US EPA RECORDS CENTER REGION 5
1013542

Solutia – 461

RE: Solutia, Sauget, IL - Alternate CPA Remedy - Shutdown Protocols for T-SVE and EABR

Rinaldi, Gerald M to: Kenneth Bardo 02/25/2011 04:42 PM

Cc: "Bumb, Cathleen S", "Johnson, William G", "Shank, Brett D", "Michael Marley", "Charles Newell", "Fehrenbach, John"

From: "Rinaldi, Gerald M" <gmrina@solutia.com>

To: Kenneth Bardo/R5/USEPA/US@EPA

Cc: "Bumb, Cathleen S" <csbumb@solutia.com>, "Johnson, William G" <wgjohn@solutia.com>, "Shank, Brett D" <bdshan@solutia.com>, "Michael Marley" <marley@xdd-llc.com>, "Charles Newell" <cjnewell@gsi-net.com>, "Fehrenbach, John" <JFehrenb@winston.com>

History: This message has been replied to.

2 attachments

T-SVE Shutdown Protocol.pdf EABR Shutdown Protocol.pdf

Per Solutia's 2/15/11 e-mail below, attached are the proposed subject protocols.

Please note that the "EABR" protocol for the 15- to 30-foot saturated zone interval does not include discussion of:
- transition to bioventing, because that technology is only applicable within the unsaturated zone; and
- achievement of asymptotic conditions, because there is no process vapor monitoring, unlike soil vapor extraction (SVE) and thermally enhanced SVE (T-SVE).

Jerry

From: Rinaldi, Gerald M
Sent: Tuesday, February 15, 2011 11:21 AM
To: 'Bardo.Kenneth@epamail.epa.gov'
Cc: Bumb, Cathleen S; Johnson, William G; Shank, Brett D; 'Michael Marley'; 'Charles Newell'; 'Fehrenbach, John'
Subject: RE: Solutia, Sauget, IL - Follow-Up to 01/20/11 Meeting re Alternate CPA Remedy

Please see "SOLUTIA" responses inserted into your 2/11/11 e-mail below.

G. M. (Jerry) Rinaldi - 2S
Solutia Inc.
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St. Louis, MO 63141
Phone 314-674-3312
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From: Bardo.Kenneth@epamail.epa.gov [mailto:Bardo.Kenneth@epamail.epa.gov]
Sent: Friday, February 11, 2011 9:18 AM
To: Rinaldi, Gerald M
Subject: Re: Solutia, Sauget, IL - Follow-Up to 01/20/11 Meeting re Alternate CPA Remedy

good morning, jerry. we are working on a response to Solutia's proposal and had a few questions.

- can the proposed protocol for completing SVE operations and transitioning to bioventing in Solutia's 2/4/11 e-mail for the benzene areas also apply to the use of T-SVE in the upper 15' at the CPA.
SOLUTIA: XDD (which authored the referenced proposed protocol) will prepare similar document(s) for T-SVE and EABR which Solutia expects to submit to US EPA by 2/25/11.

- with the addition of EABR down to 30' and necessary construction, is it still reasonable to assume an October 2011 start-up of treatment operations at the CPA proposed in Solutia's 12/20/10 letter, assuming that EPA concurs with the conceptual plan shortly. the assumed target date for startup would be October 17, which is approx. 6 months later than the approved startup date for ISTD.
SOLUTIA: The October 2011 date for "construction completion and startup" (noted in Solutia's 12/12/11 submittal and 1/20/11 presentation) assumed only T-SVE and bioventing for unsaturated soil treatment. With the addition of (simultaneous) EABR for saturated soil treatment, and subject to the process noted in response to the following question, Solutia expects completion of detailed design of all technologies no earlier than July 2011 and then construction completion and startup no earlier than January 2012. Solutia and US EPA need to discuss whether any further "conceptual design and work plan" (i.e., similar to those submitted in March 2010 for ISTD and November 2010 for SVE) beyond my 12/10/11 and 2/4/11 e-mails for T-SVE/bioventing and EABR, respectively, must be submitted or if Solutia could proceed directly to detailed design (not to be submitted).

- does the proposed use of SVE concurrently at the benzene areas and the CPA using the same contractor impact the timely design and construction activities. has Solutia and XDD considered the logistics for pulling off the simultaneous projects.
SOLUTIA: Having previously identified this issue, Solutia has already requested bids for detailed design, construction oversight, etc., for the CPA project from XDD LLC and GSI Environmental. During bid review, Solutia will decide whether to award T-SVE and bioventing as well as EABR to one company or separate these technologies and, if so, which will be awarded to which company.

- we calculate combined costs for CPA remediation using T-SVE, EABR, and bioventing to be $9.72 million. is this accurate.
SOLUTIA: Yes.

- have you considered a proposed protocol for completing EABR operations in the 15 to 30' zone at the CPA. can Solutia propose something similar as was done for SVE in the benzene areas.
SOLUTIA: As noted in response to the first question above, XDD (which authored the referenced proposed protocol) will prepare similar document(s) for T-SVE and EABR which Solutia expects to submit to US EPA by 2/25/11.

From: Rinaldi, Gerald M
Sent: Friday, February 04, 2011 4:41 PM
To: Cisneros.Jose@epamail.epa.gov
Cc: 'Bardo.Kenneth@epamail.epa.gov'; Hamper.George@epamail.epa.gov; Murawski.Richard@epamail.epa.gov; james.k.moore@illinois.gov; Bumb, Cathleen S; Shank, Brett D; 'jloper@lopergroup.com'; Michael Marley; 'Charles Newell'; 'John Fehrenbach'
Subject: Solutia, Sauget, IL - Follow-Up to 01/20/11 Meeting re Alternate CPA Remedy

In the subject meeting, Solutia and its consultants presented (per our 12/20/10 submittal below) an alternate remedy to address unsaturated zone soils (0 - 15 feet below ground surface (ft bgs)) in the Former Chlorobenzene Process Area (CPA) at our W. G. Krummrich Plant. Solutia took US EPA's reaction to be favorable in general, subject to the Agency's requirement that any alternate remedy also address saturated zone soils (15 - 30 ft bgs). This e-mail is the response which Solutia committed to submit within two weeks after the meeting.

Attached [removed] are:

- an expanded "conceptual plan," addressing both the unsaturated and saturated zones from 0 - 30 ft bgs overall, the latter by enhanced aerobic remediation (EABR);

- a preliminary cost estimate ($3.3M) for EABR of the saturated zone, similar to estimates for thermally enhanced soil vapor extraction (T-SVE; $6.0M) and bioventing ($0.4M) of the unsaturated zone submitted in my e-mails to Ken Bardo on 01/04/11 and 01/13/11, respectively; and

- an assessment, prepared by Chuck Newell, Vice-President, GSI Environmental, with input from Mike Marley, President, XDD, of the suitability of EABR for treatment of CPA saturated zone soils. This assessment addresses the concerns raised in one of Ken Bardo's 01/27/11 e-mails to me by following the screening procedure specified by the US EPA guidance referred to in Mr. Bardo's other 01/27/11 e-mail to me.

I will be in touch with Mr. Bardo to confirm that this expanded alternate remedy is acceptable to US EPA and discuss the administrative procedure to be followed.

Jerry

From: Rinaldi, Gerald M
Sent: Mon 12/20/2010 3:29 PM
To: Cisneros.Jose@epamail.epa.gov
Cc: Bardo.Kenneth@epamail.epa.gov; james.k.moore@illinois.gov; Bumb, Cathleen S; Shank, Brett D
Subject: Solutia, Sauget, IL - Response to US EPA Letter Dated 12/03/10

Attached [removed] is Solutia Inc.'s response to the subject letter received via e-mail below and via certified mail on 12/07/10.

As requested in the response, Solutia looks forward to meeting with US EPA in January to discuss this matter further.

G. M. (Jerry) Rinaldi - 2S
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-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Monday, December 06, 2010 9:30 AM
To: Rinaldi, Gerald M
Subject: Re: Solutia, Sauget, IL - Need for Alternative to ISTD for Remediation of Former Chlorobenzene Process Area

(See attached file [removed]: Solutia ISTD Work Stoppage Letter.pdf)

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sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.

MEMORANDUM

To:	Jerry Rinaldi (Solutia)	**Date:**	February 24, 2011
From:	Scott Crawford (XDD)	**Cc:**	Mike Marley (XDD) XDD File (p1103)
RE:	**Proposed Protocol for Completing Thermally Enhanced Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode Former Chlorobenzene Process Area Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois**		

Dear Mr. Rinaldi,

XDD, LLC (XDD) has prepared a proposed protocol to determine when it is appropriate to cease Thermally Enhanced Soil Vapor Extraction (T-SVE) operations in the Chlorobenzene Process Area (CPA) area at the Solutia Inc. (Solutia) W.G. Krummrich facility. The objective will be to assess whether it is necessary to address any residual impacts remaining within silty sand and intermediate silty clay units at the completion of the T-SVE operations.

It is intended that the steps in this protocol will provide the basis for making the recommendation, which will be approved by the United States Environmental Protection Agency (U.S. EPA), for shutdown of T-SVE or making the transition to bioventing (BV). T-SVE operations will continue in the CPA area until U.S. EPA approval of the corresponding recommendation to shut down or transition to BV.

It is proposed that T-SVE operations would be considered complete when the mass removal rate of the T-SVE system reaches an asymptotic condition. Asymptotic conditions would be based upon the observation that the contaminant of concern (COC) vapor mass removal rate is less than 10% of the observed peak rate for at least seven consecutive calendar days.

The decision to shut down T-SVE operations and potentially transition to the BV mode is recommended to be based upon the following steps:

1. **Process Vapor Monitoring** - Conduct performance monitoring of T-SVE operations to assess the COC mass removal rate and cumulative COC mass removal in the vapor phase. This includes:
    a. Measurement of COC concentrations in the T-SVE well field vapor stream.
    b. Measurement of the total T-SVE well field flowrate.
    c. The COC mass removal rates for each monitoring event will be calculated based upon the COC vapor concentration and the T-SVE flowrate.

d. The cumulative COC mass removed will be calculated based upon the average COC mass removal rate and the length of time elapsed between each monitoring event.
e. Process vapor monitoring would be conducted initially on a weekly basis, and this frequency would be reduced as vapor concentrations and mass removal rates stabilize.
f. The cumulative COC mass removed as vapor will be plotted and provided to U.S. EPA in quarterly status updates.

2. **Assess Asymptotic Conditions** - Identify when asymptotic mass removal rate conditions are achieved:
   a. The initial peak COC vapor concentrations observed at start-up of the T-SVE system will be associated with the flushing of "static-equilibrium" soil gas concentrations. These initial peak level concentrations tend to decline rapidly after start-up as the initial pore volumes of soil gas are removed.
   b. For the purposes of establishing a representative baseline mass removal rate for the T-SVE system, the average mass removal rate will be calculated based on a one month period, and the averaging period will begin when a stable soil temperature between 40 and 60 degrees Celsius (deg. C) is achieved.
   c. T-SVE operations will be considered to have achieved asymptotic conditions when mass removal rates have been reduced to 10% of the baseline mass removal rate and remain at this level for a period greater than seven days.
   d. The mass removal rate will not be considered to be "asymptotic" if the reason for the decrease in mass removal rates appears to be related to groundwater table elevations rising and blocking the T-SVE well screen, or if subsurface temperatures drop below the target soil temperature range.

3. **Soil Sampling** - Conduct soil sampling to assess reductions in soil concentrations and soil COC mass during T-SVE operations:
   a. Soil sampling is to be conducted on an annual basis (except within the intermediate silty clay which is proposed to be conducted once near the completion of T-SVE operations). The final soil sampling event would be conducted after asymptotic COC mass removal rates are achieved (see Step #2 above).
   b. Initial COC mass estimates in the CPA area have been provided in Table D-3 of the *Former Chlorobenzene Process Area Characterization Report*.
   c. Soil COC mass remaining will be calculated following each annual soil sampling event and compared to the initial mass estimates to estimate percent mass reduction.
   d. The COC mass reduction on the soils will also be compared to the cumulative COC mass removed based on vapor concentration data (see Step #1 above).

4. **Assess COC Mass Remaining on Soils** – Upon reaching an asymptotic condition, evaluate the impact, if any, of residual COC mass remaining on soils:
    a. Modeling will be conducted to evaluate potential impact to groundwater posed by the remaining COC mass in the unsaturated zone.
    b. Residual soil concentrations will also be evaluated to determine if there are any potential human health risks and if these are addressed by institutional controls.
    c. If a. or b. above suggest the need for further action, an evaluation to determine if BV will address the residual soil concentrations will be conducted.

5. **Recommendation for Shutdown or Transition to BV** – Prepare a report for U.S. EPA to recommend whether to shut down or transition from T-SVE to BV:
    a. Based on the data collection and evaluations conducted in Step #1 through #4, prepare a report for U.S. EPA to confirm that asymptotic conditions have been achieved and residual COC mass remaining does not pose unacceptable risk to groundwater or human health.
    b. Upon U.S. EPA's agreement, the T-SVE system would be either shut down or transitioned into the BV phase of operations (Step #6 below).

6. **Transition to BV Operations** – In accordance with Step #5 above, after shutdown of T-SVE operations, BV may be conducted to address COC mass flux from the intermediate silty clay unit. If so, BV will provide some additional reduction of the residual COC mass remaining within the upper and lower silty sand units. Annual sampling will be conducted within the intermediate silty clay unit to assess COC mass reduction (as compared to "baseline" soil concentrations at the completion of the T-SVE phase of operations).

7. **Completion of BV Operations** - Based on the performance of BV within the intermediate silty clay unit, a recommendation will be made to U.S. EPA regarding shutdown of BV operations.
    a. BV is not expected to yield appreciable results after one year. If, after two years of BV, no significant reduction in COC mass has occurred within the intermediate silty clay, it will be recommended to shut down the BV operations.
    b. COC mass reduction in the intermediate silty clay unit will be assessed annually using the soil sampling data. An assessment will be made regarding the benefit, if any, of ongoing BV operation.
    c. Prior to shutdown of BV operations, the impact, if any, of residual COC mass will be assessed:
        i. Modeling will be conducted to evaluate potential impact to groundwater posed by the remaining COC mass in the intermediate silty clay zone.
        ii. Residual soil concentrations will also be evaluated to determine if there are any potential human health risks and if these are addressed by institutional controls.

d. If either c.i. or c.ii. above suggests the need, an evaluation will be conducted to determine additional actions to address the remaining residual risks. Additional actions may include monitored natural attenuation (MNA) or additional institutional controls.
e. Upon approval by U.S. EPA, the BV operations will be shut down.

MEMORANDUM

MEMORANDUM

To:	Jerry Rinaldi (Solutia)	**Date:**	February 24, 2011
From:	Scott Crawford (XDD)	**Cc:**	Mike Marley (XDD) XDD File (p1103)
RE:	**Proposed Protocol for Completing Enhanced Aerobic Bioremediation Operations** **Former Chlorobenzene Process Area** **Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois**		

Dear Mr. Rinaldi,

XDD, LLC (XDD) has prepared a proposed protocol to determine when it is appropriate to cease Enhanced Aerobic Bioremediation (EABR) operations in the Chlorobenzene Process Area (CPA) area at the Solutia Inc. (Solutia) W.G. Krummrich facility. The EABR system is designed to address the 15 to 30 foot saturated zone interval of the Shallow Hydrogeologic Unit (SHU).

It is intended that the steps in this protocol will provide the basis for making the recommendation, which will be approved by the United States Environmental Protection Agency (U.S. EPA), to shut down EABR operations. EABR operations will continue in the CPA area until U.S. EPA approval of the recommendation to shut down.

The decision to shut down EABR operations is recommended to be based upon the following steps:

1. **Process Monitoring** - Conduct performance monitoring of the EABR operations, which includes:
    a. Dissolved oxygen (DO) levels will be measured in the saturated zone to demonstrate that enough oxygen is being supplied to support aerobic biodegradation.
    b. Periodic assessment of oxygen utilization rates:
        i. Oxygen utilization will be measured by temporarily halting the injection of oxygen for one or two weeks and observing the rate of oxygen depletion. A conservative tracer (e.g., helium) may be used to differentiate between biological oxygen uptake versus oxygen depletion due to non-biological processes.
        ii. This assessment would be conducted within the first six months of EABR operation (after the bacterial population is acclimated) to establish initial oxygen utilization rates. Oxygen utilization rates will be assessed quarterly thereafter.

iii. As COC mass is depleted over time and becomes mass-transfer limited, the oxygen utilization rate would be expected to decline. A reduction in oxygen utilization rates can be considered the primary line of evidence for anticipating the completion of EABR operations.

2. **Soil Sampling** – Conduct soil sampling to assess reductions in soil concentrations and soil COC mass during EABR operations:
   a. Soil sampling is to be conducted on an annual basis.
   b. The initial COC mass estimates in the 15 to 30 foot saturated zone interval have been provided in Table D-3 of the *Former Chlorobenzene Process Area Characterization Report*.
   c. Soil COC mass remaining in the 15 to 30 foot saturated zone interval will be calculated following each annual soil sampling event and compared to the initial mass estimates to estimate percent mass reduction.

3. **Assess COC Mass Remaining on Soils** – Following each annual soil sampling event, evaluate the impact, if any, of residual COC mass remaining on soils:
   a. Modeling will be conducted to evaluate potential impact to groundwater posed by the remaining COC mass in the 15 to 30 foot saturated zone interval.
   b. Residual soil concentrations will also be evaluated to determine if there are any potential human health risks and if these are addressed by institutional controls.
   c. If a. or b. above suggest the need for further action, an evaluation to determine if continued operation of the EABR or if Monitored Natural Attenuation (MNA) will address the residual soil concentrations will be conducted.

4. **Recommendation for Shutdown of EABR Operations** – Based on the data collection and evaluations conducted in Step #1 through #3, prepare a report for U.S. EPA to recommend whether to shut down or continue EABR operations. Upon U.S. EPA's agreement, the EABR system would be shut down.

Solutia – 463

RE: Solutia, Sauget, IL - Long-Term Monitoring
Rinaldi, Gerald M to: Kenneth Bardo 03/04/2011 02:52 PM
Cc: "Smith, Steven D"

From: "Rinaldi, Gerald M" <gmrina@solutia.com>
To: Kenneth Bardo/R5/USEPA/US@EPA
Cc: "Smith, Steven D" <sdsmit@solutia.com>

1 attachment

20110118 US EPA Letter to SA2SG.pdf

Following up on the e-mails below.

US EPA's 9/24/10 comments on Solutia's 8/2/10 evaluations of 3Q08 - 2Q10 groundwater monitoring data focused on the 2009 IDOT model and the "Regional Groundwater Flow and Contaminant Transport Model" (the 2008 Model) submitted to US EPA - CERCLA in April 2008 by the Sauget Area 2 Sites Group (SA2SG).

As noted in my e-mail below, US EPA - CERCLA, IEPA, and the SA2SG have recently discussed updating the 2008 Model, as recommended in the 9/24/10 comments. More specifically, in the attached 1/18/11 letter (with exhibits removed), USEPA - CERCLA requested the SA2SG to reevaluate the 2008 Model based on a change in the original assumption that IDOT highway dewatering wells would cease pumping in 2010. In a 2/24/11 meeting with US EPA - CERCLA and IEPA, the SA2SG proposed to re-run the 2008 Model with the assumption that the IDOT wells continue pumping through 2014 at the previously assumed rate of 6,828 gpm; the SA2G is awaiting US EPA - CERCLA's and IEPA's response to that proposal. Accordingly, before Solutia can consider any changes to the RCRA long-term monitoring program, we will need to await the SA2SG's re-running of the 2008 Model to determine the impact, if any, of continued pumping.

Meanwhile, Solutia could update its 8/2/10 data evaluation submittals by incorporating the results of 3Q10 and 4Q10 monitoring. Such updates would also be relevant to your 3/3/11 e-mail about "periodic technical reviews" of the Krummrich Plant RCRA groundwater monitoring data. I would like to talk with you further about that e-mail, so I will try to reach you by telephone or send another e-mail with my thoughts.

Jerry

From: Rinaldi, Gerald M
Sent: Wednesday, February 23, 2011 2:08 PM
To: 'Bardo.Kenneth@epamail.epa.gov'
Cc: Bumb, Cathleen S; Smith, Steven D
Subject: RE: Solutia, Sauget, IL - Long-Term Monitoring

Reiterating our brief discussion yesterday.

Solutia has not yet addressed your e-mail below because of concentrating meanwhile on:
- our 11/01/10 submittal of the full-scale work plan, etc., for SVE and then responding to US EPA's 11/29/10 and 01/06/11 comments; and
- our 11/19/10 notice of suspension of work on ISTD for the former Chlorobenzene Process Area and then our 12/20/10 and 02/04/11 submittals, etc., re a proposed alternate remedy.

Now that the former received final US EPA approval on 02/14/11 and the latter will soon per yesterday's conversation, Solutia will return its attention to the groundwater monitoring programs. No later than 03/03/11, Solutia will submit an initial reply, focusing on very recent interaction among the "Sauget Area 2 Sites Group," US EPA - CERCLA, and IEPA re the April 2008 "Regional Groundwater Flow and Contaminant Transport Model," coincidentally part of US EPA's "recommendations" in the attached. That initial reply will help to keep communications between Solutia and US EPA on this matter separate from those regarding any other aspects of the Krummrich Plant corrective action program.

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From: Bardo.Kenneth@epamail.epa.gov [mailto:Bardo.Kenneth@epamail.epa.gov]
Sent: Friday, September 24, 2010 2:40 PM
To: Rinaldi, Gerald M
Cc: Linebaugh.Stephanie@epamail.epa.gov; Paul.Lake@Illinois.gov
Subject: Re: Solutia, Sauget, IL - Long-Term Monitoring

Jerry, attached is EPA's discussion of information recently provided to us by Illinois EPA. This information should be considered in the long-term monitoring program being performed for the Solutia facility under the RCRA Final Decision. After your review, please give me a call and we can set up a meeting to discuss a path forward. I will send the cited figures in a separate e-mail. ken

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

January 18, 2011

Dear Sauget Area 2 Sites Group:

Thank you for attending the December 9, 2010 meeting between the United States Environmental Protection Agency (USEPA), the Illinois Environmental Protection Agency (Illinois EPA) and the Sauget Area 2 Sites Group (SA2SG) at the USEPA Region 5 office to discuss the Sauget Area 2 Site (SA2).

During the course of the meeting, several issues were raised that required additional information from USEPA. The purpose of this letter is to provide the SA2SG with the necessary follow-up on these issues. Specifically, this letter provides SA2SG with a full ARARs table; provides direction on how to proceed with the SA2 RI/FS with groundwater as a separate operable unit; provides examples of approved RAOs; and transmits a request to evaluate the approved groundwater model based on the more current assumption that the Ilinois Department of Transportation (IDOT) wells will continue to pump for highway dewatering purposes and will not cease pumping in 2010, as originally assumed.

Enclosed with this letter is Illinois EPA's full list of potential ARARs for the SA2 sites. As discussed previously, a detailed ARARs evaluation was lacking in the draft Feasibility Study (FS). As we stated at our meeting, the SA2SG must fully vet the attached list in its next draft of the report. In support of this effort, the SA2SG should anticipate future meetings and/or conference calls with USEPA and Illinois EPA to discuss the vetting of the ARARs list. For the FS to be approvable the SA2SG must provide detailed discussion and sufficient justification, on a site by site basis, on compliance with the identified ARARs.

In the agencies' November 18th, 2010 letter to you, we stated that groundwater from the Sauget Area 1 (SA1) and SA2 sites would be a treated as a separate operable unit. During our meeting, the SA2SG expressed concern over completing a separate FS for the groundwater operable unit, specifically due to the complexity of coordinating this effort with the SA1 Sites Group. In recognition of the SA2SG's concern, we have determined that the best path forward for obtaining remedy selection for groundwater in a timely and efficient manner is for the SA2SG to complete the FS by including alternatives for both capping remedies as well as groundwater remedies. If the SA2 and SA1 FS are structured appropriately, such that alternatives are assessed as single components versus multi-component alternatives, USEPA will address the Sites and groundwater by issuing 3 RODs: a ROD for the SA2 sites that includes final action for landfill covers and interim action for groundwater sources, a ROD for the SA1 sites that includes final action for landfill covers and interim action for groundwater sources, and, subsequently, a final ROD for the groundwater operable unit.

At our meeting, you requested examples of Remedial Action Objectives (RAOs) that have been approved. Each site is unique and RAOs need to be devised accordingly. USEPA's Guidance for *Conducting Remedial Investigations and Feasibility Studies under CERCLA* (October 1988) (www.epa.gov/superfund/policy/remedy/pdfs/540g-89004-s.pdf) discusses the process for developing RAOs as well as provides several examples in Table 4-1. Additional examples of approved RAOs can be found in site RODs at on USEPA's website: www.epa.gov/region5superfund/rods/rod_index.html#rod_illinois.

We also discussed at the meeting the recent information on the IDOT wells used for highway dewatering and how IDOT's plans to continue pumping the wells may or may not affect the groundwater plume. The original assumption used in the regional groundwater flow model (GSI, 2008) was that IDOT would cease pumping in 2010. Therefore, as this assumption was incorrect, USEPA requests the SA2SG evaluate the model based on this changed assumption and provide USEPA with a summary report.

We would like to schedule our next meeting for February 24, 2011 to discuss the vetting of the ARARs table and any questions you may have regarding this letter. In preparation for our next meeting, the SA2SG should provide USEPA with any comments they may have on the ARARs listed in the table by February 11th.

Sincerely,

Stephanie Linebaugh

Stephanie Linebaugh
USEPA Project Manager

cc: Clarence Smith, Illinois EPA
Bob Carson, Illinois EPA
Paul Lake, Illinois EPA
Jim Morgan, IAGO

Solutia – 465

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 1 1 2011

REPLY TO THE ATTENTION OF:
LU-9J

VIA E-MAIL AND CERTIFIED MAIL #7009 1680 0000 7671 0107
RETURN RECEIPT REQUESTED

Mr. Gerald Rinaldi - 2S
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

RE: Modification of the Final Remedy for the Former Chlorobenzene Process Area
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

The U.S. Environmental Protection Agency (EPA) has completed a review of Solutia's proposal to modify a component of the final remedy that was selected by EPA in its Final Decision and Response to Comments issued February 28, 2008. Specifically, Solutia proposes in its December 20, 2010, letter and February 4, 2011, e-mail to use a combination of thermally enhanced (i.e., steam) soil vapor extraction (T-SVE), enhanced aerobic bioremediation (EABR), and bioventing in place of in-situ thermal desorption (ISTD) and steam-enhanced extraction (SEE) to treat a major source area of chlorinated benzenes in unsaturated and saturated soils at the Former Chlorobenzene Process Area that significantly contributes to regional groundwater contamination. As described in this letter, EPA has evaluated your proposal and agrees to the change in treatment technologies. The specifics of this approval and the necessary next steps are provided below.

I. Introduction

In a December 20, 2010, letter, Solutia proposes using T-SVE and bioventing to treat the upper 15 feet of contamination at the Former Chlorobenzene Process Area. The saturated zone beneath 15 feet would be addressed regionally along with the nearby Sauget Area 1 and 2 CERCLA sites. A meeting was held on January 20, 2011, at the EPA Chicago office to discuss Solutia's proposed change to the remedy. Based on discussions at the meeting, Solutia updated its proposal in a February 4, 2011, e-mail. The conceptual plan for remediating the Former Chlorobenzene Process Area was revised and a cost estimate provided to include enhanced aerobic bioremediation (EABR) using pure oxygen injection to remediate contamination found beneath the water table down to 30 feet. The addition of EABR to treat the saturated zone is consistent with the EPA final remedy which requires treatment of the source area both above the water table and within the shallow hydrogeologic unit at the Former Chlorobenzene Process Area. In place of ISTD and SEE, Solutia proposes to use a combination of T-SVE, EABR, and

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bioventing to treat an estimated mass of 830,000 pounds of chlorinated benzenes (consisting of benzene, monochlorobenzene, dichlorobenzenes, and 1,2,4-trichlorobenzene) present from 0-30 feet in an approximate three acre area.

EPA approved ISTD and SEE treatment for the Former Chlorobenzene Process Area on June 1, 2010, to be implemented in four phases over a four year period. Treatment efficiency was expected to be at least 90% mass removal. Final cost estimates provided by the contractor to Solutia on October 29, 2010, increased to $24.5 million from the initial cost estimates of $14.3 million presented in the work plan for full-scale implementation of ISTD in March 2010.

Solutia's proposal to treat and remediate the Former Chlorobenzene Process Area using T-SVE, EABR, and bioventing over the same four year time period is estimated to cost $9.72 million. Mass removal is expected to be less over the four year period, about 80%, due to the presence of an intermediate silty clay layer within the upper 15-feet which binds contaminants more tightly. However, bioventing beyond the four year treatment period could continue to treat contaminants as they diffuse out of the discontinuous silty clay layers, or monitored natural attenuation may eventually be sufficient to treat the residual mass discharge from the silty clays.

II. Evaluation of Solutia's Proposal to Modify the Final Remedy at the Former Chlorobenzene Process Area

In the EPA Final Decision and Response to Comments issued February 28, 2008, EPA determined that ISTD at the Former Chlorobenzene Process Area was appropriate as a source control for contaminated groundwater and protective of human health and the environment. Now, T-SVE, EABR, and bioventing are proposed to be used as an alternative to ISTD.

Solutia has proposed SVE as a component in the remedy, finding that use of this technology will be protective of human health and the environment for treating unsaturated soils in certain areas contaminated with benzene and monochlorobenzene (a SVE system is currently being designed for operation at the Big Mo/Former Benzene Pipeline area). Similarly, Solutia believes that SVE can be used to effectively treat benzene and monochlorobenzene in unsaturated soils at the Former Chlorobenzene Process Area. Thermal enhancement using steam is proposed as an aid to remove the less volatile dichlorobenzenes and 1,2,4-trichlorobenzene.

Bioventing is also proposed for both the SVE and T-SVE projects using biosparge wells screened from 12-15 feet. The use of bioventing as an additional treatment measure following T-SVE is meant to enhance aerobic biodegradation of chlorinated benzenes remaining in the intermediate silty clay layer within the upper 15 feet of soil. Up to a four year operating period (after a four year T-SVE operating period) is proposed for the bioventing system.

In the saturated soils, Solutia proposes use of EABR employing pure oxygen injection to aerobically degrade benzene and chlorinated benzenes in the shallow hydrogeologic unit from approximately 15 to 30 feet, through biosparge wells screened at 20-22 feet and 28-30 feet. Treatability studies performed during site investigations showed that chlorinated benzenes were readily degraded aerobically. Solutia also screened EABR technology using EPA guidance and found it likely to be effective; EABR has been used at other sites by Solutia's contractors and

found to effectively remediate chlorinated benzenes in saturated soils.

Based on the information provided and our review of the technologies proposed and their use in the conditions that exist at the Former Chlorobenzene Process Area, EPA believes that the proposed remediation approach could be an effective treatment for the contaminants of concern. The effectiveness and efficiency of this remedy will be evaluated after four years of operation and further, after polishing treatment using bioventing. If after this time, contaminants are not reduced to levels protective of human health and environment, additional treatment may be necessary or alternative corrective measures considered to improve performance.

III. Modification of Final Remedy at the Former Chlorobenzene Process Area and Notice of Significant Change

EPA finds that the use of T-SVE, EABR, and bioventing will potentially attain similar cleanup results in a similar time period as was expected through use of ISTD and SEE that were approved by EPA as part of the final remedy, and at substantially reduced costs (approximately $15 million less).

Because the use of T-SVE, EABR, and bioventing constitutes a significant change in a component of the EPA final remedy, EPA plans to prepare an explanation of significant differences (ESD) for the Solutia facility and place it in the administrative record. The ESD will be made available to the public. While the ESD is being prepared and made available to the public, Solutia may proceed with the design of the T-SVE, EABR, and bioventing system at the Former Chlorobenzene Process Area.

IV. Modification of Compliance Schedule to Start Remediation at the Former Chlorobenzene Process Area

The work plan schedule for ISTD approved by EPA on June 1, 2010, had operation of Phase 1 of the project beginning on April 13, 2011, with completion of all four phases of operation by October 2014. The design and construction of the modified remedy using T-SVE and EABR is proposed throughout 2011. Operation is expected to begin about 9 months later, in January 2012, with completion of operation by January 2016. After issuance of the ESD, EPA will consider approving an extension for the deadline to start and complete operations of the modified remedy at the Former Chlorobenzene Process Area, if needed.

V. Remediation Objectives for the Modified Remedy at the Former Chlorobenzene Process Area

The remediation objectives for ISTD and SEE initially approved by EPA for the Former Chlorobenzene Process Area are based on the attainment of asymptotic levels of contaminants in off-gases and extracted groundwater expected to occur within 180 days of operation for each phase of operation. Solutia was required to demonstrate, to EPA's satisfaction, that asymptotic levels had been attained. The effectiveness of using asymptotic levels would be further evaluated after Phase 1 contaminant levels in soil were quantified. Additional heating would be performed if determined to be beneficial to removing additional contaminant mass.

In addition, the use of Illinois EPA TACO values for the soil component of the groundwater ingestion exposure route for Class I aquifers as cleanup goals was to be considered. Groundwater modeling would also be used to evaluate whether the contaminant concentrations left in place would result in exceedances of groundwater performance standards at the facility boundary.

A re-evaluation of remediation objectives was built into the phased approach for ISTD and SEE, however phases will not be used for T-SVE and EABR. In place of this component of the previous remedy, Solutia submitted a proposal for the shutdown of T-SVE, startup of bioventing, and shutdown of EABR at the Former Chlorobenzene Process Area as part of a February 25, 2011, e-mail. EPA will evaluate the proposal and provide comments. The inclusion of the proposal in the amended remedy is subject to EPA approval.

VI. Modification of the Long-Term Groundwater Monitoring Program

The Former Chlorobenzene Process Area is a major source of regional groundwater contamination. Remediation of this source area will not be completed for at least five more years. It is imperative that the long-term monitoring program be fully capable of assessing the current extent and impact of groundwater contamination during this time frame.

In a September 24, 2010, e-mail, EPA provided Solutia new information regarding IDOT dewatering wells located north of the Solutia facility at the I-55 corridor. EPA observed that data and/or models generated by various contractors indicate that the IDOT dewatering wells influence contaminant transport in the American Bottoms aquifer. This apparent influence complicates interpretations of trends in contaminant concentrations within the plumes originating from the Solutia facility. The extent of the Solutia plumes exceeding drinking water standards is not clearly defined to the northwest, north, and northeast. EPA concludes that groundwater contaminant plumes originating from the Solutia facility may no longer be stable and under control as previously determined by EPA on May 26, 2004.

As described in EPA's September 24, 2010, e-mail, Solutia must: 1) upgrade the long-term monitoring well network to properly delineate the extent of the site contaminant plumes exceeding drinking water standards to the northwest, north, and northeast; 2) collect and analyze water samples from IDOT dewatering wells to assess the presence of any site-related contaminants; and 3) re-evaluate the appropriate lines of evidence for MNA given the new information provided. To accomplish these tasks, Solutia may consider updating the regional groundwater flow model with the available new data and information. A re-run of the model with this new information may help locate the additional wells necessary to properly monitor and determine the full extent of the facility contaminant plume.

Within 30 days of receipt of this letter, Solutia shall submit a work plan and schedule for implementation of the modified long-term groundwater monitoring program.

If you have any questions, please contact Ken Bardo at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely,

Jose G. Cisneros
Chief
Remediation and Reuse Branch

cc: Mr. Jim Moore
Illinois EPA

Solutia – 466

PCB Groundwater Quality Assessment 4th Quarter 2010

Solutia – 467

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March 15, 2011

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Semiannual Progress Report 09/15/10 - 03/15/11
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

This letter and its enclosures comprise the subject report, submitted by Solutia Inc. ("Solutia") in partial fulfillment of one of the "Reports and Monitoring" elements of the February 26, 2008, "Final Decision" for the W. G. Krummrich Plant.

Work Performed / Data Collected

The enclosed Chronology documents the work performed and data collected by Solutia and/or reviewed and approved by US EPA and/or Illinois EPA (IEPA) since receipt of the Final Decision on February 28, 2008. The Chronology will be updated for submittal with each future semiannual progress report.

Problems Encountered

As detailed in numerous communications between Solutia and US EPA from November 2010 to present, Solutia suspended work on in-situ thermal desorption for remediation of soil in the Former Chlorobenzene Process Area (CPA) and proposed an alternative approach, consisting of thermally enhanced soil vapor extraction and bioventing for the unsaturated zone and enhanced aerobic bioremediation of the saturated zone to a depth of 30 feet below ground surface. With US EPA's approval, Solutia intends to perform detailed design and construction during the remainder of 2011, with operation beginning in early 2012.

Additional time and effort continue to be required related to off-site delineation and remediation of "PCBs in Soil." Solutia has completed delineation on the Illinois Department of Transportation (IDOT) property, and remediation will be completed this spring, after which

another Interim Construction Completion Report (CCR) will be submitted. On November 9, 2010, US EPA approved a schedule extension until October 28, 2011, for Solutia to submit a final CCR; a further extension will likely be necessary for Solutia to complete delineation and subsequent remediation on Alton & Southern (A&S) Railway property. See "Project Schedule" below for additional information.

Project Schedule

The enclosed Schedule covers the activities (grouped by project element / category) anticipated over the next six months. As with any schedule, this one is subject to change due to unforeseen causes, force majeure events, excusable delays, etc. Initial and related subsequent activities that are beyond the control of Solutia are indicated in the enclosed Schedule by "???" Notes specific to selected project elements follow:

PCBs in Soil: Solutia has completed off-site delineation on the IDOT right-of-way west of the Krummrich Plant. In addition, a remediation plan, consisting of excavation and off-site disposal, was approved by IDOT. Solutia is currently obtaining the necessary permits and utility information, after which excavation activities will commence once the ground is dry enough.

Solutia continues to engage with A&S regarding delineation and subsequent remediation on the latter's property south of the Krummrich Plant. As detailed in Solutia's October 21, 2010, letter to US EPA, Solutia submitted a plan for additional soil sampling to A&S on October 20, 2009. After numerous intervening meetings, e-mails, and telephone contacts, A&S issued a letter to Solutia on September 27, 2010, which raised issues unrelated to PCBs in soil. On February 16, 2011, Solutia submitted correspondence responding to A&S concerns; we re now awaiting their response. Solutia will continue working with A&S to finalize delineation, and once that is completed, then develop and implement a remediation plan for the A&S property.

PCB Manufacturing Area: As was the case upon submittal of all previous semiannual progress reports, this project's next critical-path activity remains receipt of Illinois EPA's comments on Solutia's July 18, 2008, application for a Remedial Action Plan Permit (RAPP). By letter dated May 27, 2010, US EPA granted Solutia a schedule extension to May 31, 2011, to submit a "Construction Completion Report" (CCR); that date was predicated on IEPA issuing a final RAPP by October 31, 2010, i.e., seven months prior. That will not happen, and therefore another extension request by Solutia will be necessary, because, despite the fact that US EPA and Solutia have independently contacted IEPA numerous times since July 18, 2008, IEPA has not yet issued comments on the application. Issuance of a final RAPP must be preceded by not only such comments, but also Solutia's response, an IEPA public hearing, and a 45-day public comment period.

Soil Vapor Extraction (SVE): Solutia submitted a treatment area characterization report, pilot study report, and work plan for full-scale remediation on November 1, 2010. Following Solutia's response to comments, US EPA issued its final approval of those submittals on February 14, 2011. As detailed in the work plan, Solutia intends to complete detailed design and then construction of the full-scale SVE treatment system at the Big Mo and Former Benzene Pipeline areas in December 2011, with operation beginning in January 2012.

Percent Project Completed

Percent completion cannot be estimated for the W. G. Krummrich Plant corrective action project as a whole, but rather only for individual project elements. Although Solutia made substantial progress in the past six months, e.g., submittal of the SVE reports in November 2010 and formulation of an alternative soil remediation approach for the Former CPA, no individual project elements were completed.

Trend Analyses

On August 2, 2010, Solutia submitted separate evaluations, including trend analyses, of data collected under the Route 3 Drum Site, Long-Term Monitoring, and PCB Groundwater Quality Assessment Programs since the February 2008 Final Decision.

Groundwater Due Diligence

Submitted separately from, but simultaneously with, this semiannual progress report is information to satisfy the requirements of the Final Decision under which Solutia is to:

- annually notify US EPA that municipal groundwater protection ordinances remain in place; and

- semiannually report on related due diligence, including:
  - publicizing existence of groundwater use restrictions;
  - conducting a semiannual review of available state and local records pertaining to groundwater well installation permits and construction dewatering permits; and
  - documenting the presence of any wells within 0.5 mile of Solutia's contaminant plume boundary and determining pumping activities at such wells.

