treatment Plant is operational, Shallenberger shall comply with the provisions of this Consent Order and Agreement for TDS and sulfates.

g. Shallenberger waives its right to appeal the issuance of the Amended NPDES Permit so long as the terms and conditions set forth in the Amended NPDES Permit are the same or less stringent than those contained in Appendix A.

4. Agreement to Cease Discharge. Until such times as the Phase 2 Treatment Plant is constructed and operational, Shallenberger shall cease its discharge from the Phase 1 Treatment Plant to the Monongahela River in accordance with the conditions set forth below.

Downstream Monitoring and Criteria for Cessation of Discharge

a. Commencing with Shallenberger's discharge from the Phase I Treatment Plant, Shallenberger shall monitor and record the conductivity readings generated by the River Alert Information Network ("RAIN") at the Carmichaels Municipal Authority Intake Conductivity Station. The conductivity meter for the Carmichaels Municipal Authority Intake is scheduled to be installed and operational prior to October 2009. However, if Shallenberger commences its discharge of wastewater from its Phase 1 Treatment Plant prior to the installation of this conductivity meter, or during such times when the RAIN data are not available, Shallenberger shall be responsible for obtaining twice daily conductivity readings (at least 8 hours apart) at or near the proposed Intake Conductivity Station until such time as the RAIN data become available. Such monitoring and recording shall be required only during those periods when the Facility is discharging or preparing to recommence discharge in accordance with Paragraph 4.g, below.

b. If the conductivity readings described in Paragraph 4.a., above, measure at or above 648 uS/cm (the equivalent of 450 mg/L TDS) as a daily average (in the case of the RAIN data, averaging 24 readings taken every hour on the hour from 12:00 midnight to 11:59 P.M. each calendar day; and in the case of Shallenberger data collected in lieu of the RAIN data, averaging the two daily readings), Shallenberger shall cease its discharge of treated wastewater from the Phase 1 Treatment Plant to the Monongahela River.

Upstream Sampling and Criteria for Cessation of Discharge

c. Commencing with Shallenberger's discharge from the Phase I Treatment Plant, Shallenberger shall monitor and record the conductivity readings generated by RAIN at the Dunkard Valley Joint Municipal Authority Intake Conductivity Station. The conductivity meter for the Dunkard Valley Joint Municipal Authority Intake is scheduled to be installed and operational prior to October 2009. However, if Shallenberger commences its discharge of wastewater from its Phase 1 Treatment Plant prior to the installation of this conductivity meter, or during such times when the RAIN data are not available, Shallenberger shall be responsible for obtaining twice daily conductivity readings (at least 8 hours apart) at or near the proposed Intake Conductivity Stations until such time as the RAIN data become available. Such monitoring and recording shall be required only during those periods when the Facility is discharging or preparing to recommence discharge in accordance with Paragraph 4.g, below.

d. If conductivity readings described in Paragraph 4.c., above, measures at or above 1080 uS/cm (the equivalent of 750 mg/L TDS) for any rolling 8 hour average during any calendar day (in the case of the RAIN data, calculated using the hourly RAIN data starting at 12 midnight, such that the first 8-hour rolling average for the day will include the midnight – 7:00 A.M. readings and the last rolling 8-hour average for the day will include the 5:00 P.M. – midnight readings, and in the case of the Shallenberger data collected in lieu of the RAIN data, averaging the two daily readings), Shallenberger shall collect a grab water sample for TDS at a point in the Monongahela River no closer than 100 feet upstream of its Phase 1 Treatment Plant, but no further upstream than the Route 21 Bridge. Shallenberger shall continue the grab sampling on a daily basis while the conductivity readings described in Paragraph 4.c. are above

1080 uS/cm. until such time that the conductivity readings described in Paragraph 4.c. drop below 1080 uS/cm. for three consecutive days.

e. Shallenberger shall obtain from an accredited laboratory the results of the daily sampling described in Paragraph 4.d., above, within twenty four hours of each daily sampling event and shall transmit such sample results to the Department via facsimile on a daily basis.

f. If any sample as described in Paragraphs 4.d. exceeds 450 mg/L for TDS, Shallenberger shall cease its discharge of treated wastewater from the Phase 1 Treatment Plant to the Monongahela River.

Recommencement of Discharge After Cessation of Discharge

g. Shallenberger shall not re-commence the discharge of treated wastewater to the Monongahela River until TDS sampling as identified in Paragraph 4.d., above, provides a sampling result below 450 mg/L for TDS and the conductivity meter located at Carmichaels Municipal Authority measures below 648 uS/cm as a daily average.

Automatic Cessation of Discharge Without Notice

h. Shallenberger's obligation to cease its discharge based on the criteria set forth above is automatic and does not require notification from the Department. Shallenberger shall notify the Department within twenty four (24) hours of ceasing or re-commencing its discharge from the Facility. Such notification shall be via facsimile to the Department representative identified in Paragraph 11 of this Consent Order and Agreement.

Cessation of Discharge in Event of Non-Compliance

i. In addition to the criteria for the cessation of the discharge of treated wastewater from the Phase 1 Treatment Plant to the Monongahela River set forth in Paragraph 4,

above, if Shallenberger fails to comply with Paragraphs 3.d, 3.e, 3.f. or 3.g of the Consent Order and Agreement, it shall cease all discharges from the Facility until such time as Shallenberger remedies or cures its breach of this Consent Order and Agreement. In accordance with the terms and provisions of Paragraph 7 of this Consent Order and Agreement, the remedies provided by this paragraph are cumulative and the exercise of one remedy does not preclude the exercise of any other.

5. Progress Reports. Shallenberger shall submit quarterly progress reports to the Department documenting its efforts to comply with its obligations under this Consent Order and Agreement ("Quarterly Progress Reports"). The Quarterly Progress Reports shall be submitted to the Department by the fifteenth day of April, July, October, and January and sent to the attention of Compliance Specialist, Water Management, Department of Environmental Protection, 400 Waterfront Drive, Pittsburgh, PA 15222-4745. The Quarterly Progress Reports shall include, but are not limited to:

a. A description of the actions that have been taken toward achieving compliance with this Consent Order and Agreement,

b. A description of activities scheduled for the next quarter,

c. A description of problems or delays encountered or anticipated regarding performance of the activities required by this Consent Order and Agreement;

d. A record of the results of all sampling taken in the Monongahela River pursuant to the obligations of this Consent Order and Agreement and a record of the conductivity readings at the Carmichaels Municipal Authority Intake and at the Dunkard Valley Joint Municipal Authority Intake;

e. A record of any and all periods when there is no discharge from the Facility whether due to the obligations set forth in this Consent Order and Agreement or otherwise.

6. Stipulated Penalties.

a. In the event Shallenberger fails to comply in a timely manner with any term or provision of this Consent Order and Agreement, Shallenberger shall be in violation of this Consent Order and Agreement and, in addition to other applicable remedies, shall pay a civil penalty of ONE HUNDRED DOLLARS ($100) PER DAY for each violation.

b. Stipulated civil penalty payments shall be payable monthly on or before the fifteenth day of each succeeding month. All payments shall be made by corporate check or the like made payable to the "Commonwealth of Pennsylvania, Clean Water Fund" and sent to the attention of Compliance Specialist, Water Management, Department of Environmental Protection, 400 Waterfront Drive, Pittsburgh, PA 15222-4745.

c. Any payment under this paragraph shall neither waive Shallenberger's duty to meet its obligations under this Consent Order and Agreement nor preclude the Department from commencing an action to compel Shallenberger's compliance with the terms and conditions of this Consent Order and Agreement. The payment resolves only Shallenberger's liability for civil penalties, arising from the violation of this Consent Order and Agreement for which the payment is made.

d. Stipulated civil penalties under this paragraph will be due automatically and without notice.

7. Additional Remedies.

a. In the event Shallenberger fails to comply with any provision of this Consent Order and Agreement, the Department may, in addition to the remedies prescribed herein, pursue any remedy available for a violation of an order of the Department, including an action to enforce this Consent Order and Agreement.

b. The remedies provided by this paragraph are cumulative and the exercise of one does not preclude the exercise of any other. The failure of the Department to pursue any remedy shall not be deemed to be a waiver of that remedy. The payment of a stipulated penalty, however, shall preclude any further assessment of civil penalties for the violations for which the stipulated civil penalty is paid.

8. Reservation of Rights. The Department reserves the right to require additional measures to achieve compliance with applicable law. Shallenberger reserves the right to challenge any action that the Department may take to require those measures.

9. Liability of Operator. Shallenberger shall be liable for any violations of the Consent Order and Agreement, including those caused by, contributed to, or allowed by its officers, agents, employees, or contractors. Shallenberger also shall be liable for any violation of this Consent Order and Agreement caused by, contributed to, or allowed by its successors and assigns, except as provided for in Paragraph 10.c of this Consent Order and Agreement.

10. Transfer of Facility.

a. The duties and obligations under this Consent Order and Agreement shall not be modified, diminished, terminated or otherwise altered by the transfer of any legal or equitable interest in the Facility or any part thereof.

b. If Shallenberger intends to transfer any legal or equitable interest in the Facility that is affected by this Consent Order and Agreement, Shallenberger shall serve a copy of this Consent Order and Agreement upon the prospective transferee of the legal and equitable interest at least thirty (30) days prior to the contemplated transfer and shall simultaneously inform the Southwest Regional Office of the Department of such intent.

c. Department in its sole discretion may agree to modify or terminate Shallenberger's duties and obligations under this Consent Order and Agreement upon transfer of the Facility. Shallenberger waives any right that it may have to challenge the Department's decision in this regard.

11. Correspondence with Department. All correspondence with the Department concerning this Consent Order and Agreement shall be addressed to:

Compliance Specialist
Water Management
Department of Environmental Protection
400 Waterfront Drive
Pittsburgh, PA 15222-4745.
Phone: 412-442-4000 / Fax: 412-442-4194

12. Correspondence with Shallenberger. All correspondence with Shallenberger concerning this Consent Order and Agreement shall be addressed to:

Terrance C. Shallenberger, Jr.
President
Shallenberger Construction, Inc.
195 Enterprise Lane
Connellsville, PA 15425
Phone: 724-628-8968
Fax: 724-628-6114

Shallenberger shall notify the Department whenever there is a change in the contact person's name, title, or address. Service of any notice or any legal process for any purpose under this

Consent Order and Agreement, including its enforcement, may be made by mailing a copy by first class mail to the above addresses.

13. Force Majeure.

a. In the event that Shallenberger is prevented from complying in a timely manner with any time limit imposed in this Consent Order and Agreement solely because of a strike, fire, flood, act of God, or other circumstances beyond Shallenberger's control and which Shallenberger, by the exercise of all reasonable diligence, is unable to prevent, then Shallenberger may petition the Department for an extension of time. An increase in the cost of performing the obligations set forth in this Consent Order and Agreement shall not constitute circumstances beyond Shallenberger's control. Shallenberger's economic inability to comply with any of the obligations of this Consent Order and Agreement shall not be grounds for any extension of time.

b. Shallenberger shall only be entitled to the benefits of this paragraph if it notifies the Department within five (5) working days by telephone and within ten (10) working days in writing of the date it becomes aware or reasonably should have become aware of the event impeding performance. The written submission shall include all necessary documentation, as well as a notarized affidavit from an authorized individual specifying the reasons for the delay, the expected duration of the delay, and the efforts that have been made and are being made by Shallenberger to mitigate the effects of the event and to minimize the length of the delay. The initial written submission may be supplemented within 10 working days of its submission. Shallenberger's failure to comply with the requirements of this paragraph specifically and in a timely fashion shall render this paragraph null and of no effect as to the particular incident involved.

c. The Department will decide whether to grant all or part of the extension requested on the basis of all documentation submitted by Shallenberger and other information available to the Department. In any subsequent litigation, the operator shall have the burden of proving that the Department's refusal to grant the requested extension was an abuse of discretion based upon the information then available to it.

14. Severability. The paragraphs of this Consent Order and Agreement shall be severable and should any part hereof be declared invalid or unenforceable, the remainder shall continue in full force and effect between the parties.

15. Entire Agreement. This Consent Order and Agreement shall constitute the entire integrated agreement of the parties. No prior or contemporaneous communications or prior drafts shall be relevant or admissible for purposes of determining the meaning or extent of any provisions herein in any litigation or any other proceeding.

16. Attorney Fees. The parties shall bear their respective attorney fees, expenses and other costs in the prosecution or defense of this matter or any related matters, arising prior to execution of this Consent Order and Agreement.

17. Modifications. No changes, additions, modifications, or amendments of this Consent Order and Agreement shall be effective unless they are set out in writing and signed by the parties hereto.

18. Titles. A title used at the beginning of any paragraph of this Consent Order and Agreement may be used to aid in the construction of that paragraph, but shall not be treated as controlling.

19. Decisions under Consent Order. Any decision which the Department makes under the provisions of this Consent Order and Agreement, including a notice that stipulated

civil penalties are due, is intended to be neither a final action under 25 Pa. Code §1021.2, nor an Adjudication under 2 Pa. C.S. §101. Any objection that Shallenberger may have to the decision will be preserved until the Department enforces this Consent Order and Agreement.

20. Termination of Obligations. Except for Shallenberger's continuing obligations to pay all penalties which have accrued under this Consent Order and Agreement prior to its termination, this Consent Order and Agreement shall terminate on the earlier of: September 30, 2015, or such earlier time that Shallenberger either ceases operation of the Facility or commences operation of the Phase 2 Treatment Plant.

IN WITNESS WHEREOF, the parties hereto have caused this Consent Order and Agreement to be executed by their duly authorized representatives. The undersigned representatives of Shallenberger certify under penalty of law, as provided by 18 Pa. C.S. § 4904, that they are authorized to execute this Consent Order and Agreement on behalf of Shallenberger; that Shallenberger consents to the entry of this Consent Order and Agreement as a final ORDER of the Department; and that Shallenberger hereby knowingly waives its rights to appeal this Consent Order and Agreement and to challenge its content or validity, which rights may be available under Section 4 of the Environmental Hearing Board Act, the Act of July 13, 1988, P.L. 530, No. 1988-94, 35 P.S. § 7514; the Administrative Agency Law, 2 Pa. C.S. § 103(a) and Chapters 5A and 7A; or any other provision of law. Signature by Shallenberger's attorneys certifies only that the agreement has been signed after consulting with counsel.

FOR SHALLENBERGER CONSTRUCTION, INC:

Signature
Name: Terrance C Shallenberger Jr.
Title: President

Signature
Name NORMA W. Shallenberger
Title Sec. - Treas.

John P. Englert, Esquire
Counsel for Shallenberger Construction, Inc.

FOR THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF OF ENVIRONMENTAL PROTECTION:

Samuel C. Harper
Regional Manager
Water Management
Southwest Region

James A. Meade
Assistant Counsel

Appendix A
Draft NPDES Permit Amendment

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WATER MANAGEMENT PROGRAM

DRAFT

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT PA0253723 AS ISSUED ON September 25, 2008

AMENDMENT NO. 1

In compliance with the provisions of the Clean Water Act, 33 U.S.C. Section 1251 et seq. (the "Act") and Pennsylvania's Clean Streams Law, as amended, 35 P.S. Section 691.1 et seq., the above referenced permit issued to:

Shallenberger Construction, Inc.
2611 Memorial Boulevard
Connellsville, PA 15425

for a facility located at

Ronco Treatment Facility
Masontown Borough
Fayette County

is amended as follows:

1. Correction of typographical error on Page 2a of 15. The permittee is authorized to discharge during the period from permit issuance date through expiration date.

2. Additional effluent limitations and monitoring requirements are added to Outfall 001.

3. A condition has been added to Part C of the permit, requiring record keeping of wastes accepted at the Ronco Treatment Facility.

4. The TRE condition has been deleted from the permit.

5. A condition has been added to Part C of the permit requiring the permittee to confirm the presence and for absence of pollutants in the influent /effluent of the industrial waste treatment facility.

6. A monitor and report requirement for strontium is added to Part A of the permit.

7. A Part C condition requiring submissions of DMRs to EPA is added to the permit.

8. The chemical additive condition has been added to the permit.

9. A no visible sheen condition has been added to the permit.

10. The applicable sludge conditions have been added to the permit.

11. Part A and Part B conditions have been revised.

12. A storm water condition has been added to the permit.

The remainder of the permit is in full force and effect.

DATE AMENDMENT ISSUED _____ ISSUED BY _____

Samuel C. Harper
Water Management Program Manager

DATE EFFECTIVE _____

1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS FOR OUTFALL 001 WHICH RECEIVES WASTE FROM: fluids generated in the drilling and production of natural gas and oil wells

at Latitude 39° 51' 13" Longitude 79° 55' 29" Stream Code 37185 River Mile Index (RMI) 79.5

a. The permittee is authorized to discharge during the period from permit issuance date through permit expiration date.

b. Based on the production data and/or anticipated wastewater characteristics and flows described in the permit application and its supporting documents and/or amendments, the following effluent limitations and monitoring requirements apply. Total (dissolved plus suspended fraction) is implied for each parameter unless otherwise indicated.