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosures (2)

cc: Distribution List

DISTRIBUTION LIST

March 15, 2011, Semiannual Progress Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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SOLUTIA INC.
W. G. KRUMMRICH PLANT
SAUGET, IL
EPA ID NO. ILD000820702

MARCH 15, 2011

CHRONOLOGY
FEBRUARY 28, 2008 – MARCH 15, 2011

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20080228	Other	Receipt of 2/26/08 Final Decision
20080228	Other	Introductory meeting between G. Rinaldi / Solutia Project Mgr. and K. Bardo / US EPA Project Mgr.
20080305	PCB Mfg. Area	Conference call among Solutia, US EPA, and IEPA re PCB Mfg. Area soil disposal options
20080311	PCB Mfg. Area	Conference call among Solutia, US EPA, and IEPA re PCB Mfg. Area soil disposal options
20080327	CPA	Hand-delivery of Work Plan for ISTD Pilot Study
20080327	Lead	Hand-delivery of Work Plan for Remediation of Lead in Soils
20080327	PCB Hot Spot	Hand-delivery of Work Plan for Remediation of PCBs in Soils
20080331	Other	Completion of 1st quarter 2008 sampling for PCB Mobility and Migration Investigation
20080331	Other	Completion of 1st quarter 2008 sampling for Plume Stability Monitoring Program
20080410	Lead	US EPA comments on Work Plan for Remediation of Lead in Soils
20080410	PCB Hot Spot	US EPA comments on Work Plan for Remediation of PCBs in Soils
20080411	Long-Term	Submittal of Work Plan for Long-Term Monitoring
20080411	PCB G'water	Submittal of Work Plan for PCB Groundwater Quality Assessment
20080415	Other	Submittal of PCB Mobility and Migration Investigation 4th Quarter 2007 Data Report
20080415	Other	Submittal of Plume Stability Monitoring Program 4th Quarter 2007 Data Report
20080416	PCB Mfg. Area	Call among Solutia, US EPA, and IEPA re IEPA Remedial Action Plan Permit application process
20080421	PCB G'water	US EPA comments on Work Plan for PCB Groundwater Quality Assessment
20080421	PCB Mfg. Area	Submittal to US EPA and IEPA of PCB Mfg. Area soil characterization
20080422	PCB Mfg. Area	US EPA and IEPA comments on PCB Mfg. Area soil characterization
20080425	Drum Site	Submittal of Route 3 Drum Site O&M Plan
20080428	ELUC	Submittal of draft Environmental Land Use Controls (ELUC) to US EPA and IEPA
20080429	Long-Term	US EPA comments on Work Plan for Long-Term Monitoring
20080508	Drum Site	US EPA comments on Route 3 Drum Site O&M plan
20080521	PCB G'water	Submittal of Revised Work Plan for PCB Groundwater Quality Assessment
20080523	Drum Site	Submittal of Revised Route 3 Drum Site O&M Plan
20080527	Fin Assur	Submittal of documentation of $8,461,000 financial assurance
20080527	River Discharge	Submittal of Assessment of Contaminated Groundwater Discharge to Mississippi River
20080527	River Discharge	Submittal to IEPA of Assessment of Contaminated Groundwater Discharge to Mississippi River
20080528	PCB G'water	US EPA comments on Revised Work Plan for PCB Groundwater Quality Assessment
20080528	PCB Mfg. Area	Submittal of Corrective Measures Design for PCB Mfg. Area
20080605	Drum Site	Submittal of particle tracking for Route 3 Drum Site
20080605	PCB G'water	Response to US EPA comments on Revised Work Plan for PCB Groundwater Quality Assessment
20080605	PCB Mfg. Area	Submittal of supplement to Corrective Measures Design for PCB Mfg. Area

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20080606	PCB Mfg. Area	US EPA preliminary comments on Corrective Measures Design for PCB Mfg. Area
20080613	PCB Mfg. Area	Public notices of pre-RAPP-application public meeting at Sauget Village Hall
20080617	PCB Mfg. Area	Call between Solutia and IEPA re IEPA Remedial Action Plan Permit (RAPP) application process
20080619	Drum Site	US EPA approval of Revised Route 3 Drum Site O&M Plan
20080620	Lead	Submittal of Revised Work Plan for Remediation of Lead in Soils
20080620	Other	Completion of 2nd quarter 2008 (final) sampling for PCB Mobility and Migration Investigation
20080620	Other	Completion of 2nd quarter 2008 (final) sampling for Plume Stability Monitoring Program
20080620	PCB Hot Spot	Submittal of Revised Work Plan for Remediation of PCBs in Soils
20080623	PCB Mfg. Area	Response to US EPA preliminary comments on Corrective Measures Design for PCB Mfg. Area
20080625	PCB G'water	Completion of "push sampling" for PCB Groundwater Quality Assessment
20080625	PCB Mfg. Area	Meeting of Solutia - Krummrich Plant's Community Advisory Panel
20080626	CPA	US EPA comments on Work Plan for ISTD Pilot Study
20080703	SVE	Completion of pre-SVE-work-plan soil sampling, point permeability testing, etc.
20080710	CPA	Meeting with US EPA re comments on Work Plan for ISTD Pilot Study
20080710	PCB Mfg. Area	Meeting with US EPA RCRA and Superfund re PCB Mfg. Area corrective measures
20080710	PCB Mfg. Area	Meeting/call with US EPA RCRA and TSCA and IEPA re PCB Mfg. Area corrective measures
20080711	Drum Site	O&M inspection of Route 3 Drum Site
20080711	Other	Submittal of PCB Mobility and Migration Investigation 1st Quarter 2008 Data Report
20080711	Other	Submittal of Plume Stability Monitoring Program 1st Quarter 2008 Data Report
20080713	PCB Mfg. Area	Response to US EPA and IEPA comments on PCB Mfg. Area soil characterization
20080715	PCB Mfg. Area	Pre-RAPP-application public meeting at Sauget Village Hall
20080718	PCB G'water	Submittal of results of "push sampling" for PCB Groundwater Quality Assessment
20080718	PCB Mfg. Area	Call with US EPA and IEPA re need for additional PCB Mfg. Area soil characterization
20080718	PCB Mfg. Area	Submittal to IEPA of application for Remedial Action Plan Permit (RAPP)
20080718	PCB Mfg. Area	Submittal of request for US EPA TSCA Coordinated Approval
20080721	PCB G'water	US EPA comments on results of "push sampling" for PCB Groundwater Quality Assessment
20080728	PCB Mfg. Area	Submittal to US EPA and IEPA of plan for additional PCB Mfg. Area soil characterization
20080729	PCB Mfg. Area	Call with US EPA and IEPA re plan for additional PCB Mfg. Area soil characterization
20080805	PCB Mfg. Area	Submittal to US EPA and IEPA of revised plan for additional PCB Mfg. Area soil characterization
20080806	Lead	Completion of delineation sampling for Remediation of Lead in Soils
20080806	PCB Hot Spot	Completion of delineation sampling for Remediation of PCBs in Soils
20080806	PCB Mfg. Area	Additional PCB Mfg. Area soil characterization, with oversight by IEPA
20080808	ELUC	US EPA and IEPA comments on draft ELUC

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20080811	CPA	Meeting among Solutia, US EPA, and consultants re comments on Work Plan for ISTD Pilot Study
20080812	PCB Mfg. Area	US EPA comments on Corrective Measures Design for PCB Manufacturing Area
20080814	PCB G'water	Installation of new PCB Groundwater Quality Assessment wells PMA-MW-5 and 6
20080818	PCB Mfg. Area	Three-month extension (to 5/28/09) granted for corrective measures for PCB Mfg. Area
20080818	PCB Mfg. Area	Submittal of notice of dispute re US EPA comments on Corrective Measures Design for PCB Mfg. Area
20080819	PCB Mfg. Area	Call between Solutia and US EPA Project Managers re notice of dispute
20080825	ELUC	Call with US EPA and IEPA re comments on draft ELUC
20080825	Lead	Submittal of Technical Memorandum for Remediation of Lead in Soils
20080825	PCB Hot Spot	Submittal of Technical Memorandum for Remediation of PCBs in Soils
20080826	Long-Term	Completion of 3rd quarter 2008 sampling for Long-Term Monitoring Program
20080826	PCB G'water	Submittal of results from new PCB Groundwater Quality Assessment wells PMA-MW-5 and 6
20080826	PCB Mfg. Area	Submittal to US EPA and IEPA of additional PCB Mfg. Area soil characterization
20080826	SVE	Submittal of Work Plan for SVE Pilot Study
20080827	Drum Site	Completion of 3rd quarter 2008 groundwater sampling at Route 3 Drum Site
20080827	ELUC	Request for three-month extension (to 11/28/08) to record final ELUC
20080827	PCB G'water	Completion of 3rd quarter 2008 sampling for PCB Groundwater Quality Assessment
20080827	PCB Mfg. Area	Submittal of formal written objections to US EPA comments on Corrective Measures Design
20080828	PCB Mfg. Area	Meeting with US EPA management re objections to comments on Corrective Measures Design
20080829	ELUC	US EPA approval of three-month extension (to 11/28/08) to record final ELUC
20080829	PCB Mfg. Area	Call to IEPA re status of application for Remedial Action Plan Permit (RAPP)
20080902	PCB Mfg. Area	US EPA proposal of technology evaluation for PCB Mfg. Area
20080903	PCB Hot Spot	US EPA comments on Technical Memorandum for Remediation of PCBs in Soils
20080903	PCB Mfg. Area	Submittal of notice, cc: IEPA, of force majeure / excusable delay re RAPP application status
20080906	Lead	US EPA comments on Technical Memorandum for Remediation of Lead in Soils
20080908	PCB Mfg. Area	Call between Solutia and US EPA Project Managers re 8/28/08 meeting, 9/2/08 EPA proposal, etc.
20080908	PCB Mfg. Area	Submittal of summary of 8/28/08 meeting re objections to comments on Corrective Measures Design
20080910	PCB Mfg. Area	Submittal of plan/schedule for groundwater trend analysis, etc.
20080915	Other	Submittal of Semiannual Progress Report 02/28/08 - 09/15/08
20080915	PCB Mfg. Area	US EPA response to summary of 8/28/08 mtg. re objections to comments on Corrective Measures Design
20080915	PCB Mfg. Area	Call between Solutia and US EPA Project Managers re 9/15/08 US EPA response
20080916	PCB Mfg. Area	Submittal of resolution of dispute re US EPA comments on Corrective Measures Design
20080917	PCB Mfg. Area	US EPA response to resolution of dispute re comments on Corrective Measures Design
20080917	PCB Mfg. Area	Submittal of revised resolution of dispute re US EPA comments on Corrective Measures Design

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20080918	Lead	Completion of second round of delineation sampling for Remediation of Lead in Soils
20080919	Mercury	Groundwater and waste characterization sampling related to Remediation of Mercury in Soils
20080923	PCB Hot Spot	Submittal of Supplemental Work Plan for Delineation of PCBs in Soils
20080923	PCB Hot Spot	US EPA comments on Supplemental Work Plan for Delineation of PCBs in Soils
20080926	CPA	Submittal of air pollution control permit application for ISTD Pilot Study to IEPA
20080926	PCB Hot Spot	Response to US EPA comments on Supplemental Work Plan for Delineation of PCBs in Soils
20081001	CPA	Copy of IEPA air pollution control permit application for ISTD Pilot Study sent to US EPA
20081001	CPA	Submittal of Revised Work Plan for ISTD Pilot Study
20081001	Other	Submittal of PCB Mobility and Migration Investigation 2nd Quarter 2008 (final) Data Report
20081001	Other	Submittal of Plume Stability Monitoring Program 2nd Quarter 2008 (final) Data Report
20081002	CPA	Draft air pollution control permit from IEPA for ISTD Pilot Study
20081003	Lead	Completion of third round of delineation sampling for Remediation of Lead in Soils
20081003	PCB Hot Spot	Additional delineation sampling for remediation of PCBs in Soils
20081007	Mercury	Request for approval of 61 ppm soil cleanup level
20081008	Mercury	US EPA comments on request for approval of 61 ppm soil cleanup level
20081015	Mercury	Response to US EPA comments on request for approval of 61 ppm soil cleanup level
20081015	PCB Hot Spot	Submittal of proposal for further work for delineation of PCBs in soils
20081015	SVE	Pilot study site preparation (asphalt paving)
20081016	Lead	Completion of fourth round of delineation sampling for remediation of lead in soils
20081016	PCB Hot Spot	Additional delineation sampling for remediation of PCBs in soils
20081020	Mercury	US EPA verbal comments on 10/15/08 submittal
20081021	CPA	Response to IEPA re draft air pollution control permit for ISTD Pilot Study
20081022	CPA	Pilot study site preparation (railroad track removal, grading, etc.)
20081022	ELUC	Surveying of portions of Solutia property for inclusion in revised draft ELUC
20081024	CPA	Submittal to American Bottoms of wastewater discharge permit mod'n. appl'n. for ISTD Pilot Study, etc.
20081024	CPA	US EPA comments on Revised Work Plan for ISTD Pilot Study
20081027	PCB Mfg. Area	Call to IEPA re status of application for Remedial Action Plan Permit (RAPP)
20081028	Drum Site	O&M inspection of Route 3 Drum Site
20081028	PCB Mfg. Area	Submittal to American Bottoms of wastewater discharge permit application for Judith Lane facility
20081031	CPA	IEPA issuance of air pollution control permit for ISTD Pilot Study
20081031	PCB Mfg. Area	Submittal of Corrective Measure Technology Evaluation (CMTE) Work Plan
20081031	PCB Mfg. Area	Submittal of Groundwater Trend Analysis
20081103	CPA	Copy of American Bottoms wastewater discharge permit mod'n. appl'n. for ISTD Pilot Study, etc., to US EPA

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20081104	ELUC	Submittal of revised Environmental Land Use Controls (ELUC) to US EPA and IEPA
20081105	Mercury	Response to 10/20/08 US EPA verbal comments on 10/15/08 submittal
20081106	CPA	Pretreatment soil sampling
20081107	CPA	Response to US EPA comments on Revised Work Plan for ISTD Pilot Study
20081108	ELUC	US EPA comments on revised Environmental Land Use Controls (ELUC)
20081110	ELUC	Additional US EPA comments on revised Environmental Land Use Controls (ELUC)
20081113	CPA	Draft wastewater discharge permit mod'n. from American Bottoms for ISTD Pilot Study, etc.
20081113	SVE	US EPA comments on Work Plan for SVE Pilot Study
20081117	ELUC	IEPA comments on revised Environmental Land Use Controls (ELUC)
20081117	Mercury	US EPA approval of 61 ppm soil cleanup level
20081118	CPA	Completion of installation of heater and groundwater wells and temperature and pressure monitoring points
20081118	CPA	Copy of IEPA air pollution control permit for ISTD Pilot Study to US EPA
20081118	PCB Mfg. Area	US EPA comments on Corrective Measure Technology Evaluation (CMTE) Work Plan
20081119	ELUC	Response to US EPA comments on revised Environmental Land Use Controls (ELUC)
20081119	PCB G'water	Completion of 4th quarter 2008 sampling for PCB Groundwater Quality Assessment
20081120	ELUC	Call with US EPA and IEPA re comments on revised Environmental Land Use Controls (ELUC)
20081121	Lead	Submittal of completed delineation and plans for Remediation of Lead in Soils
20081124	ELUC	Request for additional three-month extension (to 02/28/09) to record final ELUC
20081124	Lead	US EPA response to submittal of completed delineation and plans for Remediation of Lead in Soils
20081124	Long-Term	Completion of 4th quarter 2008 sampling for Long-Term Monitoring Program
20081125	CPA	Completion of installation of concrete cover
20081125	Drum Site	Completion of 4th quarter 2008 groundwater sampling at Route 3 Drum Site
20081125	Other	Submittal of notice of Corps of Engineers' "East St. Louis Flood Protection Design Deficiency Correction Project"
20081125	SVE	Submittal of delineation objectives and work plan
20081128	Lead	Completion of asphalt paving at S0703, S0716, S0717, and S0720
20081202	Mercury	Sampling for vertical delineation at S0904
20081202	PCB Hot Spot	Additional delineation sampling for remediation of PCBs in soils
20081203	CPA	Pretreatment groundwater sampling
20081203	ELUC	US EPA approval of additional three-month extension (to 02/28/09) to record final ELUC
20081204	SVE	Preliminary US EPA comments on delineation objectives / work plan
20081205	CPA	American Bottoms' issuance of wastewater permit mod'n. for ISTD Pilot Study and PCB Mfg. Area excavation
20081205	PCB Mfg. Area	US EPA comments on Groundwater Trend Analysis
20081208	Lead	Placement of gravel cover at S0610 and S0715

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20081210	Drum Site	Submittal of Route 3 Drum Site October 2008 inspection report
20081211	PCB Mfg. Area	Response to US EPA comments on Groundwater Trend Analysis
20081211	SVE	Copy of IEPA air pollution control permit application for SVE Pilot Study to US EPA
20081212	Drum Site	Submittal of Route 3 Drum Site 3rd Quarter 2008 Data Report
20081212	Long-Term	Submittal of Long-Term Monitoring Program 3rd Quarter 2008 Data Report
20081212	Mercury	Request-for-proposal for remediation
20081212	PCB G'water	Submittal of PCB Groundwater Quality Assessment 3rd Quarter 2008 Data Report
20081215	SVE	Submittal of response to US EPA comments and Revised Work Plan for SVE Pilot Study
20081216	CPA	Copy of wastewater permit mod'n. for ISTD Pilot Study and PCB Mfg. Area excavation to US EPA
20081216	SVE	Draft air pollution control permit from IEPA for SVE Pilot Study
20081217	SVE	Submittal to American Bottoms of wastewater discharge permit mod'n. appl'n. for SVE Pilot Study
20081219	SVE	Response to IEPA re draft air pollution control permit for SVE Pilot Study
20081219	SVE	Copy of American Bottoms wastewater discharge permit mod'n. appl'n. for SVE Pilot Study to US EPA
20081229	SVE	Revised draft air pollution control permit from IEPA for SVE Pilot Study
20090105	Mercury	Award of contract for remediation
20090108	SVE	US EPA comments on delineation objectives / work plan and Revised Work Plan for SVE Pilot Study
20090109	SVE	IEPA issuance of air pollution control permit for SVE Pilot Study
20090112	Drum Site	Surveying of cover
20090112	Lead	Surveying of asphalt paving and gravel covers
20090114	PCB Hot Spot	Submittal of results of delineation sampling and proposed remedies
20090116	PCB Hot Spot	US EPA comments on results of delineation sampling and proposed remedies
20090120	PCB Hot Spot	Call between Solutia and US EPA Project Managers re delineation sampling and proposed remedies
20090122	PCB Hot Spot	Additional delineation sampling
20090128	SVE	Copy of IEPA air pollution control permit for SVE Pilot Study to US EPA
20090202	PCB Hot Spot	Additional delineation sampling
20090202	SVE	Completion of baseline soil sampling
20090203	PCB Mfg. Area	Award of contract for treatability study portion of Corrective Measure Technology Evaluation (CMTE)
20090204	Mercury	Commencement of field work
20090205	SVE	Response to US EPA comments on delineation objectives / work plan
20090206	SVE	Completion of installation of SVE wells
20090211	SVE	Response to US EPA comment on Revised Work Plan for SVE Pilot Study
20090212	CPA	Commencement of operation of ISTD Pilot Study
20090212	PCB Mfg. Area	Sample collection for Corrective Measure Technology Evaluation (CMTE) treatability study

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20090213	Mercury	Installation of monitoring well
20090213	PCB Hot Spot	Submittal of results of additional delineation sampling, off-site access plans, etc.
20090213	PCB Hot Spot	Access request to Alton & Southern Railway for off-site sampling
20090217	Mercury	Completion of backfill of excavated area
20090219	PCB Hot Spot	Access request to Illinois Dept. of Transportation for off-site sampling
20090219	PCB Hot Spot	Call between Solutia and US EPA Project Managers re 02/13/09 submittal
20090220	ELUC	Request for additional one-month extension (to 03/31/09) to record final ELUC
20090220	Other	Public notice of groundwater use restrictions
20090220	PCB Hot Spot	US EPA approval of 2/13/09 submittal and schedule extension until 05/28/09
20090223	CPA	Monthly groundwater sampling
20090223	Mercury	First quarterly sampling of monitoring well
20090227	ELUC	US EPA approval of additional one-month extension (to 03/31/09) to record final ELUC
20090227	ELUC	Submittal of revised Environmental Land Use Controls (ELUC) to US EPA and IEPA
20090227	Lead	Submittal of Construction Completion Report
20090227	Mercury	Submittal of Construction Completion Report
20090302	Long-Term	Completion of 1st quarter 2009 sampling for Long-Term Monitoring Program
20090302	Mercury	Submittal of results of 2/23/09 groundwater sampling
20090302	PCB G'water	Completion of 1st quarter 2009 sampling for PCB Groundwater Quality Assessment
20090303	Drum Site	Completion of 1st quarter 2009 groundwater sampling at Route 3 Drum Site
20090304	PCB Hot Spot	Submittal of work plan for additional on- and off-site PCB sampling
20090305	PCB Hot Spot	Meeting with Alton & Southern Railway about access for off-site sampling
20090309	PCB Hot Spot	US EPA comments on work plan for additional on- and off-site PCB sampling
20090311	PCB Hot Spot	Submittal of application to Alton & Southern Railway for access agreement
20090312	PCB Hot Spot	Receipt of draft right-of-entry agreement from Alton & Southern Railway for off-site sampling
20090313	Drum Site	Submittal of Route 3 Drum Site 4th Quarter 2008 Data Report
20090313	Lead	Submittal of revised Construction Completion Report text
20090313	Long-Term	Submittal of Long-Term Monitoring Program 4th Quarter 2008 Data Report
20090313	Mercury	Submittal of revised Construction Completion Report text
20090313	Other	Submittal of semiannual report of groundwater due diligence
20090313	Other	Submittal of Semiannual Progress Report 09/15/08 - 03/15/09
20090313	PCB G'water	Submittal of PCB Groundwater Quality Assessment 4th Quarter 2008 Data Report
20090313	PCB Hot Spot	Response to US EPA comments on sampling work plan
20090318	PCB Hot Spot	US EPA reply to work plan comment response

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20090319	PCB Hot Spot	Receipt of Illinois Dept. of Transportation access agreement for off-site sampling
20090324	CPA	Monthly groundwater sampling
20090326	ELUC	Call with US EPA and IEPA re revised draft Environmental Land Use Controls (ELUC)
20090327	ELUC	Receipt of agency comments on revised draft Environmental Land Use Controls (ELUC)
20090327	ELUC	Request for additional one-month extension (to 04/30/09) to record final ELUC
20090327	PCB Hot Spot	Execution of right-of-entry agreement from Alton & Southern Railway for off-site sampling
20090330	Lead	US EPA approval of revised Construction Completion Report
20090330	Mercury	US EPA approval of revised Construction Completion Report
20090330	PCB Hot Spot	Sample collection on Solutia and Illinois Dept. of Transportation property
20090330	SVE	American Bottoms' issuance of wastewater permit mod'n. for SVE Pilot Study
20090331	PCB Hot Spot	Letter to US EPA re access agreements for off-site sampling
20090402	ELUC	US EPA approval of additional one-month extension (to 05/01/09) to record final ELUC
20090403	PCB Hot Spot	Sample collection on Alton & Southern Railway property
20090403	SVE	Copy of wastewater permit mod'n. for SVE Pilot Study to US EPA
20090408	ELUC	Submittal of proposed final Environmental Land Use Controls (ELUC) to US EPA and IEPA
20090409	ELUC	Call with US EPA and IEPA re final Environmental Land Use Controls (ELUC)
20090415	SVE	Baseline soil vapor sampling
20090420	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20090420	PCB Mfg. Area	Request for extension to submit Construction Completion Report
20090421	CPA	Monthly groundwater sampling
20090423	Drum Site	O&M inspection of Route 3 Drum Site
20090424	PCB Hot Spot	Sample collection on Solutia property
20090428	PCB Mfg. Area	US EPA approval of extension (to 05/28/10) to submit Construction Completion Report
20090430	ELUC	IEPA approval of Environmental Land Use Controls (ELUC)
20090430	ELUC	Recording of final Environmental Land Use Controls (ELUC)
20090504	PCB Mfg. Area	Call with IEPA re status of application for Remedial Action Plan Permit (RAPP)
20090506	Drum Site	Submittal of Route 3 Drum Site April 2009 inspection report
20090511	PCB Hot Spot	Sample collection on Solutia property
20090512	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20090512	PCB Mfg. Area	Copies of 2000 - 2001 Judith Lane containment cell design information to IEPA
20090518	CPA	Letter to US EPA proposing extending pilot study to evaluate steam-enhanced extraction (SEE)
20090518	ELUC	Certified copy of recorded ELUC to IEPA, cc: US EPA
20090518	PCB Hot Spot	Letter to Alton & Southern Railway providing sampling results and proposed remediation plan

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20090520	CPA	US EPA approval of steam-enhanced extraction (SEE) proposal
20090522	PCB Hot Spot	Request for additional five-month extension (to 10/28/09) to submit Construction Completion Report
20090526	CPA	Monthly groundwater sampling
20090526	Drum Site	Submittal of 1st quarter 2009 groundwater data report for Route 3 Drum Site
20090526	Long-Term	Submittal of 1st quarter 2009 data report for Long-Term Monitoring Program
20090526	Mercury	Second quarterly sampling of monitoring well
20090526	PCB G'water	Submittal of 1st quarter 2009 data report for PCB Groundwater Quality Assessment
20090526	SVE	Commencement of operation of SVE Pilot Study
20090527	PCB Hot Spot	US EPA approval of additional five-month extension (to 10/28/09) to submit Construction Completion Report
20090527	PCB Mfg. Area	Follow-up with IEPA on 5/12/09 communication re Remedial Action Plan Permit (RAPP) application
20090527	PCB Mfg. Area	Submittal of Corrective Measure Technology Evaluation (CMTE)
20090529	CPA	Completion of interim soil sampling
20090529	CPA	Quarterly ISTD air monitoring report to IEPA
20090529	CPA	Class V Injection Well Inventory Form for Steam-Enhanced Extraction (SEE) to IEPA
20090602	PCB Hot Spot	Completion of on-site delineation of PCBs in soils
20090604	Other	IEPA inspection of Drum Site, Long-Term, and PCB groundwater monitoring wells / programs
20090604	PCB Mfg. Area	US EPA comments on Corrective Measure Technology Evaluation (CMTE)
20090608	PCB Mfg. Area	US EPA e-mail re groundwater elevations
20090609	Drum Site	Completion of 2nd quarter 2009 groundwater sampling at Route 3 Drum Site
20090609	Long-Term	Completion of 2nd quarter 2009 sampling for Long-Term Monitoring Program
20090610	PCB G'water	Completion of 2nd quarter 2009 sampling for PCB Groundwater Quality Assessment
20090610	PCB Hot Spot	Letter to Illinois Dept. of Transportation providing sampling results and proposed remediation plan
20090611	Mercury	Submittal of results of 5/26/09 groundwater sampling
20090612	SVE	Notice to US EPA re postponement of operation of SVE Pilot Study due to elevated groundwater level
20090615	PCB Mfg. Area	Response to US EPA e-mail re groundwater elevations
20090617	PCB Mfg. Area	Response to US EPA comments on Corrective Measure Technology Evaluation (CMTE)
20090622	CPA	Monthly groundwater sampling
20090624	CPA	Completion of post-ISTD / pre-SEE treatment soil sampling
20090624	PCB Mfg. Area	Follow-up with IEPA on May 2009 communications re Remedial Action Plan Permit (RAPP) application
20090627	CPA	Installation of steam injection well and fluid extraction well
20090630	CPA	Commencement of steam-enhanced extraction (SEE)
20090630	PCB Hot Spot	Request for proposal for excavation of PCB-containing soils and backfill
20090701	PCB Hot Spot	Illinois Dept. of Transportation response to proposed remediation plan

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20090915	Other	Submittal of Semiannual Progress Report 03/14/09 - 09/15/09
20090918	PCB Hot Spot	Solutia meeting with Illinois Dept. of Transportation re proposed remediation plan
20090918	PCB Hot Spot	Response to 09/11/09 US EPA comments on 08/31/09 submittal
20090923	CPA	Response to 09/15/09 US EPA comments on ISTD schedule, etc.
20090923	Long-Term	Completion of 3rd quarter 2009 surface water and sediment sampling
20090923	Mercury	Submittal of results of 08/26/09 groundwater sampling
20090923	PCB Mfg. Area	Follow-up with IEPA re Remedial Action Plan Permit (RAPP) application
20090924	PCB Hot Spot	Completion of excavation of on-site soils and backfilling
20090928	SVE	Commencement of delineation sampling
20090929	CPA	Call between Solutia and US EPA Project Managers re ISTD schedule, etc.
20090930	PCB Hot Spot	Commencement of asphalt paving over PCB-containing soils
20091002	CPA	Quarterly ISTD air monitoring report to IEPA
20091002	SVE	Completion of delineation sampling
20091007	PCB Hot Spot	Letter from Alton & Southern Railway
20091008	Long-Term	Submittal of Natural Attenuation Evaluation (3Q08 - 2Q09)
20091013	SVE	Request to IEPA for extension of air pollution control permit for SVE Pilot Study
20091014	Drum Site	O&M inspection of Route 3 Drum Site
20091015	Drum Site	Submittal of Route 3 Drum Site October 2009 inspection report
20091020	PCB Hot Spot	Letter responding to 10/07/09 letter from Alton & Southern Railway
20091020	PCB Hot Spot	Letter to Illinois Dept. of Transportation following up on 09/18/09 meeting
20091020	PCB Hot Spot	Call between Solutia and US EPA Project Managers re upcoming schedule extension request, etc.
20091022	PCB Hot Spot	Request for additional one-year extension (to 10/28/10) to submit Construction Completion Report
20091026	SVE	IEPA issuance of extension of air pollution control permit for SVE Pilot Study until 06/30/10
20091026	SVE	Commencement of winterization of pilot test equipment
20091030	SVE	Second quarterly SVE air monitoring report to IEPA
20091102	SVE	Notice to US EPA and commencement of paramater evaluation testing (individual wells and configurations)
20091103	CPA	Commencement of soil characterization sampling
20091109	PCB Hot Spot	US EPA approval of additional one-year extension (to 10/28/10) to submit Construction Completion Report
20091109	PCB Hot Spot	E-mail to Alton & Southern Railway re 10/20/09 Solutia letter
20091109	PCB Hot Spot	E-mail to Illinois Dept. of Transportation re 10/20/09 Solutia letter
20091112	PCB Hot Spot	Completion of asphalt paving over PCB-containing soils
20091112	SVE	Commencement of performance evaluation testing (preferred configuration)
20091116	CPA	Tentative completion of soil characterization sampling

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20090707	PCB Hot Spot	Meeting with Alton & Southern Railway re proposed remediation plan
20090716	Drum Site	O&M inspection of Route 3 Drum Site
20090722	Drum Site	Submittal of Route 3 Drum Site July 2009 inspection report
20090723	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20090727	CPA	Shutdown of electrical heaters and steam injection for ISTD Pilot Study
20090727	PCB Hot Spot	Status report to US EPA
20090727	SVE	Status report to US EPA
20090730	CPA	Post-treatment groundwater sampling
20090731	PCB Hot Spot	Alton & Southern Railway response to proposed remediation plan
20090803	CPA	Post-SEE treatment soil sampling
20090811	PCB Hot Spot	Call between Solutia and US EPA Project Managers re separating on-site versus off-site activities
20090818	Drum Site	Submittal of 2nd quarter 2009 groundwater data report for Route 3 Drum Site
20090818	Long-Term	Submittal of 2nd quarter 2009 data report for Long-Term Monitoring Program
20090818	PCB G'water	Submittal of 2nd quarter 2009 data report for PCB Groundwater Quality Assessment
20090824	CPA	Quarterly ISTD air monitoring report to IEPA
20090824	Drum Site	Completion of 3rd quarter 2009 groundwater sampling at Route 3 Drum Site
20090825	PCB G'water	Completion of 3rd quarter 2009 sampling for PCB Groundwater Quality Assessment
20090825	PCB Hot Spot	Request for proposal for asphalt paving over PCB-containing soils
20090826	Long-Term	Completion of 3rd quarter 2009 groundwater sampling for Long-Term Monitoring Program
20090826	Mercury	Third quarterly sampling of monitoring well
20090826	PCB Hot Spot	Solutia meeting with Alton & Southern Railway re proposed remediation plan
20090827	SVE	Quarterly SVE air monitoring report to IEPA
20090831	CPA	Submittal of delineation objectives and work plan
20090831	PCB Hot Spot	Submittal to US EPA of final delineation and remedies for PCBs in on-site soils
20090901	PCB Hot Spot	Letter to Alton & Southern Railway proposing additional sampling
20090902	PCB Hot Spot	US EPA comments on 08/31/09 submittal, etc.
20090904	PCB Hot Spot	Additional soil sampling results and revised remediation plan to Illinois Dept. of Tranmsportation
20090908	PCB Hot Spot	Commencement of excavation of on-site soils
20090909	PCB Hot Spot	Call between Solutia and US EPA Project Managers re 08/31/09 submittal, etc.
20090911	PCB Hot Spot	Additional US EPA comments on 08/31/09 submittal
20090911	PCB Mfg. Area	Follow-up with IEPA re Remedial Action Plan Permit (RAPP) application
20090915	CPA	US EPA comments (schedule, etc.) on delineation objectives and work plan
20090915	Other	Submittal of semiannual report of groundwater due diligence

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20091116	SVE	Completion of winterization of pilot test equipment
20091119	Drum Site	Completion of 4th quarter 2009 groundwater sampling at Route 3 Drum Site
20091119	Long-Term	Completion of 4th quarter 2009 groundwater sampling for Long-Term Monitoring Program
20091120	PCB Hot Spot	E-mail follow-up to 10/20/09 letter to Alton & Southern Railway
20091120	PCB Hot Spot	E-mail follow-up to 10/20/09 letter to Illinois Dept. of Transportation
20091123	Drum Site	Submittal of 3rd quarter 2009 groundwater data report for Route 3 Drum Site
20091123	Long-Term	Submittal of 3rd quarter 2009 data report for Long-Term Monitoring Program
20091123	PCB G'water	Submittal of 3rd quarter 2009 data report for PCB Groundwater Quality Assessment
20091124	Mercury	Fourth quarterly sampling of monitoring well
20091124	PCB G'water	Completion of 4th quarter 2009 sampling for PCB Groundwater Quality Assessment
20091203	PCB Hot Spot	E-mail follow-up to 10/20/09 letter to Alton & Southern Railway
20091203	PCB Hot Spot	E-mail follow-up to 10/20/09 letter to Illinois Dept. of Transportation
20091207	SVE	Notice to US EPA re shutdown of SVE Pilot Study due to elevated groundwater level
20091211	PCB Hot Spot	Submittal of Interim Construction Completion Report
20091215	PCB Hot Spot	Telephone conversation with Illinois Dept. of Transportation re 10/20/09 letter
20091216	Lead	Annual inspection of cover remedy
20091216	Mercury	Submittal of results of 11/24/09 groundwater sampling
20091217	Other	Call between Solutia and US EPA Project Managers re multiple project activities
20091218	CPA	Completion of remaining soil characterization sampling
20091218	PCB Mfg. Area	Follow-up with IEPA re Remedial Action Plan Permit (RAPP) application
20091222	PCB Hot Spot	Telephone conversation with Alton & Southern Railway re 10/20/09 letter
20100111	PCB Hot Spot	E-mail follow-up to 10/20/09 letter to Illinois Dept. of Transportation
20100113	PCB Hot Spot	Alton & Southern Railway response to 10/20/09 letter
20100127	PCB Hot Spot	Telephone conversation with Alton & Southern Railway re 10/20/09 letter
20100129	PCB Hot Spot	Telephone conversation with Illinois Dept. of Transportation re 10/20/09 letter
20100203	PCB Hot Spot	Ilinois Dept. of Transportation agreement to additional sampling per 10/20/09 letter
20100208	SVE	Quarterly SVE air monitoring report to IEPA
20100211	SVE	Notice to US EPA re resumption of SVE Pilot Study
20100212	SVE	Soil sampling results and plans for additional sampling to US EPA for approval
20100215	Drum Site	Submittal of 4th quarter 2009 groundwater data report for Route 3 Drum Site
20100215	Long-Term	Submittal of 4th quarter 2009 data report for Long-Term Monitoring Program
20100215	PCB G'water	Submittal of 4th quarter 2009 data report for PCB Groundwater Quality Assessment
20100218	Drum Site	Completion of 1st quarter 2010 groundwater sampling at Route 3 Drum Site

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20100218	Long-Term	Completion of 1st quarter 2010 groundwater sampling for Long-Term Monitoring Program
20100219	Mercury	Abandonment of monitoring well
20100219	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20100223	PCB G'water	Completion of 1st quarter 2010 sampling for PCB Groundwater Quality Assessment
20100226	PCB Hot Spot	Solutia meeting/conference call with Alton & Southern Railway
20100303	CPA	E-mail status report to US EPA
20100303	SVE	Resubmittal of 02/12/10 soil sampling results and plans for additional sampling to US EPA for approval
20100304	SVE	US EPA approval of 02/12/10 plans for additional sampling
20100309	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100312	CPA	Submittal of Pilot Study Report, Characterization Report, and Work Plan for Full-Scale Remediation
20100312	Other	Submittal of semiannual report of groundwater due diligence
20100312	Other	Submittal of Semiannual Progress Report 09/16/09 - 03/12/10
20100319	SVE	Completion of additional delineation sampling per 02/12/10 plans
20100325	CPA	Meeting with US EPA re 03/12/10 submittal
20100330	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100331	CPA	US EPA preliminary comments on 03/12/10 submittal
20100331	SVE	Completion of Pilot Study interim soil sampling
20100409	Fin Assur	Request to US EPA to reduce financial assurance for completed tasks, etc.
20100419	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20100419	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100419	PCB Mfg. Area	Follow-up with IEPA re Remedial Action Plan Permit (RAPP) application
20100420	SVE	Additional delineation sampling based on March 2010 results
20100422	Fin Assur	US EPA approval of 04/09/10 request
20100422	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100427	Drum Site	Submittal of 1st quarter 2010 groundwater data report for Route 3 Drum Site
20100427	Long-Term	Submittal of 1st quarter 2010 data report for Long-Term Monitoring Program
20100427	PCB G'water	Submittal of 1st quarter 2010 data report for PCB Groundwater Quality Assessment
20100428	ELUC	Recording of first amended Environmental Land Use Controls (ELUC)
20100429	Drum Site	O&M inspection of Route 3 Drum Site
20100503	SVE	Quarterly SVE air monitoring report to IEPA
20100504	CPA	Response to US EPA preliminary comments on 03/12/10 submittal
20100505	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100506	PCB Mfg. Area	Request for extension to submit Construction Completion Report

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20100512	SVE	Notice to US EPA re extension of SVE Pilot Study
20100517	PCB Mfg. Area	US EPA preliminary comments on IEPA Remedial Action Plan Permit (RAPP) application
20100518	PCB G'water	Completion of 2nd quarter 2010 sampling for PCB Groundwater Quality Assessment
20100518	SVE	Request to IEPA for extension of air pollution control permit for SVE Pilot Study
20100521	CPA	US EPA reply to 05/04/10 comment responses
20100521	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100525	CPA	Solutia reply to 05/21/10 US EPA e-mail
20100526	Drum Site	Completion of 2nd quarter 2010 groundwater sampling at Route 3 Drum Site
20100526	SVE	IEPA issuance of extension of air pollution control permit for SVE Pilot Study until 12/31/10
20100527	PCB Mfg. Area	US EPA approval of extension (to 05/31/11) to submit Construction Completion Report
20100601	CPA	US EPA approval of Pilot Study Report, Characterization Report, and Work Plan for Full-Scale Remediation
20100603	Long-Term	Completion of 2nd quarter 2010 groundwater sampling for Long-Term Monitoring Program
20100607	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100610	Fin Assur	Increase of $14,300,000 for full-scale ISTD implementation
20100617	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100617	PCB Mfg. Area	Offer to meet with IEPA about 07/18/08 Remedial Action Plan Permit (RAPP) application
20100628	SVE	Pilot Study interim soil sampling
20100701	PCB Hot Spot	Sample collection on Illinois Dept. of Transportation property
20100707	PCB Hot Spot	Solutia meeting/conference call with Alton & Southern Railway
20100709	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100716	SVE	Shutdown of extended SVE Pilot Study (notice to US EPA 07/19/10)
20100722	Drum Site	Submittal of 2nd quarter 2010 groundwater data report for Route 3 Drum Site
20100722	Long-Term	Submittal of 2nd quarter 2010 data report for Long-Term Monitoring Program
20100722	PCB G'water	Submittal of 2nd quarter 2010 data report for PCB Groundwater Quality Assessment
20100730	Drum Site	O&M inspection of Route 3 Drum Site
20100802	Drum Site	Submittal of 3Q08 - 2Q10 data evaluation
20100802	Long-Term	Submittal of 3Q08 - 2Q10 data evaluation
20100802	PCB G'Water	Submittal of 3Q08 - 2Q10 data evaluation
20100803	CPA	Submittal of ISTD Well Installation Plan
20100811	SVE	Quarterly SVE air monitoring report to IEPA
20100823	Drum Site	US EPA response to 08/02/10 evaluation
20100826	PCB Hot Spot	Additional soil sampling results and revised remediation plan to Illinois Dept. of Transportation
20100827	PCB G'Water	Initial US EPA response to 08/02/10 data evaluation