	DISCHARGE LIMITATIONS (gross unless otherwise indicated)					MONITORING REQUIREMENTS	
	Mass Units (lbs/day except flow)		Concentrations (mg/l unless otherwise indicated)				
scharge Parameter	Average Monthly	Max. Daily	Average Monthly	Max. Daily	Instant. Max.	Measurement Frequency	Sample Type
)w (mgd)				0.5		daily	measured
n			3.5		7.0	2/month	8-hour composite
l and Grease			15		30	2/month	grab
tal Suspended Solids			30		60	2/month	8-hour composite
idity				Monitor Only		2/month	8-hour composite
kalinity				Greater than Acidity		2/month	8-hour composite
rium			14.4	28.0		2/month	8-hour composite
lorides				Monitor and Report		2/month	8-hour composite
tal Dissolved Solids			500	750		2/month	8-hour composite
motic Pressure (mOs/kg)			1,632	2,546		2/month	8-hour composite

DRAFT

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS FOR OUTFALL 001 (CONTINUED):

	DISCHARGE LIMITATIONS (gross unless otherwise indicated)					MONITORING REQUIREMENTS	
	Mass Units (lbs/day except flow)		Concentrations (mg/l unless otherwise indicated)				
scharge Parameter	Average Monthly	Max. Daily	Average Monthly	Max. Daily	Instant. Max.	Measurement Frequency	Sample Type
lfates				250		2/month	8-hour composite
)D-5 Day			53		163	2/month	8-hour composite
pper			0.757	0.865		2/month	8-hour composite
ıc			0.420	0.497		2/month	8-hour composite
etone			7.97	30.2		2/month	grab
etophenone			0.0562	0.114		2/month	grab
Butanone			1.85	4.81		2/month	grab
Cresol			0.561	1.92		2/month	grab
Cresol			0.205	0.698		2/month	grab
enol			1.08	3.65		2/month	grab
ridine			0.182	0.370		2/month	grab
l,6 Trichlorophenol			0.106	0.155		2/month	grab
ontium			Monitor and Report			2/month	grab
	not less than 6.0 nor greater than 9.0 standard units					daily	grab

mples taken in compliance with the monitoring requirements specified above shall be taken at the following location: at the discharge Outfall 001.

DRAFT

2. DEFINITIONS

a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

c. "Daily discharge" means the "discharge of a pollutant" measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

d. "Average" refers to the use of an arithmetic mean, unless otherwise specified in this permit.

e. "Geometric average (mean)" means the average of a set of n sample results given by the n^{th} root of their product.

f. "Average monthly discharge limitation" means the highest allowable average of "daily discharge" over a calendar month, calculated as the sum of all "daily discharge" measured during a calendar month divided by the number of "daily discharge" measured during that month.

g. "Average weekly discharge limitation" means the highest allowable average of "daily discharge" over a calendar week, calculated as the sum of all "daily discharge" measured during a calendar week divided by the number of "daily discharge" measured during that week.

h. "Maximum daily discharge limitation" means the highest allowable "daily discharge."

i. "Maximum any time" (or instantaneous maximum) means the concentration not to be exceeded at any time in any grab sample.

j. "Composite sample" (for all except GC/MS volatile organic analysis) means a combination of at least 8 individual samples of at least 100 milliliters collected manually or automatically at periodic intervals during the operating hours of a facility over a 24 hour period. The composite must be flow-proportional; either the volume of each individual sample is proportional to discharge flow rates, or the sampling interval (for constant volume samples) is proportional to the flow rates over the time period used to produce the composite.

"Composite sample for GC/MS volatile organic analysis" consists of at least four (rather than eight) aliquots or grab samples collected during actual hours of discharge over a 24-hour period and need not be flow proportioned. The four samples are composited in the laboratory immediately before analysis, and only one analysis performed.

The maximum time period between individual samples used for any "composite sample" shall not exceed two hours, except that for wastes of a uniform nature the samples may be collected on a frequency of at least twice per working shift and shall be equally spaced over a 24-hour period (or over the operating day if flows are of a shorter duration).

k. "Grab sample" means an individual sample of at least 100 milliliters collected at a randomly-selected time over a period not to exceed 15 minutes.

l. "i-s" means immersion stabilization - in which a calibrated device is immersed in the wastewater until the reading is stabilized.

m. "Daily average temperature" means the average of all temperature measurements made, or the mean value plot of the record of a continuous automated temperature recording instrument, either during a calendar day or during the operating day if flows are of a shorter duration.

n. "Measured flow" means any method of liquid volume measurement, the accuracy of which has been previously demonstrated in engineering practice, or for which a relationship to absolute volume has been obtained.

o. "At outfall XXX" means a sampling location in outfall line XXX below the last point at which wastes are added to outfall line XXX, or where otherwise specified.

p. "Estimated flow" means any method of liquid volume measurement based on a technical evaluation of the sources contributing to the discharge including, but not limited to, pump capabilities, water meters and batch discharge volumes.

q. "Non-contact cooling water" means water used to reduce temperature which does not come in direct contact with any raw material, intermediate product, waste product (other than heat), or finished product.

Such water may on occasion, as a result of corrosion, cooling system leakage or similar cooling system failures contain small amounts of process chemicals: provided, that all reasonable measures have been taken to prevent, reduce, eliminate and control to the maximum extent feasible such contamination: and provided further, that all reasonable measures have been taken that will mitigate the effects of such contamination once it has occurred.

r. "Toxic pollutant" means those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation, or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator of the United States Environmental Protection Agency, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction, or physical deformations in such organisms or their offspring.

s. "Hazardous substance" means any substance designated under Title 40 Code of Federal Regulations Part 116 (40 CFR 116) pursuant to Section 311 of the Clean Water Act.

t. "Publicly Owned Treatment Works" or "POTW" means a facility as defined by Section 212 of the Clean Water Act which is owned by a State or Municipality, as defined by Section 502(4) of the Clean Water Act, including any sewers that convey wastewater to such a treatment works, but not including pipes, sewers or other conveyances not connected to a facility providing treatment. The term also means the municipality as defined in Section 502(4) of the Clean Water Act which has jurisdiction over the indirect discharges to and the discharges from such a treatment works.

u. "Industrial User" means an establishment which discharges or introduces industrial wastes into a Publicly Owned Treatment Works (POTW).

v. "Total Dissolved Solids" means the total dissolved (filterable) solids as determined by use of the method specified in 40 CFR 136.

w. "Storm water associated with industrial activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas as defined at 40 CFR 122.26(b)(14).

x. "Storm water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

y. "Best Management Practices ("BMPs")" means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "Waters of the United States". BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

3. SELF-MONITORING, REPORTING, AND RECORDS KEEPING

a. Representative Sampling

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) Records Retention

Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities which shall be retained for a period of at least 5 years, all records of monitoring activities and results (including all original strip chart recordings for continuous monitoring instrumentation and calibration and maintenance records), copies of all reports required by this permit, and records of all data used to complete the application for this permit shall be retained by the permittee for three (3) years from the date of the sample measurement, report, or application. The three year period shall be extended as requested by the Department or the EPA Regional Administrator.

(3) Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

(i) The exact place, date, and time of sampling or measurements;

(ii) The person(s) who performed the sampling or measurements;

(iii) The date(s) the analyses were performed;

(iv) The person(s) who performed the analyses;

(v) The analytical techniques or methods used; and the associated detection level; and

(vi) The results of such analyses.

(4) Test Procedures

Unless otherwise specified in this permit, the test procedures for the analysis of pollutants shall be those contained in 40 CFR 136 (or in the case of sludge use or disposal, approved under 40 CFR 136 unless otherwise specified in 40 CFR 503), or alternate test procedures approved pursuant to those parts, unless other test procedures have been specified in the permit.

(5) Quality Assurance/Control

In an effort to assure accurate self-monitoring analyses results:

(a) Permittee or its designated laboratory shall participate in the periodic scheduled quality assurance inspections conducted by the Department and EPA.

(b) The permittee or its designated laboratory shall develop and implement a program to assure the quality and accurateness of the analyses performed to satisfy the requirements of this permit in accordance with 40 CFR 136, Appendix A

b. Reporting of Monitoring Results

(1) The permittee shall effectively monitor the operation and efficiency of all wastewater treatment and control facilities, and the quantity and quality of the discharge(s) as specified in this permit.

(2) Unless instructed otherwise in Part C of this permit, monitoring results obtained each month shall be summarized for that month and reported on a Discharge Monitoring Report (DMR).

(3) The completed DMR Form shall be signed and certified either by the following applicable person (as defined in 40 CFR 122.22(a)) or by that person's duly authorized representative (as defined in 40 CFR 122.22(b)):

- For a corporation - by a responsible corporate officer
- For a Partnership or Sole Proprietorship - by a general partner or the proprietor, respectively
- For a Municipality, State, Federal or other public agency - by a principle executive officer or ranking elected official.

If signed by other than the above, written notification of delegation of DMR signatory authority must be submitted to the Department. The DMR and any other reports required herein shall be submitted to the appropriate agency at the address listed in Part C of this permit and postmarked no later than the 28th day of the following month.

(4) If the permittee monitors any pollutant, using analytical methods described in A.3.a(4) above, more frequently than the permit requires, the results of this monitoring shall be incorporated, as appropriate, into the calculations used to report self-monitoring data on the DMR.

c. Reporting Requirements

(1) Planned Changes - The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

(a) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

(b) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

(c) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) Anticipated Non-Compliance

The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(4) Twenty-Four Hour Reporting

(a) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(b) The following shall be included as information which must be reported within 24 hours under this paragraph.

(i) Any unanticipated bypass which exceeds any effluent limitation in the permit.

(ii) Any catastrophic event which causes the discharge to exceed effluent limitations in this permit.

(iii) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours.

(c) The Department may waive the written report on a case-by-case basis for reports under paragraph c (4)(a) of this section if the oral report has been received within 24 hours.

(5) Other Noncompliance

The permittee shall report all instances of noncompliance not reported under paragraphs c (3), (4) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph c (4) of this section.

Compliance with reporting requirements under A.3.c. above shall not excuse a person from immediate notification of incidents causing or threatening pollution pursuant to 25 Pa. Code, Chapter 91.33.

d. Specific Toxic Substance Notification Levels (for Manufacturing, Commercial, Mining, and Silvicultural Dischargers) The permittee shall notify the Department as soon as it knows or has reason to believe the following:

(1) That any activity has occurred, or will occur, which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge on a routine or frequent basis will exceed the highest of the following "notification levels".

(a) One hundred micrograms per liter.

(b) Two hundred micrograms per liter for acrolein and acrylonitrile.

(c) Five hundred micrograms per liter for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol.

(d) One milligram per liter for antimony.

(e) Five (5) times the maximum concentration value reported for that pollutant in the permit application.

(f) Any other notification level established by the Department.

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

(a) Five hundred micrograms per liter;

(b) One milligram per liter for antimony;

(c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application;

(d) Any other notification level established by the Department.

1. MANAGEMENT REQUIREMENTS

a. Compliance Schedules

(1) The permittee shall achieve compliance with the terms and conditions of this permit within the time frames specified in Part C of this permit.

(2) The permittee shall submit reports of compliance or noncompliance with, or progress reports as applicable, any interim and final requirements contained in this permit. Such reports shall be submitted no later than 14 days following the applicable schedule date or compliance deadline.

b. Permit Modification, Termination, or Revocation and Reissuance

(1) This permit may be modified, terminated, or revoked in whole or in part during its term for cause including, but not limited to, any of the causes specified in 25 Pa. Code, Chapter 92.

(2) The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated non-compliance, does not stay any permit condition.

(3) In the absence of a Departmental action to modify or revoke and reissue this permit, the permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time specified in the regulations that establish those standards or prohibitions.

c. Duty to Provide Information

(1) The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit.

(2) The permittee shall furnish to the Department, upon request, copies of records required to be kept by this permit.

(3) Other Information - Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information to the Department.

(4) Where the permittee is a POTW, the permittee shall provide adequate notice to the Department of the following:

(a) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act if it were otherwise discharging those pollutants.

(b) Any substantial change in the volume or character of pollutants being introduced into the POTW by an Industrial User which was discharging into the POTW at the time of issuance of this permit.

(c) Adequate notice shall include information on:

(i) the quality and quantity of the effluent introduced into the POTW, and

(ii) any anticipated impact of the change on the quantity or quality of the effluent to be discharged from the POTW.

The submission of the above information in the POTW's Annual Wasteload Management Report, required under the provisions of 25 Pa. Code Chapter 94, will normally be considered as providing adequate notice to the Department, unless a more stringent time period is required by law, regulation, or permit condition in which case the more stringent submission date shall apply.

(d) The identity of Industrial Users served by the POTW which are subject to pretreatment standards adopted under Section 307(b) of the Clean Water Act; the POTW shall also specify the total volume of discharge and estimated concentration of each pollutant discharged into the POTW by the Industrial Users.

(e) The POTW shall require all Industrial Users to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act and any regulations adopted thereunder, and the Clean Streams Law and any regulations adopted thereunder.

d. Facilities Operation

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, adequate laboratory controls including appropriate quality assurance procedures. This provision also includes the operation of backup or auxiliary facilities or similar systems that are installed by the permittee, only when necessary to achieve compliance with the terms and conditions of this permit.

The permittee shall develop, install, and maintain Best Management Practices to control or abate the discharge of pollutants when the practices are reasonably necessary to achieve the effluent limitations and standards in this permit or to carry out the purposes and intent of the Clean Water Act.

e. Adverse Impact

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

f. Bypassing

(1) Bypassing Not Exceeding Permit Limitations - The permittee may allow a bypass to occur which does not cause effluent limitations to be violated, but only if the bypass is essential for maintenance to assure efficient operation. This type of bypassing is not subject to the reporting and notification requirements of Part A.3.c.

(2) Other Bypassing - In all other situations bypassing is prohibited unless all of the following conditions are met:

(a) A bypass is unavoidable to prevent loss of life, personal injury or "severe property damage";

(b) There are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed (in the exercise of reasonable engineering judgment) to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance;

(c) The permittee submitted the necessary reports required under Part A.3.c.

(3) The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions (a through c) listed above.

2. PENALTIES AND LIABILITY

a. Violations of Permit Conditions

Any person violating Sections 301, 302, 306, 307, 308, 318, or 405 of the Clean Water Act or any permit condition or limitation implementing such sections in a permit issued under Section 402 of the Act is subject to civil, administrative, and/or criminal penalties as set forth in 40 CFR 122.41(a)(2).

Any person or municipality who violates any provision of this permit, any rule, regulation, or order of the Department, or any condition or limitation of any permit issued pursuant to the Clean Streams Law is subject to criminal and/or civil penalties as set forth in Sections 602, 603 and 605 of the Clean Streams Law.

b. Falsifying Information

Any person who does any of the following:

Falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit; or

Knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit (including monitoring reports or reports of compliance or non- compliance);

shall, upon conviction, be punished by a fine and/or imprisonment as set forth in 18 P.S. §4904 and 40 CFR 122.41(j)(5) and (k)(2).

c. Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance pursuant to Section 309 of the Clean Water Act or Sections 602, 603 or 605 of the Clean Streams Law.

Nothing in this permit shall be construed to preclude the institution of any legal action or to relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under the Clean Water Act and the Clean Streams Law.

d. Enforcement Proceedings

(1) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. OTHER RESPONSIBILITIES

a. Right of Entry

Pursuant to Sections 5(b) and 305 of Pennsylvania's Clean Streams Law and 25 Pa. Code, Chapter 92, the permittee shall allow the head of the Department, the EPA Regional Administrator, and/or their authorized representatives, upon the presentation of credentials and other documents as may be required by law:

(1) To enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) To have access to and copy at reasonable times any records that must be kept under the conditions of this permit;

(3) To inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices or operations regulated or required under this permit;

(4) To sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

b. Transfer of Permits

(1) *Transfers by modification.* Except as provided in paragraph (2) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued, or a minor modification made to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act.

(2) *Automatic transfers.* As an alternative to transfers under paragraph (1) of this section, any NPDES permit may be automatically transferred to a new permittee if:

(a) The current permittee notifies the Department, at least 30 days in advance, of the proposed transfer date in paragraph (2)(b) of this section;

(b) The notice includes the appropriate Department transfer form signed by the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and

(c) The Department does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (2)(b) of this section.

(3) In the event the Department does not approve transfer of the permit, the new owner or controller must submit a new permit application.

c. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

d. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

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THER REQUIREMENTS

In accordance with Part A.3.b of this permit, the permittee shall submit a copy of the Discharge Monitoring Reports to each of the following:

Department of Environmental Protection
Water Management
400 Waterfront Drive
Pittsburgh, PA 15222-4745

U.S. EPA – Region III
NPDES Enforcement Branch (3WP42)
Office of Permits and Enforcement
Water Protection Division
1650 Arch Street
Philadelphia, PA 19103-2029

Department of Environmental Protection
Oil and Gas
400 Waterfront Drive
Pittsburgh, PA 15222-4745

Storm Water Discharges

A. Except as provided in Section B of this condition, all storm water discharges shall be composed entirely of uncontaminated storm water.

B. The following non-storm water discharges are authorized provided the non-storm water component of the discharge is in compliance with Section C of this condition: discharges from firefighting activities, fire hydrant flushings, potable water sources including waterline flushings, irrigation drainage, lawn watering, routine external building washdown which does not use detergents or other compounds, pavement washwaters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used, air conditioning condensate, springs, uncontaminated ground water, and foundation or footing drains where flows are not contaminated with process materials such as solvents.

C. This permit does not authorize any discharge (storm water or non-storm water) which contains any pollutant that may cause or contribute to an impact on aquatic life or pose a substantial hazard to human health or the environment due to its quantity or concentration.

D. This permit does not authorize the discharge of any pollutant resulting from an on-site spill, any such occurrence is subject to Sections A.3.c or d of this permit.

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E. Preparedness, Prevention and Contingency Plans (PPC)

1. Operators of facilities shall review and revise as appropriate the PPC Plan for the site in accordance with 25 Pa. Code, Chapter 91, Section 91.34 to address storm water. The PPC Plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges from the facility. Each of the following shall be evaluated for the reasonable potential for contributing pollutants to runoff: loading and unloading operations, outdoor storage activities, outdoor manufacturing or processing activities, significant dust or particulate generating process, and on-site waste disposal practices. Factors to consider include the toxicity of chemicals; quantity of chemicals used, produced or discharged; the likelihood of contact with storm water; and history of significant leaks or spills of toxic or hazardous pollutants. In addition, the PPC Plan shall describe the implementation of practices which are to be used to reduce the pollutants in storm water discharges ensuring compliance with the terms and conditions of this permit.

2. Facilities subject to SARA Title III, Section 313 reporting requirements for releases of Section 313 water priority chemicals that have occurred within the last three years shall include a description of such releases in the PPC Plan.

3. Qualified personnel shall conduct site compliance evaluations at least once a year. A report summarizing the evaluation and any required follow-up actions shall be prepared and kept on-site. Such evaluations shall include the items in 3.a of this condition.

   a. Areas contributing to a storm water discharge shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Measures to reduce pollutant loadings shall be evaluated to determine whether they are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed. Structural storm water management measures, sediment and erosion control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly.

   b. Based on the results of the inspection, the description of potential pollutant sources and pollution prevention measures and controls identified in the PPC Plan shall be revised as appropriate and shall provide for implementation of any changes to the plan in a timely manner.