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20100831	SVE	Quarterly SVE air monitoring report to IEPA
20100908	Drum Site	Call between Solutia and US EPA Project Managers about 08/02/10 data evaluation
20100908	PCB G'water	Call between Solutia and US EPA Project Managers about 08/02/10 data evaluation
20100908	PCB Mfg. Area	Call between Solutia and US EPA Project Managers about status of IEPA review of 07/18/08 RAPP application
20100909	CPA	Commencement of installation of groundwater monitoring well clusters
20100909	PCB Hot Spot	E-mail status report to US EPA
20100910	Long-Term	Initial US EPA response to 08/02/10 data evaluation
20100913	PCB Hot Spot	Telephone follow-ups with Alton & Southern Railway and Illinois Dept. of Transportation
20100915	Other	Submittal of semiannual report of groundwater due diligence
20100915	Other	Submittal of Semiannual Progress Report 03/13/10 - 09/15/10
20100917	CPA	Completion of installation of groundwater monitoring well clusters
20100923	Drum Site	Completion of 3rd quarter 2010 groundwater sampling at Route 3 Drum Site
20100923	Long-Term	Completion of 3rd quarter 2010 groundwater sampling for Long-Term Monitoring Program
20100923	PCB Hot Spot	Completion of on-site paving
20100924	Long-Term	Detailed US EPA response to 08/02/10 data evaluation
20100927	PCB Hot Spot	E-mail follow-up to Alton & Southern Railway
20100927	PCB Hot Spot	Letter from Alton & Southern Railway
20100930	PCB G'water	Completion of 3rd quarter 2010 sampling for PCB Groundwater Quality Assessment
20101004	PCB Hot Spot	E-mail follow-up to Illinois Dept. of Transportation
20101004	PCB Hot Spot	E-mail reply from Illinois Dept. of Transportation to 08/26/10 submittal
20101021	PCB Hot Spot	Submittal of Addendum to Interim Construction Completion Report (completion of on-site paving)
20101021	PCB Hot Spot	Request for additional one-year extension (to 10/28/11) to submit Construction Completion Report
20101025	Drum Site	O&M inspection of Route 3 Drum Site
20101027	PCB Hot Spot	Initial US EPA response to 10/21/10 extension request
20101101	SVE	Submittal of Pilot Study Report, Characterization Report, and Work Plan for Full-Scale Remediation
20101102	PCB Hot Spot	Reply to 10/27/10 US EPA response to 10/21/10 extension request
20101109	PCB Hot Spot	US EPA approval of additional one-year extension (to 10/28/11) to submit Construction Completion Report
20101117	Other	Notification to US EPA RCRA of US EPA CERCLA and IEPA intent to create new operable unit for groundwater
20101118	CPA	Notification to US EPA of Solutia's suspension of detailed design, etc., by TerraTherm
20101118	SVE	Meeting with US EPA re 11/01/10 submittal
20101122	Other	Copy to US EPA RCRA of 11/18/10 US EPA CERCLA and IEPA letter re new operable unit for groundwater
20101122	PCB Hot Spot	Annual inspection of cover remedy
20101129	SVE	US EPA comments on 11/01/10 submittal

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SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20101203	CPA	Solutia meeting with consultants to formulate alternative remedy
20101203	CPA	US EPA response to 11/18/10 notification
20101207	Long-Term	Completion of 4th quarter 2010 groundwater sampling for Long-Term Monitoring Program
20101209	Drum Site	Completion of 4th quarter 2010 groundwater sampling at Route 3 Drum Site
20101210	SVE	Initial Solutia reply to 11/29/10 US EPA comments
20101214	PCB G'water	Completion of 4th quarter 2010 sampling for PCB Groundwater Quality Assessment
20101220	CPA	Submittal of alternative remedy proposal, etc., in response to 12/03/10 US EPA letter
20101220	Drum Site	Submittal of 3rd quarter 2010 groundwater data report for Route 3 Drum Site
20101220	Long-Term	Submittal of 3rd quarter 2010 data report for Long-Term Monitoring Program
20101220	PCB G'water	Submittal of 3rd quarter 2010 data report for PCB Groundwater Quality Assessment
20101222	SVE	Solutia response to 11/29/10 US EPA comments
20101227	CPA	US EPA request for additional information re 12/20/10 submittal
20101228	Lead	Annual inspection of cover remedy
20101229	CPA	Response to 12/27/10 US EPA request
20110105	CPA	US EPA request for additional information re 12/29/10 submittal
20110106	SVE	US EPA reply to 12/22/10 comment responses
20110113	CPA	Response to 01/05/11 US EPA request
20110119	CPA	Additional soil characterization
20110119	SVE	Additional soil characterization
20110119	SVE	Solutia reply to 01/06/11 US EPA e-mail and call between Solutia and US EPA Project Managers
20110120	CPA	US EPA - Solutia meeting re 12/20/10 alternative remedy proposal
20110204	CPA	Submittal of expanded alternative remedy proposal per 01/20/11 meeting
20110204	SVE	Submittal of shutdown protocol, etc., to US EPA per 01/19/11 call
20110209	CPA	Additional soil characterization
20110211	CPA	US EPA questions on 02/04/11 submittal
20110214	SVE	Final US EPA approval of 11/01/10 Work Plan and subsequent correspondence
20110215	CPA	Preliminary Solutia response to 02/11/11 US EPA questions
20110216	PCB Hot Spot	Solutia response (past PCB and lead characterization, etc.) to 09/27/10 letter from Alton & Soutern Railway
20110223	Drum Site	Completion of 1st quarter 2011 groundwater sampling at Route 3 Drum Site
20110223	Long-Term	Initial Solutia response to 09/24/10 US EPA comments
20110223	Long-Term	Completion of 1st quarter 2011 groundwater sampling for Long-Term Monitoring Program
20110225	CPA	Final Solutia response to 02/11/11 US EPA questions
20110225	PCB G'water	Completion of 1st quarter 2011 sampling for PCB Groundwater Quality Assessment

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

CHRONOLOGY
FEBRUARY 28, 2008 - MARCH 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20110304	Long-Term	Additional Solutia response to 09/24/10 US EPA comments
20110311	CPA	US EPA approval of 12/20/11 and 02/04/11 alternative remedy proposals
20110311	Long-Term	Letter from US EPA about modification of groundwater monitoring program
20110315	Drum Site	Submittal of 4th quarter 2010 groundwater data report for Route 3 Drum Site
20110315	Long-Term	Submittal of 4th quarter 2010 data report for Long-Term Monitoring Program
20110315	PCB G'water	Submittal of 4th quarter 2010 data report for PCB Groundwater Quality Assessment
20110315	Other	Submittal of semiannual report of groundwater due diligence
20100315	Other	Submittal of Semiannual Progress Report 09/15/10 - 03/15/11

CATEGORY = C(hlorobenzene)P(rocess)A(rea), Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

SOLUTIA INC.
W. G. KRUMMRICH PLANT
SAUGET, IL
EPA ID NO. ILD000820702

MARCH 15, 2011

PROJECT SCHEDULE
MARCH 15, 2011 – SEPTEMBER 15, 2011

SOLUTIA INC., W. G. KRUMMRICH PLANT, SAUGET, IL
EPA ID NO. ILD000820702

PROJECT SCHEDULE
MARCH 15, 2011 - SEPTEMBER 15, 2011

DATE	CATEGORY	ACTIVITY, DOCUMENT, EVENT, ETC.
20110331	CPA	US EPA issuance of Explanation of Significant Differences (ESD) ???
20110731	CPA	Completion of detailed design
20110430	Drum Site	O&M inspection
20110531	Drum Site	Submittal of 1st quarter 2011 data report
20110531	Drum Site	Completion of 2nd quarter 2011 sampling
20110731	Drum Site	O&M inspection
20110831	Drum Site	Submittal of 2nd quarter 2011 data report
20110831	Drum Site	Completion of 3rd quarter 2011 sampling
20110430	ELUC	Recording of second amended Environmental Land Use Controls (ELUC)
20110429	Fin Assur	Submittal of updated cost estimate for remaining corrective action
20110531	Long-Term	Submittal of 1st quarter 2011 data report
20110531	Long-Term	Completion of 2nd quarter 2011 sampling
20110831	Long-Term	Submittal of 2nd quarter 2011 data report
20110831	Long-Term	Completion of 3rd quarter 2011 sampling
20110915	Other	Submittal of groundwater due diligence report
20110915	Other	Submittal of Semiannual Progress Report 03/15/11 - 09/15/11
20110531	PCB G'water	Submittal of 1st quarter 2011 data report
20110531	PCB G'water	Completion of 2nd quarter 2011 sampling
20110831	PCB G'water	Submittal of 2nd quarter 2011 data report
20110831	PCB G'water	Completion of 3rd quarter 2011 sampling
20110430	PCB Hot Spot	Alton & Southern Railway approval of soil sampling plan ???
20110531	PCB Hot Spot	Completion of remediation on Illinois Dept. of Transportation property
20110630	PCB Hot Spot	Submittal of Interim Construction Completion Report for Illinois Dept. of Transportation property
20110731	PCB Hot Spot	Completion of sampling on Alton & Southern Railway property ???
20110630	PCB Mfg. Area	IEPA comments on 07/18/08 application for Remedial Action Plan Permit (RAPP) ???
20110831	PCB Mfg. Area	Response to IEPA comments on application for Remedial Action Plan Permit (RAPP) ???
20110401	SVE	Submittal of air and wastewater permit applications for Big Mo and Benzene Pipeline areas
20110520	SVE	Receipt of air and wastewater permits for Big Mo and Benzene Pipeline areas ???

CATEGORY = C(hlorobenzene)P(rocess)A(rea),Drum Site, ELUC, Fin(anial) Assur(ance), Lead, Long-Term (Monitoring), Mercury, Other, PCB G'water, PCB Hot Spot, PCB Mfg. Area, River Discharge, or SVE

??? = Activities, etc., beyond control of Solutia

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

March 15, 2011

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Semiannual Report of Groundwater Due Diligence
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

This letter and its enclosure comprise the current subject report, in partial fulfillment of one of the "Institutional Controls" elements of the February 26, 2008, "Final Decision" for the W. G. Krummrich Plant, under which Solutia Inc. ("Solutia") is to:

- annually notify U.S. EPA that municipal groundwater protection ordinances remain in place; and
- semiannually report on related due diligence, including:
  - publicizing existence of groundwater use restrictions;
  - conducting a semiannual review of available state and local records pertaining to groundwater well installation permits and construction dewatering permits; and
  - documenting the presence of any wells within 0.5 mile of Solutia's contaminant plume boundary and determining pumping activities at such wells.

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

March 15, 2011, Semiannual Report of Groundwater Due Diligence
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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March 7, 2011 093-84268

G.M. Rinaldi – Remediation Services
Solutia Inc.
575 Maryville Centre Drive
Saint Louis, Missouri 63141

**RE: MARCH 2011 SEMIANNUAL REPORT
DUE DILIGENCE WITHIN A 0.5-MILE RADIUS OF
GROUNDWATER CONTAMINANT PLUME BOUNDARY
SOLUTIA INC., SAUGET, ILLINOIS**

Dear Mr. Rinaldi:

Golder Associates Inc. (Golder) is pleased to provide the March 2011 semiannual report on due diligence within a 0.5-mile radius of Solutia's groundwater contaminant plume boundary (search radius). According to the Final Decision, issued for Solutia Inc.'s (Solutia) W. G. Krummrich Plant by the United States Environmental Protection Agency Region V (USEPA) pursuant to the Resource Conservation and Recovery Act (Final Decision), required due diligence activities include:

- Publicizing the existence of local groundwater use restrictions
- Conducting a semiannual review of available state and local records regarding groundwater well installation permits and construction dewatering permits
- Documenting the presence of any wells within the search radius and determining pumping activities of such wells

Solutia's contaminant plume boundary is defined by the limiting flow lines downgradient of the former Chlorobenzene Process and Benzene Storage Areas as depicted in Figure 1 in the *Long-Term Monitoring Program Work Plan, W.G. Krummrich Facility, Sauget, Illinois*, dated April 11, 2008. Solutia's approximate contaminant plume boundary and 0.5-mile search radius are shown on the attached Figure 1.

1.0 PUBLICIZING THE EXISTENCE OF LOCAL GROUNDWATER USE RESTRICTIONS

Golder contacted the offices of the Clerks for the Villages of Cahokia and Sauget and the City of East St. Louis to confirm the existence of groundwater use restrictions. The Village of Sauget confirmed Ordinance No. 99-5, as amended by Ordinance No. 05-03, is in effect. The Village of Cahokia confirmed Ordinance Nos. 981, 05-1086 and 2008-1119 are in effect. The City of East St. Louis City Clerk's office confirmed Ordinance No. 97-10066 is in effect. Copies of Sauget's, Cahokia's and East St. Louis's ordinances are provided as Attachment A.

A public notice stating the existence of the groundwater use restrictions and providing instructions for obtaining further information was posted in the Belleville News-Democrat on February 15, 2011. The Certificate of Publication is provided as Attachment B.

2.0 GROUNDWATER WELL INSTALLATION PERMITS

Public and private groundwater well installation permit applications are required to be submitted to the Illinois Department of Health (ILDH). Permit information is compiled and maintained by the Illinois State

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Water Survey (ISWS) in a publicly available database. A query of the database by section, township and range within the search radius was performed. The Illinois State Geological Survey (ISGS) also maintains a database of all geological borings, including groundwater wells, which was reviewed and compared with the ISWS database. However, the ISGS database is compiled from the records provided by the ISWS and is considered less inclusive.

A total of 134 private groundwater wells are listed within the search radius. No public wells were listed within the search radius. Information provided in the databases for these private wells is summarized in Table 1. According to the databases, at least 33 of the 134 wells are abandoned. Of the 134 wells, 84 are listed as owned by Monsanto, Sauget Area 2, or Solutia (subject property). Based on database information, no wells were added to Table 1 since September 2010.

3.0 CONSTRUCTION DEWATERING PERMITS

The St. Clair County Building and Zoning Department and the offices of the Clerks of the City of East St. Louis and the Villages of Sauget and Cahokia do not require construction dewatering permits.

4.0 GROUNDWATER WELLS WITHIN THE SEARCH RADIUS

Database entries for groundwater wells are summarized in Table 1 and approximate locations are presented in Figure 1. Facilities with groundwater wells listed in the databases are referenced on Figure 1 with the "Fig. ID" provided in Table 1. Latitude and longitude data, where included in the database, were used to verify the well locations. Otherwise, the well locations are represented at the facility location, if identified.

A total of 17 industrial or commercial facilities (including the subject property) were listed on the ISWS and ISGS databases within the search radius. Pumping data for private groundwater wells, compiled annually by the ISWS, is confidential unless the facility grants a specific release. These facilities were not contacted to verify the status and pumping activities of the listed groundwater wells.

Please contact us if you have any questions.

Sincerely,

GOLDER ASSOCIATES INC.

Michael W. Dreyer, E.I.T.
Staff Engineer

Mark N. Haddock, P.E., R.G.
Senior Engineer
Associate

Attachments: Table 1, Figure 1, Attachment A – City Ordinances, Attachment B – Certificate of Publication

MWD

TABLE

TABLE 1 - ILLINOIS STATE WATER SURVEY WELL DATABASE SUMMARY of
PERMITTED WELLS WITHIN 0.5-MILE OF SOLUTIA'S CONTAMINANT PLUME BOUNDARY
MARCH 2011

Fig. ID	Log Number	SGS Number	Owner	Date Completed	Date Abandoned	Permit Number	TWN	RNG	SEC	Latitude	Longitude	Record Type	Well Use	Well Type	Total Depth	Casing Depth	Casing Diameter	Installation gpm	General Remarks
1	134969	NA	AM AG CHEM CO	00000000	NA	NA	02N	10W	26	NA	NA	OG	IC	NA	102.00	NA	NA	NA	NA
2	134973	NA	AM ZINC CO	19420100	NA	NA	02N	10W	26	NA	NA	OGC	IC	NA	105.00	NA	NA	NA	NA
	134978	NA	AM ZINC CO	19640000	NA	NA	02N	10W	26	NA	NA	CI	IC	NA	97.00	NA	NA	NA	NA
	134980	NA	AM ZINC CO(ABANDONED)	19430000	NA	NA	02N	10W	26	NA	NA	RGX	IC	NA	107.00	NA	NA	NA	NA
	244661	NA	AMERICAN ZINC CO #3 ?	19500000	NA	NA	02N	10W	26	NA	NA	OG	IC	NA	104.00	NA	NA	NA	NA
	244663	NA	AMERICAN ZINC CO #1 ?	19460200	NA	NA	02N	10W	26	NA	NA	OG	DO	NA	102.00	NA	NA	NA	NA
	244660	NA	AMERICAN ZINC CO #2	19430100	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	NA	NA	NA	1400.00	NA
	244658	NA	AMERICAN ZINC CO #4	19430600	NA	NA	02N	10W	26	NA	NA	CO	IC	NA	105.00	NA	NA	NA	NA
	244664	NA	AMERICAN ZINC CO #6	19401100	NA	NA	02N	10W	26	NA	NA	OG	IC	NA	NA	NA	NA	NA	NA
	NA	NA	American Zinc	NA	NA	NA	02N	10W	26	38.600081	-90.179594	NA	NA	NA	0	NA	NA	0	NA
	NA	NA	American Zinc Corp.	NA	NA	NA	02N	10W	26	38.601802	-90.171367	NA	NA	NA	101	NA	NA	0	NA
3	134957	NA	AP GROCERY	19460600	NA	NA	02N	10W	23	NA	NA	OG	IC	NA	80.00	NA	NA	NA	NA
4	403560	NA	CERRO COPPER PRODUCTS	1931	NA	NA	02N	10W	26	NA	NA	Z	IC	NA	NA	NA	NA	NA	NA
	403561	NA	CERRO COPPER PRODUCTS	1942	NA	NA	02N	10W	26	NA	NA	Z	IC	NA	NA	NA	NA	NA	NA
	404722	NA	CERRO COPPER PRODUCTS	1947	NA	NA	02N	10W	26	NA	NA	RG	IC	NA	104.00	NA	NA	NA	NA
	404723	NA	CERRO COPPER PRODUCTS	1948	NA	NA	02N	10W	26	NA	NA	RG	IC	NA	101.00	NA	NA	NA	NA
	404724	NA	CERRO COPPER PRODUCTS	NA	NA	NA	02N	10W	26	NA	NA	Z	IC	NA	NA	NA	NA	NA	NA
	404725	NA	CERRO COPPER PRODUCTS	1970	NA	NA	02N	10W	26	38.599134	-90.180493	RG	NA	NA	111.00	NA	NA	NA	ACTUAL DEPTH=110.5
5	135017	NA	CERTAIN TEED PROD	19430000	NA	NA	02N	10W	24	NA	NA	C	IC	NA	106.00	NA	NA	NA	NA
	135019	NA	CERTAIN TEED PROD	19421200	NA	NA	02N	10W	24	NA	NA	OG	IC	NA	123.00	NA	NA	NA	NA
	244659	NA	CERTAIN-TEED PRODUCTS CORP.	19430300	NA	NA	02N	10W	24	NA	NA	C	IC	NA	110.00	NA	NA	800.00	NA
	244665	NA	CERTAIN-TEED PRODUCTS CORP.	19501000	NA	NA	02N	10W	24	NA	NA	OG	IC	NA	118.00	NA	NA	NA	NA
6	244656	NA	CWS PLANT U.S. ARMY	19410800	NA	NA	02N	10W	26	NA	NA	C	IC	NA	106.00	NA	NA	1200.00	NA
	135011	NA	CWS PLANT US ARMY	19410000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	100.00	NA	NA	NA	NA
	135012	NA	CWS PLANT US ARMY	19410700	NA	NA	02N	10W	26	NA	NA	O	IC	NA	105.00	NA	NA	NA	NA
7	135046	NA	DARLING CO	19390000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	70.00	NA	NA	NA	NA
8	NA	NA	Erwin-Mathes	NA	NA	NA	02N	10W	26	38.593731	-90.173891	NA	NA	NA	104	NA	NA	0	NA
9	359621	NA	KCS - GATEWAY WESTERN RAILWAY #RW-1	00000000	2/20/2004	163	02N	10W	25	NA	NA	A	RC	NA	20.00	NA	NA	NA	NA
	359622	NA	KCS - GATEWAY WESTERN RAILWAY #RW-3	00000000	2/20/2004	163	02N	10W	25	NA	NA	A	RC	NA	12.00	NA	NA	NA	NA
	359620	NA	KCS GATEWAY WESTERN RAILWAY #RW-2	00000000	2/20/2004	163	02N	10W	25	NA	NA	A	RC	NA	13.00	NA	NA	NA	NA
10	195199	NA	LEFTON IRON METAL COMPANY	19890000	NA	NA	02N	10W	25	NA	NA	A	DO	NA	75.00	NA	NA	NA	NA
11	NA	NA	Lewin-Mathes	NA	NA	NA	02N	10W	26	38.592833	-90.175047	NA	NA	NA	101	NA	NA	0	NA
12	330069	29807	METRO EAST SANITARY DIST. #114A	20010412	NA	163-529-020-00	02N	10W	23	38.602788	-90.176116	RG	RW	DL	80.00	NA	NA	NA	NA

TABLE 1 - ILLINOIS STATE WATER SURVEY WELL DATABASE SUMMARY of
PERMITTED WELLS WITHIN 0.5-MILE OF SOLUTIA'S CONTAMINANT PLUME BOUNDARY
MARCH 2011

Fig. ID	Log Number	SGS Number	Owner	Date Completed	Date Abandoned	Permit Number	TWN	RNG	SEC	Latitude	Longitude	Record Type	Well Use	Well Type	Total Depth	Casing Depth	Casing Diameter	Installation gpm	General Remarks
13	135112	NA	MIDWEST RUBBER RECLAIMING	19461200	NA	NA	02N	10W	26	38.60915	-90.172608	O	IC	NA	111.00	NA	NA	NA	NA
	403595	NA	MIDWEST RUBBER RECLAIMING	1928	NA	NA	02N	10W	26	38.590132	-90.178507	ORG	NA	NA	106.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
	403596	NA	MIDWEST RUBBER RECLAIMING	1937	NA	NA	02N	10W	26	38.590132	-90.178507	OGRCG	NA	NA	114.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
	403598	NA	MIDWEST RUBBER RECLAIMING	1951	NA	NA	02N	10W	26	NA	NA	OGRG	NA	NA	112.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
	403599	NA	MIDWEST RUBBER RECLAIMING	1951	NA	NA	02N	10W	26	NA	NA	ORG	NA	NA	110.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
	403600	NA	MIDWEST RUBBER RECLAIMING	1959	NA	NA	02N	10W	26	NA	NA	OG	NA	NA	110.00	NA	NA	NA	ACTUAL DEPTH = 109.5; DROPPED - OUT OF BUSINESS
	403601	NA	MIDWEST RUBBER RECLAIMING	1960	NA	NA	02N	10W	26	NA	NA	OG	NA	NA	118.00	NA	NA	NA	ACTUAL DEPTH 117.5; DROPPED - OUT OF BUSINESS
	403602	NA	MIDWEST RUBBER RECLAIMING	1968	NA	N004849A	02N	10W	26	NA	NA	RGI	NA	NA	115.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
	403603	NA	MIDWEST RUBBER RECLAIMING	1968	NA	N004849B	02N	10W	26	NA	NA	RGI	NA	NA	115.00	NA	NA	NA	DROPPED - OUT OF BUSINESS
14	135148	01370	MONSANTO CHEM	19520800	NA	NA	02N	10W	22	NA	NA	RG	IC	NA	97.00	NA	NA	NA	NA
	135149	01372	MONSANTO CHEM	19520800	NA	NA	02N	10W	22	NA	NA	RG	IC	NA	97	NA	NA	NA	NA
	135150	01376	MONSANTO CHEM	19520000	NA	NA	02N	10W	27	NA	NA	RG	IC	NA	100.00	NA	NA	NA	NA
	135152	01371	MONSANTO CHEM	19520909	NA	NA	02N	10W	22	NA	NA	RG	OB	NA	90.00	NA	NA	NA	NA
	135153	NA	MONSANTO CHEM	19200000	NA	NA	02N	10W	25	NA	NA	OC	IC	NA	100.00	NA	NA	75.00	NA
	135154	NA	MONSANTO CHEM	19520801	NA	NA	02N	10W	27	NA	NA	OG	IC	NA	99.00	NA	NA	NA	NA
	135157	NA	MONSANTO CHEM	19590600	NA	NA	02N	10W	27	NA	NA	OC	IC	NA	101.00	NA	NA	NA	NA
	135172	NA	MONSANTO CHEM	19470000	NA	NA	02N	10W	26	NA	NA	C	IC	NA	109.00	NA	NA	NA	NA
	135176	NA	MONSANTO CHEM	19520000	NA	NA	02N	10W	27	NA	NA	I	IC	NA	102.00	NA	NA	NA	NA
	135171	NA	MONSANTO CHEM #12	19470000	NA	NA	02N	10W	26	NA	NA	C	IC	NA	105.00	NA	NA	NA	NA
	135169	NA	MONSANTO CHEM #14	19391000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	105.00	NA	NA	NA	NA
	135167	NA	MONSANTO CHEM #15	19410300	NA	NA	02N	10W	26	38.597331	-90.16926	OC	IC	NA	107.00	NA	NA	NA	NA
	135168	NA	MONSANTO CHEM #7	19430200	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	104.00	NA	NA	NA	NA
	135165	NA	MONSANTO CHEM #9	19391000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	105.00	NA	NA	NA	NA
	135166	NA	MONSANTO CHEM #10	19420100	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	110.00	NA	NA	NA	NA
	135170	NA	MONSANTO CHEM #11	19470000	NA	NA	02N	10W	26	NA	NA	C	IC	NA	105.00	NA	NA	NA	NA
	135177	NA	MONSANTO CHEM(TEMPORARY)	19840404	NA	M111658	02N	10W	25	NA	NA	RG	RW	BD	67.00	55.00	NA	200.00	KRUM PLANT
	135178	NA	MONSANTO CHEM(TEMPORARY)	19840404	NA	M111659	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135179	NA	MONSANTO CHEM(TEMPORARY)	19840405	NA	M111660	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135180	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111661	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PALNT
	135181	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111662	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135182	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111663	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135183	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111664	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135184	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111665	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135185	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111666	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	NA	KRUM PLANT

TABLE 1 - ILLINOIS STATE WATER SURVEY WELL DATABASE SUMMARY of
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MARCH 2011

Fig. ID	Log Number	SGS Number	Owner	Date Completed	Date Abandoned	Permit Number	TWN	RNG	SEC	Latitude	Longitude	Record Type	Well Use	Well Type	Total Depth	Casing Depth	Casing Diameter	Installation gpm	General Remarks
	135186	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111667	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135187	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111668	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135188	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111669	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135189	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111670	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135190	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111671	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135191	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111672	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135192	NA	MONSANTO CHEM(TEMPORARY)	19840414	NA	M111673	02N	10W	25	NA	NA	RG	RW	BD	68.00	55.00	NA	200.00	KRUM PLANT
	135159	NA	MONSANTO CHEM(TEST) #19	19500000	NA	NA	02N	10W	26	NA	NA	RG	IC	NA	108.00	NA	NA	NA	NA
	247642	NA	MONSANTO CHEMICAL CO. #12	00000000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	110.00	NA	NA	400.00	NA
	247641	NA	MONSANTO CHEMICAL CO. #13	NA	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	105.00	NA	NA	660.00	NA
	NA	NA	Monsanto Chem. Co.	NA	NA	NA	02N	10W	26	38.597335	-90.170411	NA	NA	NA	106	NA	NA	0	NA
	NA	NA	Monsanto Chem. Co.	NA	NA	NA	02N	10W	26	38.597331	-90.16926	NA	NA	NA	105	NA	NA	0	NA
	NA	NA	Monsanto Chem. Co.	NA	NA	NA	02N	10W	26	38.600022	-90.164627	NA	NA	NA	108	NA	NA	0	NA
	NA	NA	Monsanto Chem. Co.	NA	NA	NA	02N	10W	26	38.596432	-90.17042	NA	NA	NA	102	NA	NA	0	NA
	NA	NA	Monsanto Chem. Co.	NA	NA	NA	02N	10W	26	38.599119	-90.16464	NA	NA	NA	110	NA	NA	0	NA
	NA	NA	Monsanto Chem. Co.(Plant B	NA	NA	NA	02N	10W	26	38.597322	-90.166963	NA	NA	NA	112	NA	NA	1250	NA
	NA	NA	Monsanto Chemical	NA	NA	NA	02N	10W	22	38.602836	-90.185359	NA	NA	NA	95	NA	NA	0	NA
14	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	26	38.595531	-90.171579	NA	NA	NA	103	NA	NA	0	NA
	NA	NA	Monsanto Chemical	1953	NA	NA	02N	10W	22	38.602819	-90.183036	NA	NA	NA	103	NA	NA	0	NA
	NA	NA	Monsanto Chemical	NA	NA	NA	02N	10W	22	38.602819	-90.183036	NA	NA	NA	100	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	1952	NA	NA	02N	10W	22	38.602819	-90.183036	NA	NA	NA	100	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	26	38.594633	-90.172735	NA	NA	NA	110	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	25	38.59911	-90.162385	NA	NA	NA	102	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	27	38.601	-90.183051	NA	NA	NA	100	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	27	38.601	-90.183051	NA	NA	NA	99	NA	NA	0	NA
	NA	NA	Monsanto Chemical Co.	NA	NA	NA	02N	10W	26	38.599119	-90.16464	NA	NA	NA	108	NA	NA	0	NA
	NA	NA	Monsanto Chemical Works	NA	NA	NA	02N	10W	26	38.594633	-90.172735	NA	NA	NA	108	NA	NA	1400	NA
	427036	NA	SAUGET AREA 2 SITES GROUP-MW #P-1	NA	20061023	NA	02N	10W	23	38.6038889	-90.1775	A	MO	DL	157.00	NA	NA	NA	NA
	427034	NA	SAUGET AREA 2 SITES GROUP-SAZ #MW-1 DEEP	NA	20061023	NA	02N	10W	23	38.6036111	-90.1775	A	MO	DL	115.90	NA	2.00	NA	NA
	427033	NA	SAUGET AREA 2 SITES GROUP-SAZ #MW-1 MEDIUM	NA	20061023	NA	02N	10W	23	38.6036111	-90.1775	A	MO	DL	64.20	NA	2.00	NA	NA
	427035	NA	SAUGET AREA 2 SITES GROUP-SAZ #MW-1 SHALLOW	NA	NA	NA	02N	10W	23	38.6036111	-90.1775	A	MO	AU	20.40	NA	2.00	NA	NA
	423231	NA	SOLUTIA	NA	NA	NA	02N	10W	26	38.5966667	-90.1761111	A	MO	DL	55.00	NA	2.00	NA	NA
	423232	NA	SOLUTIA	NA	NA	NA	02N	10W	26	38.5966667	-90.1761111	A	MO	DL	125.00	NA	2.00	NA	NA
	429098	NA	SOLUTIA #MW-6M	20060000	20070711	NA	02N	10W	23	38.5934472	-90.1889972	A	MO	DL	76.25	NA	2.00	NA	NA
	429097	NA	SOLUTIA #MW-6D	20060000	20070711	NA	02N	10W	23	38.5934472	-90.1889972	A	MO	DL	131.43	NA	2.00	NA	NA

TABLE 1 - ILLINOIS STATE WATER SURVEY WELL DATABASE SUMMARY of
PERMITTED WELLS WITHIN 0.5-MILE OF SOLUTIA'S CONTAMINANT PLUME BOUNDARY
MARCH 2011

Fig. ID	Log Number	SGS Number	Owner	Date Completed	Date Abandoned	Permit Number	TWN	RNG	SEC	Latitude	Longitude	Record Type	Well Use	Well Type	Total Depth	Casing Depth	Casing Diameter	Installation gpm	General Remarks
14	429099	NA	SOLUTIA #MW-6S	20060000	20070711	NA	02N	10W	23	38.5934472	-90.1889972	A	MO	DL	35.78	NA	2.00	NA	NA
	438343	NA	SOLUTIA/WG KRUMMRICH PLANT #GM-3	19831100	20061009	NA	02N	10W	26	38.6000000	90.1755556	A	MO	DL	36.00	NA	6.00	NA	NA
	438345	NA	SOLUTIA/WG KRUMMRICK PLANT #GM-4A	19831100	20061009	NA	02N	10W	26	38.5980556	-90.175	A	MO	DL	28.00	NA	2.00	NA	NA
	438358	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-3C	19980800	20061009	NA	02N	10W	26	38.5975000	-90.1763889	A	MO	DL	107.00	NA	2.00	NA	NA
	438359	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-7B	19980800	20061012	NA	02N	10W	26	38.5950000	-90.1769444	A	MO	DL	80.00	NA	2.00	NA	NA
	438360	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-7C	19980800	20061012	NA	02N	10W	26	38.5950000	-90.1769444	A	MO	DL	105.00	NA	2.00	NA	NA
	438350	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-17A	NA	20061010	NA	02N	10W	26	38.5966667	-90.1744444	A	MO	DL	38.00	NA	2.00	NA	NA
	438351	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-17B	19840700	20061010	NA	02N	10W	26	38.5966667	-90.1744444	A	MO	DL	77.00	NA	4.00	NA	NA
	438352	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-17C	19840700	20061010	NA	02N	10W	26	38.5966667	-90.1744444	A	MO	DL	108.00	NA	4.00	NA	NA
	438353	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-18A	19840700	20061011	NA	02N	10W	26	38.5930556	-90.1791667	A	MO	DL	40.50	NA	2.00	NA	NA
	438354	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-18B	19840700	20061011	NA	02N	10W	26	38.5930556	-90.1791667	A	MO	DL	95.00	NA	4.00	NA	NA
	438346	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-4B	19840700	20061009	NA	02N	10W	26	38.5980556	-90.175	A	MO	DL	87.00	NA	4.00	NA	NA
	438347	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-4C	19840100	20061010	NA	02N	10W	26	38.5980556	-90.175	A	MO	DL	104.00	NA	4.00	NA	NA
	438349	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-6B	19840700	20061011	NA	02N	10W	26	38.5944444	-90.1755556	A	MO	DL	91.00	NA	4.00	NA	NA
	438348	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GM-GA	NA	20061011	NA	02N	10W	26	38.5944444	-90.1755556	A	MO	DL	35.50	NA	2.00	NA	NA
	438355	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GWE-6D	NA	20061011	NA	02N	10W	26	38.5966667	-90.1761111	A	MO	DL	98.00	NA	1.00	NA	NA
	438356	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GWE-6M	NA	20061011	NA	02N	10W	26	38.5966667	-90.1761111	A	MO	DL	56.00	NA	1.00	NA	NA
	438357	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-GWE-6S	NA	20061011	NA	02N	10W	26	38.5966667	-90.1761111	A	MO	DL	35.50	NA	1.00	NA	NA
	438361	NA	SOLUTIA/WG KRUMMRICK PLANT #MW-WD-34	NA	20061011	NA	02N	10W	26	38.5958333	-90.1766667	A	MO	DL	32.00	NA	2.00	NA	NA
	444972	NA	SOLTUIA, INC MW #AG-1 (KRUMMRICH PLANT)	NA	20090427	NA	02N	10W	26	38.5969167	-90.1685833	A	MO	DL	30	NA	2.00	NA	NA
	444973	NA	SOLUTIA, INC MW#AG-2 (KRUMMRICH PLANT)	NA	20090424	NA	02N	10W	26	38.5969167	-90.1685833	A	MO	DL	30	NA	2.00	NA	NA
	444974	NA	SOLUTIA, INC MW#RW-6 (KRUMMRICH PLANT)	20021203	20090427	NA	02N	10W	26	38.5969167	-90.1685833	A	MO	DL	15	NA	2.00	NA	NA
	444975	NA	SOLUTIA, INC MW#RW-7 (KRUMMRICH PLANT)	20021203	20090424	NA	02N	10W	26	38.5969167	-90.1685833	A	MO	DL	15.5	NA	2.00	NA	NA
	449358	NA	SOLUTIA, INC #MW-MW01	20090213	20100219	NA	02N	10W	26	NA	NA	A	MO	DL	26	NA	2.00	NA	NA
15	135251	NA	STERLING STEEL CASTING	19420000	NA	NA	02N	10W	26	NA	NA	OC	IC	NA	95.00	NA	NA	NA	NA
	135252	NA	STERLING STEEL CATSING	19730000	NA	NA	02N	10W	26	NA	NA	C	IC	NA	NA	NA	NA	NA	NA
16	403593	NA	TRADE WASTE INCINERATION INC	1982	1989	M105819	02N	10W	25	NA	NA	RG	NA	NA	84.00	NA	NA	NA	NA
	404671	25697	TRADE WASTE INCINERATION INC	1985	NA	M118701	02N	10W	25	NA	NA	RG	NA	NA	89.00	NA	NA	NA	NA
17	NA	NA	Union Electric Light & Power	NA	NA	NA	02N	10W	23	38.60915	-90.172608	NA	NA	NA	52	NA	NA	0	NA
	NA	NA	Union Electric Light & Power	NA	NA	NA	02N	10W	23	38.60915	-90.172608	NA	NA	NA	101	NA	NA	0	NA
	NA	NA	Union Electric Light & Power	NA	NA	NA	02N	10W	23	38.60915	-90.172608	NA	NA	NA	77	NA	NA	0	NA
	NA	NA	Union Electric Light & Power	NA	NA	NA	02N	10W	23	38.60915	-90.172608	NA	NA	NA	105	NA	NA	0	NA

TABLE 1 - ILLINOIS STATE WATER SURVEY WELL DATABASE SUMMARY of
PERMITTED WELLS WITHIN 0.5-MILE OF SOLUTIA'S CONTAMINANT PLUME BOUNDARY
MARCH 2011

NOTES:

Data compiled from the Illinois State Water Survey Database and Illinois State Geological Survey online database (http://www.isgs.uiuc.edu/maps-data-pub/wwdb/wwdb.shtml)

NA Data not available

RECORD TYPE

- **A** Sealing Affidavit
- **C** Chemical Analysis Record
- **G** Geological Record
- **I** ISWS Inventory Record
- **O** Other Record
- **R** Construction Record
- **Z** No Record Available

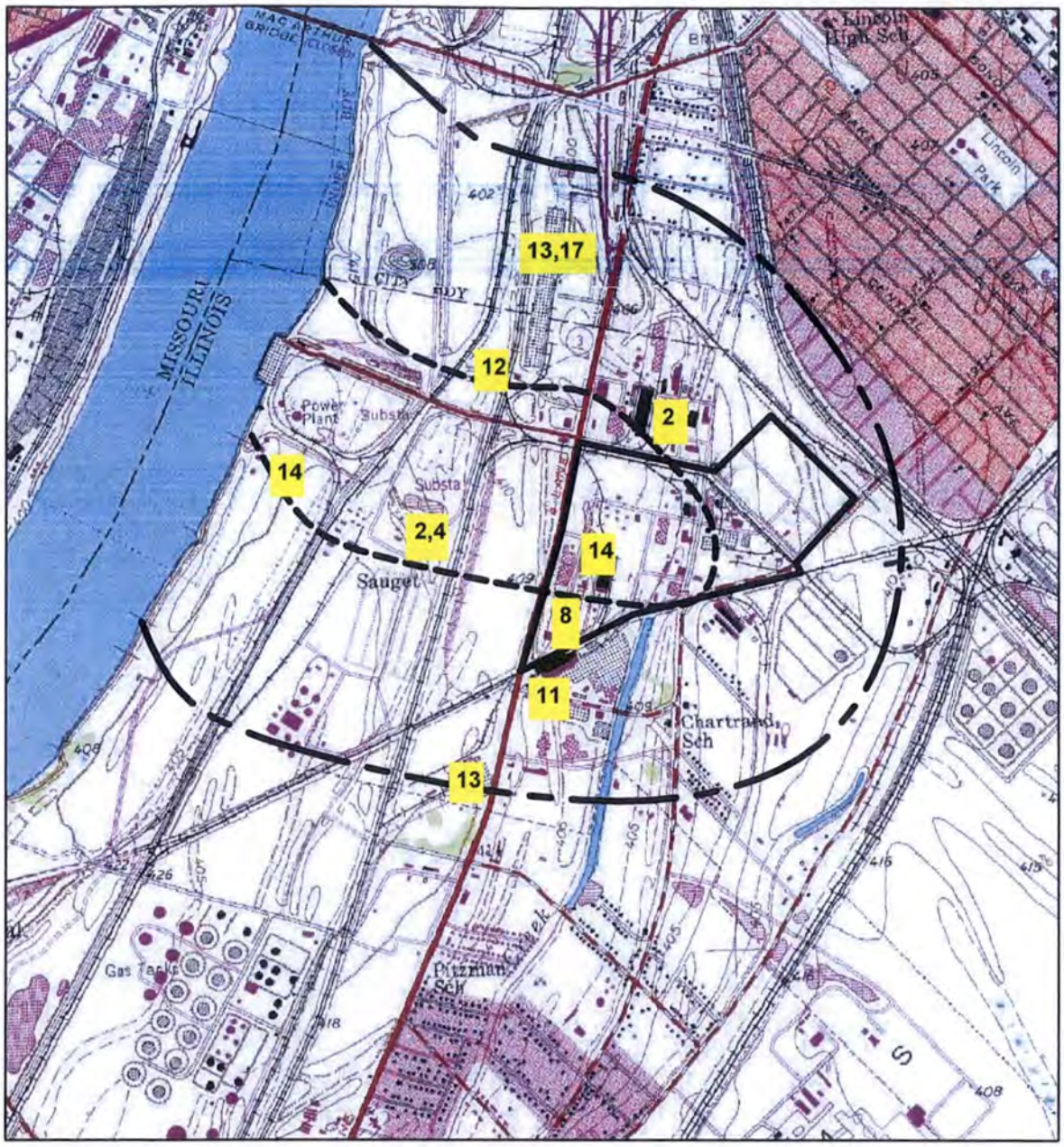
WELL USAGE

- **DO** Domestic
- **IC** Industrial/Commercial
- **MO** Monitoring
- **OB** Observation
- **RC** Recovery
- **RW** Relief

WELL TYPE

- **AU** Auger
- **BD** Bored
- **DL** Drilled
- **NR** Not Reported

FIGURE



LEGEND

- APPROXIMATE PLUME BOUNDARY
- 0.5 MILE RADIUS
- FACILITY BOUNDARY
- 14 — FACILITY ID – SEE TABLE 1 FOR CORRESPONDING INFORMATION

2000 0 2000
SCALE FEET

NOTES:
1. Base map obtained from USGS 1997 Cahokia, Illinois 7.5-Minute Quadrangle.
2. Contaminate plume boundary approximated from Figure 1. Long-Term Monitoring Program, URS, April 11, 2008.
3. Facilities that do not have well latitude and longitude data provided in the ISGS and ISWS databases are not shown here.