F. Sampling Requirements

If storm water samples are required by Part A of this permit, they shall be collected as a grab sample during the first 30 minutes of the discharge or as soon thereafter as practicable. Analytical results of the sampling event shall be summarized on the attached Discharge Monitoring Reports (DMR) and submitted to the Department. If it is not practicable to collect samples due to adverse climatic conditions, or other circumstances beyond the permittee's control, the discharger must submit an explanation with the DMR as to exactly why the samples could not be collected.

Usage rates of any chemical additives used at this facility that may be discharged and blow-down rates shall be controlled by the permittee to prevent any impairments to receiving water uses and/or effluent limit violations. Chemical additives include, but are not limited to, any chemicals added to water for control of corrosion, scaling, algae, slime or fouling in cooling, boiler, or process water systems. Chemical additives also include, but are not limited to agents used to aid in treatment such as water softeners, flocculants, coagulants, emulsion breakers, anti-foaming agents, dispersants, oxygen scavengers, pH stabilizers, and regenerants. Usage rates shall be limited to the minimum amount necessary to accomplish the intended purpose of the chemical addition.

Accurate and complete records of chemical usage and discharge volumes must be maintained and summarized on a monthly basis using the attached form and kept on-site by the permittee. These records must be produced upon request by the Department.

Use of additives that contain one or more ingredients that are carcinogens are generally prohitibed, and should be substituted with alternative products. If no alternatives are available, the permittee must document that no alternatives are available and that the carcinogen involved will be "not detectable" in the final effluent.

If the additive is currently in use at the facility, it may continue to be used at the maximum rate unless the permittee is notified otherwise.

The permittee is responsible for preventing impairments to receiving water uses.

For any chemical additive that is a biocide or any chemical additive that may cause or contribute to a toxic or lethal effect to aquatic life that is used or is currently in use at this facility, requires Department approval. The information described below must be submitted within ninety (90) days of the effective date of this permit (with 2 copies) for all biocides.

a. Trade name of the additive.

b. Name, address and phone number of the chemical additive manufacturer.

c. A list of all the active and inactive ingredients.

d. The additive usage rate (in lb/day or gal/day).

e. The conditioned water discharge rate (MGD).

f. The "in-system" concentration of whole product which the usage rate in item d. above will produce (mg/l). Include the product density (lb/gal) for liquids used to convert usage rate (gal/day) to concentration (mg/l).

g. Any available data regarding in-system degradation or decomposition of the additive and any other data or information that would be helpful to the Department in completing its review.

h. The expected concentration of the product at the final outfall.

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i. The analytical test method that could be used to verify final outfall concentrations and the associated minimum analytical detection level.

j. A flow diagram showing the point of chemical addition and the affected outfalls.

k. 96 hour - LC50 bioassay data on the whole product for at least one species of freshwater fish (mg/l).

l. The MSDS and any mammalian toxicity data that is available for the whole product.

Whenever a change in chemical additives that is a biocide or an increase in usage rates of these additives is desired by the permittee, a complete written notification shall be submitted at least sixty (60) days prior to the proposed use of the chemical. This notification, at a minimum shall include the information outlined above. If the information is complete, and its use is not specifically denied, use of the proposed chemical additive is allowed 60 days after notification. The usage rate shall not exceed the maximum rate reported pursuant to item d. above.

When collecting samples that are to be analyzed for any of the priority pollutants, the permittee shall collect the sample type required by Part A of this permit, and the permittee shall use the methods and techniques in the attached instructions "Department of Environmental Protection, Water Management Program - Sampling and Analytical Testing Instructions". For each priority pollutant, the permittee shall use a method that will quantifiably measure the priority pollutant at or below the effluent limitation in Part A of this permit.

Sludges and other solids shall be handled and disposed of in compliance with the Solid Waste Management Act of 1980 (Act 97) and with 25 Pa. Code, Chapters 261, 262, 263, and 264 (related to permits and requirements for landfilling and storage of hazardous sludge) and applicable federal regulations, the Federal Clean Water Act, RCRA and their amendments.

Sludges and other solids shall be handled and disposed of in compliance with the Solid Waste Management Act of 1980 (Act 97) and with 25 Pa. Code, Chapters 287, 291, and 299 (relating to residual waste generators) and 288 and 289 (relating to residual waste landfills and impoundments) and the Federal Clean Water Act and its amendments.

All discharges of floating materials, oil, grease, scum and substances which produce tastes, color, odors, turbidity or settle to form deposits shall be controlled at levels which will not be inimical or harmful to the water uses to be protected or to human, animal, plant or aquatic life.

Oil bearing wastewaters shall at no time cause a film or sheen upon or discoloration of the waters of this Commonwealth or adjoining shoreline.

Receipt of Residual Waste, including wastewater from oil and gas wells: The permittee shall document each load of residual waste received for processing at the treatment facility. Upon receipt, the permittee shall record the information required for the Residual Waste Supplemental DMR and the residual waste transporter operational record pursuant to 25 Pa Code § 299.219 as follows:

(1) The types or classifications of residual waste received and well permit number if applicable.

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(2) The weight or volume of the types of wastes received.

(3) The name, mailing address, telephone number, county and state of each generator of residual waste received.

(4) The name and location of any transfer facility that received and transferred the waste.

(5) The name and address of the person or municipality collecting or transporting the waste.

(6) The license plate number of the trailer transporting the waste.

This information at a minimum can be found on the required daily operational record of the transporter. If the transporter is unable to provide this information, the load shall not be accepted by the permittee until such time as the transporter is able to provide the required information.

In addition, the permittee shall summarize the information on a monthly basis and submit the enclosed Residual Waste DMR Supplemental Form to the Department as an attachment to the Monthly DMR. Under wastewater type, indicate if the fluids are from fracturing, production or other. If using other, an explanation shall be attached.

Prior to receipt of any Residual Waste, the permittee shall obtain a chemical analysis of the wastewater as required in 25 Pa. Code § 287.54 from the generator of the wastewater.

Within 30 days of delivering frac water to this treatment facility, the operator of the well generating the frac water will submit a Form 26R characterizing the frac wastewater. For the first 30 days of wastewater generation after fracturing, the operator of the well site will provide and the receiving facilities will rely upon an oil and gas industry generic characterization of the wastewater. A Form 26R will need to be submitted by the generator for all other types of wastewater generated prior to acceptance at the treatment facility.

The information required by this condition shall be retained by the permittee for 5 years from the date of receipt. This information must be made available for inspection by and a copy made available to the Department, upon request.

Exhibit B

From: Trulear.Brian@epamail.epa.gov
To: Deborah Goldberg; eac50@pitt.edu
Cc: Hykel.Judith@epamail.epa.gov; Rivera.Nina@epamail.epa.gov
Subject: Fw: Shallenberger Construction Draft Permit (PA0253723)
Date: Monday, February 15, 2010 11:32:02 AM

Deborah & Emily,

As promised, these are the comments we sent to PADEP last week regarding the draft Shallenberger NPDES permit amendment. Any questions, let me know.

Thanks,
Brian P. Trulear
NPDES Program Manager
NPDES Permits Branch (3WP41)
Office of Permits & Enforcement
Water Protection Division
EPA Region III
Phone: 215-814-5723
Fax: 215-814-2302

----- Forwarded by Brian Trulear/R3/USEPA/US on 02/15/2010 11:27 AM -----

Shallenberger Construction Draft Permit (PA0253723)

Brian Trulear
to:
rydecker
02/08/2010
03:38 PM

Cc:
Evelyn MacKnight, kmilcic, Francisco Cruz

Fro Brian Trulear/R3/USEPA/US
m:

To: rydecker@state.pa.us

Cc: Evelyn MacKnight/R3/USEPA/US@EPA, kmilcic@state.pa.us, Francisco Cruz/R3/USEPA/US@EPA

Ryan,

We received the draft permit for the Ronco Treatment Facility on January 11, 2010. The draft permit package did not contain the fact sheet or water quality protection report (WQPR). I forwarded a request to you on February 1, 2010 for this information, but to date have not received your additional documentation. I was able to obtain a copy of the 12 page fact sheet from another source, however, I do not have the WQPR. EPA does not consider our 30 day review period to be active until we receive a complete draft permit package. Because my review was limited to information currently available to me, comments in addition to those listed below could be provided at a later date once the WQPR is received and reviewed. Based on the information currently available to me, I have reviewed this draft and have the following comments.

1) Barium is listed on page 2a of the draft permit with a 14.4 mg/l ave monthly effluent limit. However, PADEP's TDS Permitting Strategy and proposed Chapter 95 revisions suggest a recommended barium permit limitation for this type of wastewater to be 10 mg/l ave monthly. Please revise the draft permit accordingly or provide documentation as to why the 10 mg/l requirement does not apply to this facility.

2) The BOD-5 Day limit of 163mg/l listed as an instant max on page 2b of the draft permit should be listed as a max daily as required by 40 CFR 437.31.

3) Strontium is listed on page 2b of the permit as a monitor & report parameter. However, PADEP's TDS Permitting Strategy and proposed Chapter 95 revisions suggest a recommended strontium permit limitation for this type of wastewater to be 10 mg/l ave monthly. In addition, page 11 of the fact sheet states that because the applicant did not identify strontium in its wastewater, it is not permitted to discharge strontium. This statement would require the permit to reflect "non-detect" as the limitation for strontium. Please revise the draft permit accordingly.

4) Part C Other Requirement 2, beginning on page 14a of the draft permit, is for Storm Water Discharges. However, outfall 001 is the only outfall in the draft permit and there is no mention of stormwater contained in outfall 001. Please explain the purpose of this requirement and/or identify the stormwater discharges from this facility.

5) Page 12 of the fact sheet mentions an "Additional Part C Condition" which would be used "to confirm the presence and/or absence of pollutants in the untreated and treated wastewater". However, this condition was not added to Part C of the draft permit. Please explain.

6) As mentioned above, we did not receive a copy of the WQPR. As a result, we could not verify parameters of concern. I do note that I

have reviewed draft permits for other facilities accepting Marcellus Shale wastewaters and those draft permits do include a larger number of parameters. For example, the Reserved Environmental Services (RES) draft permit (PA0254185) and fact sheet identified additional parameters of concern to be benzene, ethylbenzene, toluene, xylenes, and total BTEX. The RES fact sheet states that the Department has observed the presence of BTEX parameters in flowback receipts at a number of other CWT facilities. Please include these parameters for analysis and/or monitoring, or explain why these parameters are not considered.

7) It is noted that there is a CO&A dated August 28, 2009 for this facility. We have concerns as to how a CO&A could be developed for a facility that has yet to commence discharging and, therefore, has not had any non-compliance issues to date. This CO&A cannot be used to amend the NPDES permit. As you know, 40 CFR 122.47(a)(2) states, "The first NPDES permit issued to a new source or a new discharger shall contain a schedule of compliance only when necessary to allow a reasonable opportunity to attain compliance with requirements issued or revised after commencement of construction but less than three years before commencement of the relevant discharge." To my knowledge, the Ronco facility had not commenced construction prior to acknowledgement of the TDS, sulfate, and Part 437 requirements and would not be entitled to a compliance schedule. In addition, the Part 437 requirements are technology based and the CWA deadline to meet tech based standards has expired. A compliance schedule to meet Part 437 requirements is not allowed. As a result, the permit must be written to achieve compliance with all conditions of the permit upon permit issuance. This has been accomplished in the current draft permit amendment.

This permit shall not be issued prior to resolution of the above comments. Please address the above comments and provide me with any changes to the draft permit. In addition, please forward to me any changes to the Fact Sheet / Pollution Report / WQPR, if necessary. If you prefer, electronic versions of these documents can be sent instead of hard copies. Any questions, give me a call.

Thanks,
Brian P. Trulear
NPDES Permits Branch (3WP41)
Office of Permits & Enforcement
Water Protection Division
EPA Region III
Phone: 215-814-5723
Fax: 215-814-2302

Exhibit C

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
90.0	Mon River RMI 90.0 midway btwn PAFBC ramp & Pt Marion Hghwy brdg	0593-011	10/14/2008	37433		20.24	719	7.14	NA	486	15.9	NA
		0593-027	10/22/2008	39047		16.43	631	6.58	9.17	438	13.7	228
		NA	10/28/2008	No sample		14.50	512	8.3	NA	NA	NA	NA
		NA	11/3/2008	No sample		14.00	550	NA	NA	NA	NA	NA
		0593-080	11/5/2008	40440		12.67	531	7.38	NA	516	16.4	255.9
		NA	11/7/2008	No sample		13.10	774	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.00	525	NA	NA	NA	NA	NA
		0593-083	11/12/2008	41307		11.21	699	8.96	NA	486	17.8	222.9
		NA	11/14/2008	No sample		13.00	550	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		7.50	500	NA	NA	NA	NA	NA
		0593-088	11/19/2008	42242		8.84	442	NA	NA	416	16.8	
		NA	11/21/2008	No sample		8.73	432	NA	NA	NA	NA	NA
		0552-881	11/25/2008	42718		7.50	733	NA	NA	502	18.2	238.9
		NA	12/8/2008	No sample		NA	825	NA	NA	NA	NA	NA
		0552-883	12/11/2008	44274		5.00	570	NA	NA	466	30.8	163.3
		NA	12/15/2008	No sample		NA	197	NA	NA	NA	NA	NA
		0552-884	12/18/2008	45105		5.00	285	NA	NA	148	11.1	46.9
		0552-885	12/23/2008	45378		5.00	165	NA	NA	112	6.6	40.1
		0552-886	12/30/2008	45736		7.00	188	NA	NA	130	6	50.3
88.2	Mon River RMI 88.2 upstrm East Dunkard	0593-028	10/22/2008	39048		16.00	584	7.13	9.66	406	12.4	213
88.1	Mon River RMI 88.1	1630-166	10/22/2008	38701		NA	NA	7.7	NA	486	15	226
	upstream of Dunkard Creek	1620-191	10/29/2008	39587		NA	NA	NA	NA	462	14.6	233
		NA	11/3/2008	No sample		16.00	350	NA	NA	NA	NA	NA
		1630-210	11/5/2008	40463		17.50	693	7.5	NA	488	21.5	263
		1630-216	11/12/2008	41076		14.30	513	7.5	NA	356	11.7	189
		NA	11/14/2008	No sample		13.00	510	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		11.75	200	NA	NA	NA	NA	NA
		1630-228	11/19/2008	42251		11.50	246.1	7.2	NA	142	4.89	79.1
		1630-240	11/25/2008	42734		11.80	567	7.5	NA	412	15.7	220
		1630-252	12/4/2008	43529		NA	353	7.3	NA	254	11.6	127
		1630-264	12/11/2008	44299		NA	505	7.7	NA	354	23.2	169
		1630-276	12/18/2008	45111		NA	198	7.2	NA	132	10.4	48.1
		1630-288	12/23/2008	45395		11.10	153	7.3	NA	112	6.55	41.2

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
90.0	Mon River RMI 90.0 midway btwn PAFBC ramp & Pt Marion Hghwy brdg	0593-011	10/14/2008	NA	<200	<2.00	<3.0	51	<1.0	<10.0	53.7	<50	<50	<10	155	<1.0
		0593-027	10/22/2008	NA	<200	<2.00	<3.0	45	<1.0	<10	44.3	<50	<50	<10	253	<1.0
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-080	11/5/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-083	11/12/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-088	11/19/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-881	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-883	12/11/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-884	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-885	12/23/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-886	12/30/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
88.2	Mon River RMI 88.2 upstrm East Dunkard	0593-028	10/22/2008	NA	<200	<2.00	<3.0	46	<1.0	<10	40.9	<50	<50	<10	278	1.4
88.1	Mon River RMI 88.1	1630-166	10/22/2008	NA	143	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	<4	290	NA
	upstream of Dunkard Creek	1620-191	10/29/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-210	11/5/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-216	11/12/2008	<0.2	88.6	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	148	<1.0
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-228	11/19/2008	<0.2	105	<2.00	<3.0	57	<1.0	<0.2	NA	<4	NA	<4	241	<1.0
		1630-240	11/25/2008	<0.2	160	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	206	<1.0
		1630-252	12/4/2008	<0.2	336	<2.00	<3.0	45	<1.0	<0.2	NA	<4	NA	<4	429	<1.0
		1630-264	12/11/2008	<0.2	552	<2.00	<3.0	49	<1.0	<0.2	NA	<4	NA	<4	1143	<1.0
		1630-276	12/18/2008	<0.2	5538	<2.00	<3.0	72	1	0.291	NA	4.1	NA	11.6	7259	6.66
		1630-288	12/23/2008	<0.2	1011	<2.00	<3.0	37	<1.0	<0.2	NA	<4	NA	<4	1162	<1.0

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
90.0	Mon River RMI 90.0 midway btwn PAFBC ramp & Pt Marion Hghwy brdg	0593-011	10/14/2008	15.5	82	<0.2	<50	2.840	<7	<10	70.6	<2	<20	20
		0593-027	10/22/2008	12.6	67	<0.2	<50	2.630	<7	<10	58.7	<2	<20	<10
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-080	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-083	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0593-088	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-881	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-883	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-884	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-885	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0552-886	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
88.2	Mon River RMI 88.2 upstrm East Dunkard	0593-028	10/22/2008	11.9	108	<0.2	<50	2.370	<7	<10	51.7	<2	<20	<10
88.1	Mon River RMI 88.1	1630-166	10/22/2008	14.4	107	<0.2	<50	NA	<7	NA	64.6	<2	NA	22
	upstream of Dunkard Creek	1620-191	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-210	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1630-216	11/12/2008	11.82	234	<0.2	<50	2.219	<7	NA	45.98	<2	NA	<10
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-228	11/19/2008	6.2	407	<0.2	<50	1.415	<7	NA	7.484	<2	NA	<10
		1630-240	11/25/2008	13	146	<0.2	<50	2.414	<7	NA	54.6	<2	NA	15
		1630-252	12/4/2008	8.158	203	<0.2	<50	1.841	<7	NA	29.61	<2	NA	19
		1630-264	12/11/2008	12.36	192	<0.2	<50	2.927	<7	NA	44.97	<2	NA	29
		1630-276	12/18/2008	5.075	554	<0.2	<50	2.719	<7	NA	11.67	<2	NA	68
		1630-288	12/23/2008	4.108	118	<0.2	<50	1.553	<7	NA	7.502	<2	NA	10