Golder Associates
ST. LOUIS, MISSOURI

SCALE	AS SHOWN
DATE	3/7/11
DESIGN	2/23/09
CADD	MSL
CHECK	MWD
REVIEW	MNH

FILE No. 093.84268.WS1
PROJECT No. 093-84268 REV. 1

TITLE
GROUNDWATER WELLS WITHIN 0.5-MILE OF SOLUTIA'S PLUME BOUNDARY

SOLUTIA INC.

FIG NO 1

ATTACHMENT A

CITY ORDINANCES

VILLAGE OF CAHOKIA

Golder Associates

ORDINACE No. 981

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD

WHEREAS, certain properties in the Village of Cahokia, Illinois, have been used over a period of time for commercial/industrial uses; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the Village may exceed Class I groundwater quality standards for potable resource groundwater, as set forth in 35 Administrative Code Part 620, or Tier 1 residential remediation objectives, as set forth in 35 Ill. Admin. Code Part 742; and

WHEREAS, the Village of Cahokia desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of properties that are the source of said chemical constituents;

NOW, THEREFORE, BE IT ORDAINED BY THE VILLAGE BOARD IN THE VILLAGE OF CAHOKIA, ILLINOIS:

Section One: Use of groundwater as a potable water supply prohibited.

The use or attempted use of groundwater from within the corporate limits of the Village as a potable water supply by the installation or drilling of wells or by any other method is hereby prohibited.

Section Two: Penalties.

Any person violating the provisions of this ordinance shall be subject to a fine of up to $1,000.00 for each violation.

Section Three: Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their representatives, agents or assigns.

"Potable water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, garden or lawn watering, or preparing foods..

Section Four: Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.

Section Five: Severability.

If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

Section six: Effective Date.

This ordinance shall be in full force and effect from and after its passage, approval and publication, as required by law.

ADOPTED: 6-06-2000
(Date)

Jessie Brown
(Village Clerk)

ADOPTED: 6-06-2000
(Date)

Michael King
(Mayor)

Officially published this 21st day of June, 2000.

ORDINANCE NO. 05-1086

AN ORDINANCE AMENDING CHAPTER 1042.08-"REGULATIONS GOVERNING USE OF WATERWORKS SYSTEM BY THE ADDITION OF SUBPARAGRAPH "Q"

WHEREAS, certain properties with the City of Cahokia (the "City") have been used over a number of years as gas stations; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath these properties may exceed Class I groundwater standards for potable resource groundwater as set forth in 35 Ill. Adm. Code 620 or Tier One residential remediation objectives as set forth in 35 Ill. Adm. Code 742; and

WHEREAS, the City wishes to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive reuse of properties that are the source of said chemical constituents;

NOW, THEREFORE BE IT ORDAINED BY THE CITY COUNCIL, OF THE CITY OF CAHOKIA, ST. CLAIR COUNTY, ILLINOIS as follows:

SECTION I: RECITALS. The facts and statements contained in the preamble to this Ordinance are found to be true and correct and are hereby adopted as part of this Ordinance.

SECTION II: AMENDMENT. The Codified Ordinances of the City of Cahokia, Chapter 1042.08 – Regulations Governing Use of Waterworks System is hereby amended by the addition of the following subparagraphs:

1042.08 REGULATIONS GOVERNING USE OF WATERWORKS SYSTEM:

(q) As a result of potential groundwater contamination as identified by the IEPA under certain parcels of land, no person (including the City and any other unit of government) shall drill or install any potable water supply well or use any well for the purpose of obtaining a potable water supply within a 855 foot radius of the following parcel:

(I) Parcel Number 01-35-108-017

SECTION III: SAVINGS CLAUSE. If any section, subsection, or sentence, clause, or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance.

SECTION IV: REPEALER. Any ordinances, resolutions, and parts of ordinances and resolutions in conflict with this ordinance are hereby repealed.

SECTION V: EFFECTIVE DATE. This ordinance shall be effective immediately upon passage.

ADOPTED this 7th day of July, ~~2004~~ 2005, pursuant to a roll call vote as follows:

APPROVED by me this 7th day of July, ~~2004~~ 2005.

By: Frank Bergman
Frank Bergman, Mayor
City of Cahokia, St. Clair County, Illinois

ATTESTED:

Filed in my office and published this 7th day of July, ~~2004~~ 2005

By: Norma Jones
City of Cahokia, St. Clair County, Illinois

Peggy A. Torry

OFFICIAL SEAL
Peggy A. Torry
Notary Public, State of Illinois
My Commission Expires 07/25/09

OFFICIAL SEAL
Peggy A. Torry
Notary Public, State of Illinois
My Commission Expires 07/25/09

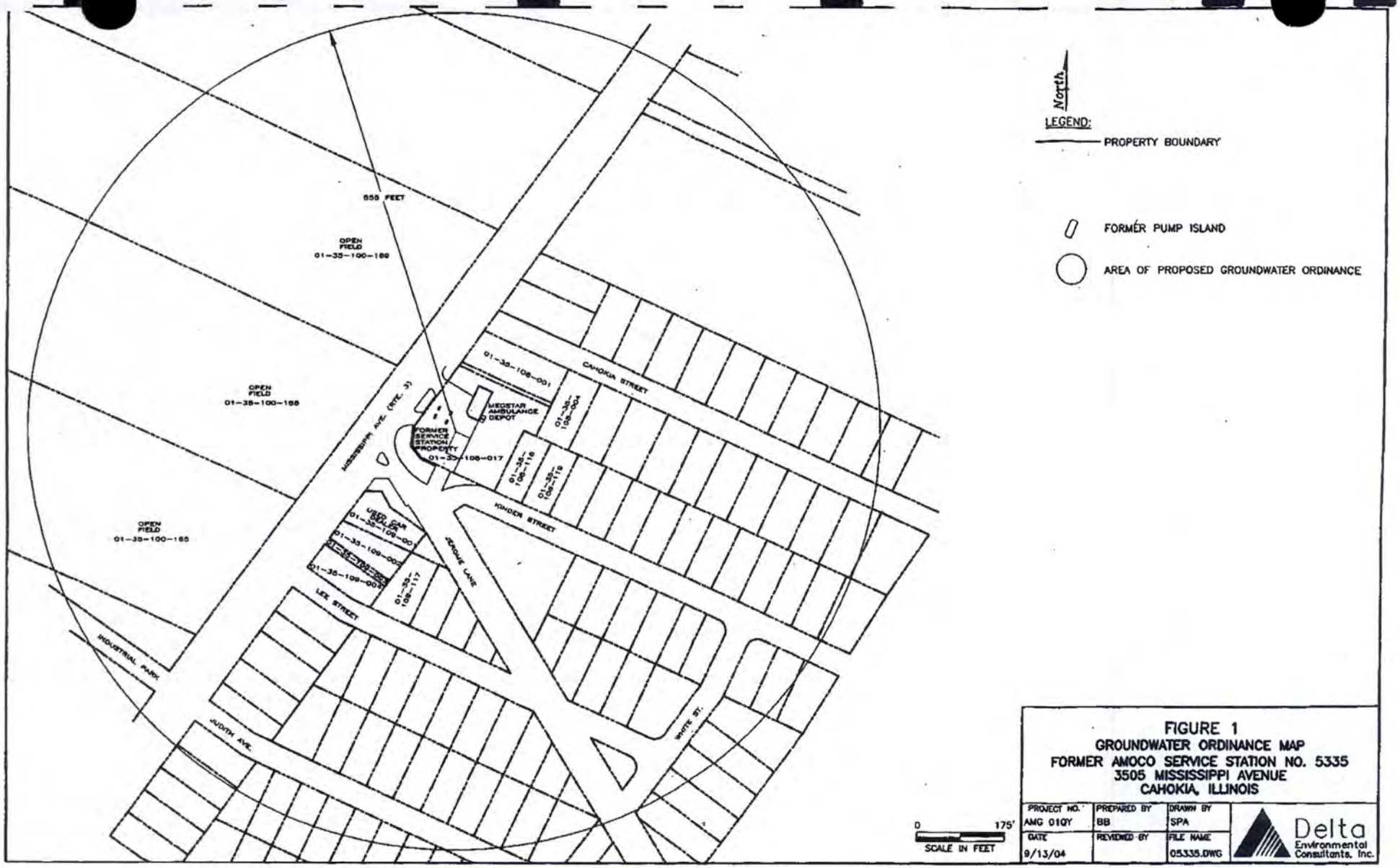
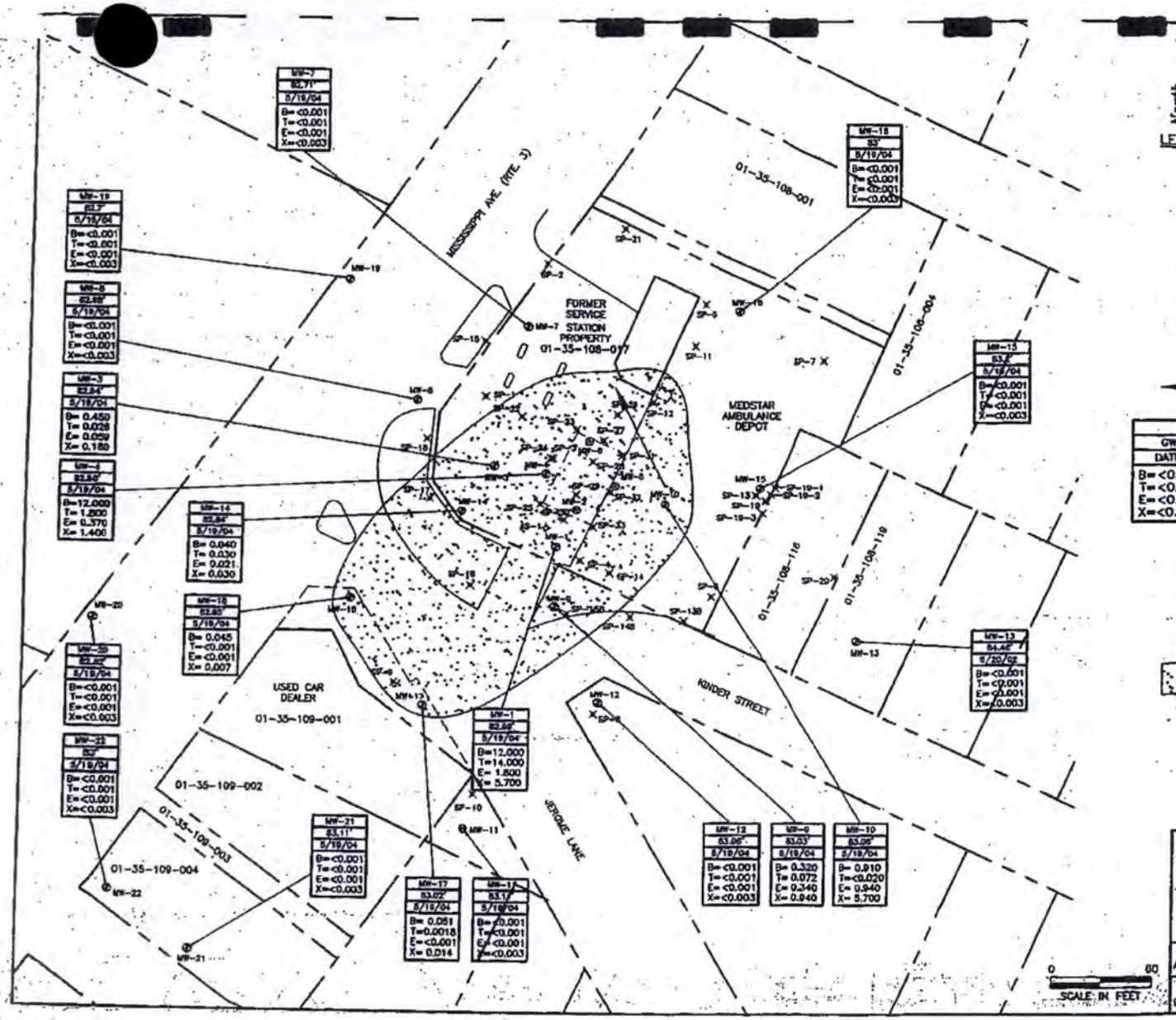


FIGURE 1
GROUNDWATER ORDINANCE MAP
FORMER AMOCO SERVICE STATION NO. 5335
3505 MISSISSIPPI AVENUE
CAHOKIA, ILLINOIS

PROJECT NO.	PREPARED BY	DRAWN BY
AMG 01QY	BB	SPA
DATE	REVIEWED BY	FILE NAME
9/13/04		05335.DWG

Delta Environmental Consultants, Inc.



North

LEGEND:

- MONITORING WELL
- DESTROYED MONITORING WELL
- ABANDONED DOMESTIC WELL
- FORMER PUMP ISLAND
- GEOPROBE
- AIR SPARGE WELL
- GROUNDWATER FLOW DIRECTION

ID		SAMPLE ID
GW ELEV		GROUND WATER ELEVATION (IN FEET)
DATE	R.O.	SAMPLE DATE/REMEDIATION OBJECTIVES
B= <0.001	0.005	BENZENE
T= <0.001	1.0	TOLUENE
E= <0.001	0.7	ETHYLBENZENE
X= <0.002	1.0	TOTAL XYLENES

ALL CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER LITER (mg/L).

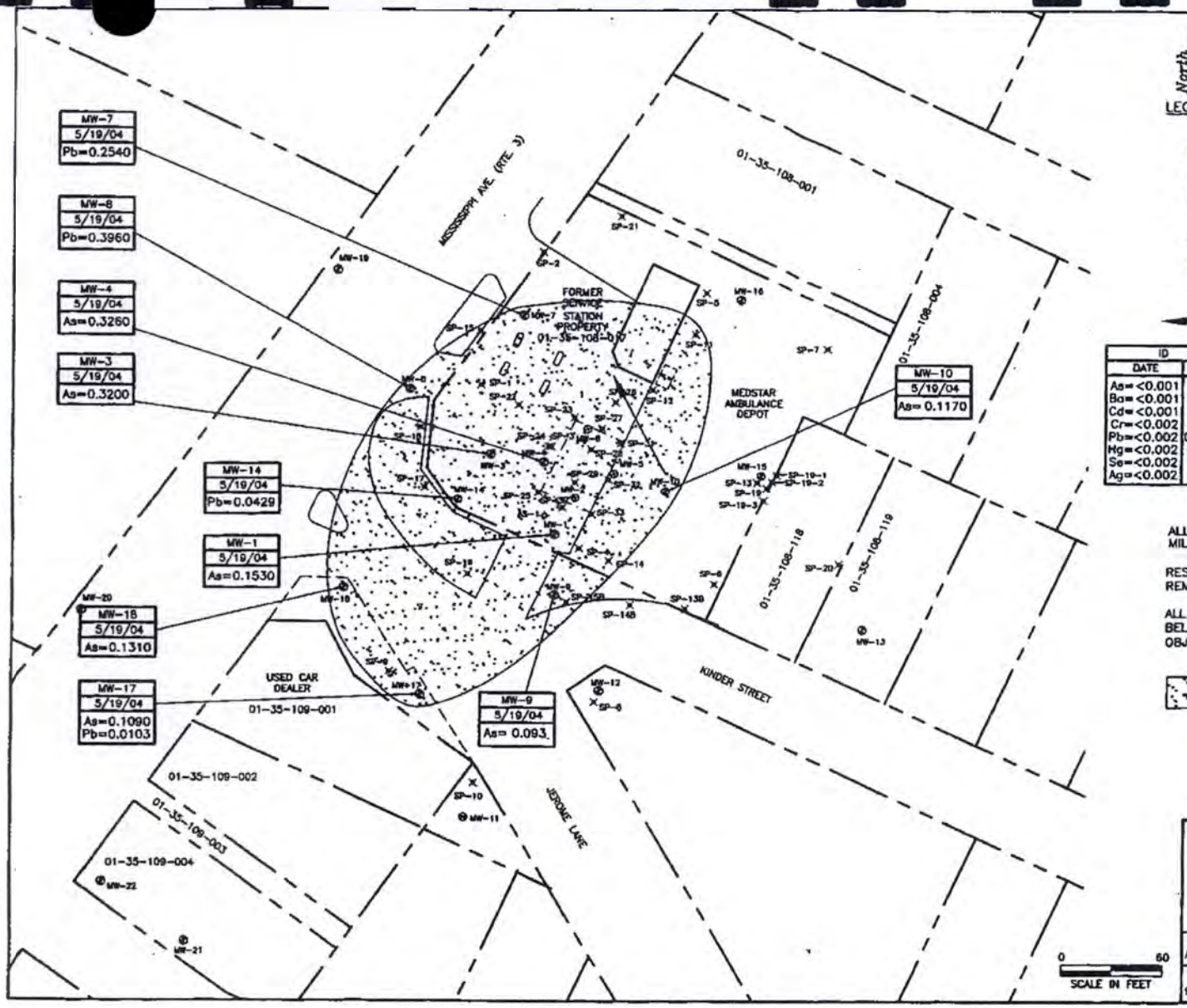
RESULTS BASED ON CLASS I GROUNDWATER REMEDIATION OBJECTIVES

ESTIMATED AREA OF GROUNDWATER IMPACT

FIGURE 2
GROUNDWATER BTEX ASSESSMENT MAP
FORMER AMOCO SERVICE STATION NO. 5335
3505 MISSISSIPPI AVENUE
CAHOKIA, ILLINOIS

PROJECT NO.	PREPARED BY	DRAWN BY
AMG 01QY	BB	SPA
DATE	REVIEWED BY	FILE NAME
9/14/04		05335.DWG

Delta Environmental Consultants, Inc.



North

LEGEND:

- MONITORING WELL
- DESTROYED MONITORING WELL
- ABANDONED DOMESTIC WELL
- FORMER PUMP ISLAND
- GEOPROBE
- AIR SPARGE WELL
- GROUNDWATER FLOW DIRECTION

ID		SAMPLE ID
DATE	R.O.	SAMPLE DATE/REMEDIATION OBJECTIVES
As=<0.001	0.05	ARSENIC
Ba=<0.001	2.0	BARIUM
Cd=<0.001	0.005	CADMIUM
Cr=<0.002	0.1	CHROMIUM
Pb=<0.002	0.0075	LEAD
Hg=<0.002	0.002	MERCURY
Se=<0.002	0.05	SELENIUM
Ag=<0.002	0.05	SILVER

ALL CONCENTRATIONS EXPRESSED IN MILLIGRAMS PER LITER (mg/L).

RESULTS BASED ON CLASS I GROUNDWATER REMEDIATION OBJECTIVES

ALL METALS CONSTITUENTS NOT SHOWN HAVE CONCENTRATIONS BELOW TIER 1 GROUNDWATER REMEDIATION OBJECTIVES FOR CLASS I GROUNDWATER

ESTIMATED AREA OF GROUNDWATER METALS IMPACT

FIGURE 3
GROUNDWATER METALS ASSESSMENT
FORMER AMOCO SERVICE STATION NO. 5335
3505 MISSISSIPPI AVENUE
CAHOKIA, ILLINOIS

PROJECT NO.	PREPARED BY	DRAWN BY
AMG 010Y	BB	SPA
DATE	REVIEWED BY	FILE NAME
9/14/04		05335.DWG

Delta Environmental Consultants, Inc.

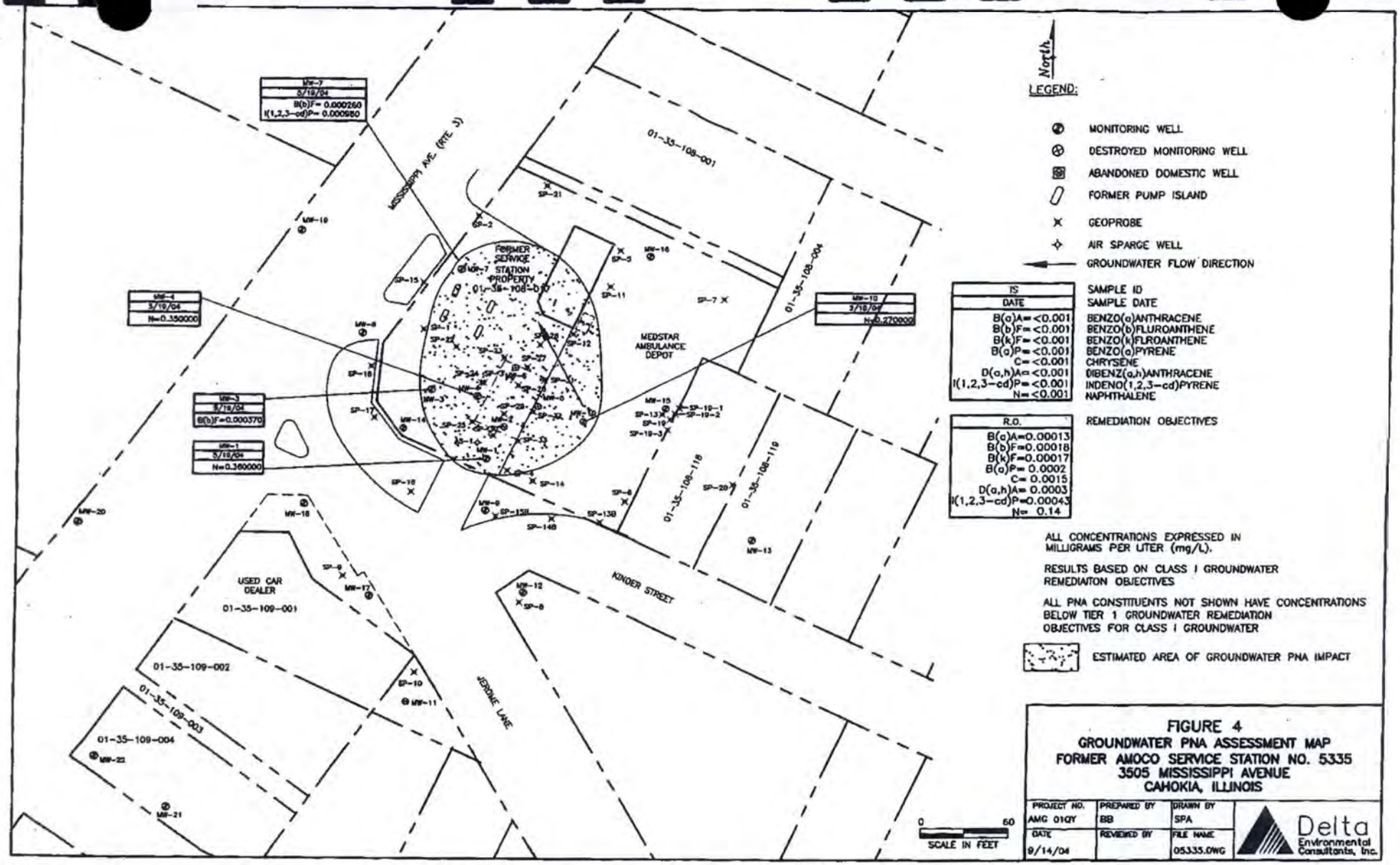
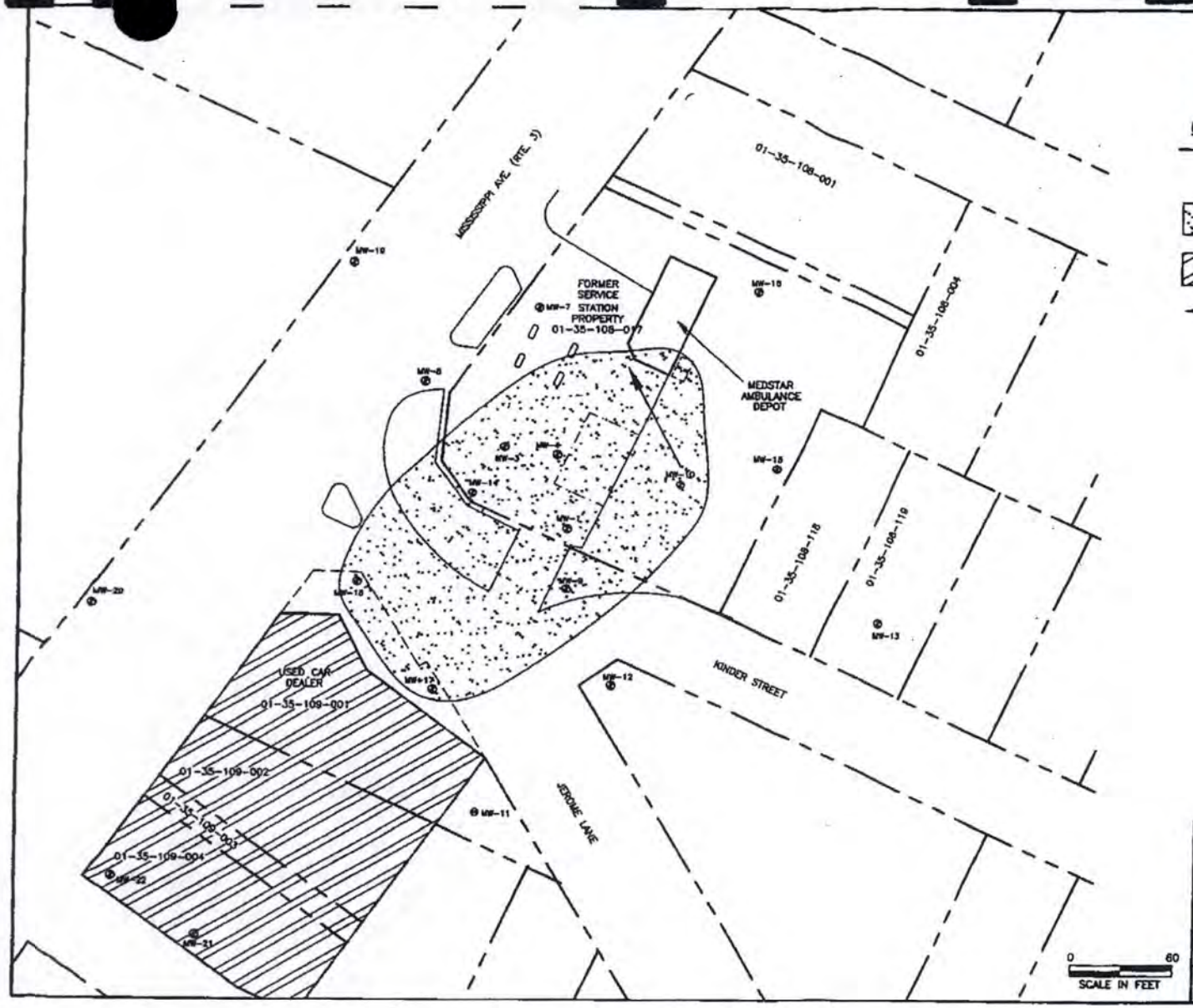


FIGURE 4
GROUNDWATER PNA ASSESSMENT MAP
FORMER AMOCO SERVICE STATION NO. 5335
3505 MISSISSIPPI AVENUE
CAHOKIA, ILLINOIS

PROJECT NO.	PREPARED BY	DRAWN BY
AMC 01QY	BB	SPA
DATE	REVIEWED BY	FILE NAME
9/14/04		05335.DWG

Delta Environmental Consultants, Inc.



North

LEGEND:

- PROPERTY BOUNDARY
- MONITORING WELL
- ESTIMATED AREA OF GROUNDWATER IMPACT
- AREA OF GROUNDWATER ORDINANCE NOTIFICATION
- GROUNDWATER FLOW DIRECTION

FIGURE 5
AREA OF GROUNDWATER ORDINANCE NOTIFICATION
FORMER AMOCO SERVICE STATION NO. 5335
3505 MISSISSIPPI AVENUE
CAHOKIA, ILLINOIS

PROJECT NO.	PREPARED BY	DRAWN BY	
AMC 010Y	BB	SPA	Delta Environmental Consultants, Inc.
DATE 9/14/04	REVIEWED BY	FILE NAME 05335.DWG	

ORDINANCE NO. 2008-1119

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD

WHEREAS, certain properties in the Village of Cahokia, Illinois have been used over a period of time for commercial/industrial purposes; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the Village may exceed Class I groundwater quality standards for potable resourcegroundwater as set forth in 35 Illinois Administrative Code 620 or Tier 1 residential remediation objectives as set forth in 35 Illinois Administrative Code 742; and

WHEREAS, the Village of Cahokia desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of properties that are the source of said chemical constituents;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE VILLAGE OF CAHOKIA, ILLINOIS:

Section 1. The use or attempt to use as a potable water supply groundwater from within the area described in Exhibit "A" and Exhibit "B" attached hereto by the installation or drilling of wells or any other method is hereby prohibited.

Section 2. Any person violating the provisions of this ordinance shall be subject to a fine of up to Five Hundred Dollars ($500.00) for each violation.

Section 3. "Person" is any individual, partnership, copartnership, firm, company, limited liability company, corporation, associationjoint stock company, trust, estate, political subdivision, or any other legal entity, or their legal representatives, agents or assigns.

"Potable water" is any water used for human or domestic consumption, including, but not limited to, water used fordrinking, bathing, swimming, washing dishes, or preparing foods.

Section 4. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.

Section 5. If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

Section 6. This ordinance shall be in full force and effect from and after its passage, approval and publication as required by law.

THIS ORDINANCE PRESENTED to the Village Board of Trustees this 1st **day of** April**, A.D. 2008.**

Approved this 1st day of April, A.D. 2008.

Frank Bequer
Village President

Members of the Board of Trustees

Richard R. Gunca
Dennis Phillips
JoAnn Malone
Gloria McCoy
Hoyle Wade

Attest:

Bernadette Diggins
Village Clerk

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR)

CERTIFICATION

The undersigned Village Clerk does herewith certify that the attached is a true and correct copy of the Ordinance duly adopted by the President and Board of Trustees of the Village of Cahokia at a meeting of the Village Board held on the 1st day of April, 2008

Bernadette Wiggins
VILLAGE CLERK

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VILLAGE OF SAUGET

Golder Associates

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR) ss
VILLAGE OF SAUGET

CERTIFICATE

I, the undersigned, Janice D. Delaney, do hereby CERTIFY that:

1. I am the duly qualified and acting Village Clerk of the Village of Sauget, an Illinois municipal corporation and home rule unit situated in St. Clair County, Illinois. As such, I have the care and custody of its minutes, ordinances, resolutions, and other documents and its official seal.

2. On the 12th day of October, 1999, a meeting of the President and Board of Trustees of said VILLAGE was duly and properly convened, held and conducted. If required, due proper and timely notice was given.

3. At said meeting, a quorum was present throughout.

4. At said meeting, that certain document entitled:
" AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD. "

Ordinance No. 99-5 Resolution No. _____

was duly and properly adopted by the President and Board of Trustees of said VILLAGE and was thereupon duly approved by the President of said VILLAGE.

5. A true, correct and complete copy of said document is attached hereto and, by this reference, incorporated herein and made a part hereof.

6. The original of said document is in my possession and control as said Village Clerk.

7. The provisions of said document have not been altered, changed or amended in any manner whatever and are now in full force and effect.

Whereof, I have hereunto set my hand and affixed the official seal of said VILLAGE on this 14th day of June, 20 05.

(SEAL)

Janice D. Delaney
Janice D. Delaney
Village Clerk
Village of Sauget, Illinois

ORDINANCE NO. 99-5

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHOD

WHEREAS, certain properties in the Village of Sauget, Illinois, have been used over a period of time for commercial/industrial purposes; and

WHEREAS, because of said use, concentrations of certain chemical constituents in the groundwater beneath the Village may exceed Class I groundwater quality standards for potable resource groundwater, as set forth in 35 Illinois Administrative Code Part 620, or Tier I residential remediation objectives, as set forth in 35 Ill. Adm. Code Part 742; and

WHEREAS, the Village of Sauget desires to limit potential threats to human health from groundwater contamination while facilitating the redevelopment and productive use of properties that are the source of said chemical constituents;

NOW, THEREFORE, BE IT ORDAINED BY THE VILLAGE COUNCIL IN THE VILLAGE OF SAUGET, ILLINOIS:

Section One: Use of groundwater as a potable water supply prohibited.

The use or attempted use of groundwater from within the corporate limits of the Village as a potable water supply by the installation or drilling of wells or by any other method is hereby prohibited.

Section Two: Penalties

Any person violating the provisions of this ordinance shall be subject to a fine of up to 100 for each violation.

Section Three: Definitions.

"Person" is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any other legal entity, or their representatives, agents or assigns.

"Potable water" is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

Section Four: Repealer.

All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.

Section Five: Severablity.

If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.

Section Six: Effective Date.

This ordinance shall be in full force and effect from and after its passage, approval and publication, as required by law.

INTRODUCED AND READ FOR THE FIRST TIME: October 12, 1999

READ FOR THE SECOND TIME:
(under suspension of rules): October 12, 1999

READ FOR THE THIRD TIME:
(under suspension of rules): October 12, 1999

ADOPTED AND ENACTED: October 12, 1999

ROLL CALL VOTE:
Ayes: Adele, McDaniel, Rich, Cates, Thornton, Sauget
Nays: NONE
Absent: NONE
Unfilled Vacancy:

APPROVED: October 12, 1999

APPROVED:

Paul Sauget
President (mayor) Pro Temore

ATTEST:

Betty Long Wilson
Village Clerk

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR) ss
VILLAGE OF SAUGET

CERTIFICATE

I, the undersigned, Janice D. Delaney, do hereby CERTIFY that:

1. I am the duly qualified and acting Village Clerk of the Village of Sauget, an Illinois municipal corporation and home rule unit situated in St. Clair County, Illinois. As such, I have the care and custody of its minutes, ordinances, resolutions, and other documents and its official seal.

2. On the 10th day of May, 2005, a meeting of the President and Board of Trustees of said VILLAGE was duly and properly convened, held and conducted. If required, due proper and timely notice was given.

3. At said meeting, a quorum was present throughout.

4. At said meeting, that certain document entitled:
" AMENDING ORDINANCE NO. 99-5 "AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHODS". "

Ordinance No. 05-03 Resolution No. _____

was duly and properly adopted by the President and Board of Trustees of said VILLAGE and was thereupon duly approved by the President of said VILLAGE.

5. A true, correct and complete copy of said document is attached hereto and, by this reference, incorporated herein and made a part hereof.

6. The original of said document is in my possession and control as said Village Clerk.

7. The provisions of said document have not been altered, changed or amended in any manner whatever and are now in full force and effect.

Whereof, I have hereunto set my hand and affixed the official seal of said VILLAGE on this 6th day of June, 20 05.

(SEAL)

Janice D. Delaney
Janice D. Delaney
Village Clerk
Village of Sauget, Illinois

VILLAGE OF SAUGET
ORDINANCE NO. _05-03
AMENDING ORDINANCE NO. 99-5 "AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY BY THE INSTALLATION OR USE OF POTABLE WATER SUPPLY WELLS OR BY ANY OTHER METHODS

WHEREAS, the Village of Sauget Board of Trustees passed ordinance No. 99-5 which prohibited the use of groundwater as a potable water supply but failed to clearly indicate that said prohibition extends to the Village itself, as a municipal body; and,

WHEREAS, it is necessary to make this clarification to meet certain residential remedial requirements of the Illinois Environmental Protection Agency.

NOW THEREFORE BE IT HEREBY ORDAINED BY THE BOARD OF TRUSTEES OF THE VILLAGE OF SAUGET, ST. CLAIR COUNTY, ILLINOIS AS FOLLOWS:

1. Section 1 Ordinance No. 99-5 is amended by the addition of a final sentence to Section 1 as follows:" This prohibition expressly includes the Village of Sauget as a municipal body."
2. Section 2 All ordinances or parts of ordinances is conflict with this ordinance are hereby repealed insofar as they are in conflict with this ordinance.
3. Section 3 If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not affect the validity of the ordinance as a whole or of any portion not adjudged invalid.
4. Section 4 This ordinance shall be in full force and effect from and after its passage, approval and publication, as required by law.

INTRODUCED AND READ FOR THE FIRST TIME:	May 10, 2005
READ FOR THE SECOND TIME: (under suspension of rules)	May 10, 2005
READ FOR THE THIRD TIME: (under suspension of rules)	May 10, 2005
ADOPTED AND ENACTED:	May 10, 2005

ROLL CALL VOTE:

	AYE	NAY	ABSENT
ADELE	X		
MCDANIEL	X		
WORS			X
CATES			X
THORNTON	X		
NICHOLSON	X		

APPROVED: May 10, 2005

APPROVED: VILLAGE OF SAUGET

BY: _____
Richard Sauget, Jr. President

ATTEST:

_____
Village Clerk
VILLAGE OF SAUGET, ILLINOIS

CITY OF EAST ST. LOUIS

Golder Associates

ORDINANCE # 97 -10066

AN ORDINANCE PROHIBITING THE USE OF GROUNDWATER AS A POTABLE WATER SUPPLY; INSTITUTED TO PROTECT THE SAFETY, HEALTH AND WELFARE OF LOCAL RESIDENTS AND PROVIDE PROTECTIVE COVENANTS TO FACILITATE THE REDEVELOPMENT AND RE-USE OF PROPERTY IN THE CITY OF EAST ST. LOUIS.

WHEREAS: the City of East St. Louis, St. Clair County, Illinois (the 'City'), is a duly created, organized and validly existing municipality of the State of Illinois under the 1970 Illinois Constitution (the 'Constitution') and the laws of the State of Illinois, including particularly the Illinois Municipal Code, and all laws amendatory thereof and supplementary thereto (*Chapter 65, Act 5, Illinois Compiled Statutes (1994);* the 'Code'); and

WHEREAS: the City is a 'home rule unit' under Section 6(a) of Article VII of the Constitution and, as such, may exercise any power or perform any function pertaining to its government and affairs including, but not limited to, the power to tax and the power to incur debt, and the power to protect the health and promote the welfare of its citizens; and

WHEREAS: The City of East St. Louis may enter into a Redevelopment Plan and Planed Units Development Agreement that may be made a part of this Ordinance by reference.

Section One. Use of groundwater as a potable supply prohibited.

EXCEPT FOR SUCH USES OR METHODS IN EXISTENCE BEFORE THE EFFECTIVE DATE OF THIS ORDNANCE, The use or an attempt to use as a potable water supply, groundwater from within the corporate limits of the City of East St. Louis by the installation or drilling of wells or by any other methods is hereby prohibited.

Section two. Penalties.

Any person violating the provisions of this ordinance shall be subject to a fine of up to five hundred dollars ($500.00) for each violation.
Section three. Definitions.

Persons is any individual, partnership, co-partnership, firm, company, limited liability company, corporation, association, joint stock company, trust, estate, political subdivision, or any entity, or their legal representative, agents or assigns.

Potable water is any water used for human or domestic consumption, including, but not limited to, water used for drinking, bathing, swimming, washing dishes, or preparing foods.

Section four. Repealer.

All ordinances or parts of ordinances in conflict with this ordnance are hereby repealed insofar as they are in conflict with this ordinance.

Section five. Severability.

If any provision of this ordinance or its application to any person or under any circumstances is adjudged invalid, such adjudication shall not effect the validity of the ordinance as a whole or any portion not adjudged invalid

Section six. Effective date.

This ordinance shall be in full force and effect upon passage, approval and publication as required by law.

The City Council of the City of East St. Louis herein authorizes the Mayor and or City Manager to implement and sign any and all corresponding and necessary government regulatory documents to implement this Ground Water Safety and Public Health Protection Ordinance, herein passed; via any and all necessary Memorandum of Understandings (MOU) already passed by City Council or deemed to be

necessary by and between the City of East St. Louis and the appropriate and or necessary Environmental Protection Agencies (i. e. The Illinois Environmental Protection Agency, IEPA; the United States Environmental Protection Agency including U. S. EPA Region V; and or the State of Illinois Department of Natural Resources (DNR), and or appropriate County Agencies and/or the Financial Advisory Authority, including the proper recording and posting of any and all material concerning this Ordinance and those Agreements and Memorandum of Understandings (MOU's) affecting this Ordinance.

BY:

GORDON D. BUSH, MAYOR — Date

SIGNED: November 13, 1997

PASSED: November 12, 1997

FILED: _____

RECORDED: _____

ATTEST:

ALZADA C. CARR, CITY CLERK

ATTACHMENT B

CERTIFICATE OF PUBLICATION

PUBLIC NOTICE
NOTICE OF GROUNDWATER USE RESTRICTIONS IN VILLAGES OF SAUGET AND CAHOKIA AND CITY OF EAST ST. LOUIS, ILLINOIS

Solutia Inc., in accordance with the Final Decision issued pursuant to the Resource Conservation and Recovery Act by the United States Environmental Protection Agency Region V (USEPA) in February 2008 for the W. G. Krummrich Plant, is providing public notice of the existence of groundwater use restrictions in the Villages of Sauget and Cahokia and the City of East St. Louis, Illinois. These restrictions prohibit use of groundwater from within the corporate limits of these municipalities and also from certain specific areas within Cahokia as a potable water supply by the installation or drilling of wells or any other method.

For specifics of these ordinances, residents of the Village of Sauget should refer to Ordinance No. 99-5, as amended by Ordinance No. 05-03. Residents of the Village of Cahokia should refer to Ordinance Nos. 981, 05-1086, and 2008-1119. Residents of the City of East St. Louis should refer to Ordinance No. 97-10066. For any questions regarding this Notice, please contact Mr. G. M. Rinaldi, Solutia Inc., 575 Maryville Centre Drive, St. Louis, MO 63141; phone 314-674-3312.

L-P1112999 (2/15)

CERTIFICATE OF PUBLICATION

STATE OF ILLINOIS)
COUNTY OF ST. CLAIR) ss.

This is to certify that the undersigned Jay Tebbe is the president and publisher of the NEWS-DEMOCRAT a public and English secular newspaper of general circulation, which has been regularly published daily in the City of Belleville, County of St. Clair and State of Illinois, for at least one year prior to the first publication of the notice hereinafter mentioned, and that a notice of which the annexed is a true printed copy, has been published in said newspaper **ONCE**, the publication thereof having been made in the issue of said newspaper, published on **February 15, 2011**.

JAY TEBBE
President and Publisher

By_____
His Authorized Agent

Publisher's fee: **$111.51**

ACCOUNT ID: P165634
AD NUMBER: L-P1112999

Solutia – 468

RE: Solutia, Sauget, IL - Alternate CPA Remedy ... and Long-Term Groundwater Monitoring

Rinaldi, Gerald M to: Kenneth Bardo 03/15/2011 06:06 PM

From: "Rinaldi, Gerald M" <gmrina@solutia.com>
To: Kenneth Bardo/R5/USEPA/US@EPA

2 attachments

20110214 SA2SG - IEPA E-mails.pdf20110310 SA2SG E-mail to US EPA.pdf

I will call you 3/15/11 to discuss US EPA's 3/11/11 letter, especially:

- IV. Modification of Compliance Schedule ..., particularly the "ESD" discussed therein and in your voice message yesterday; and

- VI. Modification of the Long-Term Groundwater Monitoring Program, to which the two attachments to this e-mail relate. (My 3/4/11 e-mail to you re this program provided the 1/18/11 letter noted in the attached Sauget Area 2 Site Group (SA2SG) e-mail to US EPA CERCLA.)

G. M. (Jerry) Rinaldi - 2S
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8808
E-mail gmrina@solutia.com

-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Monday, March 14, 2011 8:58 AM
To: Rinaldi, Gerald M
Subject: RE: Solutia, Sauget, IL - Alternate CPA Remedy

(See attached file: Scan001.pdf)

This electronic mail message is intended exclusively for the individual or entity to which it is addressed.
This message, together with any attachment, may contain Solutia confidential and privileged information.
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-----Original Message-----
From: Lake, Paul [mailto:Paul.Lake@illinois.gov]
Sent: Mon 2/14/2011 9:42 AM
To: Smith, Steven D
Cc: Linebaugh.Stephanie@epamail.epa.gov; ems@frii.com
Subject: RE: [IDOT] groundwater pumping

Steve,

If I said the Corps of Engineers, I misspoke. During the conversation I meant IDOT. I will inquire as to whether I can release IDOT's study to you. It may have to come from them.

As you are probably aware, the Corps is planning to upgrade the levee system in the area. The upgrade is to include a number of new relief wells in the area of the Superfund sites. I think those will be manifolded to American Bottoms. I assume these only pump when the river rises.

Paul

-----Original Message-----
From: Smith, Steven D [mailto:sdsmit@solutia.com]
Sent: Monday, February 14, 2011 8:10 AM
To: Lake, Paul
Cc: Linebaugh.Stephanie@epamail.epa.gov; ems@frii.com
Subject: [IDOT] groundwater pumping

Paul,

During our call last week you mentioned that the Corp of Engineers has prepared a plan to increase groundwater pumping in East St. Louis.

If this is an approved and final document, we would like a copy.

Steve

From: Smith, Steven D
Sent: Thursday, March 10, 2011 8:41 AM
To: 'Linebaugh.Stephanie@epamail.epa.gov'
Cc: 'Gary Uphoff'
Subject: Sauget Area wide Groundwater Model

Stephanie,

As a follow-up to your letter of January 18th and our discussion during our meeting of February 24th, the Sauget Area 2 Sites Group (Group) has agreed to consider re-running the Sauget Area Wide Groundwater Model (Groundwater Model) to reflect the fact that the Illinois Department of Transportation (IDOT) did not shut off the dewatering pumping system last year. As we discussed at our last meeting, the Group is willing to conduct the requested modeling provided we can reach agreement with the Environmental Protection Agency, Region 5 (EPA) on the specific average flow rates and length of operations to be assumed for the IDOT pumps prior to initiating this work.

At the February 24th meeting the Group proposed the use the flow rates previously used in the Groundwater Model up to June 2010 when it was assumed the pumping would be discontinued. These flow rates at the various pumping locations were:

I-70	4,199 gpm
I-64 West	1,015 gpm
I-64 East	1,015 gpm
25th Street	599 gpm
Total	6,828 gpm

The Group also recommends that the groundwater model assume that these pumps are turned off on December 31, 2014, unless better information is available.

Please let Gary Uphoff and me know if you are in agreement with the above, or if you or the Illinois Environmental Protection Agency have a different long-term average flow rate and turn-off date that EPA would like the Group to use in the re-run of the Groundwater Model.

Steve

Solutia – 469

RE: Solutia, Sauget, IL - Periodic Technical Reviews

Rinaldi, Gerald M to: Kenneth Bardo 03/17/2011 05:43 PM

From: "Rinaldi, Gerald M" <gmrina@solutia.com>
To: Kenneth Bardo/R5/USEPA/US@EPA

As we discussed, Solutia will include preparation of a "periodic technical review" / "assessment report" in the work plan and schedule to be submitted in response to your 3/11/11 letter.

-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Thursday, March 17, 2011 1:02 PM
To: Rinaldi, Gerald M
Subject: RE: Solutia, Sauget, IL - Periodic Technical Reviews

let's discuss this some more and try to memorialize an agreement. would not generally disagree with your assessment. however, there is the outstanding issue regarding the long-term monitoring program described in our March 11, 2011 letter.

it would seem appropriate, at that time that additional work is completed for the long-term monitoring program, that Solutia provide an assessment report. this is work that should be completed this year as the remedies are being designed.

-----Original Message-----
From: "Rinaldi, Gerald M" <gmrina@solutia.com>

To: Kenneth Bardo/R5/USEPA/US@EPA

Date: 03/04/2011 04:14 PM

Subject: RE: Solutia, Sauget, IL - Periodic Technical Reviews

Following up on the voice message I left you this afternoon. I will be out 3/7 - 9, returning 3/10 if you would like to call to discuss further.

The next-to-last "Reports and Monitoring" element of the Final Decision reads as follows:

> Conduct periodic technical reviews of data from the long-term monitoring program to evaluate site conditions. Assess any potential unacceptable risk posed to on-site and off-site receptors. Assess whether alternative technologies are necessary to expedite groundwater cleanup in the American Bottom aquifer. Submit the periodic technical review as an assessment report to U.S. EPA for review and comment every three years, starting from the U.S. EPA approval date of the long-term monitoring program.

The "Long-Term Monitoring Program" submitted on 4/11/08 was approved (with comments) by US EPA on 4/29/08; on that basis, the first periodic technical review would be due 4/29/11. That Program called for data evaluation after two years of monitoring, so Solutia made a submittal concerning 3Q08 - 2Q10 data on 8/2/10. If Solutia had to do it over

again, we would have proposed for that first long-term groundwater data evaluation to be due after three years, not two, so that it could have also served as the first periodic technical review.

Related to the Final Decision language above regarding "assess[ment of] any potential unacceptable risk to on-site and off-site receptors," another Final Decision requirement was to submit "an assessment report ... of the contaminated groundwater discharge to the Mississippi River ... includ[ing], but ... not limited to: ...an evaluation of whether the current discharge of groundwater contaminants to the Mississippi River is adequately protective of surface water, sediment, and ecological receptors." Solutia submitted that assessment on 5/27/08; US EPA (deferring to IEPA?) has not yet responded to that submittal.

Solutia believes that the Final Decision called for periodic technical reviews beginning after three years to see if the soil vapor extraction (SVE) and former Chlorobenzene Process Area (CPA) remedies (originally to be completed within three years per the Final Decision) had begun to favorably affect groundwater conditions. For reasons of which US EPA is aware, those remedies have yet to be installed (although they are now scheduled to be by late 2011 / early 2012), let alone operated, so it is not appropriate at this time to "assess whether alternative technologies are necessary to expedite groundwater cleanup in the American Bottom aquifer." Therefore, Solutia proposes that the 5/27/08 and 8/2/10 submittals serve in lieu of the first periodic technical review and that the next such review not be submitted until 4/29/14, i.e., after three more years and, more importantly, after approximately two years of operation of the SVE system for the former Big Mo and benzene pipeline areas and the thermally enhanced SVE (T-SVE) and enhanced aerobic bioremediation (EABR) systems for the former CPA. Meanwhile, per my other e-mail this afternoon, Solutia could update the 8/2/10 long-term groundwater monitoring data submittal by incorporating 3Q10 and 4Q10 results.

G. M. (Jerry) Rinaldi - 2S
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8808
E-mail gmrina@solutia.com

-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Thursday, March 03, 2011 11:44 AM
To: Rinaldi, Gerald M
Subject: RE: Solutia, Sauget, IL

jerry, noticed that the 3 year review (technical assessment) was due.
is that something that has been submitted already to epa?

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Solutia – 470

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

March 18, 2011

Mr. Jose G. Cisneros - LU-9J
Chief, Remediation and Reuse Branch
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA E-MAIL AND CERTIFIED MAIL
#7007 2560 0000 7454 4359
RETURN RECEIPT REQUESTED

Re: Modification of the Long-Term Groundwater Monitoring Program
Solutia Inc., W. G. Krummrich Plant, Sauget, IL
ILD 000 802 702

Dear Mr. Cisneros:

Pursuant to my discussion with US EPA Project Manager Ken Bardo yesterday, this letter is the second of two that Solutia is sending today in response to your letter dated March 11, 2011, entitled "Modification of the Final Remedy for the Former Chlorobenzene Process Area." This particular letter concerns Section VI. "Modification of the Long-Term Groundwater Monitoring Program" of your letter.

As mentioned several times in your letter and consistent with my prior communications with Mr. Bardo, groundwater in Sauget, IL, and adjoining areas is a regional issue. As such, it is being addressed not only by Solutia under the RCRA corrective action program at the W. G. Krummrich Plant, but also by the potentially responsible parties (PRPs), including Solutia, for the Sauget Area 1 and 2 CERCLA sites under the direction of Stephanie Linebaugh, US EPA Project Manager. The CERCLA program is the more appropriate forum for dealing with the regional groundwater issue; as you are aware, US EPA has recently proposed the creation of a distinct "operable unit" (OU) for that purpose. Furthermore, consultants and attorneys representing the State of Illinois Natural Resource Trustees told representatives of the Sauget Area 1 and 2 PRPs in a March 17, 2011, meeting that they are interested in assessing damages and have identified items, nearly identical to those US EPA RCRA has requested, to fill potential data gaps to enable them to perform their assessment.

Two items relevant to the regional nature of groundwater in Sauget and adjoining areas are:

- information regarding IDOT's dewatering wells located north of the Solutia facility at the I-55 corridor; e.g., a 2009 report by TBirdie Consulting to IDOT mentioned in US EPA's September 24, 2010, e-mail to Solutia and in your March 11, 2011, letter; and

- the "Regional Groundwater Flow and Contaminant Transport Model," submitted by the Sauget Area 2 PRPs to US EPA-CERCLA on April 14, 2008, and discussed in both communications noted immediately above.

Solutia is participating with the Sauget Area 1 and 2 PRPs on the regional groundwater remedy through the CERCLA program. Solutia cannot effectively address these issues on its own. For example, the regional groundwater model was developed by the Sauget Area 2 PRPs, which have agreed to re-run the model once US EPA and Illinois EPA supply the IDOT pumping information that the agencies want changed, so Solutia should not be asked to do that independently. Solutia acknowledges Mr. Bardo's input yesterday that Paul Lake of Illinois EPA should be the contact regarding the report about IDOT's dewatering wells as well as parameters for re-running the model. The Sauget Area 2 PRPs have been in contact with Mr. Lake, as well as Ms. Linebaugh, but no information has yet been forthcoming.

Due to the approximately two-mile distance between the W. G. Krummrich Plant and IDOT's wells, Solutia respectfully declines to "collect and analyze water samples from the IDOT dewatering wells to assess the presence of any [Plant]-related contaminants" as specified in your March 11, 2011, letter. That distance to IDOT's wells is such that the Plant is outside the "no-flow boundary" in "Figure 3. Model domain of the TBirdie Consulting groundwater model." In addition, the "Institutional Controls" provision of US EPA's February 26, 2008, RCRA Final Decision for the W. G. Krummrich Plant only requires "Solutia [to] use due diligence to detect any current and/or future off-site groundwater pumping activities ... within a 0.5-mile radius of the known contaminant plume boundary originating from the Solutia facility ...." Furthermore, because this is a heavily industrialized area, many potential sources other than the former operations at the W.G. Krummrich Plant may impact the IDOT wells.

Finally, Solutia requests 90 (versus 30) days after its March 15 receipt of your letter, until June 14, to submit "a work plan and schedule for implementation of the modified long-term groundwater monitoring program." That should allow sufficient time for:

- US EPA-RCRA and/or CERCLA, Illinois EPA, and/or IDOT to provide the requested information about IDOT's dewatering wells;
- US EPA-RCRA and/or CERCLA, Illinois EPA, and/or IDOT to provide parameters for re-running the groundwater model, and then the Sauget Area 2 PRPs doing so; and
- Solutia to assimilate relevant information about existing, potentially appropriate monitoring wells that are not currently part of its long-term network.

In yesterday's discussion with Mr. Bardo, we agreed to talk again about the required work plan and other issues when I return to the office from an extended absence March 19 through April 3.

If you have any questions or comments, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

cc:

K. S. Bardo - US EPA
J. K. Moore - Illinois EPA
S. D. Smith - Sauget Area 2 Sites Group

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

RECEIVED MAR 2 5 2011

March 18, 2011

Mr. Jose G. Cisneros - LU-9J
Chief, Remediation and Reuse Branch
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA E-MAIL AND CERTIFIED MAIL
#7007 2560 0000 7454 4359
RETURN RECEIPT REQUESTED

Re: Modification of the Final Remedy for the Former Chlorobenzene Process Area
Solutia Inc., W. G. Krummrich Plant, Sauget, IL
ILD 000 802 702

Dear Mr. Cisneros:

Pursuant to my discussion with US EPA Project Manager Ken Bardo yesterday, this letter is one of two that Solutia is sending today in response to your letter dated March 11, 2011, on the referenced subject. This particular letter responds to that subject, i.e., US EPA's approval of Solutia's proposed modification of the final remedy for the Former Chlorobenzene Process Area. Solutia's other letter responds to Section VI. "Modification of the Long-Term Groundwater Monitoring Program" of US EPA's letter, which is a separate issue.

With US EPA's approval of the proposed change in treatment technologies, consistent with Section III. "Notice of Significant Change" in your letter, "Solutia [will] proceed with the design of the T-SVE, EABR, and bioventing system at the Former Chlorobenzene Process Area." According to Mr. Bardo, Solutia's progress should not be impacted by US EPA's imminent issuance of an "Explanation of Significant Differences (ESD)."

Section IV. "Modification of Compliance Schedule" in your letter states: "After issuance of the ESD, EPA will consider approving an extension for the deadline to start and complete operations of the modified remedy at the Former Chlorobenzene Process Area, if needed." Such an extension will be needed. The estimated start-up and completion dates for the modified remedy, i.e., start-up in January 2012 and completion in January 2016, both extend the corresponding dates for the original remedy. Accordingly, Solutia requests the extension be approved on or before the original start-up date of April 13, 2011.

Finally, Solutia is awaiting US EPA's evaluation, and will promptly respond to comments, if any, on the "shutdown protocols" submitted February 25, 2011, as described in Section V. "Remediation Objectives" in your letter.

If you have any questions or comments, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

cc:

K. S. Bardo - US EPA
J. K. Moore - Illinois EPA

Solutia – 471

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 28, 2011

REPLY TO THE ATTENTION OF
LU-9J

VIA E-MAIL AND FIRST-CLASS MAIL

Mr. Gerald Rinaldi
Solutia Inc.
P.O. Box 66760
St. Louis, MO 63166-6760

RE: Approval of SVE Completion Protocol
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

We have completed a review of the *Proposed Protocol for Completing Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode* memorandum dated February 1, 2011. The memorandum describes the procedures for ceasing soil vapor extraction operations in each treatment area at the Solutia facility and supplements the *Work Plan for Full-Scale Soil Vapor Extraction* approved by EPA on February 14, 2011.

EPA approves the memorandum with the following addition:

Page 3, Section 3.b. - Add "The initial estimated mass of benzene and/or chlorobenzene is 490,000 pounds at the Big Mo Area, 27,000 pounds at the Former Benzene Pipeline Area, 250,000 pounds at the North Tank Farm Area, and 25,000 pounds Near Little Mo Area."

Note that the remediation area was expanded at the North Tank Farm Area on February 4, 2011, based on January boring results for SVE 86 through 89. Any additional mass in the North Tank Farm Area will be calculated and the initial estimated mass of benzene and/or chlorobenzene updated for the North Tank Farm Area.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo, EPA Project Manager
Corrective Action Section

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

March 28, 2011

REPLY TO THE ATTENTION OF:

LU-9J

VIA E-MAIL AND FIRST-CLASS MAIL

Mr. Gerald Rinaldi
Solutia Inc.
P.O. Box 66760
St. Louis, MO 63166-6760

RE: Approval with Conditions of T-SVE and EABR Completion Protocol
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

We have completed a review of the *Proposed Protocol for Completing Thermally Enhanced Soil Vapor Extraction Operations and Potential Transitioning to Bioventing Mode*, and *Proposed Protocol for Completing Enhanced Aerobic Bioremediation Operations* memorandums dated February 24, 2011. These two memorandums describe the procedures for evaluating and completing soil vapor extraction, bioventing, and bioremediation operations at the Former Chlorobenzene Process Area at the Solutia facility, and supplement the modification of the final remedy detailed in EPA's March 11, 2011 letter.

EPA approves the two memorandums with the following additions and changes:

Memo for T-SVE, Page 2, Section 3.b. - Add "The estimated mass of benzene and chlorinated benzenes is 200,000 kilograms."

Memo for EABR, Page 2, Section 2.b. - Add "The estimated mass of benzene and chlorinated benzenes is 175,000 kilograms."

Memo for EABR, Page 2, Section 3. - Section 3 describes procedures for assessing COC mass on an annual basis with the possibility of recommending shutdown of EABR after one year of treatment. An assessment after one year is premature. In the GSI February 4, 2011, suitability of EABR memo, COC mass was described as being reduced at another site by 80 to 90% after two years operations. Additionally, the proposed time frame in the Solutia EABR proposal was operation of up to four years in concert with T-SVE.

Any proposal to shut down EABR operations must not be considered until the criteria in Section 1.b.iii. is met (i.e., a significant reduction in the oxygen utilization rate), and no earlier

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than two years after startup. In addition, Solutia must ensure that inorganic nutrients such as nitrogen and phosphorus are present in quantities to continually support microbial cell growth and sustain the biodegradation process. If necessary, supplement oxygen injections with nutrients.

Memo for EABR, Add a Section for Groundwater Monitoring - Include groundwater monitoring in the protocol for completing EABR operations as required by EPA and detailed in the Solutia August 3, 2010, e-mail (enclosed). Baseline monitoring for the listed parameters must be performed at all four installed well clusters (ISTD-A, B, C, and D) prior to startup of the T-SVE and EABR remediation system in January 2012, and semiannually thereafter. Observed concentrations and trends of COC and MNA parameters over the groundwater monitoring period must also be evaluated as another line of evidence for consideration in any recommendation for shutdown of EABR operations.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo
EPA Project Manager
Corrective Action Section

Solutia – 473

Re: Solutia, Sauget, IL - Meeting 4/12?
Kenneth Bardo to: Rinaldi, Gerald M 04/06/2011 09:35 AM

From: Kenneth Bardo/R5/USEPA/US
To: "Rinaldi, Gerald M" <gmrina@solutia.com>

jerry, that was my expectation too after our discussions just prior to your 2-week vacation. in our discussions, there was no indication that Solutia would be sending a position paper regarding the long-term groundwater monitoring program. my understanding was that we would talk and work out the approach for moving forward on your return, including what might be performed in the short-term, a conceptual approach for a work plan, and when a comprehensive work plan could be completed.

during our discussions, epa conveyed the need to update the environmental indicators given new information that has come to light. as we discussed, the need for this work lies in the specific requirements of the AOC, such as stabilizing the migration of contaminated groundwater.

regarding a meeting on tuesday, i am still waiting for the time of another possible meeting. also, if Congress does not agree on a resolution for this fiscal year budget, a federal government shutdown may occur on Friday which would directly impact my ability to work.

-----"Rinaldi, Gerald M" <gmrina@solutia.com> wrote: -----

To: Kenneth Bardo/R5/USEPA/US@EPA
From: "Rinaldi, Gerald M" <gmrina@solutia.com>
Date: 04/05/2011 04:31PM
Subject: Solutia, Sauget, IL - Meeting 4/12?

Solutia is requesting a face-to-face meeting in part because I expected we would talk this week, per our 3/17/11 phone conversation and one of my 3/18/11 letters, i.e., before you sent any letter such as that dated 3/31/11 and titled "Solutia's Response to Groundwater Monitoring Modification."

I suggest a **two-hour** meeting and (contrary to my e-mail below) propose either **9:00 - 11:00** or **2:30 - 4:30**. Please let me know your preference **ASAP** so I can make travel arrangements.

It would be **just me** coming to Chicago, and **topics** include:

1. Former Chlorobenzene Process Area (CPA) remedy
a. Detailed design status
b. Schedule extension - Solutia's 3/18/11 written request for approval before 4/13/11
c. "Explanation of Significant Differences" (ESD) - Solutia's 3/17/11 verbal request to see draft to confirm facts before Division Director signature / issuance

2. Shutdown/completion protocols
Note: During my absence, I shared your 3/28/11 (SVE) and 3/31/11 (CPA) comment letters with Solutia's consultant XDD, and I intend to provide revised protocols prior to, for discussion at, the meeting. I also intend to provide boring logs/ construction diagrams for downgradient CPA well clusters already installed per Solutia's 8/3/10 e-mail as noted in your 3/28/11 letter
a. SVE
b. CPA (T-SVE and EABR)

3. Groundwater - regional information, monitoring, etc.
a. Agency information (our meeting will be more productive with full disclosure of all of the following in advance)

i. 2009 (?) report from IDOT (?) consultant (TBirdie) - Paul Lake / IEPA still has not responded to a 2/14/11 e-mail request by Sauget Area 2 Sites Group (SA2SG)
ii. US EPA-CERCLA / IEPA response to SA2SG's 3/10/11 proposal of input parameters to re-run 2008 "Regional Groundwater ... Model"
iii. US Army Corps of Engineers' groundwater wells (not in Illinois State Water Survey database) and "draft data" referred to in your 3/18/11 e-mail and your 3/31/11 letter
iv. MHU/DHU "potentiometric surface map from 4th quarter 2010" referred to in your 3/31/11 letter
b. Solutia information - existing wells, piezometers, etc., and associated data (I intend to send relevant material prior to the meeting)
c. Monitoring, etc.
i. "Environmental Indicators" (CA750 - groundwater) - basis for your 3/31/11 letter's recommendation to prepare a new report?
ii. Indoor air vapor intrusion - basis for your 3/31/11 letter's suggestion that "site contaminants [may now be] present in the SHU underlying the residential area" (emphasis added)
iii. When, relative to SVE and CPA remedy implementation schedules, to revise monitoring program(s)

Jerry

From: Bardo.Kenneth@epamail.epa.gov [mailto:Bardo.Kenneth@epamail.epa.gov]
Sent: Monday, April 04, 2011 8:12 PM
To: Rinaldi, Gerald M
Subject: RE: Solutia, Sauget, IL - Long-Term Groundwater Monitoring Program, etc.

may have another meeting that day but do not have a time yet. how much time would we need and would anyone else be attending beside yourself?

also, did you get the approvals for the completion protocols for the two remedies and do we need to discuss anything about those.

-----"Rinaldi, Gerald M" <gmrina@solutia.com> wrote: -----
To: Kenneth Bardo/R5/USEPA/US@EPA
From: "Rinaldi, Gerald M" <gmrina@solutia.com>
Date: 04/04/2011 04:36PM
Subject: RE: Solutia, Sauget, IL - Long-Term Groundwater Monitoring Program, etc.

I just left you a voice message. Reiterating: I propose we meet face-to-face in Chicago Tuesday, 4/12 (late morning or early afternoon) to discuss the "LTM" program (including your 3/31 letter which I just read today), the CPA remedy "process" (including the ESD noted below and the schedule extension which Solutia has requested US EPA to approve before 4/13). If you get this message before this Wednesday, 4/6, let me know your availability 4/12.

G. M. (Jerry) Rinaldi - 2S
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8808
E-mail gmrina@solutia.com

-----Original Message-----
From: Bardo.Kenneth@epamail.epa.gov
Sent: Monday, April 04, 2011 3:20 PM
To: Rinaldi, Gerald M
Subject: RE: Solutia, Sauget, IL - Long-Term Groundwater Monitoring Program

hope you had a good vacation, you at least missed the snow in st. louis if you left town. something came up and i will not be in tomorrow. we need to

pick up on our discussions from a few weeks ago. thursday might be the best day, and i'll be available in the office. the ESD is still being reviewed and may be awhile.

This electronic mail message is intended exclusively for the individual or entity to which it is addressed. This message, together with any attachment, may contain Solutia and/or Ascend confidential and privileged information. The recipient is hereby put on notice to treat the information as confidential and privileged and to not disclose or use the information except as authorized by Solutia and/or Ascend. Any unauthorized review, printing, retention, copying, disclosure, distribution, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this message in error, please immediately contact the sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.

Solutia – 474

Solutia EI
Kenneth Bardo to: Rinaldi, Gerald M 04/07/2011 11:06 AM

From: Kenneth Bardo/R5/USEPA/US
To: "Rinaldi, Gerald M" <gmrina@solutia.com>

here is our website on EI's.

http://www.epa.gov/osw/hazard/correctiveaction/eis/

here is the Solutia EI with problem areas highlighted in yellow. EI determinations must accurately report site conditions through time.

[attachment "Scan003.pdf" deleted by Kenneth Bardo/R5/USEPA/US]

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name:	Solutia Inc.
Facility Address:	500 Monsanto Ave., Sauget, IL 62206-1198
Facility EPA ID #:	ILD 000 802 702

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

   X If yes - check here and continue with #2 below.

   ____ If no - re-evaluate existing data, or

   ____ if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators for the RCRA Corrective Action

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration/Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

   X If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

   ____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not "contaminated."

   ____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The following information is presented in the *Description of Current Conditions (August 1, 2000)*, *CA750 Migration of Contaminated Groundwater Under Control, W.G. Krummrich Plant, Sauget, IL* (December 2002), and a September 30, 2003, letter from Solutia to EPA:

A large groundwater contaminant plume containing VOCs and SVOCs is present beneath the entire facility and extends beyond the western facility boundary to the Mississippi River, a distance of approximately 2800-feet. The size of the facility plume was determined to be approximately 3,900-feet wide and 6,900-feet long. It is controlled at its westernmost extent, before it can wholly discharge to the Mississippi River, by a slurry barrier wall and three-well extraction system (groundwater barrier/control system). Collected groundwater is routed to the American Bottoms Regional Treatment Facility. Maximum contaminant concentrations detected in the plume at and from the facility and corresponding Illinois EPA TACO groundwater remediation objectives are:

[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

Migration of Contaminated Groundwater Under Control
Environmental Indicator (EI) RCRIS code (CA750)

Groundwater Contaminant	Maximum Concentration (ppb)	Illinois EPA TACO Groundwater Remediation Objective (ppb)
Volatile Organics		
Acetone	22,000	700
Benzene	1,600,000	5
Chlorobenzene	350,000	100
1,2-DCA	14,000	5
1,2-DCE	420	70
Ethylbenzene	29,000	700
Methylene chloride	680	5
4-methyl-2-pentanone	3,100	560
1,1,1-TCA	560	200
Toluene	71,000	100
Xylenes	150,000	10,000
Vinyl chloride	350	2
Semi-volatile Organics		
Aniline	62,000	23
4-chloroaniline	25,000	28
2-chlorophenol	540,000	35
Dichlorobenzenes	23,000,000	75
2,4-dichlorophenol	340,000	21
Methylphenols	280,000	350
2-nitroaniline	1,100	6.3
Nitrobenzene	14,000	3.5
Naphthalene	86,000	140
Pentachlorophenol	18,000	1
Phenol	1,100,000	100
1,2,4-trichlorobenzene	1,400	70
2,4,6-trichlorophenol	2,700	10

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

_X_ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

____ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The contaminant plume is present in the shallow (20-feet thick), middle (30-feet thick), and deep (40-feet thick) hydrogeologic units (sand and gravel). The plume migrates westward to the Mississippi River where it is effectively captured by a groundwater barrier/control system. The groundwater barrier/control system currently captures most contaminants in all three units before they discharge to the Mississippi River and maintains hydraulic control of the core of the plume (*CA 750 Groundwater Migration Control Addendum, W.G. Krummrich Plant, Sauget, Illinois*. April 19, 2004. Solutia Inc.) The deep hydrogeologic unit is underlain by bedrock which restricts any downward migration.

The facility contaminant plume commingles with other contaminant plumes originating from surrounding industries and historical disposal areas (CERCLA Sauget Area Sites 1 and 2). Therefore, it is difficult to map the exact extent of the subject facility plume. However, area monitoring wells and a geoprobe study were used to generate VOC and SVOC plume boundary maps (Letter from Solutia to EPA, September 30, 2003). Contaminated groundwater is expected to remain within this defined existing area of contamination because groundwater flow and discharge patterns are controlled by the Mississippi River and Solutia has installed a groundwater barrier/control system to capture the core of the plume before it discharges to the river.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

_X_ If yes - continue after identifying potentially affected surface water bodies.

____ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater

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[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

"contamination" does not enter surface water bodies.

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

With the construction of the groundwater barrier/control system, the core of the contaminant plume that previously discharged to the Mississippi River and impacted surface water and sediment has been effectively cut-off. Solutia demonstrated hydraulic control of the plume in its *CA 750 Groundwater Migration Control Addendum, W.G. Krummrich Plant, Sauget, Illinois* (April 19, 2004).

However, in its September 30, 2003, letter to EPA, Solutia predicts that a portion of the plume (the northern, less-contaminated area) still discharges up to 2100-feet north of the groundwater barrier/control system. No monitoring wells are installed at the river to confirm this prediction due to access restrictions. This northern portion of the plume likely commingles with source areas being addressed in the CERCLA Sauget Area 2 Sites (e.g., Site P).

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

____ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

_X_ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

____ If unknown - enter "IN" status code in #8.

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[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

Rationale and Reference(s):

An interpretation of the VOC and SVOC plume boundary maps (Solutia letter to EPA, September 30, 2003) shows that VOCs north of the assumed capture zone of the groundwater barrier/control system are less than 10 ppm (VOCs captured in the core of the plume are typically 100 to 1000 ppm). SVOCs north of the assumed capture zone of the groundwater barrier/control system are typically in the hundred-ppb range (SVOCs captured in the core of the plume are typically in the 300 to 1100 ppm range). These concentrations, although much lower than those captured by the groundwater barrier/control system, generally exceed 10 times their appropriate groundwater "level" (Illinois EPA TACO groundwater remediation objective).

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be "**currently acceptable**" (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

X If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

____ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

____ If unknown - skip to 8 and enter "IN" status code.

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[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

Rationale and Reference(s):

The following information is presented in an EPA letter to Solutia dated February 9, 2001, and the *Human Health Risk Assessment, Sauget Area 2, Sauget, Illinois, Volumes I and II* (August 31, 2003).

Sampling events for Mississippi River water and sediment were conducted in November 2000 and November 2002. River levels at the time of each sampling event were relatively low (approx. 382 to 383-feet) and the groundwater barrier/control system was not installed. These conditions are representative of a worse-case scenario when groundwater discharge impacts to the river would be expected to be more significant. The sample area in November 2000 was 500-feet north of the current groundwater barrier/control system. Three locations were sampled along a transect 50, 150, and 300-feet from the riverbank. The sample area in November 2002 was 1200 to 1900-feet north of the current groundwater barrier/control system. Two or three locations were sampled along three transects that were 50 and 150-feet, or 50, 150, and 300-feet from the riverbank. No VOCs, SVOCs, pesticides, and herbicides were detected at any of the sample locations during these worse-case sampling events. This is contrary to areas sampled further downstream in the vicinity of the groundwater barrier/control system where significant concentrations of VOCs, SVOCs, pesticides, and herbicides were detected in surface water and sediment. This area is now protected by the groundwater barrier/control system. The absence of detectable contaminant concentrations in Mississippi River water and sediment north of the groundwater barrier/control system demonstrates that the discharge of potentially contaminated groundwater not captured by the groundwater barrier/control system is currently acceptable.

7. Will groundwater **monitoring**/measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

X If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

____ If no - enter "NO" status code in #8.

____ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

The following information is presented in the *Groundwater Migration Control System, Sauget Area 2 Superfund Site, Remedial Design/Remedial Action Workplan* (URS, July 3, 2003) and *DNAPL Characterization and Site Corrective Measures Study Workplan, Solutia Inc., W.G. Krummrich Plant, Sauget, Illinois* (Groundwater Services, Inc., February 18, 2004).

Numerous monitoring programs are in place to verify that contaminated groundwater remains within its existing dimensions. For the groundwater barrier/control system that captures the majority of contaminants at the river, piezometer, monitoring well, and river level measurements are made to ensure that hydraulic control is maintained (i.e., groundwater flow is inward across the slurry wall). Four monitoring well nests between the slurry wall and the river will also be sampled to determine the amount of contaminant mass discharging to the river. In addition, upon completion of the slurry wall this year, Solutia is required to monitor river water and sediment to determine impacts to the river.

The possibility for DNAPL exists at the facility. Solutia has implemented a workplan to characterize DNAPL and conduct a corrective measures study. The work includes measurement of DNAPL in monitoring wells, a geophysical survey to define the bedrock valley, and additional borings/wells installed at preferential DNAPL migration areas down to the bedrock. The investigations will be completed in the summer of 2004. At that time, the data will be evaluated to determine if DNAPL is present and if it is stabilized within the existing area of groundwater contamination.

The facility contaminant plume commingles with other contaminant plumes originating from surrounding industries and historical disposal areas (CERCLA Sauget Area Sites 1 and 2). Therefore, it is difficult to map and monitor the exact extent of the subject plume. Area monitoring wells and a geoprobe study were used to generate VOC and SVOC plume boundary maps (Letter from Solutia to EPA, September 30, 2003). Numerous wells exist on the facility property and additional wells have been installed at the facility plume perimeter and within the off-site portion of the facility plume as part of the CERCLA investigations. Specific monitoring wells screened in all three hydraulic units at the perimeter of the facility boundary and apparent perimeter (north and south) of the facility plume will be chosen to monitor the contaminant plume. Because of the likelihood of commingling with other plumes, the purpose of this program will be to ensure that contamination at the defined edges of the facility contaminant plume remain within a certain range. The groundwater barrier/control system, along with hydraulic and chemical monitoring of groundwater and surface water/sediment will be used to effectively monitor the western extent of the plume.

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

X YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Solutia Inc. facility, EPA ID Number ILD 000 802 702, located at Sauget, Illinois. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

____ NO - Unacceptable migration of contaminated groundwater is observed or expected.

____ IN - More information is needed to make a determination.

Completed by (signature) _____ Date May 26, 2004
(print) Kenneth S. Bardo
(title) Environmental Scientist

Supervisor (signature) _____ Date _____
(print) George Hamper
(title) Section Chief
(EPA Region or State) Region 5

Locations where References may be found:

RCRA 7th Floor File room - Administrative Record for RCRA 3008(h) Consent Order.

Contact telephone and e-mail numbers

(name) Kenneth S. Bardo
(phone #) (312) 886-7566
(e-mail) bardo.kenneth@epa.gov

Solutia – 476

Solutia Inc.
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St. Louis, Missouri 63141

Tel: 314-674-3312
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gmrina@solutia.com

April 14, 2011

Mr. Kenneth S. Bardo - LU-9J
Corrective Action Section
U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA E-MAIL AND U.S. MAIL

Re: Groundwater Monitoring, etc.
Solutia Inc., W. G. Krummrich Plant, Sauget, IL
ILD 000 802 702

Dear Mr. Bardo:

This letter is submitted in response to US EPA's letter dated March 31 and pursuant to our telephone conversations on April 7 and 12. This letter is being submitted by April 14 as requested by US EPA. The section headings below parallel those in the March 31 letter.