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		1630-298	12/30/2008	45724		10.40	190	7.3	NA	130	6.05	53
		CMU*	9/17/2009	NA		NA	NA		NA	345	13	216
		CMU*	9/22/2009	NA		NA	NA		NA	334	15	210
		CMU*	9/29/2009	NA		NA	NA		NA	347	21	289
		CMU*	10/6/2009	NA		NA	NA	7.60	NA	288	14	181
		CMU*	10/13/2009	NA		NA	NA	7.15	NA	153	0	0
		CMU*	10/20/2009	NA		NA	NA	7.14	NA	0	11.713	161.1036
		CMU*	10/27/2009	NA		NA	NA	7.15	NA	282	18	257
		CMU*	11/3/2009	NA		NA	NA	7.47	NA	46	8	66
		CMU*	11/10/2009	NA		NA	NA		NA	116	8	52.663
		CMU*	11/17/2009	NA		NA	NA	7.23	NA	230	8	89.368
		CMU*	11/24/2009	NA		NA	NA	7.50	NA	95	17	219.3445667
85.5	Mon River RMI 85.5 upstrm of Georges Crk	0593-030	10/22/2008	39041		16.19	942	7.44	9.71	666	18.4	374
84.0	Mon River RMI 84.0 upstrm of Jacobs Creek	0593-031	10/22/2008	39042		16.34	812	7.35	9.56	580	16.3	316
83.0	Mon River RMI 83.0	1630-162	10/22/2008	38697		NA	NA	7.6	NA	630	19.6	333
	downstream of Jacobs Creek	1630-189	10/29/2008	39585		NA	NA	NA	NA	602	18.7	315
		NA	11/3/2008	No sample		15.00	525	NA	NA	NA	NA	NA
		1630-208	11/5/2008	40461		19.20	650	7.5	NA	506	17.2	274
		NA	11/7/2008	No sample		13.37	812	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		14.00	525	NA	NA	NA	NA	NA
		1630-214	11/12/2008	41078		15.00	667	NA	NA	474	14.3	258
		1630-226	11/19/2008	42249		9.90	489	7.4	NA	312	13.4	168
		NA	11/21/2008	No sample		9.59	332	NA	NA	NA	NA	NA
		1630-238	11/25/2008	42729		12.50	383	NA	NA	268	10.9	139
		NA	12/1/2008	No sample		NA	512	NA	NA	NA	NA	NA
		1630-250	12/4/2008	43527		NA	446	7.4	NA	316	15.4	172
		NA	12/8/2008	No sample		NA	475	NA	NA	NA	NA	NA
		1630-262	12/11/2008	44297		NA	425	7.4	NA	296	15.9	147
		NA	12/15/2008	No sample		NA	190	NA	NA	NA	NA	NA
		1630-274	12/18/2008	45109		NA	163	7.1	NA	114	8.74	41.2
		1630-286	12/23/2008	45393		8.80	146	7.1	NA	104	24	45
		1630-296	12/30/2008	45722		10.50	159	7.2	NA	110	5.42	47.2
82.1	Mon River RMI 82.1 upstrm Gray Landing L/D	0593-017	10/15/2008	37431		18.84	974	7.27	NA	676	22.7	NA

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		1630-298	12/30/2008	<0.2	652		<3.0			<0.2	NA	<4	NA	<4		<1.0
		CMU*	9/17/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	0.0132	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	0.2226	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	0.0307	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
85.5	Mon River RMI 85.5 upstrm of Georges Crk	0593-030	10/22/2008	NA	<200	<2.00	<3.0	47	<1.0	<10	55.8	<50	<50	<10	163	<1.0
84.0	Mon River RMI 84.0 upstrm of Jacobs Creek	0593-031	10/22/2008	NA	<200	<2.00	<3.0	47	<1.0	<10	51.6	<50	<50	<10	192	<1.0
83.0	Mon River RMI 83.0	1630-162	10/22/2008	NA	108	<2.00	<3.0	49	<1.0	<0.2	NA	<4	NA	8.62	145	NA
	downstream of Jacobs Creek	1630-189	10/29/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-208	11/5/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-214	11/12/2008	<0.2	57.4	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	13.9	101	<1.0
		1630-226	11/19/2008	<0.2	95.6	<2.00	<3.0	47	<1.0	<0.2	NA	<4	NA	15.2	217	<1.0
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-238	11/25/2008	<0.2	86.9	<2.00	<3.0	50	<1.0	<0.2	NA	10.4	NA	10.4	167	<1.0
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-250	12/4/2008	<0.2	290	<2.00	<3.0	43	<1.0	<0.2	NA	<4	NA	16.8	454	<1.0
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-262	12/11/2008	<0.2	556	<2.00	<3.0	41	<1.0	<0.2	NA	<4	NA	11.2	1027	<1.0
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-274	12/18/2008	<0.2	3035	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	14	4289	3.8
		1630-286	12/23/2008	<0.2	963	<0.2	<3.0	35	<1.0	<0.2	NA	<4	NA	10.5	1058	<1.0
		1630-296	12/30/2008	<0.2	530	<2.00	<3.0			<0.2	NA	<4	NA	13.3		<1.0
82.1	Mon River RMI 82.1 upstrm Gray Landing L/D	0593-017	10/15/2008	NA	<200	<2.00	<3.0	56	<1.0	<10.0	65.8	<50	<50	<10	128	<1.0

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		1630-298	12/30/2008						<7			<2	NA	
		CMU*	9/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
85.5	Mon River RMI 85.5 upstrm of Georges Crk	0593-030	10/22/2008	18.4	107	<0.2	<50	2.760	<7	<10	107.0	<2	<20	<10
84.0	Mon River RMI 84.0 upstrm of Jacobs Creek	0593-031	10/22/2008	16.4	109	<0.2	<50	2.670	<7	<10	84.0	<2	<20	<10
83.0	Mon River RMI 83.0	1630-162	10/22/2008	19.2	104	<0.2	<50	NA	<7	NA	100.0	<2	NA	<10
	downstream of Jacobs Creek	1630-189	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-208	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-214	11/12/2008	14.67	159	<0.2	<50	2.134	<7	NA	68.9	<2	NA	<10
		1630-226	11/19/2008	10.41	215	<0.2	<50	2.094	<7	NA	39.3	<2	NA	<10.0
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-238	11/25/2008	9.24	208	<0.2	<50	1.789	<7	NA	27.4	<2	NA	<10
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-250	12/4/2008	10.5	183	<0.2	<50	1.876	<7	NA	47.1	<2	NA	10
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-262	12/11/2008	9.754	170	<0.2	NA	2.090	<7	NA	37.7	<2	NA	<10
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-274	12/18/2008	3.938	331	<0.2	<50	1.969	<7	NA	10.9	<2	NA	50
		1630-286	12/23/2008	3.663	116	<0.2	<50	1.391	<7	NA	7.6	<2	NA	10
		1630-296	12/30/2008						<7			<2		
82.1	Mon River RMI 82.1 upstrm Gray Landing L/D	0593-017	10/15/2008	20.9	147	<0.2	<50	3.130	<7	<10	110.0	<2	<20	<10.0

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		0593-032	10/22/2008	39043		16.72	934	6.86	9.03	680	18.7	374
80.5	Mon River RMI 80.5 upstrm Whiteley Crk	0552-878	10/22/2008	38738		16.34	759	7.2	9.3	672	20.6	384
79.5	Mon River RMI 79.5 upstrm power plant and water intake	0552-877	10/22/2008	38737		16.15	785	7.23	9.3	696	26.1	391
		1630-158	10/22/2008	38691		NA	NA	7.7	NA	734	29.9	392
		1630-187	10/29/2008	39583		NA	NA	NA	NA	574	19.9	304
		1630-206	11/5/2008	40459		18.20	813	7.7	NA	620	29.8	323
		1630-212	11/12/2008	41077		15.00	734	7.5	NA	544	22.4	296
		1630-224	11/19/2008	42247		14.40	544	7.4	NA	380	17.6	212
		1630-236	11/25/2008	42733		13.00	468	7.3	NA	326	18.3	169
		1630-248	12/4/2008	43525		NA	923	7.7	NA	682	31.2	378
		1630-260	12/11/2008	44295		NA	369	7.4	NA	272	14.9	131
		1630-272	12/18/2008	45107		NA	149	7.2	NA	114	8.07	37
		1630-284	12/23/2008	45391		9.60	147	7.2	NA	104	5.6	37.5
		1630-294	12/30/2008	45720		13.30	167	7.2	NA	114	5.74	52.4
78.3	Mon River RMI 78.3 Allegheny Energy Hatfields	0593-021	10/15/2008	37358		19.10	976	7.56	NA	676	24.2	NA
78.0	Mon River RMI 78.0 dwnstrm Little Whitely Crk	0552-876	10/22/2008	38736		16.08	792	7.32	9.26	710	26.9	393
76.0	Mon River RMI 76.0 upstrm Middle Run near Carmichael	0552-875	10/22/2008	38735		16.00	805	7.38	8.9	720	25.5	398
75.0	Mon River RMI 75.0	1630-170	10/22/2008	38705		NA	NA	7.8	NA	800	29.9	409
	near Carmichael, PA	1630-193	10/29/2008	39577		NA	NA	NA	NA	702	29.7	399
		NA	11/3/2008	No sample		14.00	770	NA	NA	NA	NA	NA
		1620-204	11/5/2008	40469		18.20	947	7.9	NA	734	26.1	407
		NA	11/7/2008	No sample		13.31	916	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.00	650	NA	NA	NA	NA	NA
		1630-218	11/12/2008	41071		13.70	907	7.7	NA	638	31	342
		NA	11/14/2008	No sample		12.00	800	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		11.00	600	NA	NA	NA	NA	NA
		1630-230	11/19/2008	42237		10.40	744	7.5	NA	492	18.2	274
		NA	11/21/2008	No sample		9.19	312	NA	NA	NA	NA	NA
		1630-242	11/25/2008	42726		10.70	421	7.4	NA	286	13.7	139
		NA	12/1/2008	No sample		NA	490	NA	NA	NA	NA	NA
		1630-254	12/4/2008	43531		NA	801	7.7	NA	584	28	314
		NA	12/8/2008	No sample		NA	497	NA	NA	NA	NA	NA
		1630-266	12/11/2008	44277		NA	410	7.4	NA	272	16.4	135

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		0593-032	10/22/2008	NA	<200	<2.00	<3.0	48	<1.0	<10	56.6	<50	<50	<10	107	<1.0
80.5	Mon River RMI 80.5 upstrm Whiteley Crk	0552-878	10/22/2008	<0.2	236	<2.00	<3.0	52	<1.0	<10	64.9	<50	<50	<10	330	<1.0
79.5	Mon River RMI 79.5 upstrm power plant and water intake	0552-877	10/22/2008	<0.2	<200	<2.00	<3.0	53	<1.0	<10	62.8	<50	<50	<10	291	<1.0
		1630-158	10/22/2008	NA	102	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	<4	221	NA
		1630-187	10/29/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-206	11/5/2008	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-212	11/12/2008	<0.2	89.8	<2.00	<3.0	53	<1.0	2.33	NA	<4	NA	<4	221	<1.0
		1630-224	11/19/2008	<0.2	128	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	<4	234	<1.0
		1630-236	11/25/2008	<0.2	142	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	<4	324	<1.0
		1630-248	12/4/2008	<0.2	158	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	<4	342	<1.0
		1630-260	12/11/2008	<0.2	791	<2.00	<3.0	43	<1.0	<0.2	NA	<4	NA	<4	1690	<1.0
		1630-272	12/18/2008	<0.2	2552	<2.00	<3.0	48	<1.0	<0.2	NA	<4	NA	4.16	3323	2.78
		1630-284	12/23/2008	<0.2	979	<2.00	<3.0	34	<1.0	<0.2	NA	<4	NA	<4	1075	<1.0
		1630-294	12/30/2008	<0.2	538	<2.00	<3.0			<0.2	NA	<4	NA	<4		<1.0
78.3	Mon River RMI 78.3 Allegheny Energy Hatfields	0593-021	10/15/2008	NA	<200	<2.00	<3.0	63	<1.0	<10.0	68.9	<50	<50	<10	919	<1.0
78.0	Mon River RMI 78.0 dwnstrm Little Whitely Crk	0552-876	10/22/2008	<0.2	226	<2.00	<3.0	54	<1.0	<10	65.7	<50	<50	<10	321	<1.0
76.0	Mon River RMI 76.0 upstrm Middle Run near Carmichael	0552-875	10/22/2008	<0.2	241	<2.00	<3.0	57	<1.0	<10	68.5	<50	<50	<10	309	<1.0
75.0	Mon River RMI 75.0	1630-170	10/22/2008	NA	93	<2.00	<3.0	59	<1.0	<0.2	NA	<4	NA	<4	176	NA
	near Carmichael, PA	1630-193	10/29/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1620-204	11/5/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-218	11/12/2008	<0.2	97.6	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	232	<1.0
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-230	11/19/2008	<0.2	156	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	<4	286	<1.0
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-242	11/25/2008	<0.2	165	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	<4	307	<1.0
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-254	12/4/2008	<0.2	190	<2.0	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	264	<1.0
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-266	12/11/2008	<0.2	<0.2	<2.00	<3.0	676	<0.2	<0.2	NA	<4	NA	<4	1522	<1.0

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		0593-032	10/22/2008	18.4	139	<0.2	<50	2.780	<7	<10	106.0	<2	<20	<10
80.5	Mon River RMI 80.5 upstrm Whiteley Crk	0552-878	10/22/2008	20.4	159	<0.2	<50	3.084	<7	<10	109	<2	<20	54
79.5	Mon River RMI 79.5 upstrm power plant and water intake	0552-877	10/22/2008	20	152	<0.2	<50	3.121	<7	<10	114	<2	<20	27
		1630-158	10/22/2008	20.2	147	<0.2	<50	NA	<7	NA	120	<2	NA	<10
		1630-187	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1630-206	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1630-212	11/12/2008	15.82	238	<0.2	<50	2.368	<7	NA	88.42	<2	NA	<10
		1630-224	11/19/2008	12.28	300	<0.2	<50	2.135	<7	NA	57.46	<2	NA	<10.
		1630-236	11/25/2008	10.2	289	<0.2	<50	1.823	<7	NA	46.6	<2	NA	<10
		1630-248	12/4/2008	19.37	143	<0.2	<50	2.878	<7	NA	116.2	<2	NA	15
		1630-260	12/11/2008	8.921	221	<0.2	<50	2.157	<7	NA	32.72	<2	NA	<10
		1630-272	12/18/2008	3.614	271	<0.2	<50	1.734	<7	NA	9.289	<2	NA	32
		1630-284	12/23/2008	3.583	119	<0.2	<50	1.416	<7	NA	7.048	<2	NA	<10
		1630-294	12/30/2008						<7					
78.3	Mon River RMI 78.3 Allegheny Energy Hatfields	0593-021	10/15/2008	21.8	152	<0.2	<50	3.420	<7	<10	114.0	<2	<20	<10.0
78.0	Mon River RMI 78.0 dwnstrm Little Whitely Crk	0552-876	10/22/2008	20.8	141	<0.2	<50	3.143	<7	<10	117	<2	<20	18
76.0	Mon River RMI 76.0 upstrm Middle Run near Carmichael	0552-875	10/22/2008	21.6	141	<0.2	<50	3.442	<7	<10	120	<2	<20	16
75.0	Mon River RMI 75.0	1630-170	10/22/2008	22.1	138	<0.2	<50	NA	<7	NA	131	<2	NA	<10
	near Carmichael, PA	1630-193	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1620-204	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-218	11/12/2008	17.58	193	<0.2	<50	2.603	<7	NA	112	<2	NA	10
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-230	11/19/2008	15.17	250	<0.2	<50	2.558	<7	NA	72.86	<2	NA	23
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-242	11/25/2008	8.73	307	<0.2	<50	1.709	<7	NA	31.8	<2	NA	<10
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-254	12/4/2008	17.06	156	<0.2	<50	2.74	<7	NA	94.29	<2	NA	<10
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-266	12/11/2008	9.16	218	<0.2	<50	2.135	<7	NA	36.28	<2	NA	11