I. Environmental Indicators

As noted in US EPA's March 31 letter and consistent with Section VI.2 of the Administration Order on Consent (AOC) dated May 3, 2000, "Documentation of Environmental Indicator [EI] Determination" for "Migration of Contaminated Groundwater Under Control" (RCRIS Code CA750) was issued by US EPA on May 26, 2004. Also consistent with AOC Section VI.2 (and a related "Reports and Monitoring" provision of the Final Decision issued by US EPA on February 26, 2008), "Solutia [has] collect[ed] monitoring and measurement data … as necessary to verify that migration of any contaminated groundwater is stabilized," i.e., the quarterly "Long-Term Monitoring Program" data reports for 3rd quarter 2008 through 4th quarter 2010 submitted to date and the associated "Evaluation of 3Q08 - 2Q10 Data" submitted on August 2, 2010.

In addition, Section 8 of the EI report states that "this determination will be re-evaluated when the Agency becomes aware of <u>significant</u> changes <u>at the facility</u>" (emphasis added). Contrary to the implications in US EPA's March 11 and 31 letters and April 7 e-mail, no such re-evaluation is necessary because there have been no significant changes at the W.G. Krummrich Plant; therefore, <u>Solutia does not propose to "identify a reasonable due date for a new Environmental Indicator Report"</u> as recommended by the IV. Path Forward section of US EPA's March 31 letter. Operation, beginning in 2012, of approved remedies for the Former Chlorobenzene Process Area (i.e., T-SVE and EABR) and the Former Chlorobenzene and Benzene Storage, and Central Plant Process, Areas (i.e., SVE), as required by the "Contaminated Groundwater Source

Control" provisions of the Final Decision, would constitute "significant changes at the facility," after which EI re-evaluation would be appropriate.

II. Groundwater Data

US EPA's March 31 letter stated: "A recent potentiometric surface map from 4th quarter 2010 … shows an apparent groundwater flow divide near the northern facility boundary…. North of the divide, flow is more northerly." In response to my question in our April 7 conversation, you said that the map in question was from the "Long-Term Monitoring Program - 4th Quarter 2010 Data Report" which Solutia submitted on March 15, 2011. Contrary to US EPA's statement in the March 31 letter, no "groundwater flow divide" or northerly flow is evident in "Plate 3 - Potentiometric Surface Map - Middle / Deep Hydrogeologic Unit" (MHU / DHU) (attached). US EPA's interpretation of the groundwater flow is incorrect, and Solutia would be willing to meet with you and your technical experts to answer any questions about this map and the data gathered to develop it to assist in correctly interpreting the information provided.

The March 31 letter also stated: "Recent data from a US Army Corps of Engineers project detected chlorobenzene concentrations near the groundwater cleanup level in a 50-foot screened well across the MHU and DHU in the vicinity of PIEZ-2-D" (emphasis added). In response to my April 5 e-mail, you provided selected data from the Corps report by your April 7 e-mail and, in response to my request during our April 7 conversation, the full Corps report by U.S. mail April 11. While the March 31 letter is literally correct regarding this data, of eleven wells in four clusters which US EPA noted as of interest:

- seven wells contained no detectable chlorobenzenes;
- chlorobenzene was below its groundwater cleanup level (also IEPA's "TACO Tier I Level" per the Corps data) of 0.10 mg/L in the four wells in which it was detected; and
- 1,4-dichlorobenzene was below its groundwater clean up level of 0.075 mg/L in the one well in which it was detected.

In fact, Section 4.2.2 - Groundwater Analytical Results of the Corps project report (see attached excerpts, including data noted above) states: "There were no detects above the groundwater cleanup levels as outlined [in] the US EPA's *Statement of Basis for Solutia, Inc. Sauget, Illinois* document" dated July 2007. This information was perhaps the most compelling reason for me to state in our April 12 conversation, and reiterate here, that, in response to US EPA's March 11 and March 31 letters, Solutia does not propose to conduct any groundwater monitoring above and beyond the ongoing, quarterly Long-Term, Route 3 Drum Site, and PCB programs being implemented pursuant to the February 2008 Final Decision.

Finally, based on the recent Corps report, US EPA's March 31 letter stated: "A strong downward vertical downgradient [sic] from the SHU to the MHU to the DHU … was also present, possibly indicative of regional pumping influences at the IDOT dewatering field…." Solutia cannot respond until we complete review of the Corps report. However, regarding the IDOT dewatering wells, Solutia would like to take this opportunity to note that:

- according to the Illinois State Water Survey (ISWS) report dated May 1999 for fiscal year 1994 (http://www.isws.illinois.edu/pubdoc/CR/ISWSCR-641.pdf) noted in your March 17 e-mail, such wells were first installed in 1973, i.e., their impact on regional groundwater conditions should have "stabilized" long ago;
- despite our repeated requests over the course of several months, neither US EPA nor Illinois EPA have provided a copy of the 2009 TBirdie Consulting report related to those wells; and
- US EPA-CERCLA has likewise not yet responded to the Sauget Area 2 Superfund Site Group's proposal during a February 24, 2011, meeting and reiterated in a March 10 e-mail (which I provided to you on March 15) to re-run the "Regional Groundwater Flow and Contaminant Transport Model"; that model was submitted on April 14, 2008 (in response to Agency comments on October 2006 and July 2007 drafts) and approved on June 16, 2008 (per my June 27, 2008, e-mail to you).

III. Data Gaps

US EPA's March 31 letter states: "The source area at the Former Chlorobenzene Process Area (CPA) … is a major contributor to regional groundwater contamination that migrates off-site to the north" (emphasis added). This statement is inconsistent with the preponderance of potentiometric surface maps, etc., that have been generated by Solutia and others recently as well as historically.

Likewise, there is insufficient basis for the March 31 letter to state:

- "Other source areas at the Solutia facility [the North Tank Farm Area] may be located north of the groundwater divide [see II. Groundwater Data above] and resulting plumes are likely not stable"; or
- "The approximate plume boundary [in Solutia's "Semiannual Report of Groundwater Due Diligence" submitted on March 15, 2011] is no longer accurate."

Regarding the second bullet above, the March 31 letter states that the "Semiannual Report of Groundwater Due Diligence" "does not properly depict the groundwater wells within 0.5 mile of Solutia's plume boundary, as required by the Institutional Controls provision of the Final Decision." To the extent this refers to the omission of wells recently installed as part of the US Army Corps of Engineers project discussed in II. Groundwater Data above, Solutia's consultant Golder Associates Inc. has since confirmed with the ISWS that, unlike other Corps Districts, the St. Louis District does not report such "pressure relief" wells for inclusion in the ISWS's database.

IV. Path Forward

The only action recommended by US EPA in the subject section of its March 31 letter that is not addressed above is:

"For areas where the identified plume underlies residential areas, Solutia must demonstrate that soil gas potentially contributing to indoor air vapor intrusion of site contaminants is not a complete pathway or that no unacceptable risks to human health are present related to indoor air vapor intrusion."

The nearest (albeit sparse) residential area is approximately 1/2 mile north-northeast of Solutia. More importantly, there is no information previously submitted by Solutia or new information recently introduced by US EPA or others that suggests, again quoting the March 31 letter, that there are "site contaminants present in the [Shallow Hydrogeologic Unit] SHU underlying the residential area." To the contrary:

- nine of ten groundwater wells included in Solutia's Long-Term Monitoring Program are screened in the DHU, the other being screened in the SHU but located at a so-called "source area"; and
- "a strong downward vertical ...gradient from the SHU to the MHU to the DHU" has been suggested by US EPA's March 31 letter (see II. Groundwater Data above) and otherwise.

In light of the above, Solutia does not propose to assess soil gas or indoor air vapor intrusion.

As discussed in my March 18 letter, the Sauget Area 2 Sites Group has received requests from US EPA and IEPA CERCLA for information similar to that described in USEPA-RCRA's March 11 and 31 letters. Based on recent communications with representatives for the Illinois Natural Resource Trustees, these requests appear to be attempts to obtain information that the Trustees would use to develop a natural resource damage suit against various industries and other parties allegedly responsible for damages to the groundwater. Solutia and other parties have been in discussion with the Trustees and are evaluating a cooperative approach to resolve the alleged natural resource damage claims. However, the requested information would do nothing to further Solutia's corrective action efforts at the W.G. Krummrich Plant.

If necessary, Solutia is prepared to invoke AOC Section X. Dispute Resolution with respect to the subject of the March 11, 18, and 31 letters and this letter. However, Solutia is committed to continue with the remedial work set out in the Final Decision for the W.G. Krummrich Plant and doing so in cooperative manner with the US EPA. We are certainly willing to meet to discuss new information that US EPA believes suggests that additional work may be necessary and to resolve any concerns that this letter has not addressed to US EPA's satisfaction.

If you have any questions or comments, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Attachments:

- Potentiometric Surface Map - Middle/Deep Hydrogeologic Unit, submitted March 15, 2011

- Excerpts from US Army Corps of Engineers project report dated March 10, 2011

FOURTH QUARTER 2010
DATA REPORT
LONG-TERM MONITORING PROGRAM
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for:

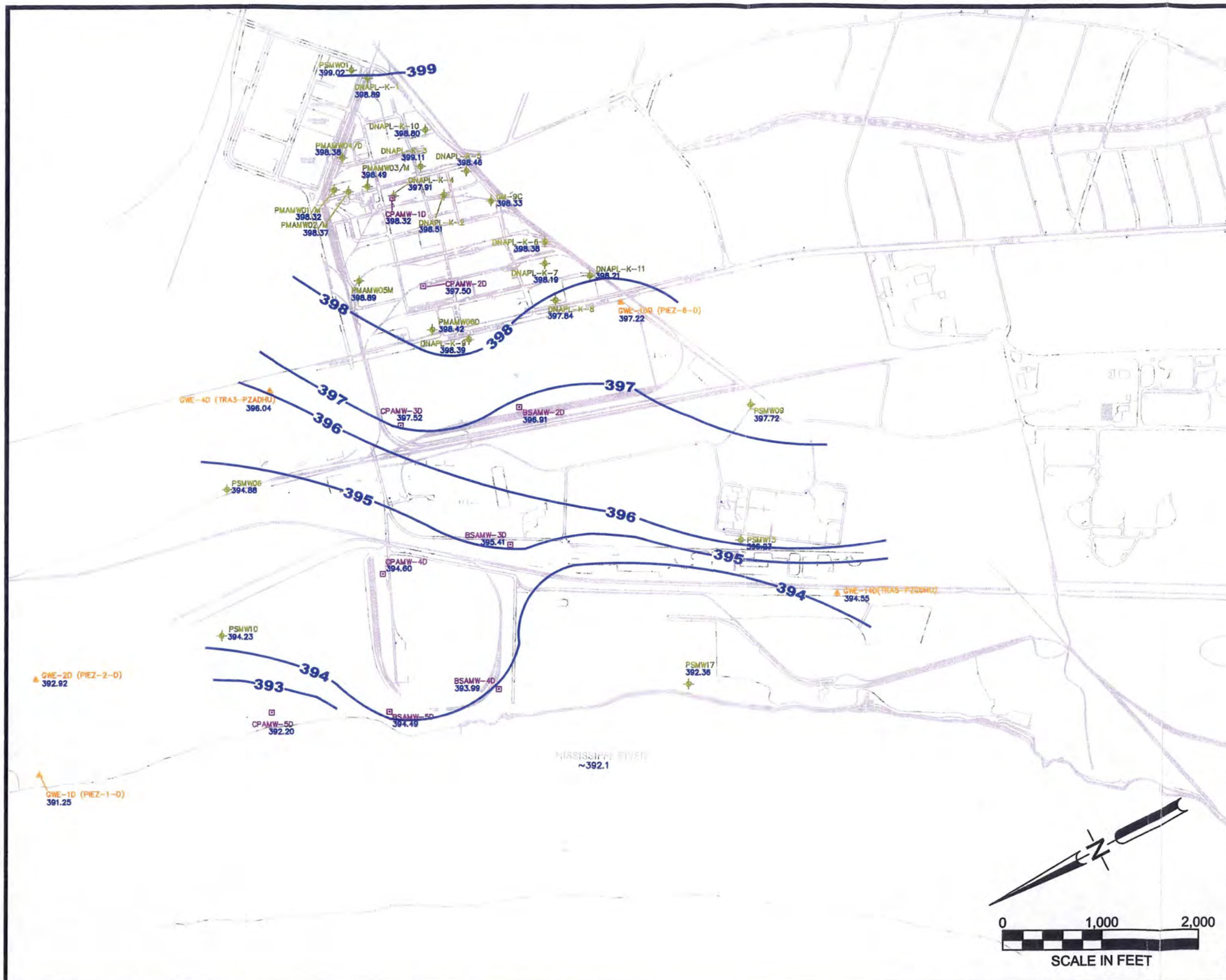
SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.06

March 15, 2011



NOTES:

1. Plan adapted from a drawing titled "Potentiometric Surface Map Middle/Deep Hydrogeologic Unit" provide by URS.

2. Groundwater levels were measured November 22, 2010.

3. Contours generated primarily using surfer software version 8. Some interpretation was done using professional judgment and contour lines were modified by hand.

4. The Mississippi River stage elevation presented on the figure is an average elevation for the time of the gauging event. The information was obtained from the site R Bubbler.

5. Locations with wells screened in both the MHU and DHU utilized the DHU well for development of the potentiometric surface map.

LEGEND:

- Long Term Monitoring Well used for Groundwater Contouring
- Other Monitoring Well used for Goundwater Contouring
- Piezometer Cluster used for Groundwater Contouring
- —402— Groundwater Elevation Contour (ft NAVD)

Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 03-09-11	Date: 03-09-11	Date: 03-09-11

GEOTECHNOLOGY INC
FROM THE GROUND UP

4Q 2010
Long-Term Monitoring Program
Sauget, Illinois

POTENTIOMETRIC SURFACE MAP MIDDLE/DEEP HYDROGEOLOGIC UNIT

Project Number J017210.06

PLATE 3

HTRW PREASSESSMENT SCREEN PHASE II ESA DESIGN DEFICIENCY CORRECTIONS FOR EAST ST. LOUIS, ILLINOIS FLOOD PROTECTION PROJECT FINAL REPORT

Prepared for:

U.S. Army Corps of Engineers
St. Louis District
1222 Spruce Street
St. Louis, MO 63103-2833

Prepared by:

ARDL, Inc.
P.O. Box 1566
Mt. Vernon, Illinois 62864
Contract W912P9-09-D-0539
Task Order No. 0018

Prepared by:

Rebecca Raney
Project Manager
ARDL, Inc.

Approved by:

Rob Dismang
Vice President-Engineering Services
ARDL, Inc.

Approved by:

Valerie Jenkins
President
ARDL, Inc.

Approved by:

Environmental Quality Section
U.S. Army Corps of Engineers
St. Louis District (CEMVS-ED-HQ)

Date Prepared: 10 March 2011

Date of Approval: _____

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EXECUTIVE SUMMARY

The East St. Louis Levee Project area is located on the east side of the Mississippi River in St. Clair and Madison counties along the western border of Illinois. The site is directly east of St. Louis, Missouri. The area has been proposed for a levee design deficiency correction project which includes the installation of relief wells and cutoff walls throughout the site and levee restorations.

During the well installation and levee restoration processes, the contractors may be exposed to potentially harmful toxins and/or carcinogenic materials. It is the purpose of this Environmental Assessment (EA) to define those hazardous, toxic and radioactive waste (HTRW) sites located within the proposed restoration area.

ARDL, Inc. was authorized to perform the Phase II Environmental Assessment under Contract W912P9-09-D-0539, Task Order 0018.

Based on the results of these Phase II activities and the conclusions presented above, there may be some potential exposure to several inorganic and some organic compounds that are present in the groundwater in the areas of the monitoring wells. Neither soil nor groundwater samples that were tested exceeded the levels of the contaminates of concern listed in the USEPA's *Statement of Basis for Solutia, Inc., Sauget, Illinois* report; however, the levels of contaminants present in the groundwater samples exceeded TACO Tier I Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route levels for some parameters tested. ARDL recommends that, based on the levels of contaminates found in the groundwater, the following:

- At a minimum, a Modified Level D level of PPE (Personal Protective Equipment) should be used for site workers in the area. Modified Level D PPE should include: standard work uniform, hard hat, safety glasses, safety boots, and latex or surgical gloves. The Level of Protection provided by this level of PPE could be upgraded or downgraded based upon a change in site conditions.
- When construction activities commence, the Project Industrial Hygienist, or other safety representative, periodically monitor the immediate area with an HNu meter, or equivalent, to verify working conditions are acceptable.
- Prior to the start of any construction activity, another round of groundwater sampling be conducted to verify the level of HTRW contaminates that were observed in this study.

The soil samples analyzed for this Phase II did not contain any contaminants of interest that would require special worker precautions.

4.2.2 Groundwater Analytical Results

ARDL, Inc. submitted twenty-two (22) ground water sample for laboratory analysis The results of the laboratory analyses of the water samples are included in Table 4 (only positive values are indicated). The analytical results indicated the following:

- Several samples indicated concentrations of metals greater than the TACO limits for groundwater. These metals included: arsenic (6 samples), barium (one sample), beryllium (5 samples), chromium (5 samples), iron (19 samples), lead (15 samples), manganese (18 samples), nickel (6 samples), thallium (2 samples), and vanadium (8 samples).
- Some organic compounds were detected in the groundwater samples above the TACO limits. These included: bis(2-ethylhexyl)phthalate (3 samples), Indeno (1,2,3-cd) pyrene (1 sample), bromodichloro-methane (4 samples), chloroform (8 samples), and methylene chloride (1 sample).
- There were no detects above the groundwater cleanup levels as outlined the the USEPA's *Statement of Basis for Solutia, Inc. Sauget, Illinois* document.

Table 5 shows the results of parameters taken in the field during the collection of the water samples.

TABLE 4
SAUGET SITE - SUMMARY OF LABORATORY ANALYSES – WATER MATRIX
COMPOUNDS OF INTEREST

Parameter	ARDL Sample No.	Customer #	Reported Result (mg/L)	TACO Tier I Levels (Class I) (mg/L) [1]	Groundwater Cleanup Level (mg/L) [2]
Mercury	008825-03	SIC-10-W-9	0.00034	0.002	ND
	008825-06	SIC-10-W-10	0.00051		
	008826-01	SIC-10-W-11	0.00024		
	008826-03	SIC-10-W-13	0.00060		
	008828-04	SIC-11-W-18	0.00047		
1,4-Dichlorobenzene	008826-02	SIC-10-W-12	0.0024	0.075	0.075
Bromodichloromethane	008824-02	SIC-10-W-3	0.0011	0.0002	ND
	008825-02	SIC-10-W-4	0.0011		
	008828-03	SIC-11-W-17	0.001		
	008828-06	SIC-11-W-20	0.001		
Chlorobenzene	008824-03	SIC-10-W-1	0.0844	0.10	0.10
	008824-04	SIC-10-W-6	0.0011		
	008825-05	SIC-10-W-7	0.0104		
	008826-02	SIC-10-W-12	0.0973		
	008826-03	SIC-10-W-13	0.0012		
	008826-05	SIC-10-W-15	0.0039		
Chloroform	008824-02	SIC-10-W-3	0.0118	0.0002	ND
	008824-04	SIC-10-W-6	0.0013		
	008825-02	SIC-10-W-4	0.0125		
	008825-06	SIC-10-W-10	0.0019		
	008828-01	SIC-11-W-15	0.00076		
	008828-03	SIC-11-W-17	0.0065		

TABLE 4
SAUGET SITE - SUMMARY OF LABORATORY ANALYSES – WATER MATRIX
COMPOUNDS OF INTEREST

Parameter	ARDL Sample No.	Customer #	Reported Result (mg/L)	TACO Tier I Levels (Class I) (mg/L) (1)	Groundwater Cleanup Level (mg/L) (2)
Chloroform	008828-04	SIC-11-W-18	0.00024	0.0002	ND
	008828-06	SIC-11-W-20	0.008		
Methylene Chloride	008825-02	SIC-10-W-4	0.0063	0.005	ND
Methyl-t-butyl ether	008825-06	SIC-10-W-10	0.0078	0.070	ND
	008826-05	SIC-10-W-15	0.0150		
	008828-07	SIC-11-W-21	0.0881		
1,4-Dichlorobenzene	008826-02	SIC-10-W-12	0.0013	0.075	0.075
Benzo(a)anthracene	008824-02	SIC-10-W-3	0.00059	0.00013	ND
Benzo(a)pyrene	008824-02	SIC-10-W-3	0.00073	0.00002	ND
Benzo(b)fluoranthene	008824-02	SIC-10-W-3	0.00080	0.0018	ND
Benzo(k)fluoranthene	008824-02	SIC-10-W-3	0.00044	0.00017	ND
bis(2-Ethylhexyl)phthalate	008824-01	SIC-10-W-2	0.0094	0.006	ND
	008824-04	SIC-10-W-6	0.0078		
	008825-02	SIC-10-W-4	0.0926		
Indeno(1,2,3-cd)pyrene	008824-02	SIC-10-W-3	0.00049	0.00043	ND

(1) Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route.
(2) Tier 1 Soil Remediation Objectives Outline in "Statement of Basis for Solutia, Inc. – Sauget, Illinois
* Results are estimated, samples need to be reanalyzed for this analyte.
ND Not Determined

Solutia – 477

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

April 26, 2011

REPLY TO THE ATTENTION OF:
LU-9J

VIA E-MAIL AND FIRST-CLASS MAIL

Mr. Gerald Rinaldi
Solutia Inc.
P.O. Box 66760
St. Louis, MO 63166-6760

RE: Explanation of Significant Difference
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

Enclosed is the *Explanation of Significant Difference* (ESD) signed by the Division Director on April 26, 2011. The ESD will be added to the Administrative Record at the EPA Records Center and the Cahokia Public Library.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth Bardo

Kenneth S. Bardo
EPA Project Manager
Corrective Action Section

cc: Jim Moore, Illinois EPA

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EXPLANATION OF SIGNIFICANT DIFFERENCE

From the Selected Remedy for Environmental Contamination Described in The Final Decision and Response to Comments, Dated February 2008
Solutia Inc., Sauget, Illinois
ILD 000 802 702

I. Purpose

This *Explanation of Significant Difference* (ESD) documents the decision of the U.S. Environmental Protection Agency Region 5 to significantly change part of the remedy selected in the *Final Decision and Response to Comments* (FDRC) signed February 26, 2008, for the Solutia Inc. (Solutia) facility (also known as the W.G. Krummrich Plant). The significant change involves a single component of the remedy and does not fundamentally alter the overall cleanup approach, and complies with the statutory requirements of the Resource Conservation and Recovery Act (RCRA), as amended.

Solutia proposed a change to a component of the selected remedy on December 20, 2010. A meeting between EPA and Solutia was held on January 20, 2011, to discuss the proposed change. In response to EPA comments, Solutia updated its proposal on February 4, 2011. Solutia's proposal to change a component of the selected remedy has been included in the administrative record for the facility.

The remedy selected at the Solutia facility includes controlling the source areas of groundwater contamination, controlling the migration of contaminated groundwater, soil cleanup, monitoring, institutional controls, and financial assurance. This modification involves changing the manner in which a source area of groundwater contamination at the facility will be treated and controlled. Specifically, this modification involves changing the treatment method for contaminated unsaturated and upper saturated soils at the Former Chlorobenzene Process Area from in-situ thermal desorption (ISTD) to a combined approach using thermally-enhanced (i.e., steam) soil vapor extraction (T-SVE), enhanced aerobic bioremediation (EABR), and bioventing.

This ESD and all technical information and data relating to it shall become part of the administrative record for the Solutia facility. The administrative record is available for viewing during normal business hours at the following information repositories:

- Cahokia Public Library
  140 Cahokia Park Drive
  Cahokia, Illinois

- U.S. EPA Region 5 Records Center
  77 West Jackson Boulevard
  Chicago, Illinois

II. Facility Description, History, Contaminants of Concern, and Selected Remedy

Facility Description and History

The Solutia facility is located at 500 Monsanto Avenue in Sauget, Illinois. It is bound on the west by Mississippi Avenue (Illinois Route 3) and on the east by Falling Springs Road and the City of East St. Louis. The Mississippi River is located less than one-mile to the west. The facility manufactured industrial chemicals, chemical intermediates, agricultural intermediates, and rubber chemicals. Most of the manufacturing operations, initiated as early as 1917, have ceased. Small portions of the facility are used to manufacture specialty chemicals.

A RCRA Facility Investigation and a Corrective Measures Study (CMS) were conducted by Solutia pursuant to a RCRA Administrative Order on Consent, EPA Docket No. R8H-5-00-003 (AOC), effective May 3, 2000. Corrective measures initiated by Solutia to date include: 1) installation and operation of a groundwater migration control system (GMCS) near the Mississippi River; 2) excavation of contaminated soil and off-site disposal; 3) installation of asphalt or concrete covers over contaminated areas; 4) implementation of a pilot study and full-scale design for a soil vapor extraction (SVE) system; 5) implementation of an ISTD pilot study; 6) implementation of long-term groundwater monitoring; 7) recordation of an environmental land use control restricting certain uses of the facility; and 8) provision of a financial assurance mechanism to ensure completion of all corrective measure activities the facility.

Contaminants of Concern

The main contaminants of concern identified in the FDRC are benzene, chlorinated benzenes, PCBs, 4-chloroaniline, chlorinated phenols, nitrobenzenes, lead, and mercury. Both soil and groundwater at the facility are contaminated with these compounds. Benzene and chlorinated benzenes are present as dense non-aqueous phase liquids.

Corrective Measures Study

Solutia submitted a CMS on August 27, 2004. EPA concluded that the CMS did not provide the necessary information to select a remedy. EPA requested further investigations, evaluation of more technologies, and additional risk assessments. EPA subsequently prepared a Technology Selection Report on January 15, 2007, that evaluated possible remedial technologies for the Solutia facility consistent with EPA corrective measures objectives. The proposed remedy alternatives to address contaminants at and from the Solutia facility were:

1. ISTD treatment at the Former PCB Manufacturing Area and Former Chlorobenzene Process Area.
2. Excavation and off-site disposal of contaminated soil at the Former Chlor-Alkali Production Area.
3. Capping and monitoring of buried waste at the Route 3 Drum Site.

4. SVE treatment, and excavation and off-site disposal of contaminated soil at the Central Plant Process Area and Former Chlorobenzene and Benzene Storage Area.
5. SVE treatment at the North Plant Process Area.
6. Excavation and off-site disposal of contaminated soil at the Former PCB Warehouse Area.
7. Continued operation of GMCS and monitoring of groundwater.

Statement of Basis

EPA issued a *Statement of Basis* (SB) in July 2007. The SB evaluated and proposed a remedy for addressing contamination at and from the Solutia facility. The SB was issued as part of the EPA's public participation responsibilities under RCRA. The proposed remedy consisted of the following components:

1. Excavation and off-site disposal, and capping of PCB-contaminated soil at the Former PCB Manufacturing Area.
2. An ISTD pilot test and implementation, and excavation and off-site disposal of PCB and lead-contaminated soil at the Former Chlorobenzene Process Area.
3. Excavation and off-site disposal of mercury-contaminated soil at the Former Chlor-Alkali Production Area.
4. Capping and monitoring of the Route 3 Drum Site.
5. SVE, and excavation and off-site disposal of PCB and lead-contaminated soil at the Central Plant Process Area and the Former Chlorobenzene and Benzene Storage Area..
6. Institutional controls at the North Plant Process Area.
7. Excavation and off-site disposal of PCB-contaminated soil at the Former PCB Warehouse Area.
8. Continued operation of the GMCS and monitoring of groundwater, surface water, and sediment.
9. Facility-wide institutional controls.

Additionally, the SB provided a comparison of the EPA proposed remedy with evaluation criteria, including protection of human health and the environment; attainment of media cleanup standards; source control; compliance with waste management standards; long-term reliability; short and long-term effectiveness; reduction in toxicity, mobility, and volume; implementability; and cost. EPA requested comments from the public on the proposed remedy during a public comment period open from August 24 to October 9, 2007. A public meeting was held on September 6, 2007 to explain the proposed remedy and accept oral comments. A total of 40 comments were received from the public and addressed by EPA.

Final Decision and Response to Comments

The FDRC concluded that a response action was necessary to protect human health and the environment. The FDRC selected the final remedy for the Solutia facility and responded to

public comments. The final remedy required Solutia to implement the following remedial components at its facility:

1. *Contaminated Groundwater Source Control*
   a. Conduct a pilot test for ISTD at the Former Chlorobenzene Process Area and implement ISTD.
   b. Design a corrective measure for the excavation and off-site treatment/disposal of PCB-contaminated soil at the Former PCB Manufacturing Area.
   c. Implement SVE in unsaturated soil at the Former Chlorobenzene and Benzene Storage Area, and the Central Plant Process Area.
   d. Submit an O&M Plan for the Route 3 Drum Site Landfill.

2. *Contaminated Groundwater Migration Control*
   a. Operate and maintain the GMCS at the Mississippi River.
   b. Assess the discharge of contaminated groundwater to the Mississippi River and, if necessary, submit design plans to address adverse impacts to the river.
   c. Assess the migration of PCBs in groundwater and, if necessary, submit design plans to address the PCB contaminant plume.

3. *Soil Cleanup*
   a. Assess risks posed by residual PCBs at the Former PCB Manufacturing Area.
   b. Remediate PCB-contaminated soil at hotspot areas throughout the facility.
   c. Remediate lead-contaminated soil at hotspot areas throughout the facility.
   d. Excavate mercury-contaminated soil at the Former Chlor-Alkali Production Area.

4. *Reports and Monitoring*
   a. Submit final remedy construction completion reports for the remediated areas.
   b. Submit and implement a long-term monitoring program.
   c. Conduct periodic technical reviews.
   d. Submit semi-annual progress reports.

5. *Institutional Controls*
   a. Conduct due diligence for municipal ordinances and off-site activities that may affect the remedy.
   b. Restrict land use with the recordation of an environmental land use control (ELUC).

6. *Financial Assurance*
   a. Obtain financial assurance to complete the remedy, including O&M.
   b. Provide updated cost estimates every three years.

III. Corrective Measures Implementation

The remedial components of the final remedy were initiated for specific areas and facility-wide. The status of each remedial component is provided below.

Contaminated Groundwater Source Control

- A successful pilot test for ISTD was performed in the field at the Former Chlorobenzene Process Area. EPA approved the plan for full-scale implementation of ISTD on June 1, 2010. On November 19, 2010, Solutia informed EPA that the final design for the ISTD system resulted in cost increases of about $10 million, with a final estimated cost for implementation of the selected remedy to be $24.5 million. In the alternative, Solutia proposed T-SVE, EABR, and bioventing to treat the source area at an estimated cost of $9.72 million. This alternative proposal is the subject of this ESD.

- A Remedial Action Plan Permit (RAPP) application was submitted to Illinois EPA on July 7, 2008, to allow disposal of excavated PCB-contaminated soil at the nearby Judith Lane containment cell. At the same time, Solutia also requested coordinated approval for this proposal from EPA. EPA has provided draft comments to Illinois EPA on the Solutia RAPP. Illinois EPA has not yet acted on the RAPP application.

- Solutia conducted a pilot test for the use of SVE near the former benzene storage tank (also known as Big Mo) and designed a system to treat four areas of unsaturated soils contaminated with benzene and chlorobenzene. The SVE design and schedule was approved by EPA and startup of the system is scheduled for January 2012.

- Solutia continues to conduct inspections and monitor the Route 3 Drum Site in accordance with the approved O&M Plan.

Contaminated Groundwater Migration Control

- Solutia continues to operate the GMCS at the Mississippi River which consists of a barrier wall and three extraction wells. Extracted groundwater is treated at the nearby American Bottoms POTW.

- Solutia conducted an analysis of contaminated groundwater discharging to the Mississippi River. Illinois EPA is currently reviewing the analysis to see if the discharge complies with applicable Illinois regulations.

- Solutia has installed additional wells to monitor the PCB plume on a quarterly basis. No statistical increases of PCBs at the leading edge of the plume have been detected.

Soil Cleanup

- Risks posed by residual PCBs at the Former PCB Manufacturing Area will be determined upon completion of excavation. Solutia has applied for a RAPP to dispose of the PCB-contaminated soil at the Judith Lane containment cell.

- Hotspot cleanup of on-site PCB-contaminated soil has been completed. Areas of significant contamination were excavated and the soils were sent off-site for disposal at a permitted landfill. Residual areas of PCB contamination were capped with asphalt and warning signs posted. These areas are identified in the ELUC filed with the county recorder.

- Areas of lead contamination were capped with asphalt. These areas are identified in the ELUC filed with the county recorder.

- Mercury-contaminated soil was excavated and sent off-site for disposal at a permitted landfill. Groundwater monitoring confirms that mercury exceeding standards was not found in groundwater.

Reports and Monitoring

- Final remedy construction completion reports have been submitted for the mercury and lead-contaminated soil cleanups. An interim report was submitted for the PCB hotspot cleanup. In 2011, a final report will be submitted upon completion of off-site PCB cleanup this year along state road and railroad right-of-ways.

- A long-term monitoring program for groundwater, surface water, and sediment was implemented by Solutia to evaluate the effectiveness of monitored natural attenuation. Recent information on dewatering wells north of the facility requires a re-examination of the program as groundwater flow may be influenced to the north by these wells.

- A periodic technical review has not yet been required.

- Semi-annual progress reports are being submitted to EPA.

Institutional Controls

- Due diligence reports are submitted semi-annually by Solutia.

- An ELUC was filed with the Office of Recorder of Deeds for St. Clair County on April 30, 2009. Amendment No. 1 of the ELUC was recorded on April 28, 2010.

Financial Assurance

- Financial assurance was provided by Solutia and updated as required. As of June 1, 2010, Solutia provides a Surety Bond and Standby Trust Agreement to guarantee performance of corrective action activities in the amount of $22,123,173.

- Costs have been updated as the remedy has been implemented. Costs are expected to remain essentially the same in 2011, as provided for on June 1, 2010.

IV. Description of Significant Difference

This section of the ESD discusses in detail the modification to a component of the contaminated groundwater source control remedy. Specifically, this modification involves changing the treatment method for contaminated unsaturated and upper saturated soils in the Former Chlorobenzene Process Area from ISTD to T-SVE, EABR and bioventing. This modification will not fundamentally alter the scope or performance of the remedy selected in the FDRC.

The original source control remedy required Solutia to conduct a field pilot-scale test for ISTD at the Former Chlorobenzene Process to evaluate its effectiveness in treating chlorinated benzenes above the water table and in the shallow hydrogeologic unit. The pilot study report, submitted in February 2010, concluded that ISTD was effective in heating the upper 20-feet of soil to 100°C and contaminants were effectively removed. However, steam enhanced extraction (SEE) was necessary to effectively heat and remove contaminants from 20-30 feet below ground surface. A work plan for full-scale implementation of ISTD/SEE, over approximately three acres within the footprint of the Former Chlorobenzene Process Area, was submitted by Solutia in March 2010, and approved by EPA on June 1, 2010. Startup was to be initiated in April 2011. However, upon completion of the final design in October 2010, the initial projected costs of $14.3 million rose to $24.5 million for implementation of the ISTD remedy.

The revised source control remedy addresses the same physical area of contamination at the Former Chlorobenzene Process Area. This revised remedy utilizes T–SVE using steam injection, EABR using pure oxygen injection, and bioventing using the T-SVE extraction wells to inject ambient air to increase aerobic bioremediation. T-SVE and bioventing would be used to treat the unsaturated soils and EABR would treat the saturated soils below the water table which is typically found at a depth of 15 feet. Completion of the system design will add about nine months to the initial scheduled startup. The system is estimated to operate for at least two years and as long as four years, depending on the efficiency of the T-SVE system in reaching asymptotic levels and the attainment of treatment standards throughout the treatment zone.

Contaminants extracted by T-SVE will be destroyed on-site using a thermal oxidizer. Since some clay layers exist in the upper 15 feet of soil, bioventing will be used after shutdown of T-SVE to bioremediate residual contamination diffusing from the clay. Benzene and chlorobenzenes are known to readily volatilize, and steam will be added to increase the

volatilization of the higher chlorinated benzenes. Benzene and chlorobenzenes can also readily biodegrade under aerobic conditions. This has been shown through site treatability studies and is documented in EPA guidance (EPA 510-R-04-002, May 2004). Bioventing will accomplish this in the unsaturated portion of the soil. For the saturated portion of the soil, pure oxygen will be injected below the water table using biosparge wells.

T-SVE and EABR will be operated concurrently during the two to four year treatment period. The protocols for completing T-SVE and transitioning to bioventing, and completing EABR operations were proposed by Solutia on February 24, 2011, and approved by EPA on March 23, 2011. The treatment standards to be attained will be the same as those proposed for ISTD. Total costs for T-SVE and EABR implementation at the site are estimated to be $9.7 million.

V. Statutory Determinations

With the change in a component of the originally selected remedy as described in this ESD, the overall remedy remains protective of human health and the environment, complies with federal and state requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective.

VI. Summary Table

Nature of Work	ISTD	T-SVE/EABR/Bioventing
Differences	- Higher soil temperatures attained using electricity with thermal conduction wells to heat the formation. - Uses steam to strip contaminants from Saturated zone.	- Lower soil temperatures attained using air and steam injected into the unsaturated soil. - Uses oxygen to bioremediate saturated zone.
Cost	$24.5 million	$9.7 million
Schedule	Scheduled Startup - April 2011 Scheduled Completion - October 2014	Scheduled Startup - January 2012 Estimated Completion - 2 to 4 years
Similarities	- Both effectively extract benzene and chlorinated benzenes through heating and volatilization from the source area. - Both destroy contaminants after removal by thermal oxidation. - Both treat and remove contaminants from 0-30 feet. - Both meet remediation objectives based on attainment of asymptotic levels, protect human health under an industrial scenario, and meet groundwater performance standards.	

VII. Public Participation Compliance

This ESD and copies of other documents related to the Solutia facility are available at:

- Cahokia Public Library
  140 Cahokia Park Drive
  Cahokia, Illinois

- U.S. EPA Region 5 Records Center
  77 West Jackson Boulevard
  Chicago, Illinois

The significant change described above involves a single component of the remedy and does not fundamentally alter the overall remedial approach. Therefore, EPA has determined that a formal public comment period is not necessary. If you have any questions or concerns, you should contact the project manager directly:

Ken Bardo
U.S. EPA Region 5
77 W. Jackson Boulevard, LU-9J
Chicago, Illinois 60604-3590

Richard C Karl

Richard C. Karl
Acting Director
Land and Chemicals Division

4-26-11

Date

Solutia – 478

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA725)

Current Human Exposures Under Control

Facility Name:	Solutia Inc.
Facility Address:	500 Monsanto Avenue, Sauget, IL 62206-1198
Facility EPA ID #:	ILD 000 802 702

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

X — If yes - check here and continue with #2 below.

— If no - re-evaluate existing data, or

— if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Current Human Exposures Under Control" EI

A positive "Current Human Exposures Under Control" EI determination ("YE" status code) indicates that there are no "unacceptable" human exposures to "contamination" (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Current Human Exposures Under Control" EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program's overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective risk-based "levels" (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action (from SWMUs, RUs or AOCs)?

	Yes	No	?	Rationale / Key Contaminants
Groundwater	X			VOCs and SVOCs, *see Table in 5/26/04 EI*
Air (indoor & outdoor) [2]	X			VOCs
Surface Soil (e.g., <2 ft)	X			VOCs, SVOCs, Lead, PCBs
Surface Water			X	Discharge of VOCs to Mississippi River being evaluated to determine if the discharge is "acceptable"
Sediment			X	Plume is partially captured by Groundwater Migration Control System (GCMS) installed under the CERCLA program. Uncaptured discharge to river shows variable ppb concentrations of benzene and chlorinated benzenes at one sediment sample location.
Subsrf. Soil (e.g., >2 ft)	X			VOCs, SVOCs, Lead, PCBs

___ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.

X If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.

___ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

See references and discussion in 5/26/04 EI. Below are updates to the 2004 EI based on new information obtained during the Corrective Measures Study (CMS), Statement of Basis, Final Decision, and post-remedy investigations.

Groundwater - The July 2007, *Statement of Basis* describes the groundwater cleanup levels that are

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[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based "levels" (for the media, that identify risks within the acceptable risk range).

[2] Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

exceeded throughout-the-plume in the shallow hydrogeologic unit (SHU), middle hydrogeologic unit (MHU) and deep hydrogeologic unit (DHU) for 18 organic contaminants, including benzene, chlorinated benzenes, chlorinated phenols, and PCBs.

Air (Indoors and Outdoors) - No updates to 2004 EI.

Surface and Subsurface Soil - The July 2007, *Statement of Basis* describes the soil remediation objectives that are exceeded at various areas at the Solutia facility for 22 organic and inorganic contaminants, including benzene, chlorinated benzenes, chlorinated phenols, PCBs. lead, and mercury.

After implementation of the final remedy, EPA conducted off-site surface soil sampling to investigate the potential air deposition pathway of PCBs from the Solutia facility and CERCLA Sites. Residential areas were sampled in East St. Louis and Sauget. Six of the 34 sample locations exceeded the soil remediation objective of 1 ppm PCB in surface soil (see March 23, 2010, notification letters).

Solutia investigations conducted pursuant to the February 2008, *Final Decision* found off-site concentrations of PCBs along railroad and highway property exceeding soil remediation objectives (see Solutia 9/1/09 letter to Alton & Southern Railway Company and 8/26/10 letter to Illinois Department of Transportation).

Surface Water and Sediment - On May 27, 2008, Solutia submitted an analysis that the discharge of contaminated groundwater to the Mississippi River was "acceptable". EPA and Illinois EPA have not yet made a determination of Solutia's analysis.

A portion of the Solutia facility plume(s) is captured by the Groundwater Migration Control System (GMCS). The portion that is not captured and discharges to the river is monitored semiannually. Recent sediment results presented in the *Long-Term Groundwater Monitoring Program* reports show varying results at one sample location just north of the GMCS. Chlorobenzene was found at 2.9 ppb in 1st quarter 2009; in 3rd quarter, 2009, benzene was 3.5 ppb, chlorobenzene was 72 ppb, and 1,4-dichlorobenzene was 1.6 ppb; and in 1st quarter 2010, no contaminants were detected.

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table

Potential **Human Receptors** (Under Current Conditions)

"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food[3]
Groundwater	No	No	No	**Yes**	No	No	No
Air (indoors)	No	**Yes**	No	No	No	No	No
Soil (surface, e.g., <2 ft)	**Yes**	**Yes**	No	**Yes**	No	No	No
Surface Water	No	No	No	No	No	No	No
Sediment	No	No	No	No	No	No	**Yes**
Soil (subsurface e.g., >2 ft)	No	**Yes**	No	**Yes**	No	No	No
Air (outdoors)	No	**Yes**	No	**Yes**	No	No	No

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated" as identified in #2 above.

2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

___ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).

X If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.

___ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

See references and discussion in 5/26/04 EI. Below are updates to the 2004 EI based on new information

[3] Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

obtained during the CMS, Statement of Basis, Final Decision, and post-remedy investigations.

Groundwater - The groundwater contaminant plume is partially captured by the GCMS with a portion discharging to the river. In April 2008, Solutia provided a *Regional Groundwater Flow and Contaminant Transport Model* (Regional Model) to EPA. Data presented in the model showed that the actual plume based on chlorobenzene concentrations exceeding groundwater cleanup levels was at least 2,500-feet further north of PSMW-06, the northerly well used to define the northern extent. Also, the model reported the presence of dewatering wells operated by the Illinois Department of Transportation (IDOT) that could influence contaminant migration to the north based on the assumed pumping rates and resulting groundwater gradients.

Air (Indoors and Outdoors) - No updates.

Surface and Subsurface Soil – On-site workers are further protected from exposures through implementation of the final remedy. Mercury, lead, and PCB contamination has been cleaned up and/or covered with asphalt to further limit exposure (see *Construction Completion Reports for Lead and Mercury*, February 27, 2009 and *Interim Construction Report for PCBs*, December 11, 2009).

Off-site workers may come into contact with PCB-contaminated surface and subsurface soil when working along right-of-ways on IDOT and railroad property in the southwest corner of the Solutia facility. Significant concentrations of PCBs (greater than 100 ppm) were found in off-site soil, likely from site runoff. The exposure pathway is potentially complete for off-site workers and construction workers.

Some residential soils in East St. Louis and Sauget, including a park, were found to have PCB concentrations greater than 1 ppm in surface samples (0 to 6-inches). Residents may come into contact with these soils when in their yards and the exposure pathway is complete.

Surface Water and Sediment – No updates.

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be **"significant"**[4] (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even though low) and contaminant concentrations (which may be substantially above the acceptable "levels") could result in greater than acceptable risks)?

—— If no (exposures can not be reasonably expected to be significant (i.e., potentially "unacceptable") for any complete exposure pathway) - skip to #6 and enter "YE" status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

—— If yes (exposures could be reasonably expected to be "significant" (i.e., potentially "unacceptable") for any complete exposure pathway) - continue after providing a

[4] If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

description (of each potentially "unacceptable" exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to "contamination" (identified in #3) are not expected to be "significant."

X

If unknown (for any complete pathway) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

See references and discussion in 5/26/04 EI. Updates to this EI are provided below.

On-site Groundwater, Air, and Soil - Pursuant to 35 Ill. Adm. Code 742, Solutia recorded an Environment Land Use Control (ELUC) at the Office of Recorder of Deeds for St. Clair County on April 30, 2009, that ordered specific land use limitations or requirements at the Solutia facility. The limitations and requirements protect against exposure to contaminated soil and groundwater, and restricts use for industrial purposes only. Solutia recorded an amendment to the ELUC on April 28, 2010, that documented the installation of covers over the PCB remediation areas. The recording of the ELUC pursuant to the EPA February 2008, Final Decision ensures the on-site protection of human health and the environment related to groundwater, air, and soil.

Off-site Surface and Subsurface Soil – Adjacent landowners have been notified of PCB results. Solutia has reached agreement with IDOT to clean up the Rte. 3 right-of-way in early-summer 2011 to protective cleanup goals, with an ELUC to be recorded, as necessary. Additional sampling and remediation is still being worked out with the railway.

The full extent of PCB contamination in residential areas of East St. Louis and Sauget must still be determined. A January 2011, EPA Model indicates an area of potential off-site impact due to historical air emissions of PCBs from the Solutia facility. This area requires further sampling to better determine the extent of PCB concentrations exceeding the soil remediation objective of 1,000 ppb or site-specific concentration based on a human health risk assessment. A potentially complete pathway via site runoff/discharge from the Solutia facility to the historic northern extension of Dead Creek into East St. Louis should also be investigated.

Off-site Indoor Air – The full northern extent of the groundwater contaminant plume(s) from the Solutia facility has not been adequately defined. If the plume is found to extend under residential areas, Solutia will need to determine whether site VOCs are contributing to indoor vapor air intrusion and posing a potential unacceptable risk. The off-site plume is typically found at great depth in the DHU.

Sediment – No updates.

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

___ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).

___ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.

___ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

6. Check the appropriate RCRIS status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

___ YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the _____ _____facility, EPA ID # _____, located at _____ under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

___ NO - "Current Human Exposures" are NOT "Under Control."

X IN - More information is needed to make a determination.

Completed by	(signature)	Kenneth S. Bardo	Date	April 25, 2011
	(print)	Kenneth S. Bardo		
	(title)	Environmental Scientist		

Supervisor	(signature)	George Hamper	Date	4-27-2011
	(print)	George Hamper		
	(title)	Section Chief		
	(EPA Region or State)	EPA Region 5		

Locations where References may be found:
RCRA 7th Floor File Room - Administrative Record for RCRA 3008(h) Consent Order Cahokia Public Library - 140 Cahokia Park Drive, Cahokia, IL

Contact telephone and e-mail numbers

(name)	Kenneth S. Bardo
(phone #)	(312) 886-7566
(e-mail)	bardo.kenneth@epa.gov

FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

RCRA Corrective Action
Environmental Indicator (EI) RCRIS code (CA750)

Migration of Contaminated Groundwater Under Control

Facility Name:	Solutia Inc.
Facility Address:	500 Monsanto Avenue, Sauget, IL 62206-1198
Facility EPA ID #:	ILD 000 802 702

1. Has **all** available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

__X__	If yes - check here and continue with #2 below.
_____	If no - re-evaluate existing data, or
_____	If data are not available skip to #6 and enter "IN" (more information needed) status code

BACKGROUND

Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of "Migration of Contaminated Groundwater Under Control" EI

A positive "Migration of Contaminated Groundwater Under Control" EI determination ("YE" status code) indicates that the migration of "contaminated" groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original "area of contaminated groundwater" (for all groundwater "contamination" subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The "Migration of Contaminated Groundwater Under Control" EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., non-aqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

2. Is **groundwater** known or reasonably suspected to be **"contaminated"**[1] above appropriately protective "levels" (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

__X__ If yes - continue after identifying key contaminants, citing appropriate "levels," and referencing supporting documentation.

____ If no - skip to #8 and enter "YE" status code, after citing appropriate "levels," and referencing supporting documentation to demonstrate that groundwater is not" contaminated."

____ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

See data table provided in May 26, 2004, CA750YE.

The July 2007, *Statement of Basis* describes the groundwater cleanup levels that are exceeded throughout-the-plume in the shallow hydrogeologic unit (SHU), middle hydrogeologic unit (MHU), and deep hydrogeologic unit (DHU) for 18 organic contaminants, including benzene, chlorinated benzenes, chlorinated phenols, and PCBs. The February 2008, *Final Decision and Response to Comments* (FDRC) selected specific remedial components to control the source areas of contaminated groundwater and its migration.

A large groundwater contaminant plume extending from the Solutia facility and off-site to the north and west is depicted in Figures 5.4.6 and 6.2 of the August 2004, *Corrective Measures Study*(CMS). The size of the facility plume was thought to be approximately 3,900-feet wide and 6,900-feet long, extending to the Mississippi River where it was partially controlled by a groundwater migration control system (GMCS) before it could wholly discharge to the river.

The northern extent of the plume was defined by well PSMW-06 in the plume stability monitoring program from 2006 to 2008. Chlorobenzene concentrations at PSMW-06 ranged from 190 to 330 ppb, near the groundwater cleanup level of 100 ppb. In April 2008, Solutia provided a *Regional Groundwater Flow and Contaminant Transport Model* (Regional Model) to the EPA CERCLA program. Data presented in the model showed that the actual plume based on chlorobenzene concentrations exceeding groundwater cleanup levels was at least 2,500-feet further north of PSMW-06. Also, the model reported the presence of dewatering wells operated by the Illinois Department of Transportation (IDOT) that could influence contaminant migration to the north based on the assumed pumping rates and resulting groundwater gradients.

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[1] "Contamination" and "contaminated" describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate "levels" (appropriate for the protection of the groundwater resource and its beneficial uses).

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within "existing area of contaminated groundwater"[2] as defined by the monitoring locations designated at the time of this determination)?

___ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the "existing area of groundwater contamination"[2]).

___ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the "existing area of groundwater contamination"[2]) - skip to #8 and enter "NO" status code, after providing an explanation.

__X__ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

The contaminant plume described in the May 26, 2004, CA750YE was believed to be effectively captured by the GMCS. After the GMCS became operational, it was determined that a portion of the plume to the north of the GMCS was not captured and discharged to the river (CMS, August 2004). The FDRC (February 2008) specifically required Solutia to submit an assessment report on the discharge, which it did, to determine if the discharge was "currently acceptable". Solutia's demonstration of an acceptable discharge to the Mississippi River is still under review.

The May 26, 2004, CA750YE further concluded that contaminated groundwater is expected to remain within the defined existing area of contamination because groundwater flow and discharge patterns are controlled by the Mississippi River and the GMCS captures the core of the plume before it discharges to the river. This interpretation is now questionable given the data presented by Solutia in its Regional Model (April 2008) and Illinois EPA data that was provided to EPA and shared with Solutia in a September 24, 2010, e-mail. Specifically, data and/or models suggest that IDOT dewatering wells located over two miles north of the Solutia facility influence contaminant transport in the American Bottoms aquifer. Final remedies for source control are not yet in place at the Solutia facility so the continued leaching of contaminants into groundwater and their offsite migration are expected to continue for some years.

It is possible that chlorobenzene that exceeds its groundwater cleanup level of 100 ppb continues to physically migrate northward in groundwater toward the IDOT dewatering wellfield(s). The potential influence of the IDOT dewatering wells on the migration of contaminant plumes at and from the Solutia facility must be defined and considered to properly determine if the "Migration of Contaminated Groundwater Under Control" can be verified and if the contaminated groundwater can be shown to remain within the "existing area of contaminated groundwater".

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[2] "existing area of contaminated groundwater" is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of "contamination" that can and will be sampled/tested in the future to physically verify that all "contaminated" groundwater remains within this area, and that the further migration of "contaminated" groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

4. Does "contaminated" groundwater **discharge** into **surface water** bodies?

___ If yes - continue after identifying potentially affected surface water bodies.

___ If no - skip to #7 (and enter a "YE" status code in #8, if #7 = yes) after providing an explanation and/or referencing documentation supporting that groundwater "contamination" does not enter surface water bodies.

___ If unknown - skip to #8 and enter "IN" status code.

Rationale and Reference(s):

5. Is the **discharge** of "contaminated" groundwater into surface water likely to be **"insignificant"** (i.e., the maximum concentration[3] of each contaminant discharging into surface water is less than 10 times their appropriate groundwater "level," and there are no other conditions (e.g., the nature, and number, of discharging contaminants, or environmental setting), which significantly increase the potential for unacceptable impacts to surface water, sediments, or eco-systems at these concentrations)?

___ If yes - skip to #7 (and enter "YE" status code in #8 if #7 = yes), after documenting: 1) the maximum known or reasonably suspected concentration[3] of key contaminants discharged above their groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) provide a statement of professional judgement/explanation (or reference documentation) supporting that the discharge of groundwater contaminants into the surface water is not anticipated to have unacceptable impacts to the receiving surface water, sediments, or eco-system.

___ If no - (the discharge of "contaminated" groundwater into surface water is potentially significant) - continue after documenting: 1) the maximum known or reasonably suspected concentration[3] of each contaminant discharged above its groundwater "level," the value of the appropriate "level(s)," and if there is evidence that the concentrations are increasing; and 2) for any contaminants discharging into surface water in concentrations[3] greater than 100 times their appropriate groundwater "levels," the estimated total amount (mass in kg/yr) of each of these contaminants that are being discharged (loaded) into the surface water body (at the time of the determination), and identify if there is evidence that the amount of discharging contaminants is increasing.

___ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

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[3] As measured in groundwater prior to entry to the groundwater-surface water/sediment interaction (e.g., hyporheic) zone.

6. Can the **discharge** of "contaminated" groundwater into surface water be shown to be **"currently acceptable"** (i.e., not cause impacts to surface water, sediments or eco-systems that should not be allowed to continue until a final remedy decision can be made and implemented[4])?

___ If yes - continue after either: 1) identifying the Final Remedy decision incorporating these conditions, or other site-specific criteria (developed for the protection of the site's surface water, sediments, and eco-systems), and referencing supporting documentation demonstrating that these criteria are not exceeded by the discharging groundwater; OR 2) providing or referencing an interim-assessment,[5] appropriate to the potential for impact, that shows the discharge of groundwater contaminants into the surface water is (in the opinion of a trained specialists, including ecologist) adequately protective of receiving surface water, sediments, and eco-systems, until such time when a full assessment and final remedy decision can be made. Factors which should be considered in the interim-assessment (where appropriate to help identify the impact associated with discharging groundwater) include: surface water body size, flow, use/classification/habitats and contaminant loading limits, other sources of surface water/sediment contamination, surface water and sediment sample results and comparisons to available and appropriate surface water and sediment "levels," as well as any other factors, such as effects on ecological receptors (e.g., via bio-assays/benthic surveys or site-specific ecological Risk Assessments), that the overseeing regulatory agency would deem appropriate for making the EI determination.

___ If no - (the discharge of "contaminated" groundwater can not be shown to be "**currently acceptable**") - skip to #8 and enter "NO" status code, after documenting the currently unacceptable impacts to the surface water body, sediments, and/or eco-systems.

___ If unknown - skip to 8 and enter "IN" status code.

Rationale and Reference(s):

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[4] Note, because areas of inflowing groundwater can be critical habitats (e.g., nurseries or thermal refugia) for many species, appropriate specialist (e.g., ecologist) should be included in management decisions that could eliminate these areas by significantly altering or reversing groundwater flow pathways near surface water bodies.

[5] The understanding of the impacts of contaminated groundwater discharges into surface water bodies is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration to be reasonably certain that discharges are not causing currently unacceptable impacts to the surface waters, sediments or eco-systems.

7. Will groundwater **monitoring** / measurement data (and surface water/sediment/ecological data, as necessary) be collected in the future to verify that contaminated groundwater has remained within the horizontal (or vertical, as necessary) dimensions of the "existing area of contaminated groundwater?"

___ If yes - continue after providing or citing documentation for planned activities or future sampling/measurement events. Specifically identify the well/measurement locations which will be tested in the future to verify the expectation (identified in #3) that groundwater contamination will not be migrating horizontally (or vertically, as necessary) beyond the "existing area of groundwater contamination."

___ If no - enter "NO" status code in #8.

___ If unknown - enter "IN" status code in #8.

Rationale and Reference(s):

8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

___ YE - Yes, "Migration of Contaminated Groundwater Under Control" has been verified. Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at _____ _____. Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater" This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

___ NO - Unacceptable migration of contaminated groundwater is observed or expected.

X IN - More information is needed to make a determination.

Completed by	(signature)	Kenneth S. Bardo	Date	April 25, 2011
	(print)	Kenneth S. Bardo		
	(title)	Environmental Scientist		

Supervisor	(signature)	George Hamper	Date	4-27-2011
	(print)	George Hamper		
	(title)	Section Chief		
	(EPA Region or State)	Region 5		

Locations where References may be found:
RCRA 7th Floor File Room - Administrative Record for RCRA 3008(h) Consent Order Cahokia Public Library - 140 Cahokia Park Drive, Cahokia, IL

Contact telephone and e-mail numbers

(name)	Kenneth S. Bardo
(phone #)	(312) 886-7566
(e-mail)	bardo.kenneth@epa.gov

Solutia – 480

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

May 2, 2011

Mr. James K. Moore
Illinois Environmental Protection Agency
1021 North Grand Avenue East
Springfield, IL 62794

VIA FEDEX

Re: Recorded SECOND Amended Environmental Land Use Control (ELUC)
Solutia Inc., W. G. Krummrich Plant, Sauget, IL
US EPA ID Number ILD000802702
Illinois EPA Site Number 1631210006
Log No. C-777-M-4

Dear Mr. Moore:

Pursuant to the "Final Decision" received from the US EPA on February 28, 2008, Solutia Inc. ("Solutia") first recorded an Environmental Land Use Control (ELUC) in the chain of title for the subject property at the Office of Recorder of Deeds for St. Clair County on April 30, 2009. By agreement among the Illinois EPA, US EPA, and Solutia, the company is to annually record amendments to document additional physical features, if any, installed during the preceding year that would be subject to the ELUC.

Enclosed with this letter is a certified copy of ELUC Amendment No. 2 recorded on April 28, 2011, documenting the installation of cover over the "PCB Remediation Area" designated S0607; see Exhibit B-10B. (Additional details were previously provided to the US and Illinois EPAs in "Addendum I to the Interim Construction Completion Report - Remediation of PCBS in Soils" submitted on October 21, 2010.)

As noted in the attached ELUC Amendment No. 2, all other terms and provisions of the ELUC recorded on April 30, 2009, and ELUC Amendment No. 1 recorded on April 28, 2010, remain unchanged and in effect. Please note that ELUC Amendment No. 2 does not reflect any new land uses or any no-further-action determinations.

If you have any questions or comments regarding this submittal, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List (w/ enclosure)

DISTRIBUTION LIST

Recorded Second Amended Environmental Land Use Control (ELUC)
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

US EPA

Ken Bardo	77 West Jackson Boulevard, Chicago, IL 60604

Solutia

Wojciech Klim	500 Monsanto Avenue, Sauget, IL 62206
Cathy Bumb	575 Maryville Centre Drive, St. Louis, MO 63141
Tom Gartzke	500 Monsanto Avenue, Sauget, IL 62206

Recorder of Deeds
St. Clair County, IL

STATE OF ILLINOIS)
COUNTY OF ST CLAIR)

This is a certified copy of an original document reject if altered.

I, Michael T. Costello, Recorder of Deeds in and for said County and State, do hereby certify that the foregoing and hereto attached document is a true and complete copy of:

Document Number: A08263151
Consisting of 12 pages

as the said matter appears on file and/or record in this office.

In witness whereof, I have hereunto set my hand and seal of said office in The City of Belleville,

This 28th day of April 20 11

Michael T. Costello
Recorder: Michael T. Costello

By Deputy: Laura A. Malean

COPY

Pick up

A02263151 12
A02263151
MICHAEL T. COSTELLO
RECORDER OF DEEDS
ST. CLAIR COUNTY
BELLEVILLE, IL
04/28/2011 10:32:27AM
TOTAL FEE: $28.00
PAGES: 12

PREPARED BY:
Name: Cathleen S. Bumb
Address: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

RETURN TO:
Name: Cathleen S. Bumb
Address: Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

THE ABOVE SPACE FOR RECORDER'S OFFICE

SECOND AMENDED ENVIRONMENTAL LAND USE CONTROL

THIS SECOND AMENDED ENVIRONMENTAL LAND USE CONTROL ("ELUC Amendment No. 2") is made this 25th day of April, 2011, by Solutia Inc., (the "Property Owner") of the real property located at the common address 500 Monsanto Avenue, Sauget, Illinois 62206 (the "Property").

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

WHEREAS, Solutia Inc. intends to perform certain corrective measures on the Property pursuant to an Administrative Order on Consent (AOC) issued by the United States Environmental Protection Agency ("USEPA") on May 3, 2000, under the Resource Conservation and Recovery Act (EPA Docket No. R8H-5-00-003), which involves requesting risk-based, site-specific soil and groundwater remediation objectives from USEPA and/or IEPA under 35 Ill. Adm. Code 742 for the site identified by the IEPA Bureau of Land Identification Number 1631210006 (and USEPA Identification Number ILD 000 802 702) by using an ELUC. This AOC requires Solutia Inc. to complete RCRA closure of several former hazardous waste management units for which IEPA was overseeing remedial efforts.

WHEREAS Solutia Inc. officially recorded in the chain of title for the Property an ELUC (State of Illinois, County of St. Clair, Document Number A02158120), effective April 30, 2009, and ELUC Amendment No. 1 (State of Illinois, County of St. Clair, Document Number

12

A02210420), effective April 27, 2010, all of which remain in effect except as amended by Sections 1 through 6 below and Exhibits B-8 and B-10B attached.

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

Section One. Property Owner does hereby establish this ELUC Amendment No. 2 on the real estate, situated in the County of St. Clair, State of Illinois, and further described in Exhibit A, attached to the ELUC officially recorded on April 30, 2009, and incorporated herein by reference (the "Property").

Attached as Exhibit B-8 is a revised site map that shows the physical features to which this ELUC Amendment No. 2 applies; and Exhibit B-10B is the legal description and survey of the PCB Remediation Area added by the revised Exhibit B-8.

Section Two. Property Owner represents and warrants that it is the current owner of the Property and has the authority to record this ELUC Amendment No. 2 on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in St. Clair County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that:

1. (No change to ELUC recorded on April 30, 2009.)

2. (No change to ELUC recorded on April 30, 2009.)

3. (No change to ELUC recorded on April 30, 2009.)

4. Operation, maintenance, and/or monitoring of ongoing or completed remedies shall be performed in accordance with work plans, Construction Completion Reports, and similar documents submitted to and approved by USEPA pursuant to the AOC. Specific requirements are as follows:

- Route 3 Drum Site: (No change to ELUC recorded on April 30, 2009.)

- Lead Remediation Areas: (No change to ELUC recorded on April 30, 2009.)

- PCB Remediation Areas: The area (Exhibit B-10B) added by this ELUC Amendment No. 2 is to be inspected one time per year, in November, and corrective action taken as necessary to maintain integrity of the asphalt cover.

- Long-Term Groundwater Monitoring Program: (No change to ELUC recorded on April 30, 2009.)

- PCB Groundwater Quality Assessment Program: (No change to ELUC recorded on April 30, 2009.)

5. (No change to ELUC recorded on April 30, 2009.)

6. (No change to ELUC recorded on April 30, 2009.)

Section Four. This ELUC Amendment No. 2 is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC Amendment No. 2 shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC Amendment No. 2 as an institutional control; until the IEPA, upon written request, issues to the site that received the no further remediation determination a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); the new no further remediation determination is filed on the chain of title of the Property subject to the no further remediation determination; and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. (No change to ELUC recorded on April 30, 2009.)

Section Six. The effective date of this ELUC Amendment No. 2 shall be the date that it is officially recorded in the chain of title for the Property to which this ELUC Amendment No. 2 applies.

All other terms and provisions of the ELUC recorded on Aril 30, 2009, and ELUC Amendment No. 1 recorded on April 27, 2010, remain unchanged and in effect.

WITNESS the following signature:

Solutia Inc.

Wojciech Klim

By: Wojciech Klim
Its: Plant Manager

Date: 04/25/2011

STATE OF MISSOURI)
) SS:
COUNTY OF ST. LOUIS)

I, Patricia A. Facea, the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that Wojciech Klim, personally known to me to be Solutia Inc.'s Plant Manager of the W.G. Krummrich Plant Property located at 500 Monsanto Avenue, Sauget, Illinois, and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and acknowledged that in said capacity he signed and delivered the said instrument as his free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this 25th day of April, 2011.

Notary Public

Patricia A. Facea

Patricia A. Facea - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #09499121
My Commission Expires 3/21/2013

PIN(s) affected by
Second Amended Environmental Land Use Control dated April 25, 2011, for
Solutia Inc., 500 Monsanto Avenue, Sauget, Illinois 62206

Lot Name	PIN(s) of Lot
Lot A	01-25.0-112-002
	01-25.0-112-006
	01-25.0-112-007
	01-25.0-115-001
Lots B and C	01-26.0-201-003
	01-26.0-201-004
Lot D	01-26.0-202-013
Lot F	01-26.0-103-002
Lot G	01-27.0-401-004
	01-34.0-100-009
	01-34.0-100-008
Lot H L 2nd Addition	01-23.0-300-002

LIST OF EXHIBITS TO ELUC AMENDMENT NO. 2

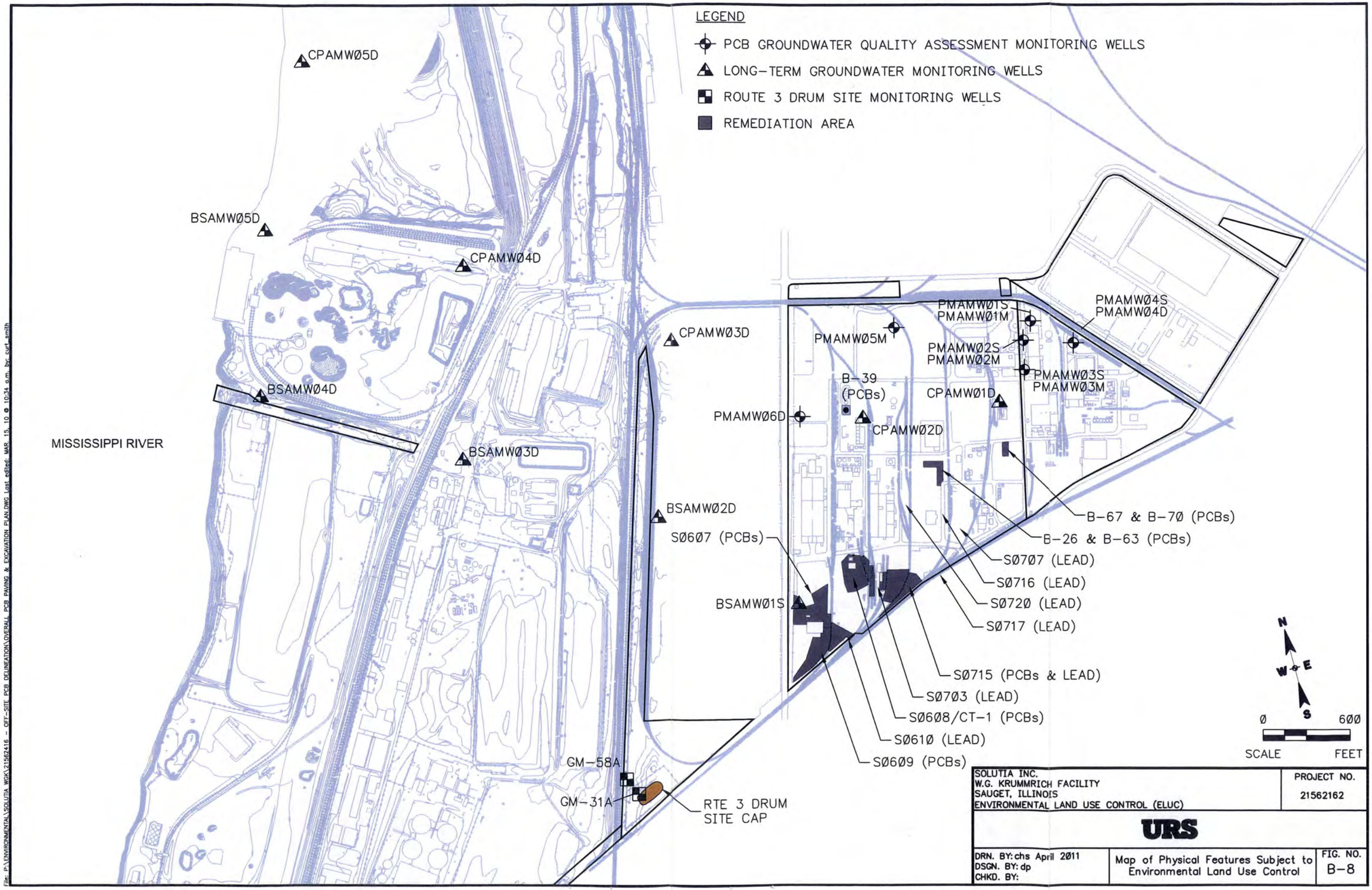
Exhibit B:

B-8 Map of Physical Features Subject to Environmental Land Use Control

B-10B Legal Description and Survey of PCB Remediation Area

Exhibit B-8

Map of Physical Features Subject to Environmental Land Use Control



SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS
ENVIRONMENTAL LAND USE CONTROL (ELUC)

PROJECT NO. 21562162

URS

DRN. BY: chs April 2011
DSGN. BY: dp
CHKD. BY:

Map of Physical Features Subject to Environmental Land Use Control

FIG. NO. B-8

File: P:\ENVIRONMENTAL\SOLUTIA WGK\21562416 - OFF-SITE PCB DELINEATION\OVERALL PCB PAVING & EXCAVATION PLAN.DWG Last edited: MAR 15, 10 @ 10:24 a.m. by: curt_smith

Exhibit B-10B

Legal Description and Survey of PCB Remediation Area

An overall summary follows of the area, size, and the barrier present.

Area Number	Area Size	Barrier
S0607	52,578 sq. ft.	66 asphalt

Legal description and survey follows this sheet.

ZAHNER & ASSOCIATES, INC.
PROFESSIONAL LAND SURVEYORS

26 North Jackson Street
Perryville, Missouri 63775

(573) 547-1771
Fax (573)547-1452

1-800-773-1771
zahner@zahnerinc.com

"Paving Area Around S0607"

52,578 Sq.Ft. (1.21 Ac.)

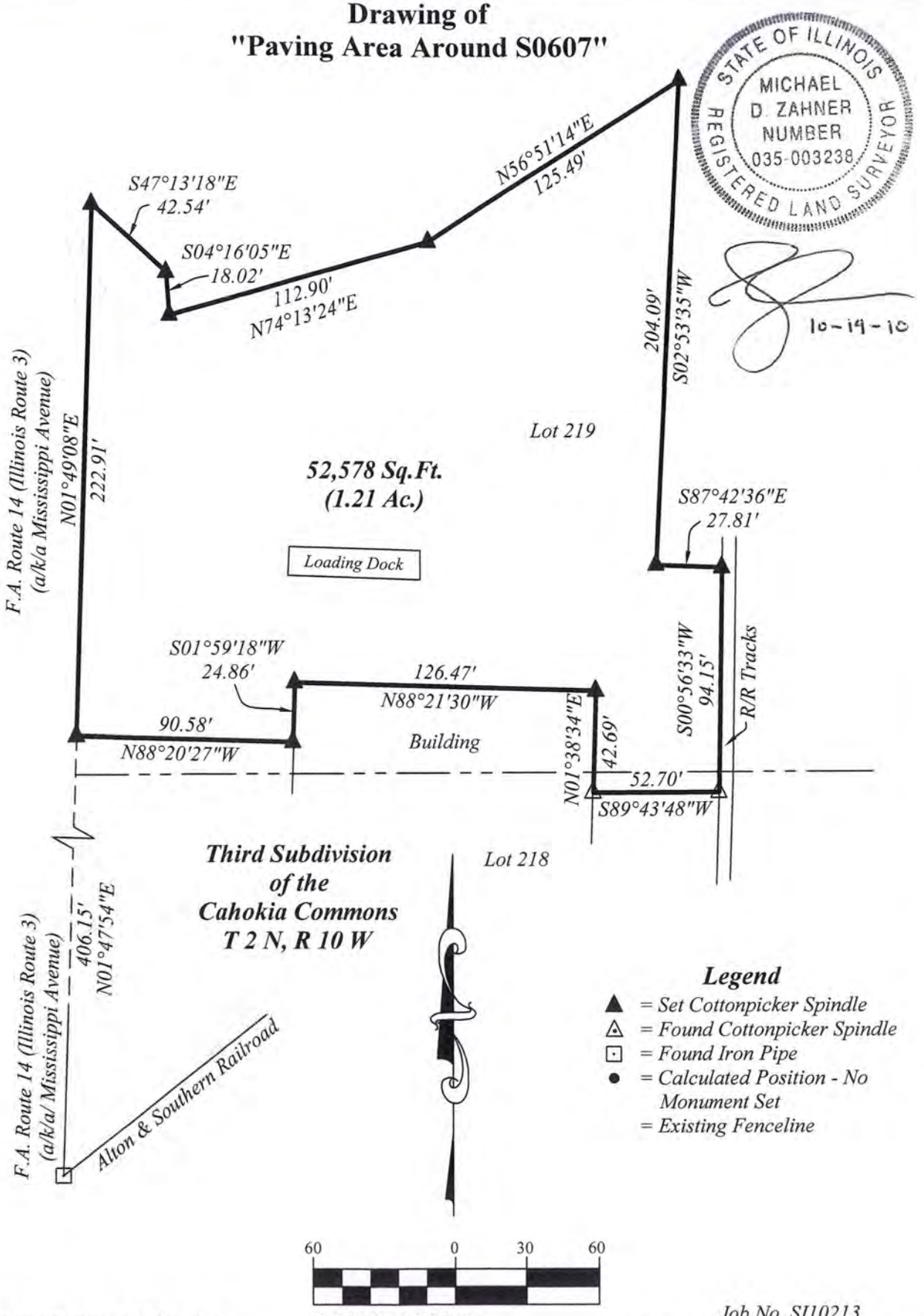
A tract of land being part of Lot Nos. 218 and 219 of the "Third Subdivision of the Cahokia Commons", Township 2 North, Range 10 West of the Third Principal Meridian, St. Clair County, Illinois, and being more particularly described as follows:

Commencing at an iron pipe at the intersection of the Northwest right-of-way line of the Alton & Southern Railroad with the East line of F.A. Route 14 (Illinois Route 3) (a/k/a Mississippi Avenue); Thence North 01°47'54" East a distance of 406.15 feet to a cottonpicker spindle, said cottonpicker spindle being the point of beginning of the tract herein described; Thence North 01°49'08" East a distance of 222.91 feet to a cottonpicker spindle; Thence South 47°13'18" East a distance of 42.54 feet to a cottonpicker spindle; Thence South 04°16'05" East a distance of 18.02 feet to a cottonpicker spindle; Thence North 74°13'24" East a distance of 112.90 feet to a cottonpicker spindle; Thence North 56°51'14" East a distance of 125.49 feet to a cottonpicker spindle; Thence South 02°53'35" West a distance of 204.09 feet to a cottonpicker spindle; Thence South 87°42'36" East a distance of 27.81 feet to a cottonpicker spindle; Thence South 00°56'33" West a distance of 94.15 feet to a cottonpicker spindle; Thence South 89°43'48" West a distance of 52.70 feet to a cottonpicker spindle; Thence North 01°38'34" East a distance of 42.69 feet to a cottonpicker spindle; Thence North 88°21'30" West a distance of 126.47 feet to a cottonpicker spindle; Thence South 01°59'18" West a distance of 24.86 feet to a cottonpicker spindle; Thence North 88°20'27" West a distance of 90.58 feet to the point of beginning containing 52,578 square feet (1.21 acre).

STATE OF ILLINOIS
MICHAEL D. ZAHNER
NUMBER 035-003238
REGISTERED LAND SURVEYOR

10-19-10

Drawing of
"Paving Area Around S0607"



This drawing does not depict a property boundary survey and is not intended for fee conveyance.

Job No. SI10213
File No. SI10213 S0607 Paving Area
Date: 10-07-10
Drawn By: LH

Solutia – 481

RE: Solutia, Sauget, IL: Meetings Tuesday, 5/10

Rinaldi, Gerald M to: Kenneth Bardo 05/12/2011 04:08 PM

From: "Rinaldi, Gerald M" <gmrina@solutia.com>
To: Kenneth Bardo/R5/USEPA/US@EPA

3 attachments

USACOE Wells Oct-Nov 2010.jpgSauget Area 1 GW Elevs 3Q99 - 2Q00.pdfWGK GW Elevs May 2000.pdf

Thanks for meeting with Solutia earlier this week.

I and others will review the air modeling report you shared, then I'll give you a call to discuss that, etc., probably the week of 5/23.

Meanwhile, as I promised, attached are electronic copies of the following items that I provided during the meeting that you did not have previously:
- a figure that I generated showing the locations of the recently installed Corps of Engineers well clusters (WC1 - 4);
- 3Q99 - 2Q00 groundwater elevations in the DHU in Sauget Area 1; and
- May 2000 groundwater elevations in the DHU, MHU, and SHU at the Krummrich Plant.

Jerry

From: Rinaldi, Gerald M
Sent: Monday, May 09, 2011 1:36 PM
To: 'Bardo.Kenneth@epamail.epa.gov'
Cc: 'Murawski.Richard@epamail.epa.gov'; Bumb, Cathleen S
Subject: RE: Solutia, Sauget, IL: Meetings Tuesday, 5/10

In preparation for the 1:00 - 2:30 portion of tomorrow's meeting, Solutia proposes the attached worksheet (paralleling your April 28 letter) to facilitate sharing our respective positions and agreeing on the path forward.

Jerry

From: Rinaldi, Gerald M
Sent: Sunday, May 08, 2011 10:21 AM
To: 'Bardo.Kenneth@epamail.epa.gov'
Cc: Murawski.Richard@epamail.epa.gov; Bumb, Cathleen S; Heinold, Dave
Subject: Solutia, Sauget, IL: Meetings Tuesday, 5/10

Cathy and I will be there Tuesday at 1:00 CDT for discussion of US EPA's 4/28/11 letter, etc.

For the discussion of BoozAllen's "air deposition model analysis" beginning at 2:30 CDT (3:30 EDT), we'll be joined by:

David Heinold, CCM
Senior Air Quality Meteorologist
AECOM

Phone (978) 589-3166
E-mail Dave.Heinold@aecom.com
As we discussed, please have a copy (CD? transfer to thumb drive?) of BoozAllen's January 2011 report to give to Solutia at the conclusion of Tuesday's meeting.

G. M. (Jerry) Rinaldi - 2S
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141
Phone 314-674-3312
Fax 314-674-8808
E-mail gmrina@solutia.com

From: Bardo.Kenneth@epamail.epa.gov [mailto:Bardo.Kenneth@epamail.epa.gov]
Sent: Saturday, May 07, 2011 5:24 PM
To: Rinaldi, Gerald M
Cc: Murawski.Richard@epamail.epa.gov
Subject: RE: EPA Letter - Meeting(s) and Air Model

jerry, just to confirm, I will be in on Tuesday for the meeting which starts at 1P on the 9th floor. in order to hook in the AECOM folks for the 2:30P air model presentation, we will need the name(s), phone number(s), and e-mail address(es) so our contractor can link them into the meeting. thanks, ken

This electronic mail message is intended exclusively for the individual or entity to which it is addressed. This message, together with any attachment, may contain Solutia confidential and privileged information. The recipient is hereby put on notice to treat the information as confidential and privileged and to not disclose or use the information except as authorized by Solutia. Any unauthorized review, printing, retention, copying, disclosure, distribution, retransmission, dissemination or other use of, or taking of any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this message in error, please immediately contact the sender by reply email and delete all copies of the material from any computer. Thank you for your cooperation.