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		NA	12/15/2008	No sample		NA	183	NA	NA	NA	NA	NA
		1630-278	12/18/2008	45113		NA	164	7.2	NA	116	8.87	39.9
		1630-290	12/23/2008	45381		13.60	141	7.2	NA	100	6.1	40.2
		1630-300	12/30/2008	45730		8.90	193	7.3	NA	132	6.42	53.3
73.5	Mon River RMI 73.5 dwstrm Wallace & upstrm Muddy	0552-874	10/22/2008	38734		15.93	847	7.37	8.87	770	27.1	420
71.0	Mon River RMI 71.0	1630-174	10/22/2008	38709		NA	NA	7.8	NA	768	26.2	388
	near Crucible, PA	1630-195	10/29/2008	39579		NA	NA	NA	NA	676	22.5	363
		1630-202	11/5/2008	40467		17.00	867	7.8	NA	638	23.7	320
		1630-220	11/12/2008	41070		14.60	854	7.6	NA	592	26.2	313
		1630-232	11/19/2008	42239		12.80	794	7.5	NA	586	22	328
		1630-244	11/25/2008	42723		11.90	424	7.3	NA	278	13.1	138
		1630-256	12/4/2008	43533		NA	679	7.5	NA	300	27.2	254
		1630-268	12/11/2008	44279		NA	659	7.6	NA	452	23.1	229
		1630-280	12/18/2008	45115		NA	160	7.2	NA	122	8.64	37.6
		1630-302	12/30/2008	45732		10.20	177.4	7.2	NA	128	5.82	47.7
		CMU*	9/22/2009	NA		NA	NA		NA	502	23	301
		CMU*	9/29/2009	NA		NA	NA		NA	422	32	404
		CMU*	10/6/2009	NA		NA	NA	7.78	NA	380	22	298
		CMU*	10/13/2009	NA		NA	NA	7.45	NA	250	25	173
		CMU*	10/20/2009	NA		NA	NA	7.56	NA	178	12	159
		CMU*	10/27/2009	NA		NA	NA	7.8	NA	110	10	109
		CMU*	11/3/2009	NA		NA	NA	8.12	NA	107	7	64
		CMU*	11/10/2009	NA		NA	NA		NA	158	7.97	72.2
		CMU*	11/17/2009	NA		NA	NA	7.78	NA	238	17.2	137.4
		CMU*	11/24/2009	NA		NA	NA	8.07	NA	295	16.3	157.8
69.0	Mon River RMI 69.0 upstrm of Pumpkin Run	0552-873	10/22/2008	38765		16.04	906	7.4	8.6	786	38	429
66.0	Mon River RMI 66.0 upstrm Tenmile Crk	0552-872	10/22/2008	38764		16.21	895	7.42	9	794	39.5	416
64.5	Mon River RMI 64.5	0593-023	10/15/2008	37360		19.78	2009	7.72	NA	852	45.4	NA
	downstream of Tenmile Creek	1630-178	10/22/2008	38713		NA	NA	7.7	NA	874	50.6	440
		0552-870	10/22/2008	38762		16.27	958	7.28	8.1	844	51.1	436
		1630-197	10/29/2008	39581		NA	NA	NA	NA	850	49.9	428
		NA	11/3/2008	No sample		14.50	850	NA	NA	NA	NA	NA
		1630-200	11/5/2008	40465		17.60	991	7.7	NA	756	37.4	395

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-278	12/18/2008	<0.2	3426	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	7.22	5314	4.7
		1630-290	12/23/2008	<0.2	1416	<2.00	<3.0	38	<1.0	<0.2	NA	<4	NA	<4	1286	<1.0
		1630-300	12/30/2008	<0.2		<2.00	<3.0			<0.2	NA	<4	NA	<4		<1.0
73.5	Mon River RMI 73.5 dwstrm Wallace & upstrm Muddy	0552-874	10/22/2008	<0.2	251	<2.00	<3.0	59	<1.0	<10	69.9	<50	<50	<10	223	<1.0
71.0	Mon River RMI 71.0	1630-174	10/22/2008	NA	40.9	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	<4	77	NA
	near Crucible, PA	1630-195	10/29/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-202	11/5/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-220	11/12/2008	<0.2	57.9	<2.00	<3.0	46	<1.0	<0.2	NA	<4	NA	<4	164	<1.0
		1630-232	11/19/2008	<0.2	315	<2.00	<3.0	57	<1.0	<0.2	NA	<4	NA	<4	791	<1.0
		1630-244	11/25/2008	<0.2	75.3	<2.00	<3.0	51	<1.0	<0.2	NA	<4	NA	<4	201	<1.0
		1630-256	12/4/2008	<0.2	162	<2.00	<3.0	51	<1.0	<0.2	NA	<4	NA	<4	438	<1.0
		1630-268	12/11/2008	<0.2	600	<2.00	<3.0	51	<1.0	<0.2	NA	<4	NA	<4	1500	<1.0
		1630-280	12/18/2008	<0.2	2910	<2.00	<3.0	47	<1.0	<0.2	NA	<4	NA	4.41	3829	3.12
		1630-302	12/30/2008	<0.2	484	<2.00	<3.0			<0.2	NA	<4	NA	<4		<1.0
		CMU*	9/22/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	0.041	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	0.025	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	0.075	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	0.0119	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	0.014	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	0.0317	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	0.649	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	0.0661	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
69.0	Mon River RMI 69.0 upstrm of Pumpkin Run	0552-873	10/22/2008	0.2	<200	<2.00	<3.0	57	<1.0	<10	70.8	<50	<50	<10	156	<1.0
66.0	Mon River RMI 66.0 upstrm Tenmile Crk	0552-872	10/22/2008	0.3	<200	<2.00	<3.0	64	<1.0	<10	70.4	<50	<50	<10	194	<1.0
64.5	Mon River RMI 64.5	0593-023	10/15/2008	NA	<200	<2.00	<3.0	68	<1.0	<10.0	81.6	<50	<50	<10	269	<1.0
	downstream of Tenmile Creek	1630-178	10/22/2008	NA	93.3	<2.00	<3.0	63	<1.0	<0.2	NA	<4	NA	14.4	312	NA
		0552-870	10/22/2008	0.3	235	<2.00	<3.0	69	<1.0	<10	75.2	<50	<50	<10	331	<1.0
		1630-197	10/29/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-200	11/5/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-278	12/18/2008	3.832	406	<0.2	<50	1.91	<7	NA	10.77	<2	NA	49
		1630-290	12/23/2008	3.809	133	<0.2	<50	1.505	<7	NA	8.361	<2	NA	<10
		1630-300	12/30/2008						<7	NA		<2	NA	
73.5	Mon River RMI 73.5 dwstrm Wallace & upstrm Muddy	0552-874	10/22/2008	22.3	130	<0.2	<50	3.401	<7	<10	126	<2	<20	15
71.0	Mon River RMI 71.0	1630-174	10/22/2008	23.6	47	<0.2	<50	NA	<7	NA	130	<2	NA	<10
	near Crucible, PA	1630-195	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1630-202	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1630-220	11/12/2008	17.11	84	<0.2	<50	2.658	<7	NA	98.64	<2	NA	<10
		1630-232	11/19/2008	17.57	166	<0.2	<50	2.658	<7	NA	95.36	<2	NA	14
		1630-244	11/25/2008	9.168	180	<0.2	<50	1.776	<7	NA	31.1	<2	NA	<10
		1630-256	12/4/2008	13.98	136	<0.2	<50	2.287	<7	NA	76.42	<2	NA	10
		1630-268	12/11/2008	14.94	179	<0.2	<50	3.08	<7	NA	64.11	<2	NA	12
		1630-280	12/18/2008	3.72	269	<0.2	<50	1.838	<7	NA	10.44	<2	NA	36
		1630-302	12/30/2008						<7	NA		<2	NA	
		CMU*	9/22/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
69.0	Mon River RMI 69.0 upstrm of Pumpkin Run	0552-873	10/22/2008	23.2	131	<0.2	<50	3.297	<7	<10	142	<2	<20	11
66.0	Mon River RMI 66.0 upstrm Tenmile Crk	0552-872	10/22/2008	23.4	145	<0.2	<50	3.48	<7	<10	142	<2	<20	59
64.5	Mon River RMI 64.5	0593-023	10/15/2008	26.9	183	<0.2	<50	4.257	<7	<10	155.0	<2	<20	<10.0
	downstream of Tenmile Creek	1630-178	10/22/2008	24.9	225	<0.2	<50	NA	<7	NA	156	<2	NA	<10
		0552-870	10/22/2008	24.7	209	<0.2	<50	4.856	<7	<10	151	<2	<20	17
		1630-197	10/29/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-200	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		NA	11/7/2008	No sample		13.59	1133	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.50	775	NA	NA	NA	NA	NA
		1630-222	11/12/2008	41073		14.80	956	7.7	NA	696	32.5	364
		NA	11/14/2008	No sample		12.60	825	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		10.75	600	NA	NA	NA	NA	NA
		1630-234	11/19/2008	42241		12.10	852	7.6	NA	554	28.6	308
		NA	11/21/2008	No sample		9.66	639	NA	NA	NA	NA	NA
		1630-246	11/25/2008	42728		11.00	650	7.5	NA	438	23.8	231
		NA	12/1/2008	No sample		NA	912	NA	NA	NA	NA	NA
		1630-258	12/4/2008	43535		NA	508	7.5	NA	266	20.9	172
		NA	12/8/2008	No sample		NA	615	NA	NA	NA	NA	NA
		1630-270	12/11/2008	44281		NA	549	7.5	NA	374	26.4	181
		NA	12/15/2008	No sample		NA	236	NA	NA	NA	NA	NA
		1630-282	12/18/2008	45117		NA	200	7.4	NA	116	14.3	42.3
		1630-292	12/23/2008	45383		11.50	203	7.1	NA	126	13.9	46.8
		1630-304	12/30/2008	45734		9.60	249	7.5	NA	180	10.9	60.2
63.9	Mon River - RMI 63.9 dwnstrm Tenmile Crk	0592-201	10/26/2008	39250		15.25	904	7.69	8.68	812	47.9	414.9
60.5	Mon River Pool-4 RMI 60.5 Uptrm Kelly Run	0594-123	10/22/2008	38746		16.83	1012	7.01	9.44	862	44.9	455
57.5	Mon River Pool-4 RMI 57.5 upstrm Dunlap Crk	0594-122	10/22/2008	38745		16.27	993	7.03	9.44	858	46.3	458
57.5	Mon River Pool- 4 RMI 57.5 upstream of Dunlap Creek	0585-158	10/22/2008	38770		NA	NA	7.7	NA	908	45	460
		1523-061	10/30/2008	39684		NA	NA	7.7	NA	820	45.6	431
		1523-073	11/5/2008	40456		NA	1229	7.8	NA	832	51.4	427
		1523-087	11/12/2008	41067		12.7	952	7.6	NA	784	34.7	408
		1523-099	11/19/2008	42234		12	865	7.6	NA	606	31.6	325
		1507-278	11/25/2008	42719		18.7	832	7.5	NA	574	23.9	307
		1523-112	12/4/2008	43523		NA	652	7.8	NA	492	34.2	263
		1523-123	12/11/2008	44292		NA	549	7.6	NA	318	17.7	158
		1523-135	12/18/2008	45128		NA	164	7.2	NA	104	10.7	40.7
		1523-147	12/23/2008	45400		7.3	182	7.3	NA	122	7.4	44.8
		1523-159	12/30/2008	45713		7.8	115	7.4	NA	136	7.21	55.1
		CMU*	9/8/2009	NA		NA	NA		NA	335	20.6	223
		CMU*	9/17/2009	NA		NA	NA		NA	437	26	299
		CMU*	9/22/2009	NA		NA	NA		NA	480	28.3	280

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-222	11/12/2008	0.2	99.4	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	13	304	<1.0
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-234	11/19/2008	<0.2	102	<2.00	<3.0	51	<1.0	<0.2	NA	<4	NA	13.4	208	<1.0
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-246	11/25/2008	<0.2	77.4	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	11.3	240	<1.0
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-258	12/4/2008	<0.2	201	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	10.9	410	<1.0
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-270	12/11/2008	<0.2	337	<2.00	<3.0	43	<1.0	<0.2	NA	<4	NA	8.97	736	<1.0
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-282	12/18/2008	<0.2	1982	<2.00	<3.0	43	<1.0	<0.2	NA	<4	NA	10.9	2374	1.91
		1630-292	12/23/2008	<0.2	1764	<2.00	<3.0	36	<1.0	<0.2	NA	8.57	NA	83	654	<1.0
		1630-304	12/30/2008	<0.2	540	<2.00	<3.0			<0.2	NA	<4	NA	10.7		<1.0
63.9	Mon River - RMI 63.9 dwnstrm Tenmile Crk	0592-201	10/26/2008	0.3	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
60.5	Mon River Pool-4 RMI 60.5 Uptrm Kelly Run	0594-123	10/22/2008	0.3	<200	<2.00	<3.0	72	<1.0	<10	77.4	<50	<50	<10	232	<1.0
57.5	Mon River Pool-4 RMI 57.5 upstrm Dunlap Crk	0594-122	10/22/2008	0.3	<200	<2.00	<3.0	69	<1.0	<10	77.3	<50	<50	<10	127	<1.0
57.5	Mon River Pool- 4 RMI 57.5 upstream of Dunlap Creek	0585-158	10/22/2008	NA	57	<2.00	<3.0	69	<1.0	<0.2	NA	<4	NA	<4	177	NA
		1523-061	10/30/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-073	11/5/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-087	11/12/2008	0.2	59.5	<2.00	<3.0	56	<1.0	<0.2	NA	<4	NA	<4	282	<1.0
		1523-099	11/19/2008	<0.2	80.6	<2.00	<3.0	49	<1.0	<0.2	NA	<4	NA	<4	211	<1.0
		1507-278	11/25/2008	<0.2	98.6	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	<4	240	<1.0
		1523-112	12/4/2008	<0.2	31.1	<2.00	<3.0	48	<1.0	<0.2	NA	<4	NA	<4	<20	<1.0
		1523-123	12/11/2008	<0.2	353	<2.00	<3.0	42	<1.0	<0.2	NA	<4	NA	<4	728	<1.0
		1523-135	12/18/2008	<0.2	2413	<2.00	<3.0	45	1	<0.2	NA	<4	NA	4.15	3439	2.91
		1523-147	12/23/2008	<0.2	1395	<2.00	<3.0	36	<1.0	<0.2	NA	<4	NA	<4	1423	<1.0
		1523-159	12/30/2008	<0.2	548	<2.00	<3.0			<0.2	NA	<4	NA	<4		<1.0
		CMU*	9/8/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/17/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	**SAMPLE LOCATION**	**SAMPLE ID#**	**DATE COLLECTED**		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		NA	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-222	11/12/2008	19.95	160	<0.2	<50	3.277	<7	NA	115	<2	NA	12
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-234	11/19/2008	15.86	222	<0.2	<50	2.507	<7	NA	98.6	<2	NA	<10
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-246	11/25/2008	12.7	271	<0.2	<50	2.33	<7	NA	60.1	<2	NA	<10
		NA	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-258	12/4/2008	10.94	223	<0.2	<50	1.966	<7	NA	48.7	<2	NA	<10
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-270	12/11/2008	11.33	172	<0.2	<50	2.21	<7	NA	61.98	<2	NA	<10
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1630-282	12/18/2008	4.148	196	<0.2	<50	1.804	<7	NA	15.69	<2	NA	25
		1630-292	12/23/2008	4.278	124	<0.2	<50	1.664	<7	NA	12.25	<2	NA	<10
		1630-304	12/30/2008						<7	NA		<2	NA	
63.9	Mon River - RMI 63.9 dwnstrm Tenmile Crk	0592-201	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
60.5	Mon River Pool-4 RMI 60.5 Uptrm Kelly Run	0594-123	10/22/2008	25.4	196	<0.2	<50	4.232	<7	<10	147	<2	<20	72
57.5	Mon River Pool-4 RMI 57.5 upstrm Dunlap Crk	0594-122	10/22/2008	25.3	143	<0.2	<50	4.028	<7	<10	143	<2	<20	38
57.5	Mon River Pool- 4 RMI 57.5 upstream of Dunlap Creek	0585-158	10/22/2008	24.9	165	<0.2	<50	NA	<7	NA	140	<2	NA	<10
		1523-061	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-073	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-087	11/12/2008	21.96	125	<0.2	<50	3.51	<7	NA	133.9	<2	NA	<10
		1523-099	11/19/2008	17.6	142	<0.2	<50	2.911	<7	NA	105.9	<2	NA	<10
		1507-278	11/25/2008	15.8	190	<0.2	<50	2.71	<7	NA	85	<2	NA	<10
		1523-112	12/4/2008	14.6	<10	<0.2	<50	2.359	<7	NA	82.95	<2	NA	11
		1523-123	12/11/2008	10.23	157	<0.2	<50	2.071	<7	NA	46.87	<2	NA	<10
		1523-135	12/18/2008	3.848	299	<0.2	<50	1.818	<7	NA	12.76	<2	NA	34
		1523-147	12/23/2008	4.211	122	<0.2	<50	1.6	<7	NA	9.852	<2	NA	13
		1523-159	12/30/2008						<7	NA		<2	NA	
		CMU*	9/8/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105℃ (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		CMU*	9/29/2009	NA		NA	NA		NA	577	32	457
		CMU*	10/6/2009	NA		NA	NA	6.59	NA	525	33	364
		CMU*	10/13/2009	NA		NA	NA	7.80	NA	354	25	324
		CMU*	10/20/2009	NA		NA	NA	7.68	NA	249	21.9	178
		CMU*	10/27/2009	NA		NA	NA	7.82	NA	120	11	102
		CMU*	11/3/2009	NA		NA	NA	8.35	NA	106	11	78
		CMU*	11/10/2009	NA		NA	NA		NA	88	10.2	69.5
		CMU*	11/17/2009	NA		NA	NA	7.70	NA	244	10.9	106
		CMU*	11/24/2009	NA		NA	NA	7.86	NA	162	23.3	228

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		CMU*	9/29/2009	0.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	0.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	0.104	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	0.065	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	0.013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	0.030	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	0.096	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		CMU*	9/29/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
55.5	Mon River Pool-4 RMI 55.5 upstrm Redstone Crk	0594-121	10/22/2008	38744		16.10	985	7.14	9.69	864	42.1	455
52.5	Mon River Pool-4 RMI 52.5 Downstream Redstone Creek	0594-119	10/22/2008	38742		15.64	988	7.06	9.52	862	45.9	460
51.4	California Boro STP Outfall 001	0592-197	10/26/2008	39246		16.77	907	7.91	6.47	746	136.7	267.9
		0593-079	10/29/2008	39571		19.62	9496	6.34	6.41	7744	3747.4	303.1
50.5	Mon River RMI 50.5 near Newell, PA	1630-185	10/23/2008	39052		NA	NA	7.8	NA	844	49.3	433
		1523-063	10/30/2008	39686		NA	NA	7.7	NA	832	49.9	431
		NA	11/3/2008	No sample		12.50	900	NA	NA	NA	NA	NA
		1523-075	11/5/2008	40452		NA	1155	7.8	NA	816	48	423
		NA	11/10/2008	No sample		10.00	800	NA	NA	NA	NA	NA
		1523-085	11/12/2008	41061		12.70	952	7.6	NA	842	53.9	429
		NA	11/14/2008	No sample		11.00	900	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		9.50	725	NA	NA	NA	NA	NA
		1523-097	11/19/2008	42232		13.70	978	7.7	NA	676	34.6	384
		1507-280	11/25/2008	42721		16.80	931	7.6	NA	616	37.1	320
		1523-109	12/4/2008	43520		NA	707	7.5	NA	542	29.6	285
		NA	12/8/2008	No sample		NA	440	NA	NA	NA	NA	NA
		1523-121	12/11/2008	44290		NA	549	7.6	NA	446	26.3	211
		NA	12/15/2008	No sample		NA	370	NA	NA	NA	NA	NA
		1523-133	12/18/2008	45126		NA	360	7.4	NA	194	15.8	77.2
		1523-145	12/23/2008	45388		7.40	281	7.4	NA	188	11.6	68.2
		1523-157	12/30/2008	45711		8.30	298	7.3	NA	194	11	77.5
		0592-344	10/7/2009	35480		18.50	761		6.76	528	26.6	254
		0592-353	10/13/2009	35881		17.60	581		7.38	406	23.8	177
50.5	Mon River Pool-4 RMI 50.5 dwnstrm Newell Water Co	0594-118	10/22/2008	38741		15.97	969	7.03	9.68	830	49.8	431
46.2	Mon River Pool-4 RMI 46.0 upstrm Fayette City	0594-117	10/22/2008	38740		16.13	865	6.91	9.61	708	49.2	351
		CMU*	9/8/2009	NA		NA	NA		NA	343	23.8	208
		CMU*	9/17/2009	NA		NA	NA		NA	357	21.8	234
		CMU*	9/22/2009	NA		NA	NA		NA	441	25.5	261
		CMU*	9/29/2009	NA		NA	NA		NA	470	33	407
		CMU*	10/6/2009	NA		NA	NA	6.72	NA	504	24	293
		CMU*	10/13/2009	NA		NA	NA	7.63	NA	367	39	315
		CMU*	10/20/2009	NA		NA	NA	7.56	NA	195	22.5	182
		CMU*	10/27/2009	NA		NA	NA	7.64	NA	118	12	113

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
55.5	Mon River Pool-4 RMI 55.5 upstrm Redstone Crk	0594-121	10/22/2008	0.2	<200	<2.00	<3.0	75	<1.0	<10	80	<50	<50	<10	141	<1.0
52.5	Mon River Pool-4 RMI 52.5 Downstream Redstone Creek	0594-119	10/22/2008	0.2	<200	<2.00	<3.0	71	<1.0	<10	80.3	<50	<50	<10	183	<1.0
51.4	California Boro STP Outfall 001	0592-197	10/26/2008	<0.2	NA	5.1	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.16
		0593-079	10/29/2008	33.5	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
50.5	Mon River RMI 50.5 near Newell, PA	1630-185	10/23/2008	NA	27.6	NA	NA	NA	NA	NA	NA	NA	NA	6.26	199	NA
		1523-063	10/30/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-075	11/5/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-085	11/12/2008	0.4	64.4	<2.00	<3.0	60	<1.0	<0.2	NA	<4	NA	<4	249	<1.0
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-097	11/19/2008	<0.2	86.5	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	<4	287	<1.0
		1507-280	11/25/2008	0.2	70.8	<2.00	<3.0	56	<1.0	<0.2	NA	<4	NA	<4	227	<1.0
		1523-109	12/4/2008	<0.2	76.7	<2.00	<3.0	56	<1.0	<0.2	NA	<4	NA	<4	336	<1.0
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-121	12/11/2008	<0.2	573	<2.00	<3.0	63	<1.0	<0.2	NA	<4	NA	<4	2387	1.06
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-133	12/18/2008	<0.2	274	<2.00	<3.0	51	<1.0	<0.2	NA	<4	NA	<4	1635	<1.0
		1523-145	12/23/2008	<0.2	153	<2.00	<3.0	46	<1.0	<0.2	NA	<4	NA	<4	1356	<1.0
		1523-157	12/30/2008	<0.2	14.1	<2.00	<3.0			<0.2	NA	4.43	NA	4.93		<1.0
		0592-344	10/7/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-353	10/13/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
50.5	Mon River Pool-4 RMI 50.5 dwnstrm Newell Water Co	0594-118	10/22/2008	0.3	<200	<2.00	<3.0	78	<1.0	<10	76.4	<50	<50	<10	165	<1.0
46.2	Mon River Pool-4 RMI 46.0 upstrm Fayette City	0594-117	10/22/2008	0.4	222	<2.00	<3.0	82	<1.0	<10	68.8	<50	<50	<10	220	<1.0
		CMU*	9/8/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/17/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	0.065	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	0.099	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	0.042	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	0.087	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
55.5	Mon River Pool-4 RMI 55.5 upstrm Redstone Crk	0594-121	10/22/2008	26.4	145	<0.2	<50	3.877	<7	<10	147	<2	<20	16
52.5	Mon River Pool-4 RMI 52.5 Downstream Redstone Creek	0594-119	10/22/2008	26.5	118	<0.2	<50	3.923	<7	<10	148	<2	<20	31
51.4	California Boro STP Outfall 001	0592-197	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0593-079	10/29/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
50.5	Mon River RMI 50.5 near Newell, PA	1630-185	10/23/2008	23.4	153	NA	NA	NA	NA	NA	140	NA	NA	<10
		1523-063	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-075	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-085	11/12/2008	23.32	153	<0.2	<50	4.428	<7	NA	152.3	<2	NA	<10
		NA	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-097	11/19/2008	20.82	195	<0.2	<50	3.339	<7	NA	124.4	<2	NA	<10
		1507-280	11/25/2008	16.3	233	<0.2	<50	2.84	<7	NA	101	<2	NA	<10
		1523-109	12/4/2008	16.22	253	<0.2	<50	2.568	<7	NA	86.94	<2	NA	12
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-121	12/11/2008	13.38	817	<0.2	<50	2.715	<7	NA	64.56	<2	NA	15
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-133	12/18/2008	5.545	681	<0.2	<50	1.465	<7	NA	25.46	<2	NA	<10
		1523-145	12/23/2008	5.237	548	<0.2	<50	1.403	<7	NA	18.11	<2	NA	<10
		1523-157	12/30/2008						<7	NA		<2	NA	
		0592-344	10/7/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-353	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
50.5	Mon River Pool-4 RMI 50.5 dwnstrm Newell Water Co	0594-118	10/22/2008	25	104	<0.2	<50	3.85	<7	<10	139	<2	<20	20
46.2	Mon River Pool-4 RMI 46.0 upstrm Fayette City	0594-117	10/22/2008	22.5	81	<0.2	<50	3.521	<7	<10	118	<2	<20	29
		CMU*	9/8/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/22/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	9/29/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		CMU*	11/3/2009	NA		NA	NA	7.95	NA	316	10	70
		CMU*	11/10/2009	NA		NA	NA		NA	58	10	63.5
		CMU*	11/17/2009	NA		NA	NA	7.54	NA	250	12	116.1
		CMU*	11/24/2009	NA		NA	NA	7.73	NA	178	29	183.7
46.0	Mon River RMI 46.0 near Fayette City, PA	0585-156	10/22/2008	38665		NA	NA	7.6	NA	708	49.9	351
		1523-053	10/30/2008	39688		NA	NA	7.8	NA	850	47.8	448
		1523-065	11/5/2008	40450		NA	1060	7.8	NA	862	51.3	424
		1523-083	11/12/2008	41065		11.10	1095	7.8	NA	852	49.3	417
		1523-095	11/19/2008	42230		9.40	925	7.7	NA	698	37.6	367
		1507-276	11/25/2008	42741		10.20	980	7.8	NA	678	41.5	331
		1523-107	12/4/2008	43542		NA	599	7.5	NA	400	27.3	197
		1523-119	12/11/2008	44288		NA	666	7.6	NA	520	32.1	264
		1523-131	12/18/2008	45124		NA	224	7.3	NA	138	15.4	52.1
		1523-143	12/23/2008	45386		8.00	224	7.4	NA	144	9.53	51.9
		1523-155	12/30/2008	45717		5.00	258	7.6	NA	196	11.3	77.9
43.3	Belle Vernon - North Belle Vernon RMI 43.3	0592-223	10/29/2008	39565		16.76	637	6.92	4.46	4232	1840.1	249.6
		0592-236	12/3/2008	43312		14.00	3698	NA	NA	2548	1049.9	169.4
43.2	Mon River RMI 43.0 upstream of Charleroi, PA	0585-154	10/22/2008	38714		NA	NA	7.7	NA	696	47.6	348
		1523-058	10/30/2008	39681		NA	NA	7.8	NA	842	49.3	451
		1523-067	11/5/2008	40435		NA	1165	7.9	NA	854	51.8	433
		1523-081	11/12/2008	41083		13.00	1115	7.8	NA	838	49.2	425
		1523-093	11/19/2008	42228		11.00	980	7.7	NA	730	40.3	391
		1507-274	11/25/2008	42739		14.40	977	7.7	NA	646	39.3	331
		1523-105	12/4/2008	43450		NA	558	7.6	NA	378	26.4	183
		1523-117	12/11/2008	44286		NA	614	7.6	NA	504	29.6	254
		1523-129	12/18/2008	45122		NA	185	7.3	NA	112	13.3	42.4
		1523-141	12/23/2008	45384		7.00	180	7.3	NA	108	7.78	44.4
		1523-153	12/30/2008	45715		9.00	276	7.5	NA	184	10	75
43.2	Mon River RMI 42.0 Charleroi, PA	0594-116	10/22/2008	38739		15.98	838	7.13	9.72	682	40	354
		0585-152	10/22/2008	38772		NA	NA	7.7	NA	644	42	341
		1523-055	10/30/2008	39693		NA	NA	7.8	NA	860	48.4	455
		1523-069	11/5/2008	40437		NA	1161	7.8	NA	856	47.9	436
		1523-079	11/12/2008	41063		11.50	1133	7.7	NA	854	45.7	420

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		CMU*	11/3/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	0.0171	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	0.0246	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	0.0908	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
46.0	Mon River RMI 46.0 near Fayette City, PA	0585-156	10/22/2008	NA	66.6	<2.00	<3.0	80	<1.0	<0.2	NA	<4	NA	<4	147	NA
		1523-053	10/30/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-065	11/5/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-083	11/12/2008	0.3	106	<2.00	<3.0	67	<1.0	<0.2	NA	<4	NA	<4	348	<1.0
		1523-095	11/19/2008	0.2	60.8	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	269	<1.0
		1507-276	11/25/2008	0.2	52.1	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	209	<1.0
		1523-107	12/4/2008	<0.2	59.7	<2.00	<3.0	47	<1.0	<0.2	NA	<4	NA	<4	220	<1.0
		1523-119	12/11/2008	<0.2	189	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	<4	686	<1.0
		1523-131	12/18/2008	<0.2	1481	<2.00	<3.0	41	<1.0	<0.2	NA	<4	NA	6.65	2019	1.62
		1523-143	12/23/2008	<0.2	1076	<2.00	<3.0	36	<1.0	<0.2	NA	<4	NA	<4	1304	<1.0
		1523-155	12/30/2008	<0.2	1195	<2.00	<3.0			<0.2	NA	<4	NA	5.43		2.4
43.3	Belle Vernon - North Belle Vernon RMI 43.3	0592-223	10/29/2008	14.9	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0592-236	12/3/2008	6.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
43.2	Mon River RMI 43.0 upstream of Charleroi, PA	0585-154	10/22/2008	NA	349	<2.00	<3.0	78	<1.0	<0.2	NA	<4	NA	12.5	1860	NA
		1523-058	10/30/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-067	11/5/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-081	11/12/2008	0.4	82.2	<2.00	<3.0	62	<1.0	<0.2	NA	<4	NA	<4	296	<1.0
		1523-093	11/19/2008	0.2	184	<2.00	<3.0	54	<1.0	<0.2	NA	<4	NA	<4	516	<1.0
		1507-274	11/25/2008	<0.2	76.8	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	213	<1.0
		1523-105	12/4/2008	<0.2	146	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	<4	280	<1.0
		1523-117	12/11/2008	<0.2	343	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	<4	958	<1.0
		1523-129	12/18/2008	<0.2	2061	<2.00	<3.0	42	<1.0	<0.2	NA	<4	NA	<4	3111	2.64
		1523-141	12/23/2008	<0.2	1840	<2.00	<3.0	39	<1.0	<0.2	NA	<4	NA	<4	1738	1.32
		1523-153	12/30/2008	<0.2	608	<2.00	<3.0			<0.2	NA	<4	NA	<4		1.11
43.2	Mon River RMI 42.0 Charleroi, PA	0594-116	10/22/2008	0.2	229	<2.00	<3.0	70	<1.0	<10	67.1	<50	<50	<10	211	<1.0
		0585-152	10/22/2008	NA	871	<2.00	<3.0	92	<1.0	<0.2	NA	<4	NA	45.6	2580	NA
		1523-055	10/30/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-069	11/5/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-079	11/12/2008	0.3	178	<2.00	<3.0	70	<1.0	<0.2	NA	<4	NA	12.4	625	<1.0

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		CMU*	11/3/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
46.0	Mon River RMI 46.0 near Fayette City, PA	0585-156	10/22/2008	21.7	70	<0.2	<50	NA	<7	NA	114	<2	NA	<10
		1523-053	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-065	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-083	11/12/2008	24.09	129	<0.2	<50	4.732	<7	NA	146.9	<2	NA	<10
		1523-095	11/19/2008	20.52	150	<0.2	<50	3.433	<7	NA	118.2	<2	NA	<10
		1507-276	11/25/2008	17.1	143	<0.2	<50	3.075	<7	NA	113	<2	NA	<10
		1523-107	12/4/2008	12.04	179	<0.2	<50	2.216	<7	NA	58.19	<2	NA	13
		1523-119	12/11/2008	16.16	152	<0.2	<50	3.007	<7	NA	82.27	<2	NA	<10
		1523-131	12/18/2008	4.587	163	<0.2	<50	1.92	<7	NA	17.92	<2	NA	22
		1523-143	12/23/2008	5.035	108	<0.2	<50	1.68	<7	NA	12.23	<2	NA	<10
		1523-155	12/30/2008						<7	NA		<2	NA	
43.3	Belle Vernon - North Belle Vernon RMI 43.3	0592-223	10/29/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0592-236	12/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
43.2	Mon River RMI 43.0 upstream of Charleroi, PA	0585-154	10/22/2008	22.2	212	<0.2	<50	NA	<7	NA	113	<2	NA	36
		1523-058	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-067	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-081	11/12/2008	24.2	129	<0.2	<50	4.347	<7	NA	145.9	<2	NA	<10
		1523-093	11/19/2008	21.04	122	<0.2	<50	3.327	<7	NA	128.7	<2	NA	<10
		1507-274	11/25/2008	18.4	117	<0.2	<50	3.071	<7	NA	119	<2	NA	<10
		1523-105	12/4/2008	12.08	171	<0.2	<50	2.08	<7	NA	56.8	<2	NA	10
		1523-117	12/11/2008	15.07	159	<0.2	<50	2.718	<7	NA	80.07	<2	NA	<10
		1523-129	12/18/2008	3.899	264	<0.2	<50	1.789	<7	NA	14.88	<2	NA	27
		1523-141	12/23/2008	4.39	117	<0.2	<50	1.661	<7	NA	10.31	<2	NA	13
		1523-153	12/30/2008						<7	NA		<2	NA	
43.2	Mon River RMI 42.0 Charleroi, PA	0594-116	10/22/2008	21.9	86	<0.2	<50	3.49	<7	<10	107	<2	<20	38
		0585-152	10/22/2008	22.5	389	<0.2	<50	NA	<7	NA	109	<2	NA	85
		1523-055	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-069	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		1523-079	11/12/2008	24.49	175	<0.2	<50	4.093	<7	NA	148.8	<2	NA	38

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		1523-091	11/19/2008	42226		9.60	973	7.7	NA	730	38.8	401
		1507-272	11/25/2008	42737		12.50	871	7.8	NA	648	39.2	350
		1523-103	12/4/2008	43538		NA	515	7.5	NA	362	27	176
		1523-115	12/11/2008	44284		NA	662	7.6	NA	500	28	249
		1523-127	12/18/2008	45120		NA	177	7.3	NA	112	12.5	41.8
		1523-139	12/23/2008	45398		4.50	183	7.3	NA	132	8.08	45.8
		1523-151	12/30/2008	45727		5.50	241	7.6	NA	174	9.61	69
41.5	Charleroi STP Outfall 001	0552-857	10/14/2008	37596		NA	13935	6.2	NA	10094	5218.2	316.4
		0521-017	10/24/2008	39214		NA	NA	NA	NA	7542	4088.2	317.3
		0593-042	10/25/2008	39235		NA	NA	NA	NA	1524	705	122.1
		0592-199	10/26/2008	39248		16.39	935	7.52	6.37	678	199.7	156
		0521-020	10/27/2008	39216		NA	NA	NA	NA	916	249.9	242.7
		0592-213	10/27/2008	39220		16.51	155	7.3	6.42	950	251	235.5
		0592-218	10/28/2008	39456		16.42	191	7.08	4.87	1068	284.3	284.3
		0592-222	10/29/2008	39564		15.57	191	7.54	5.01	1112	338.3	283
41.3	Mon River RMI 41.3 dwnstrm Charleroi STP	NA	10/25/2008	No sample		14.54	734	7.26	8.81	NA	NA	NA
		0592-198	10/26/2008	39247		14.31	783	7.97	8.67	726	55.4	381.2
		NA	10/27/2008	No sample		14.17	1065	7.11	8.88	NA	NA	NA
		NA	10/28/2008	No sample		13.15	1141	7.48	8.89	NA	NA	NA
		NA	10/29/2008	No sample		12.93	1196	7.92	10.12	NA	NA	NA
41.0	RMI 41 by boat ramp nr brdg dwnstrm of Lock & Dam 4	0552-864	10/15/2008	37635		NA	934	7.56	NA	752	62	411.3
40.0	Mon River RMI 40.0 dwnstrm of dam	0594-124	10/22/2008	38747		16.12	1018	7.74	9.05	722	46.1	356
38.25	Mon Valley STP Outfall 001	0552-858	10/14/2008	37597		NA	1502	7	NA	1158	188.7	427.7
		0521-016	10/24/2008	39213		NA	NA	NA	NA	1078	148.8	460.5
		0593-037	10/25/2008	39234		NA	NA	NA	NA	404	58	152.3
		0592-197	10/26/2008	39246		14.31	907	7.91	6.47	746	136.7	267.9
		0521-019	10/27/2008	39215		NA	NA	NA	NA	970	186.8	345.2
		0592-212	10/27/2008	39219		18.04	1442	6.74	5.36	1016	176.1	332.6
		0592-217	10/28/2008	39455		17.31	1360	7.1	4.32	936	148.8	405.1
		0592-221	10/29/2008	39563		16.75	1438	7.55	5.55	1034	151.1	388.1

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		1523-091	11/19/2008	0.2	113	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	10.7	471	<1.0
		1507-272	11/25/2008	0.2	100	<2.00	<3.0	53	<1.0	<0.2	NA	<4	NA	11.1	365	<1.0
		1523-103	12/4/2008	<0.2	103	<2.00	<3.0	52	<1.0	<0.2	NA	<4	NA	13.3	685	<1.0
		1523-115	12/11/2008	<0.2	315	<2.00	<3.0	50	<1.0	<0.2	NA	<4	NA	12	1099	<1.0
		1523-127	12/18/2008	<0.2	2726	<2.00	<3.0	49	1	<0.2	NA	<4	NA	37.5	4404	4.18
		1523-139	12/23/2008	<0.2	1608	<2.00	<3.0	38	<1.0	<0.2	NA	<4	NA	32.6	1864	1.95
		1523-151	12/30/2008	<0.2	965	<2.00	<3.0			<0.2	NA	<4	NA	11.4		1.51
41.5	Charleroi STP Outfall 001	0552-857	10/14/2008	NA	<200	<2.00	<3.0	1942	<1.0	<10.0	584.4	<50	<50	<10	760	89.71
		0521-017	10/24/2008	33	272	2.41	<3.0	1397	<1.0	<10	505	<50	<50	<10	838	1.23
		0593-042	10/25/2008	5.5	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.77
		0592-199	10/26/2008	0.7	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0521-020	10/27/2008	1	<200	<2.00	<3.0	359	<1.0	<10	80	<50	<50	<10	273	<1.0
		0592-213	10/27/2008	0.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-218	10/28/2008	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-222	10/29/2008	1.7	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
41.3	Mon River RMI 41.3 dwnstrm Charleroi STP	NA	10/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-198	10/26/2008	0.4	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		NA	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/29/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
41.0	RMI 41 by boat ramp nr brdg dwnstrm of Lock & Dam 4	0552-864	10/15/2008	NA	<200	<2.00	<3.0	83.000	<1.0	<10.0	78.2	<50	<50	<10	78	<1.0
40.0	Mon River RMI 40.0 dwnstrm of dam	0594-124	10/22/2008	0.3	219	<2.00	<3.0	79	<1.0	<10	71.4	<50	<50	<10	186	<1.0
38.25	Mon Valley STP Outfall 001	0552-858	10/14/2008	NA	<200	3.2	4.1	169	<1.0	<10.0	102	<50	<50	13	77	4.6
		0521-016	10/24/2008	<0.2	<200	2.99	<3.0	164	<1.0	<10	109	<50	<50	<10	103	2.07
		0593-037	10/25/2008	<0.2	NA	4.18	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0592-197	10/26/2008	<0.2	NA	5.1	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.16
		0521-019	10/27/2008	<0.2	<200	5.15	<3.0	200	<1.0	<10	101	<50	<50	<10	140	2.11
		0592-212	10/27/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-217	10/28/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-221	10/29/2008	<0.2	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	1.52

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		1523-091	11/19/2008	21.74	135	<0.2	<50	3.47	<7	NA	129.4	<2	NA	25
		1507-272	11/25/2008	18.2	145	<0.2	<50	3.036	<7	NA	112	<2	NA	59
		1523-103	12/4/2008	10.79	216	<0.2	<50	2.061	<7	NA	54.72	<2	NA	28
		1523-115	12/11/2008	14.56	181	<0.2	<50	2.506	<7	NA	79.26	<2	NA	29
		1523-127	12/18/2008	3.934	352	<0.2	<50	1.878	<7	NA	14.28	<2	NA	67
		1523-139	12/23/2008	4.3	167	<0.2	<50	1.669	<7	NA	10.32	<2	NA	24
		1523-151	12/30/2008						<7	NA		<2		
41.5	Charleroi STP Outfall 001	0552-857	10/14/2008	89.04	1366	<0.2	<50	95	<7	<10	2860	<2	<20	20
		0521-017	10/24/2008	81.6	1592	<0.2	<50	111	<7	<10	1930	<2	<20	21
		0593-042	10/25/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0592-199	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0521-020	10/27/2008	23.6	584	<0.2	<50	12.2	<7	<10	190	<2	<20	22
		0592-213	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-218	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-222	10/29/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
41.3	Mon River RMI 41.3 dwnstrm Charleroi STP	NA	10/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-198	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		NA	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/29/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
41.0	RMI 41 by boat ramp nr brdg dwnstrm of Lock & Dam 4	0552-864	10/15/2008	22.700	59.000	<0.2	<50	4.420	<7	<10	132.0	<2	<20	<10.0
40.0	Mon River RMI 40.0 dwnstrm of dam	0594-124	10/22/2008	23.2	89	0.27	<50	3.743	<7	<10	116	<2	<20	22
38.25	Mon Valley STP Outfall 001	0552-858	10/14/2008	31.7	24	<0.2	<50	11	<7	<10	215	<2	<20	41
		0521-016	10/24/2008	33.6	36	<0.2	<50	12.1	<7	<10	172	<2	<20	66
		0593-037	10/25/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0592-197	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0521-019	10/27/2008	29.8	29.9	<0.2	<50	9.188	<7	<10	174	<2	<20	42
		0592-212	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-217	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-221	10/29/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
36.0	Mon River RMI 36.0 near Donora-Webster Brdg	0594-125	10/22/2008	38748		15.58	1053	7.4	8.5	738	54.9	363
		0594-152	11/3/2008	No sample		12.84	1203	NA	NA	NA	NA	NA
		0594-156	11/5/2008	No sample		12.87	1212	NA	NA	NA	NA	NA
		0594-159	11/7/2008	No sample		12.92	1188	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		11.58	1195	NA	NA	NA	NA	NA
		NA	11/12/2008	No sample		11.00	820	NA	NA	NA	NA	NA
		0594-163	11/14/2008	No sample		11.40	1210	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		10.00	825	NA	NA	NA	NA	NA
		0594-167	11/19/2008	No sample		8.82	768	NA	NA	NA	NA	NA
		NA	11/21/2008	No sample		8.67	678	NA	NA	NA	NA	NA
		0594-174	11/25/2008	No sample		NA	960	NA	NA	NA	NA	NA
		0594-179	12/1/2008	No sample		NA	669	NA	NA	NA	NA	NA
		NA	12/4/2008	No sample		NA	450	NA	NA	NA	NA	NA
		NA	12/8/2008	No sample		NA	763	NA	NA	NA	NA	NA
		NA	12/11/2008	No sample		NA	779	NA	NA	NA	NA	NA
		NA	12/15/2008	No sample		NA	204	NA	NA	NA	NA	NA
		NA	12/18/2008	No sample		NA	184	NA	NA	NA	NA	NA
		NA	12/23/2008	No sample		NA	166	NA	NA	NA	NA	NA
		0594-203	12/30/2008	No sample		NA	228	NA	NA	NA	NA	NA
34.2	Mon River RMI 34.2 upstrm Sunfish Run	0594-126	10/22/2008	38749		15.34	1066	7.34	8.62	732	58.7	362
32.5	Mon River RMI 32.5 Upstrm Pigeon Crk	0594-127	10/22/2008	38750		15.07	1090	7.44	8.37	738	62.6	367
30.0	Mon River RMI 30.0 upstrm Mingo Crk	0594-128	10/22/2008	38751		14.53	1160	7.42	8.53	804	64.5	399
26.0	Mon River RMI 26.0 upstrm Kelly Run & El Rama Sta	0594-129	10/22/2008	38752		16.84	1120	6.78	8.19	800	46	391
25.0	Mon River RMI 25.0 near Elrama, PA	0585-150	10/22/2008	38716		NA	NA	7.8	NA	828	51.3	388
		1523-060	10/30/2008	39683		NA	NA	7.9	NA	742	55.9	362
		0594-153	11/3/2008	No sample		14.35	1068	NA	NA	NA	NA	NA
		1523-071	11/5/2008	40454		NA	1067	7.9	NA	860	53.7	416
		0594-160	11/7/2008	No sample		16.17	1263	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.92	1267	NA	NA	NA	NA	NA
		1523-077	11/12/2008	41081		11.60	1156	7.8	NA	900	56.7	467
		0594-164	11/14/2008	No sample		14.95	1261	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		12.00	900	NA	NA	NA	NA	NA
		1523-089	11/19/2008	42224		11.10	973	7.8	NA	862	54.9	439

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
36.0	Mon River RMI 36.0 near Donora-Webster Brdg	0594-125	10/22/2008	0.4	<200	<2.00	<3.0	93	<1.0	<10	73.1	<50	<50	<10	163	<1.0
		0594-152	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-156	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-159	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-163	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-167	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-174	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-179	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/4/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-203	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
34.2	Mon River RMI 34.2 upstrm Sunfish Run	0594-126	10/22/2008	0.4	242	<2.00	<3.0	97	<1.0	<10	75.4	<50	<50	<10	291	<1.0
32.5	Mon River RMI 32.5 Upstrm Pigeon Crk	0594-127	10/22/2008	0.4	212	<2.00	<3.0	89	<1.0	<10	74.1	<50	<50	<10	233	<1.0
30.0	Mon River RMI 30.0 upstrm Mingo Crk	0594-128	10/22/2008	0.4	268	<2.00	<3.0	82	<1.0	<10	76.4	<50	<50	<10	287	<1.0
26.0	Mon River RMI 26.0 upstrm Kelly Run & El Rama Sta	0594-129	10/22/2008	0.4	314	<2.00	<3.0	87	<1.0	<10	73.2	<50	<50	<10	445	<1.0
25.0	Mon River RMI 25.0 near Elrama, PA	0585-150	10/22/2008	NA	2783	<2.00	<3.0	122	<1.0	<0.2	NA	<4	NA	4.9	6560	NA
		1523-060	10/30/2008	0.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-153	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-071	11/5/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-160	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-077	11/12/2008	0.4	190	<2.00	<3.0	80	<1.0	<0.2	NA	<4	NA	<4	717	<1.0
		0594-164	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-089	11/19/2008	0.4	138	<2.00	<3.0	67	<1.0	<0.2	NA	<4	NA	<4	450	<1.0

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
36.0	Mon River RMI 36.0 near Donora-Webster Brdg	0594-125	10/22/2008	23.1	73	<0.2	<50	4.071	<7	<10	119	<2	<20	19
		0594-152	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-156	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-159	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-163	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-167	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-174	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-179	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/4/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-203	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
34.2	Mon River RMI 34.2 upstrm Sunfish Run	0594-126	10/22/2008	23.6	86	<0.2	<50	4.188	<7	<10	124	<2	<20	23
32.5	Mon River RMI 32.5 Upstrm Pigeon Crk	0594-127	10/22/2008	23	80	<0.2	<50	4.291	<7	<10	124	<2	<20	24
30.0	Mon River RMI 30.0 upstrm Mingo Crk	0594-128	10/22/2008	23.9	82	<0.2	<50	4.172	<7	<10	141	<2	<20	18
26.0	Mon River RMI 26.0 upstrm Kelly Run & El Rama Sta	0594-129	10/22/2008	23.6	111	<0.2	<50	3.941	<7	<10	129	<2	<20	81
25.0	Mon River RMI 25.0 near Elrama, PA	0585-150	10/22/2008	23.6	772	<0.2	<50	NA	<7	NA	129	<2	NA	44
		1523-060	10/30/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		0594-153	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-071	11/5/2008	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
		0594-160	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-077	11/12/2008	28.33	185	<0.2	<50	4.412	<7	NA	158	<2	NA	10
		0594-164	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-089	11/19/2008	24.85	135	<0.2	<50	4.441	<7	NA	151	<2	NA	<10

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		NA	11/21/2008	No sample		8.77	798	NA	NA	NA	NA	NA
		1507-270	11/25/2008	42735		13.40	977	7.8	NA	778	43.6	403
		0594-180	12/1/2008	No sample		NA	808	NA	NA	NA	NA	NA
		1523-101	12/4/2008	43536		NA	614	7.6	NA	472	28.9	227
		NA	12/8/2008	No sample		NA	580	NA	NA	NA	NA	NA
		1523-113	12/11/2008	44282		NA	399	7.5	NA	400	31.4	187
		NA	12/15/2008	No sample		NA	240	NA	NA	NA	NA	NA
		1523-125	12/18/2008	45118		NA	211	7.3	NA	138	15.4	50.8
		1523-137	12/23/2008	45396		7.00	195	7.4	NA	142	9.97	47.8
		1523-149	12/30/2008	45725		5.00	258	7.5	NA	178	12.9	69.4
		0592-345	10/7/2009	35481		19.00	870		8.05	580	28.4	292
		0592-354	10/13/2009	35882		19.00	815		8.74	566	27.7	275
		1523-204	10/15/2009	36309		NA	831	NA	NA	558	29.2	285
23.0	Mon River RMI 23.0 below dam	0594-130	10/22/2008	38753		16.80	1120	6.76	8.13	762	56.5	384
20.5	Mon River RMI 20.5 upstrm Peters Crk	0594-131	10/22/2008	38754		16.14	1097	6.62	8.28	752	55.8	368
17.5	Mon River RMI 17.5 US Steel Irwin Works	0594-132	10/22/2008	38755		16.62	1152	6.45	7.86	776	64.9	384
16.7	Mon River RMI 16.7 @ W.D. Mansfield Memorial Bridge	NA	10/25/2008	No sample		15.95	1200	7.71	0	NA	NA	NA
		NA	10/26/2008	No sample		15.18	1140	8.05	0	NA	NA	NA
		NA	10/27/2008	No sample		15.47	1141	7.43	0	NA	NA	NA
		NA	10/28/2008	No sample		15.02	1145	7.14	0	NA	NA	NA
		NA	10/29/2008	No sample		14.22	1253	6.59	0	NA	NA	NA
		0594-154	11/3/2008	No sample		13.50	1160	NA	NA	NA	NA	NA
		0594-157	11/5/2008	No sample		13.53	1147	NA	NA	NA	NA	NA
		0594-161	11/7/2008	No sample		14.65	1118	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.94	1122	NA	NA	NA	NA	NA
		NA	11/12/2008	No sample		12.50	880	NA	NA	NA	NA	NA
		0594-165	11/14/2008	No sample		13.64	1317	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		11.00	900	NA	NA	NA	NA	NA
		0594-168	11/19/2008	No sample		9.87	883	NA	NA	NA	NA	NA
		NA	11/21/2008	No sample		8.39	819	NA	NA	NA	NA	NA
		0594-175	11/25/2008	No sample		NA	1162	NA	NA	NA	NA	NA
		0594-181	12/1/2008	No sample		NA	898	NA	NA	NA	NA	NA
		NA	12/4/2008	No sample		NA	855	NA	NA	NA	NA	NA

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1507-270	11/25/2008	0.3	222	<2.00	<3.0	58	<1.0	<0.2	NA	<4	NA	<4	638	<1.0
		0594-180	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-101	12/4/2008	<0.2	3127	<2.00	<3.0	70	<1.0	0.228	NA	<4	NA	6.37	5536	5.32
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-113	12/11/2008	<0.2	NA	<2.00	<3.0	78	<1.0	<0.2	NA	<4	NA	5.72	6383	5.26
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-125	12/18/2008	<0.2	5102	<2.00	<3.0	69	1	0.284	NA	4.79	NA	7.33	7953	6.66
		1523-137	12/23/2008	<0.2	1962	<2.00	<3.0	38	<1.0	<0.2	NA	<4	NA	<4	2144	1.58
		1523-149	12/30/2008	<0.2	1210	<2.00	<3.0			<0.2	NA	<4	NA	<4		2.03
		0592-345	10/7/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-354	10/13/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-204	10/15/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23.0	Mon River RMI 23.0 below dam	0594-130	10/22/2008	0.4	303	<2.00	<3.0	92	<1.0	<10	71.7	<50	<50	<10	358	<1.0
20.5	Mon River RMI 20.5 upstrm Peters Crk	0594-131	10/22/2008	0.4	206	<2.00	<3.0	89	<1.0	<10	71.4	<50	<50	<10	183	<1.0
17.5	Mon River RMI 17.5 US Steel Irwin Works	0594-132	10/22/2008	0.5	207	<2.00	<3.0	90	<1.0	<10	77.5	<50	<50	<10	258	<1.0
16.7	Mon River RMI 16.7 @ W.D. Mansfield Memorial Bridge	NA	10/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/26/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/29/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-154	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-157	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-161	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-165	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-168	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-175	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-181	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/4/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1507-270	11/25/2008	22.9	143	<0.2	<50	3.665	<7	NA	132	<2	NA	<10
		0594-180	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-101	12/4/2008	14.34	455	<0.2	<50	2.848	<7	NA	67.61	<2	NA	62
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-113	12/11/2008	12.95	630	<0.2	<50	2.761	<7	NA	59.91	<2	NA	46
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-125	12/18/2008	5.055	594	<0.2	<50	2.502	<7	NA	17.7	<2	NA	70
		1523-137	12/23/2008	4.811	132	<0.2	<50	1.824	<7	NA	11.52	<2	NA	<10
		1523-149	12/30/2008						<7	NA		<2		
		0592-345	10/7/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-354	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-204	10/15/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23.0	Mon River RMI 23.0 below dam	0594-130	10/22/2008	23.9	105	<0.2	<50	4.383	<7	<10	126	<2	<20	100
20.5	Mon River RMI 20.5 upstrm Peters Crk	0594-131	10/22/2008	23.1	79	<0.2	<50	4.444	<7	<10	124	<2	<20	<10
17.5	Mon River RMI 17.5 US Steel Irwin Works	0594-132	10/22/2008	24.1	91	<0.2	<50	4.537	<7	<10	128	<2	<20	34
16.7	Mon River RMI 16.7 @ W.D. Mansfield Memorial Bridge	NA	10/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/26/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	10/29/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-154	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-157	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-161	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NN	NA	NA	NA
		0594-165	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-168	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-175	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-181	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/4/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105ºC (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		NA	12/8/2008	No sample		NA	516	NA	NA	NA	NA	NA
		NA	12/11/2008	No sample		NA	536	NA	NA	NA	NA	NA
		NA	12/15/2008	No sample		NA	240	NA	NA	NA	NA	NA
		NA	12/18/2008	No sample		NA	186	NA	NA	NA	NA	NA
		NA	12/23/2008	No sample		NA	182	NA	NA	NA	NA	NA
		0594-204	12/30/2008	No sample		NA	241	NA	NA	NA	NA	NA
		0202-055	10/7/2009	35438		17.50	773	NA	NA	546	37.5	254
		0202-057	10/13/2009	35875		16.70	838	7.66	NA	576	36.3	285
		1523-203	10/15/2009	36308		NA	847	NA	NA	568	44.2	279
		0202-060	10/20/2009	36729		14.00	596	7.45	NA	400	32	97.1
15.7	Mckeesport STP Outfall 001	0594-140	10/23/2008	39058		NA	691	7.2	NA	466	NA	87.6
		0594-143	10/24/2008	39211		11.00	1050	6.69	3.04	648	219.2	93.1
		0594-146	10/25/2008	39243		15.83	516	6.77	2.01	326	88.7	50.1
		0594-148	10/26/2008	39245		16.50	853	6.88	3.58	538	167	77.1
		0592-211	10/27/2008	39218		16.07	712	6.9	4.42	422	117.4	79.2
		0592-215	10/28/2008	39453		15.50	1352	6.54	5.96	872	310.9	85.6
		0592-219	10/29/2008	39561		14.42	1136	6.59	5.95	730	235.4	112.6
12.9	Mon River RMI 12.9 Mouth UNT to Mon River	0594-134	10/22/2008	38757		8.88	1469	4.72	11.61	1090	162	522
12.0	Mon River RMI 12.0 upstrm of Turtle Crk	0594-135	10/22/2008	38758		14.52	746	7.75	8.61	480	48.1	225
11.0	Mon River RMI 11.0 dwnstrm of Turtle Creek	0552-868	10/17/2008	38096		NA	666	7.32	NA	524	52.3	279.2
9.0	Mon River RMI 9.0 dwnstrm of dam	0594-137	10/22/2008	38760		14.95	793	7.83	9.52	526	51.3	239
4.5	Mon River RMI 4.5 PA American Water Co Hays	0594-138	10/22/2008	38761		15.18	644	7.9	8.67	414	41.1	186
		CMU*	9/29/2009	NA		NA	NA		NA	305	47	215
		CMU*	10/6/2009	NA		NA	NA	7.69	NA	459	32	209
		CMU*	10/13/2009	NA		NA	NA	7.30	NA	349	48	369
		CMU*	10/20/2009	NA		NA	NA	7.52	NA	324	39.0026	271.2489
		CMU*	10/27/2009	NA		NA	NA	7.39	NA	215	19	160
		CMU*	11/3/2009	NA		NA	NA	7.84	NA	87	24	91
		CMU*	11/10/2009	NA		NA	NA		NA	284	19.7	62.3
		CMU*	11/17/2009	NA		NA	NA	7.47	NA	240	28.4	113.3
		CMU*	11/24/2009	NA		NA	NA	7.70	NA		45.1	154.3
3.1	Mon River RMI 3.1 Hot Metal Street Bridge	0594-155	11/3/2008	No sample		12.31	797	NA	NA	NA	NA	NA
		0594-158	11/5/2008	40439		12.47	737	7.13	10.32	494	55.8	194.4

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-204	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-055	10/7/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-057	10/13/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-203	10/15/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-060	10/20/2009	<0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15.7	Mckeesport STP Outfall 001	0594-140	10/23/2008	0.4	<200	NA	NA	86	<1.0	<10	45.8	<50	<50	<10	71	NA
		0594-143	10/24/2008	0.6	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0594-146	10/25/2008	<0.2	NA	2.32	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0594-148	10/26/2008	0.4	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
		0592-211	10/27/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-215	10/28/2008	1.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-219	10/29/2008	1	NA	<2.00	<3.0	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
12.9	Mon River RMI 12.9 Mouth UNT to Mon River	0594-134	10/22/2008	<0.2	114000	<2.00	<3.0	28	2	<10	152	<50	<50	<10	285	1.49
12.0	Mon River RMI 12.0 upstrm of Turtle Crk	0594-135	10/22/2008	0.4	278	<2.00	<3.0	66	<1.0	<10	52.2	<50	<50	<10	491	<1.0
11.0	Mon River RMI 11.0 dwnstrm of Turtle Creek	0552-868	10/17/2008	NA	<200	<2.00	<3.0	71	<1.0	<10.0	59.2	<50	<50	<10	272	<1.0
9.0	Mon River RMI 9.0 dwnstrm of dam	0594-137	10/22/2008	0.3	273	<2.00	<3.0	70	<1.0	<10	57.8	<50	<50	10	343	<1.0
4.5	Mon River RMI 4.5 PA American Water Co Hays	0594-138	10/22/2008	<0.2	217	<2.00	<3.0	59	<1.0	<10	46.5	<50	<50	<10	248	<1.0
		CMU*	9/29/2009	0.049	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	0.073	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	0.101	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	0.0474	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	0.0202	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	0.0594	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.1	Mon River RMI 3.1 Hot Metal Street Bridge	0594-155	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-158	11/5/2008	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-204	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-055	10/7/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-057	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		1523-203	10/15/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-060	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15.7	Mckeesport STP Outfall 001	0594-140	10/23/2008	11.2	15	<0.2	<50	8.38	NA	NA	71.3	NA	<20	44
		0594-143	10/24/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0594-146	10/25/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0594-148	10/26/2008	NA	NA	<0.2	NA	NA	<7	NA	NA	<2	NA	NA
		0592-211	10/27/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-215	10/28/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-219	10/29/2008	NA	NA	<0.2	NA	NA	<7	<7	NA	<2	NA	NA
12.9	Mon River RMI 12.9 Mouth UNT to Mon River	0594-134	10/22/2008	33.2	906	<0.2	80	9.39	<7	<10	98.2	<2	<20	131
12.0	Mon River RMI 12.0 upstrm of Turtle Crk	0594-135	10/22/2008	15.5	111	<0.2	<50	3.158	<7	<10	75.3	<2	<20	24
11.0	Mon River RMI 11.0 dwnstrm of Turtle Creek	0552-868	10/17/2008	17.4	110	<0.2	<50	3.402	<7	<10	84.8	<2	<20	<10.0
9.0	Mon River RMI 9.0 dwnstrm of dam	0594-137	10/22/2008	17.3	112	<0.2	<50	3	<7	<10	83.3	<2	<20	72
4.5	Mon River RMI 4.5 PA American Water Co Hays	0594-138	10/22/2008	13.8	88	<0.2	<50	2.863	<7	<10	63.8	<2	<20	11
		CMU*	9/29/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/6/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	10/27/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/3/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/10/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/17/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		CMU*	11/24/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3.1	Mon River RMI 3.1 Hot Metal Street Bridge	0594-155	11/3/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-158	11/5/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION					PARAMETER (UNITS)	TEMPERATURE FIELD (ºC)	SPECIFIC CONDUCTANCE (uS/cm)	pH FIELD (s.u.)	DO FIELD (mg/L)	TDS @ 105℃ (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED	LAB ID#	*CRITERIA (BASIS)*			*6.0 - 9.0 (AQ)*		*500 Avg 750 Max*	*250 (PWS)*	*250 (PWS)*
		0594-162	11/7/2008	No sample		13.06	700	NA	NA	NA	NA	NA
		NA	11/10/2008	No sample		12.02	662	NA	NA	NA	NA	NA
		0592-225	11/12/2008	41060		12	590	7.3	8.58	532	56.5	198.8
		0594-166	11/14/2008	No sample		12	752	NA	NA	NA	NA	NA
		NA	11/17/2008	No sample		9	550	NA	NA	NA	NA	NA
		0594-169	11/19/2008	42243		9.27	734	7.8	11.74	750	62.6	349.1
		NA	11/21/2008	No sample		7.18	706	NA	NA	NA	NA	NA
		0594-178	11/25/2008	42743		6.09	950	7.76	13.5	734	58.1	334.9
		0594-182	12/1/2008	No sample		NA	872	NA	NA	NA	NA	NA
		0592-237	12/4/2008	43519		8	677	7.3	9.23	478	52	207.2
		NA	12/8/2008	No sample		NA	557	NA	NA	NA	NA	NA
		0594-189	12/11/2008	44275		5.03	473	8.09	13.3	522	46	243
		NA	12/15/2008	No sample		NA	243	NA	NA	NA	NA	NA
		0592-248	12/18/2008	45104		5	225	7.2	10.33	150	19.4	42.9
		0592-249	12/23/2008	45379		4.5	189	6.9	10.08	136	13.1	41.4
		0594-205	12/30/2008	45735		4.82	229	14.25	6	166	16	51.7
		0202-054	10/7/2009	35437		16.82	597	NA	NA	406	36.2	173
		0202-056	10/13/2009	35874		16.1	655	7.61	NA	508	30.9	207
		0202-058	10/15/2009	36326		13.9	719	7.46	NA	456	34.1	221
		0202-059	10/20/2009	36728		13.1	601	7.49	NA	400	31.2	100

SAMPLE INFORMATION				BROMIDE (mg/L)	ALUMINUM (ug/L)	ANTIMONY (ug/L)	ARSENIC (ug/L)	BARIUM (ug/L)	BERYLLIUM (ug/L)	CADMIUM (ug/L)	CALCIUM (mg/L)	CHROMIUM (ug/L)	COBALT (ug/L)	COPPER (ug/L)	IRON (ug/L)	LEAD (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*750 (AFC)*	*5.6 (THH)*	*10 (THH)*	*2400 (THH)*	*NA*	*@H=100 0.25*		*10 (CFC)*	*19 (CFC)*	*@H=100 9.0*	*1500 (AL)*	*@H=100 2.5*
		0594-162	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-225	11/12/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-166	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-169	11/19/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-178	11/25/2008	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-182	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-237	12/4/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-189	12/11/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-248	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-249	12/23/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-205	12/30/2008	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-054	10/7/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-056	10/13/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-058	10/15/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-059	10/20/2009	<0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SAMPLE INFORMATION				MAGNESIUM (mg/L)	MANGANESE (ug/L)	MERCURY (ug/L)	NICKEL (ug/L)	POTASSIUM (mg/L)	SELENIUM (ug/L)	SILVER (ug/L)	SODIUM (mg/L)	THALLIUM (ug/L)	VANADIUM (ug/L)	ZINC (ug/L)
RMI	SAMPLE LOCATION	SAMPLE ID#	DATE COLLECTED		*1000 (PWS)*	*0.05 (THH)*	*@H=100 52*		*4.6 (CFC)*	*@H=100 3.2*		*0.24 (THH)*	*100 (CFC)*	*@H=100 120*
		0594-162	11/7/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/10/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-225	11/12/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-166	11/14/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/17/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-169	11/19/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	11/21/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-178	11/25/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-182	12/1/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-237	12/4/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/8/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-189	12/11/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		NA	12/15/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-248	12/18/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0592-249	12/23/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0594-205	12/30/2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-054	10/7/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-056	10/13/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-058	10/15/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		0202-059	10/20/2009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Exhibit D

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Mass balance calculations:

	Pollutant	Source	Discharge f_1 cfs	Discharge conc. c_1 mg/L	Stream flow f_2 cfs	In-stream conc. c_2 mg/L	Total flow f_1+f_2 cfs	Resultant polutant conc. $x = (f_1c_1+f_1c_1)/(f_1+f_2)$ mg/L	Criteria mg/L	Background concentration
1	TDS	Fixed discharge concentration 500 mg/L and high background in-stream concentration	0.7736	500	497	751	497.77	750.61	500	Oct 2008 monthly average
2			0.7736	500	497	537.5	497.77	537.44	500	Nov 2008 monthly average
3			0.7736	500	497	240.8	497.77	241.20	500	Dec 2008 monthly average
4			0.7736	500	497	472.65	497.77	472.69	500	3 month average in Oct-Dec 2008
9	Chloride	Discharge concentration from WQPR 2007	0.7736	28320	497	29.8	497.77	73.77	250	Oct 2008 monthly average
10			0.7736	28320	497	22.25	497.77	66.23	250	Nov 2008 monthly average
11			0.7736	28320	497	13.16	497.77	57.15	250	Dec 2008 monthly average
12			0.7736	28320	497	20.5	497.77	64.48	250	3 month average in Oct-Dec 2008
13	Sulfate	Discharge concentration (maximum of 22 analyses) from WQPR 2011	0.7736	5000	497	404	497.77	411.14	250	Oct 2008 monthly average
14			0.7736	5000	497	290.5	497.77	297.82	250	Nov 2008 monthly average
15			0.7736	5000	497	116.48	497.77	124.07	250	Dec 2008 monthly average
16			0.7736	5000	497	249.76	497.77	257.14	250	3 month average in Oct-Dec 2008
17		Discharge concentration (average of 22 analyses) from WQPR 2011	0.7736	251	497	404	497.77	403.76	250	Oct 2008 monthly average
18			0.7736	251	497	290.5	497.77	290.44	250	Nov 2008 monthly average
19			0.7736	251	497	116.48	497.77	116.69	250	Dec 2008 monthly average
20			0.7736	251	497	249.76	497.77	249.76	250	3 month average in Oct-Dec 2008
A	B	C	D	E	F	G	H	I	J	K

Notes

WQPR = Water Quality Protection Report
RMI = River Mile Index
All background concentration is taken from RMI 75.0

Conversions

0.5mgd 0.7735 cfs

Exceed applicable criterion

Exhibit E

Table. The table shows descriptive statistics for the Hart Resources PA Brine Josephine Facility. The wastewater treatment facility was sampled, beginning January 10, 2010. Included in this table are the Mean, Standard Error of the Mean, Median, Mode, Standard Deviation, and Variance.

Descriptive Statistics for the PA Brine Josephine Facility Sampled 12/10/10

Analyte	Aluminum (mg/L)	Barium (mg/L)	Calcium (mg/L)	Iron (mg/L)	Magnesium (mg/L)	Manganese (mg/L)	Strontium (mg/L)
Mean	ND	27.30	16300.00	.13	1247.50	.08	2981.25
Means Std. Error	ND	2.461	204.416	.029	9.402	.015	29.243
Median	ND	26.60	16300.00	.11	1240.00	.07	2970.00
Mode	ND	20	16400	NA	1240	NA	2970
Std. Deviation	ND	6.962	578.174	.083	26.592	.041	82.711
Variance	ND	48.471	334285.700	.007	707.143	.002	6841.071
N	8	8	8	8	8	8	8
Range	ND	17	1900	0	90	.119	240
Minimum	ND	20	15600	0	1210	.026	2880
Maximum	ND	37	17500	0	1300	.145	3120
MDL	0.02	0.002	1	0.004	2	0.001	0.03

Descriptive Statistics for the PA Brine Josephine Facility Sampled 12/10/10

Analyte	Zinc (mg/L)	Arsenic (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Nickel (mg/L)	Bromide (mg/L)
Mean	ND	ND	ND	ND	ND	ND	1068.75
Means Std. Error	ND	ND	ND	ND	ND	ND	9.531
Median	ND	ND	ND	ND	ND	ND	1080.00
Mode	ND	ND	ND	ND	ND	ND	1080
Std. Deviation	ND	ND	ND	ND	ND	ND	26.959
Variance	ND	ND	ND	ND	ND	ND	726.786
N	8	8	8	8	8	8	8
Range	ND	ND	ND	ND	ND	ND	80
Minimum	ND	ND	ND	ND	ND	ND	1020
Maximum	ND	ND	ND	ND	ND	ND	1100
MDL	0.005	0.0002	0.00002	0.0004	0.00003	0.0004	0.016

*Table continued on next page.

Descriptive Statistics for the PA Brine Josephine Facility Sampled 12/10/10

Analyte	Chloride (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)	Potassium (mg/L)	Sodium (mg/L)	Benzene (mg/L)
Mean	117625.00	560.00	186625.00	1336.25	39712.50	.0121
Means Std. Error	1348.776	8.371	1084.592	15.462	258.731	.0001
Median	117000	559	187000	1325	39550	.012
Mode	117000	585	186000	1320	39100	.012
Std. Deviation	3814.914	23.676	3067.689	43.732	731.803	.0004
Variance	1.455E+07	560.571	9.411E+06	1912.500	535536	1.250E-07
N	8	8	8	8	8	8
Range	14000	64	10000	140	2000	.001
Minimum	111000	521	180000	1280	38900	.012
Maximum	125000	585	190000	1420	40900	.013
MDL	1.5	8.7	NA	NA	NA	0.002

Descriptive Statistics for the PA Brine Josephine Facility Sampled 12/10/10

Analyte	Ethylbenzene (mg/L)	Toluene (mg/L)	Xylenes (mg/L)	2-Butoxyethanol (mg/L)	pH (pH Units)
Mean	.0018	.0254	.0283	59.00	9.58
Means Std. Error	.00004	.0005	.0012	1.732	.006
Median	.0018	.025	.027	59.50	9.58
Mode	.0018	.025	.027	49	10
Std. Deviation	.0001	.002	.0035	4.899	.017
Variance	1.125E-08	4.0E-06	1.0E-05	24.000	.0003
N	8	8	8	8	8
Range	.0003	.005	.011	17	0
Minimum	.0018	.024	.025	49	10
Maximum	.0021	.029	.036	66	10
MDL	0.002	0.002	0.002	0.63	NA

*ND=Not Detected NA=Not Available

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