Solutia - 486

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

August 18, 2011

REPLY TO THE ATTENTION OF:
LU-9J

VIA E-MAIL AND CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Gerald Rinaldi
Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

RE: Agreement on Supplemental Groundwater Monitoring Program
Solutia Inc.
ILD 000 802 702

Dear Mr. Rinaldi:

On April 28, 2011, EPA sent a letter to Solutia Inc. (Solutia) providing the specific requirements in the Administrative Order on Consent (AOC) and Final Decision that Solutia must perform pursuant to EPA's jurisdiction under Section 3008(h) of the Resource Conservation and Recovery Act (RCRA), as amended. This letter addresses agreement on a portion of the issues detailed in the April 28, 2011 letter (i.e., groundwater discussions found in Sections I, III, and IV).

Environmental Indicator - As required by the AOC, Solutia must collect monitoring and measurement data in the future as necessary to verify that migration of any contaminated groundwater is stable. An updated Environmental Indicator (EI) determination (CA750) was placed in the Administrative Record on April 27, 2011, that reflects EPA's current understanding of groundwater conditions at the Solutia facility and determined that more information is necessary to assess whether the migration of contaminated groundwater at and from the Solutia facility is stable. Lines of evidence that support the updated EI were provided in the April 28, 2011 letter.

Institutional Controls - A component of Institutional Controls in the EPA Final Decision requires Solutia to use due diligence to detect any current and/or future off-site groundwater pumping activities that may impact the ability to effectively operate the groundwater migration control system (GMCS) and impact the groundwater gradient within the defined plume in the American Bottom aquifer. Given the potential impacts of Illinois Department of Transportation (IDOT) dewatering wells on the migration of the contaminant plume at or from the Solutia facility, additional field data was requested to accurately depict the groundwater gradients and contaminant concentrations exceeding groundwater cleanup levels, north of the GMCS and the

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contaminant plume boundary depicted in the Corrective Measures Study.

The known contaminant plume boundary depicted in Figure 1 of the Due Diligence Report is no longer accurate based on the lines of evidence provided in the April 28, 2011 letter, and updated EI. The northerly extent of the groundwater contaminant plume must be defined, and the presence of any wells and their pumping activities (e.g., IDOT dewatering wells) influencing the plume must be identified.

Reports and Monitoring - A component of Reports and Monitoring in the EPA Final Decision requires Solutia to undertake a Long-Term Groundwater Monitoring Program capable of evaluating the effectiveness of monitored natural attenuation. In addition, Solutia is required to conduct periodic technical reviews of data from the monitoring program to evaluate site conditions.

Actions to be Taken - Solutia and EPA have met and had discussions on the performance requirements outlined in the April 28, 2011 letter, and how Solutia will meet those requirements. Actions have been agreed upon for addressing the groundwater issues described in Sections I, III, and IV of the April 28, 2011 letter.

Beginning this month, a Supplemental Groundwater Monitoring Program (to supplement the Long-Term Groundwater Monitoring Program) will be conducted as detailed in Solutia and EPA e-mails from July 2011 (incorporated into the Administrative Record), and Solutia's enclosure to its letter of August 16, 2011.

The purpose of the Supplemental Groundwater Monitoring Program is to collect monitoring and measurement data necessary to verify that the migration of contaminated groundwater from the Solutia facility is stable (i.e., CA750YE). As information is generated from the Supplemental Groundwater Monitoring Program, EPA will evaluate the data to see if it is sufficient to make a CA750YE determination. Data from the Supplemental Groundwater Monitoring Program shall also be of sufficient quality and quantity to supplement the Long-Term Groundwater Monitoring Program in meeting the requirements of the periodic technical review, due within 90 days of receipt of all validated data from the May 2012 sampling event.

If you have any questions, please contact me at (312) 886-7566 or bardo.kenneth@epa.gov.

Sincerely yours,

Kenneth S. Bardo

Kenneth S. Bardo
EPA Project Manager
Corrective Action Section

cc: Jim Moore, Illinois EPA
Paul Lake, Illinois EPA
David Webb, Illinois Dept. of Public Health
Stephanie Linebaugh, SFD, RRS6

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

March 15, 2011

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2010 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Route 3 Drum Site Groundwater Monitoring Program 4th Quarter 2010 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Route 3 Drum Site Groundwater Monitoring Program
4th Quarter 2010 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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Stephanie Linebaugh
USEPA Region 5 - SR6J, 77 West Jackson Boulevard, Chicago, IL 60604

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Booz Allen Hamilton

Dan Briller
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Solutia

Brett Shank 500 Monsanto Avenue, Sauget, IL 62206-1198

FOURTH QUARTER 2010
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.08

March 15, 2011

J017210.08

FOURTH QUARTER 2010
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

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J017210.08

FOURTH QUARTER 2010
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

Solutia Inc. (Solutia) is conducting groundwater monitoring activities as outlined in the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia, 2008). The Illinois Route 3 Drum Site (Site) is an area associated with the Solutia W.G. Krummrich (WGK) Facility located in Sauget, Illinois that is subject to a RCRA Administrative Order on Consent (AOC) entered into by the U.S. EPA and Solutia on May 3, 2000. This report presents the results of the sampling event completed in 4th Quarter 2010 (4Q10). The Site is located in the area identified as "Lot F" in Figure 1.

During the 4Q10 sampling event, groundwater samples were collected from two Shallow Hydrogeologic Unit (SHU) monitoring wells, designated GM-31A and GM-58A (Figure 2), located hydraulically downgradient of the Site. Samples from each well were analyzed for select semivolatile organic compounds (SVOCs) using EPA Method 8270C. In addition, samples were collected from both wells for evaluation of monitored natural attenuation (MNA). The types of natural attenuation processes active at the site were determined by measurements of the following key geochemical parameters: alkalinity, carbon dioxide, chloride, dissolved oxygen (DO), total and dissolved iron, total and dissolved manganese, methane, nitrate, sulfate, total and dissolved organic carbon, and oxidation-reduction potential (ORP).

2.0 FIELD PROCEDURES

Geotechnology, Inc. (Geotechnology) personnel collected groundwater level measurements on December 8, 2010 and conducted the 4Q10 Illinois Route 3 Drum Site groundwater sampling on December 8, 2010 and December 9, 2010. Groundwater samples were collected from two monitoring wells during the 4Q10 sampling event. This section summarizes the field investigative procedures.

Groundwater Level Measurements. An oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL). Depth-to-groundwater measurements for the 4Q10 sampling event are presented in Table 1. NAPL was not detected in either of the monitoring wells.

Groundwater Sampling. Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 200 to 250 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed. Bottles were filled in the following order:

- Gas Sensitive Parameters (e.g., carbon dioxide, methane)
- Semivolatile Organic Compounds (SVOCs)
- General Chemistry (i.e., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, and total and dissolved organic carbon)
- Field Parameters (i.e., dissolved oxygen and oxidation reduction potential)

Samples for analysis of dissolved iron, dissolved organic carbon, and dissolved manganese were filtered in the field using in-line 0.2 micron disposable filters, represented by a “F(0.2)” in the sample nomenclature.

Quality Assurance/Quality Control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. One duplicate and one MS/MSD sample were collected.

Each sample was labeled immediately following collection. The groundwater sample identification system included the following nomenclature: "GM-31A-1210" which denotes Groundwater Monitoring well number 31A sampled in December 2010. QA/QC samples are identified by the suffix AD or MS/MSD. A notation of "F" in the sample nomenclature indicates a sample that was filtered in the field with a 0.2 micron filter.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4°C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of overnight delivery service. Field sampling data sheets are included in Appendix A. COC forms are included in Appendix B.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for the 40 CFR 264 Appendix IX SVOCs, and MNA parameters (per the Route 3 Drum Site O&M Plan), using the following methodologies:

- SVOCs, via USEPA SW-846 Method 8270C - The constituents of concern (COCs) identified by the USEPA are biphenyl, 2,4-dichlorophenol, dinitrochlorobenzene, 3-nitrobenzene, 2-nitrobiphenyl, 3-nitrobiphenyl, 4-nitrobiphenyl, 2-nitrochlorobenzene, nitrochlorobenzene, 4-nitrochlorobenzene, pentachlorophenol, and 2,4,6-trichlorophenol.

- MNA parameters consisted of alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), dissolved organic carbon (415.1), nitrate (353.2), sulfate (375.4), dissolved gases (RSK-175), and total organic carbon (TOC) (415.1).

Laboratory results were provided in electronic and hard copy formats.

4. QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as Appendix C. The laboratory report and data review sheets are included in Appendix D.

A total of five groundwater samples (two investigative groundwater samples, one field duplicate, and one MS/MSD pair) were prepared and analyzed by TestAmerica for SVOCs and MNA parameters. The results for the various analyses were submitted as sample delivery group (SDG) KOM010 and contained results for GM-31A and GM-58A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004). Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for this SDG to meet the project objectives. Completeness, which is defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect data, was 88.2 percent.

5.0 OBSERVATIONS

SVOCs were detected in the groundwater samples collected from monitoring wells GM-31A and GM-58A during the 4Q10 sampling event. Laboratory analytical data for groundwater sample GM-31A-1210 indicated detections of 10 µg/L of 1-chloro-3-nitrobenzene, 110 µg/L of 2,4,6-trichlorophenol, 85 µg/L of 2-chloronitrobenzene/4-chloronitrobenzene, and 11 µg/L of nitrobenzene. Laboratory analytical data for groundwater sample GM-58A-1210 indicates a detection of 17 µg/L of 2,4,6-trichlorophenol and 91 µg/L of 2-chloronitrobenzene/ 4-chloronitrobenzene. A summary of SVOC detections is provided in Table 2, with MNA results provided in Table 3.

6.0 REFERENCES

Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.

U.S. Environmental Protection Agency (USEPA), 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

U.S. Environmental Protection Agency (USEPA), 2008 National Functional Guidelines for Superfund Organic Methods Data Review.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						December 2010		
	Ground Elevation* (feet)	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)									
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	20.50	40.40	398.13
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	15.85	41.00	398.39

Notes:
* - Elevation based upon North American Vertical Datum (NAVD) 88 datum
bgs - below ground surface
btoc - below top of casing

Table 2
Groundwater Analytical Results

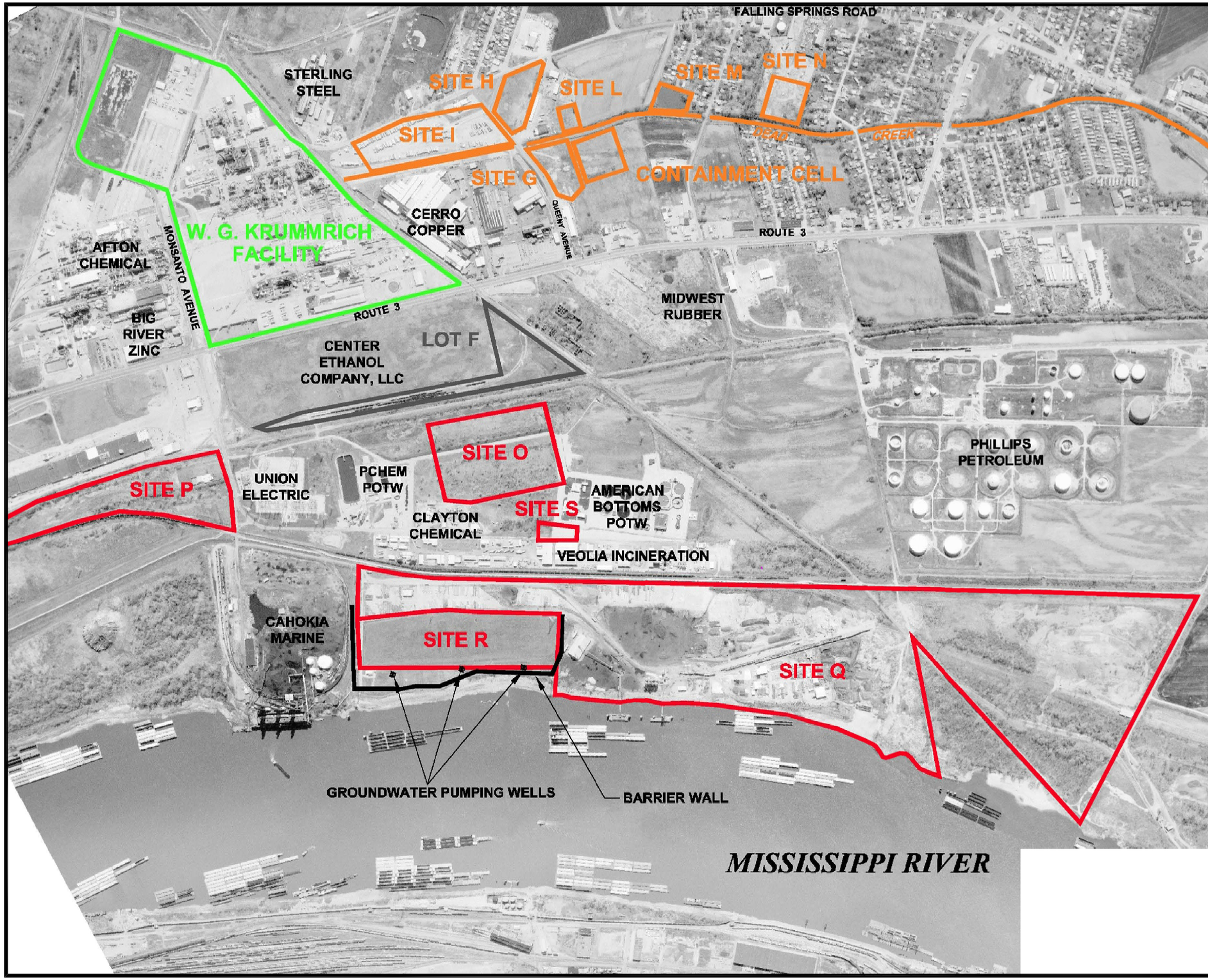
Sample ID	Sample Date	1,1'-Biphenyl (µg/L)	1-Chloro-2,4-Dinitrobenzene (µg/L)	1-Chloro-3-Nitrobenzene (µg/L)	2,4,6-Trichlorophenol (µg/L)	2,4-Dichlorophenol (µg/L)	2-Chloronitrobenzene/ 4-Chloronitrobenzene (µg/L)	2-Nitrobiphenyl (µg/L)	3-Nitrobiphenyl (µg/L)	3,4-Dichloronitrobenzene (µg/L)	4-Nitrobiphenyl (µg/L)	Nitrobenzene (µg/L)	Pentachlorophenol (µg/L)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)													
GM-31A-1210	12/09/10	<9.5	<9.5	**10**	**110**	<9.5	**85**	<9.5	<9.5	<9.5	<9.5	**11**	<48
GM-31A-1210-AD	12/09/10	<9.5	<9.5	**12**	**120**	<9.5	**92**	<9.5	<9.5	<9.5	<9.5	**11**	<48
GM-58A-1210	12/08/10	<10	<10	<10	**17**	<10	**91**	<10	<10	<10	<10	<10	<50

Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data
* = LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits
J = Estimated value
BOLD indicates concentration greater than the reporting limit

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/l)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (µg/L)	Ethylene (µg/l)	Ferrous Iron (mg/L	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/l)	Methane (µg/l)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)																		
GM-31A-1210	12/09/10	490	24	26	0	<0.35	<0.33	0	1.5		1.2		3.2	1.2	99		3.9	174.33
GM-31A-F(0.2)-1210	12/09/10									<0.050		1.2				10		
GM-58A-1210	12/08/10	460	13	49	5.36	<0.35	<0.33	0.20	0.47		1.3		3.20	0.5	100		3.3	-15
GM-58A-F(0.2)-1210	12/08/10									<0.050		1.4				4.5		

Notes:
DO and ORP were measured in the field using a Horiba U22 equipped with a flow-thru cell.
Ferrous Iron readings were not measured in the field.
mg/L - milligrams per liter
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data
A blank space indicates sample not analyzed for select analyte
F(0.2) = Sample was filtered utilizing a 0.2 µm filter in the field
mV = millivolts



NOTES:

1. Plan adapted from a drawing titled "Site Location Map" provided by URS.

LEGEND:

- W.G. Krummrich Facility
- Sauget Area #1
- Sauget Area #2

N

0 1,000 2,000

SCALE IN FEET

Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 03-09-11	Date: 03-09-11	Date: 03-09-11

GEOTECHNOLOGY INC
FROM THE GROUND UP

4Q 2010
Route 3 Drum Site Program
Sauget, Illinois

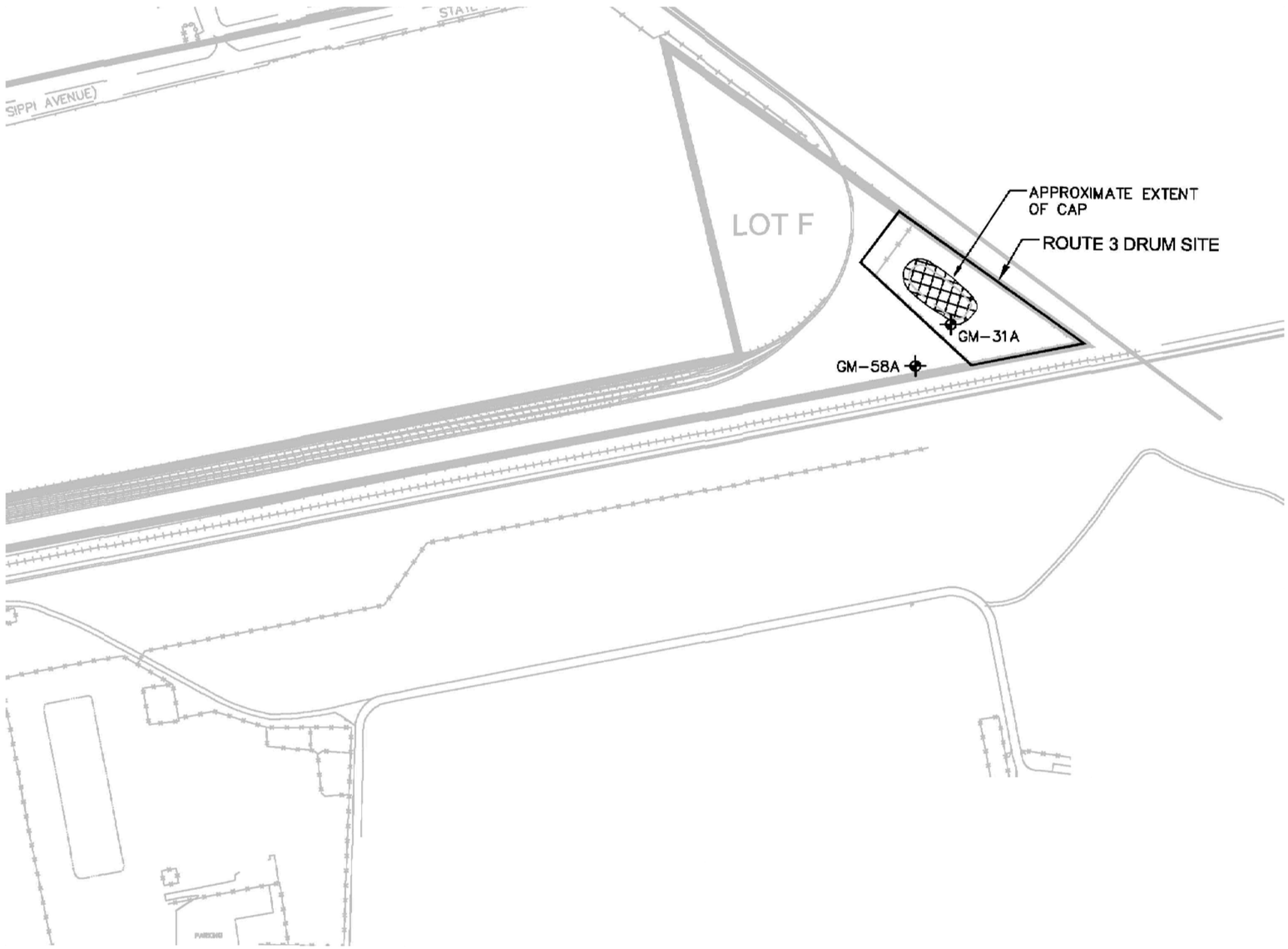
SITE LOCATION MAP

Project Number
J017210.05

PLATE 1

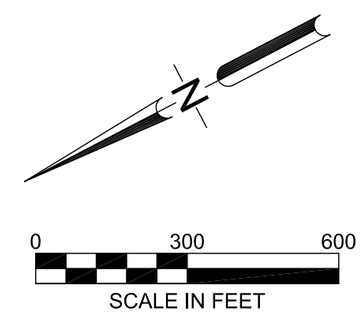
NOTES:

1. Plan adapted from a drawing titled "Monitoring Well Location Map" provided by URS.



LEGEND:

Monitoring Well Location



Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 03-09-11	Date: 03-09-11	Date: 03-09-11

GEOTECHNOLOGY INC
FROM THE GROUND UP

4Q 2010
Route 3 Drum Site Program
Sauget, Illinois

MONITORING WELL LOCATION MAP

Project Number J017210.05	PLATE 2

APPENDIX A

GROUNDWATER PURGING AND SAMPLING FORMS

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

PROJECT NAME: WGK-R+3-4Q10
PROJECT NUMBER: J017210.08
FIELD PERSONNEL: JENNA VUJIC
DATE: 12-9-10
WEATHER: 25°F OVERCAST
MONITORING WELL ID: GM-31A
SAMPLE ID: GM-31A

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 40.40 ft
Constructed Well Depth (btoc): 41.00 ft
Depth to Water (btock): 20.10 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 21.00 ft
Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): 20.30 ft
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.00 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
Place Pump at: Total Well Depth -)9.5 X Water Column Height + DNAPL Column Height) = – ft btoc
If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = – ft btoc
DNPL Present ND If Present, Do Not Sample

Volume of Flow Through Cell): 700 mL
Minimum Purge Volume = (3 x Flow Through Cell Volume) 2100 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: QED BLADDER PUMPS

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. Ms/cm	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
					± 0.2	~~± 0.2~~	± 3%	~~± 10%~~	± 10% or ± 0.2	± 20
0	1014	20.10	NONE	NONE						
1000	1019	20.10	↓	↓	6.67	11.36	1.2	49.7	0.00	198
2000	1024	20.10	↓	↓	6.72	11.45	1.2	38.5	0.00	185
4000	1029	20.10	↓	↓	6.75	11.30	1.2	37.8	0.00	179
5000	1034	20.10	↓	↓	6.77	11.28	1.2	37.2	0.00	174
					6.77	11.44	1.2	35.2	0.00	170
			USV						USV	

Start Time: 1014
Stop Time: 1034
Elapsed Time: 20 min
Average Purge Rate (mL/min): 200
Water Quality Meter ID: HORIBA U-22
Date Calibrated: 12-9-10

SAMPLING DATA

Sample Date: 12-9-10
Sample Method: LOW FLOW BLADDER
Sample Time: 1045
Sample Flow Rate: 200 mL/min
Analysis: SVOCs, METALS, MNA
QA/QC Samples: AD

VOA Vials, No Headspace ☐ Initials: NA

COMMENTS: MNA - Alkalinity, CO_2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, DOC, TDC
Ferrous Iron (Filtered 0.2 micron) = 0.00 mg/L

DO meter ok - ck'd w/ drinking H_2O

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

J017210.02

PROJECT NAME: WGK-RT 3-4Q10
DATE: 12-8-10
MONITORING WELL ID: GM-58A

PROJECT NUMBER: J017210.
WEATHER: 20°F, SUNNY
SAMPLE ID: GM-58A-1210

FIELD PERSONNEL: JENNA VUJIC

INITIAL DATA

Well Diameter: 2 in
Measured Well Depth (btoc): 41.00 ft
Constructed Well Depth (btoc): 41.40 ft
Depth to Water (btock): 19.90 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 21.40 ft
Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): 21.10 ft
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.40 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
Place Pump at: Total Well Depth -)9.5 X Water Column Height + DNAPL Column Height) = – ft btoc
If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = – ft btoc
DNPL Present ND If Present, Do Not Sample

Volume of Flow Through Cell): 700 mL
Minimum Purge Volume = 2100 mL
(3 x Flow Through Cell Volume)
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: QED BLADDER

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH ± 0.2	Temp (°C) ~~± 0.2~~	Cond. Ms/cm ± 3%	Turbidity (NTUs) ~~± 10%~~	DO (mg/l) ± 10% or ± 0.2	ORP (mv) ± 20
12000	1545	19.90	NONE	NONE	6.80	14.04	1.2	15.5	5.80	-22
13000	1549	19.90	↓	↓	6.80	14.02	1.3	4.0	5.30	-18
14000	1553	19.90	↓	↓	6.80	13.93	1.3	5.4	5.36	-15
15000	1557	19.90	↓	↓	6.81	13.80	1.3	5.9	5.43	-12
				VSV					VSV	

Start Time: 1545
Stop Time: 1557

Elapsed Time: 12 min
Average Purge Rate (mL/min): 250 mL/min

Water Quality Meter ID: HORIBA-U22
Date Calibrated: 12-8-10

SAMPLING DATA

Sample Date: 12-8-10
Sample Method: LOW FLOW BLADDER

Sample Time: 1600
Sample Flow Rate: 250 mL/min

Analysis: SVOCs, METALS, MNA
QA/QC Samples: MS/MSD

VOA Vials, No Headspace ☐ Initials: NA

COMMENTS: MNA- Alkalinity, CO_2, Chloride, Ferrous Iron, Methane, Nitrate, Sulfate, DOC, TOC

Ferrous Iron (Filtered 0.2 micron) = 0.20 mg/L

APPENDIX B

CHAINS-OF-CUSTODY

Serial Number 035183

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
TAL (LAB) PROJECT MANAGER: LIOYA GULIZIA	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM	CLIENT PHONE: 314-674-3312	CLIENT FAX
CLIENT NAME: GM RINALDI	CLIENT E-MAIL: gmrinaldi@solutia.com	
CLIENT ADDRESS: SOLUTIA / 575 MARYVILLE CTR, ST. LOUIS MO		
COMPANY CONTRACTING THIS WORK (if applicable): S		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ☒

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOC 8270C (HCl)	TOTAL Fe/Mn 6010B (none)	Al/Cd2 6010.1 (none)	Chloride 325.2 Sulfate 375.4 (none)	Methane RSK Ethane Ethene 175 (HCl)	Nitrate 353.2 (H2SO4)	TOC 415.1 (HCl)	Diss Fe/Mn 6010B (HNO3)	DOC by 415.1 (HCl)		REMARKS
12-8-10	1600	GM-58A-1210	G	W				2	1	1	1	3	2	1				
↓	↓	GM-58A-1210-MS	G	W				2										
		GM-58A-1210-MSD	G	W				2										
		GM-58A-F(0.2)-1210	G	W											1	1		FILTERED

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12-8-10	2000						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Beth A. Daughtry	12/9/10	0912	YES ○ NO ○		680-63890	Temp 0.6/0.2

TAL 8240-680 (1008)

Serial Number 033943

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
WGK-RF3-4Q10		IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
LIDYA G.		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
GM RINALDI	314-674-3312	314-674-8808

CLIENT NAME	CLIENT E-MAIL
SOLUTIA	gmrina@solutia.com

CLIENT ADDRESS: 575 MARYVILLE CENTER, DR ST. LOUIS MO 63141

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE ___ OF ___

STANDARD REPORT DELIVERY ☒

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOCs 8270C (HCl)	Total Fe/Mn 6010B (none)	Alk/CO_2 310.1 (none)	Chloride 325.2 (none)	Sulfate 375.4 (none)	Methane RSK175 (HCl)	Ethane (HCl)	Nitrate 353.2 (H_2SO_4)	TOC 415.1 (HCl)	Diss Fe/Mn 6010B (HNO_3)	DOC by 415.1 (HCl)	
12-9-10	1045	GM-31A-1210						2	1	1	1	3	2		1				
↓	1045	GM-31A-1210-AD						2											
↓	1045	GM-31A-F(0.2)-1210															1	1	

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

REMARKS: Filtered

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12-9-10	1800						

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	12/10/10	0933	YES ○ NO ○		680-63928	3.2°C

TAL 8240-680 (1008)

APPENDIX C

QUALITY ASSURANCE REPORT

FOURTH QUARTER 2010
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.08

March 15, 2011

J017210.08

FOURTH QUARTER 2010
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

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3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES 4

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5.0 LABORATORY CONTROL SAMPLE RECOVERIES 4

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J017210.08

FOURTH QUARTER 2010
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in December of 2010 at the Solutia W.G. Krummrich plant as part of the 4th Quarter 2010 Illinois Route 3 Drum Site Groundwater Sampling. The samples were collected by Geotechnology, Inc. (Geotechnology) personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methodologies. Groundwater samples were analyzed for semi-volatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

Geotechnology subcontracted with the M.J.W. Corporation to conduct third party Level III data validation. One hundred percent of the data was subjected to a data quality review (Level III validation.) M.J.W. Corporation selected four random groundwater samples for Level IV data validation (GM-31A-1210, GM-31A-F(0.2)-1210, GM-58A-1210 and GM-58A-F(0.2)-1210. The Level III and IV reviews were performed in order to confirm that the analytical data provided by TestAmerica were acceptable in quality for their intended use.

A total of 6 samples (two investigative groundwater samples, one field duplicate, one matrix spike and matrix spike duplicate (MS/MSD) pair, and one equipment blank) were analyzed by TestAmerica. These samples were analyzed as part of Sample Delivery Group (SDG) KOM10 utilizing the following USEPA SW-846 Methods:

- Method 8270 for semi-volatile organic compounds
- Method RSK-175 for dissolved gases (ethane, ethylene and methane)
- Method 6010B for total and dissolved iron and manganese
- Method 325.2 for chloride
- Method 353.2 for nitrogen, nitrate
- Method 375.4 for sulfate
- Method 415.1 for total and dissolved organic carbon
- Method 310.1 for alkalinity and carbon dioxide

Samples were reviewed following procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Data was qualified based on the data quality review. Qualifiers assigned indicate data that did not meet acceptance criteria and for which corrective actions were not successful or not performed. The various qualifiers are explained in Tables 1 and 2 below:

Table 1 – Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.

Table 2 – Geotechnology (MJW Corporation) Data Qualifiers

MJW Corp. Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	Due to various QC problems some analytes may be qualified.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report. In addition, analytical completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/nondetect (J/UJ) values was 88.2%.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, and field equipment blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions

- Internal standard responses
- Mass spectrometer tuning
- Calibration
- Compound identification
- Other problems/documentation

Inorganics

- Receipt condition and sample holding times
- Laboratory method blank
- LCS recoveries
- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results report from dilutions

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

Extractions and/or analyses were completed within the recommended holding time requirements.

The cooler receipt form indicated that the two coolers were received by the laboratory at temperatures within the temperature requirements – one was reported as “rec’d on ice” and the other was reported as received at 3.2 degrees Celsius, which is within the 4°C $\pm$ 2°C criteria. Samples received were in good condition; therefore, no qualification of data was required.

Samples for GM-58A-1210 received for TOC and DOC analysis were received at pH>2. Additional acid was added upon receipt prior to analysis. The dissolved metals sample received for GM-31A-1210 was received at pH>2. Additional acid was added upon receipt prior to analysis.

Sample GM-58A-1210-EB was received in the cooler by the laboratory but it was not listed on the chain of custody.

3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. No analytes were detected in the method blank; therefore, no qualification of date was required.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. No analytes were detected in the equipment blank sample.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for SVOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet evaluation criteria. Surrogate recoveries were within evaluation criteria. No qualifications of data were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. All LCS recoveries were within evaluation criteria. No qualification of data was required.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were required to be collected at a frequency of one per 20 investigative samples in accordance with the work plan (one per 20 investigative samples or 5%). Geotechnology submitted one MS/MSD sample set for two investigative samples, meeting the work plan frequency requirement.

No qualifications were made to the data if the MS/MSD percent recoveries were zero due to dilutions or if the Relative Percent Difference (RPD) was the only factor outside of criteria. Also, USEPA National Functional Guidelines for Superfund Organic Methods Data Review (2008) states that organic data does not need qualification based on MS/MSD criteria alone.

Therefore, if recoveries were outside evaluation criteria due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria.

Sample GM-58A-1210 was spiked and analyzed for SVOCs in SDG KOM10. All MS/MSD recoveries were within evaluation criteria. No qualifications of SVOCs data were required.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One field duplicate sample was collected for the two investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Field duplicate results were within evaluation criteria. No qualifications of data were required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. For the SVOCs, the IS areas must be within -50 to +10% percent of the preceding calibration verification (CV) IS value. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time.

The internal standards area responses for SVOCs were verified for the data reviews. IS responses met the criteria as described above. No qualifications of data were required.

9.0 RESULTS REPORTED FROM DILUTIONS

Samples were not diluted; therefore, qualifications of data were not required.

10. MASS SPECTROMETER TUNING

Instrument performance was determined to be satisfactory. No qualifications of data were required.

11.0 CALIBRATION

Percent Relative Standard Deviation (%RSD) is used to indicate the stability of a specific compound response factor over increasing concentration. Percent D (%D) is a measure of the instrument's daily performance. Percent RSD must be <30% and Percent D must be <25%. Results for 2-chloronitrobenzene/4-chloronitrobenzene have been qualified with a J due to initial and continuing calibrations that had a %D greater than 305 and 25% respectively.

12.0 COMPOUND IDENTIFICATION

Compound identification was determined to be satisfactory. No qualifications of data were required.

13.0 OTHER PROBLEMS/DOCUMENTATION

The analytical testing results for Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) were qualified as rejected and estimated for samples GM-31A-1210 and GM-58A-1210, respectively, because DOC results are greater than the TOC results for the samples, which is not possible. The validator could not establish whether the error occurred in the field filtering or in the laboratory analyses.

Sample ID	Parameter	Analyte	Qualification
GM-31A-1210	Inorganics	TOC	R
GM-31A-F(0.2)-1210	Inorganics	DOC	R
GM-58A-1210	Inorganics	TOC	J
GM-58A-F(0.2)-1210	Inorganics	DOC	J

APPENDIX D

GROUNDWATER ANALYTICAL RESULTS
(WITH DATA REVIEW SHEETS)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 680-63890-1

SDG Number: KOM010

Job Description: WGK Route 3 Drum Site O&M GW 4Q10

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, MO 63141

Attention: Mr. Jerry Rinaldi

Lidya Gulizia

Approved for release.
Lidya Gulizia
Project Manager I
1/18/2011 11:57 AM

Lidya Gulizia
Project Manager I
lidya.gulizia@testamericainc.com
01/18/2011

cc: Mr. Duane Kreuger

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

Savannah Certifications and ID #s: A2LA: 0399.01; AL: 41450; ARDEQ: 88-0692; ARDOH; CA: 03217CA; CO; CT: PH0161; DE; FL: E87052; GA: 803; Guam; HI; IL: 200022; IN; IA: 353; KS: E-10322; KY EPPC: 90084; KY UST; LA DEQ: 30690; LA DHH: LA080008; ME: 2008022; MD: 250; MA: M-GA006; MI: 9925; MS; NFESC: 249; NV: GA00006; NJ: GA769; NM; NY: 10842; NC DWQ: 269; NC DHHS: 13701; PA: 68-00474; PR: GA00006; RI: LAO00244; SC: 98001001; TN: TN0296; TX: T104704185; USEPA: GA00006; VT: VT-87052; VA: 00302; WA; WV DEP: 094; WV DHHR: 9950 C; WI DNR: 999819810; WY/EPAR8: 8TMS-Q

TestAmerica Laboratories, Inc.
TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404
Tel (912) 354-7858 Fax (912) 352-0165 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

AG 3/1/14

Job Narrative
680-63890-1 / SDG KOM010

Receipt
All samples were received in good condition within temperature requirements.

Samples for GM-58A received for Total and Dissolved Organic Carbon (TOC) analysis were received at pH greater than two (> pH2). Additional acid was added upon receipt prior to analysis.

The dissolved metals sample received for GM-31A was received at pH greater than two (> pH2). Additional acid was added upon receipt prior to analysis.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
Method(s) 325.2: Due to the high concentration of chloride, the matrix spike / matrix spike duplicate (MS/MSD) for batch 189417 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

Method(s) 375.4: The matrix spike duplicate (MSD) recoveries for batch 189461 were outside control limits for sulfate. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Comments
No additional comments.

AL 3/1/11

METHOD SUMMARY

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Description	Lab Location	Method	Preparation Method
Matrix Water			
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL SAV	SW846 8270C	
Liquid-Liquid Extraction (Continuous)	TAL SAV		SW846 3520C
Dissolved Gases (GC)	TAL SAV	RSK RSK-175	
Metals (ICP)	TAL SAV	SW846 6010B	
Preparation, Total Recoverable or Dissolved Metals	TAL SAV		SW846 3005A
Metals (ICP)	TAL SAV	SW846 6010B	
Preparation, Total Recoverable or Dissolved Metals	TAL SAV		SW846 3005A
Sample Filtration, Field			FIELD_FLTRD
Alkalinity	TAL SAV	MCAWW 310.1	
Chloride	TAL SAV	MCAWW 325.2	
Nitrogen, Nitrate-Nitrite	TAL SAV	MCAWW 353.2	
Sulfate	TAL SAV	MCAWW 375.4	
DOC	TAL SAV	MCAWW 415.1	
Sample Filtration, Field			FIELD_FLTRD
TOC	TAL SAV	MCAWW 415.1	

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

AG 3/6/14

METHOD / ANALYST SUMMARY

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method	Analyst	Analyst ID
SW846 8270C	Haynes, Carion	CRH
RSK RSK-175	Moncrief, Amy J	AJM
SW846 6010B	Bland, Brian	BCB
MCAWW 310.1	Crowder, Ca'Lisha	CC
MCAWW 325.2	Ross, Jon	JR
MCAWW 353.2	Ross, Jon	JR
MCAWW 375.4	Ross, Jon	JR
MCAWW 415.1	Blackshear, Kim	KB
MCAWW 415.1	Holmes, Tinita	TH

3/1/14

SAMPLE SUMMARY

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-63890-1	GM-58A-1210	Water	12/08/2010 1600	12/09/2010 0912
680-63890-1MS	GM-58A-1210	Water	12/08/2010 1600	12/09/2010 0912
680-63890-1MSD	GM-58A-1210	Water	12/08/2010 1600	12/09/2010 0912
680-63890-2	GM-58A-F(0.2)-1210	Water	12/08/2010 1600	12/09/2010 0912
680-63890-3	GM-58A-1210-EB	Water	12/08/2010 0000	12/09/2010 0912
680-63928-1	GM-31A-1210	Water	12/09/2010 1045	12/10/2010 0933
680-63928-2FD	GM-31A-1210-AD	Water	12/09/2010 1045	12/10/2010 0933
680-63928-3	GM-31A-F(0.2)-1210	Water	12/09/2010 1045	12/10/2010 0933

AK 3/11/11

SAMPLE RESULTS

3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-58A-1210**

Lab Sample ID: 680-63890-1
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 680-190184		Instrument ID:	MSG
Preparation:	3520C	Prep Batch: 680-188952		Lab File ID:	g4890.d
Dilution:	1.0			Initial Weight/Volume:	500 mL
Date Analyzed:	12/29/2010 0307			Final Weight/Volume:	0.5 mL
Date Prepared:	12/14/2010 1448			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	10	U	10
2,4-Dichlorophenol	10	U	10
Nitrobenzene	10	U	10
Pentachlorophenol	50	U	50
2,4,6-Trichlorophenol	17		10
1-Chloro-3-nitrobenzene	10	U	10
2-Nitrobiphenyl	10	U	10
3-Nitrobiphenyl	10	U	10
3,4-Dichloronitrobenzene	10	U	10
4-Nitrobiphenyl	10	U	10
2-chloronitrobenzene / 4-chloronitrobenzene	91	"J"	20
1-chloro-2,4-dinitrobenzene	10	U	10

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	50		50 - 113
2-Fluorophenol	42		36 - 110
Nitrobenzene-d5	45		45 - 112
Phenol-d5	38		38 - 116
Terphenyl-d14	49		10 - 121
2,4,6-Tribromophenol	48		40 - 139

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-58A-1210-EB**

Lab Sample ID: 680-63890-3
Client Matrix: Water

Date Sampled: 12/08/2010 0000
Date Received: 12/09/2010 0912

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 680-190290		Instrument ID:	MSG
Preparation:	3520C	Prep Batch: 680-188952		Lab File ID:	g4907.d
Dilution:	1.0			Initial Weight/Volume:	1030 mL
Date Analyzed:	12/29/2010 1540			Final Weight/Volume:	1 mL
Date Prepared:	12/14/2010 1448			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.7	U	9.7
2,4-Dichlorophenol	9.7	U	9.7
Nitrobenzene	9.7	U	9.7
Pentachlorophenol	49	U	49
2,4,6-Trichlorophenol	9.7	U	9.7
1-Chloro-3-nitrobenzene	9.7	U	9.7
2-Nitrobiphenyl	9.7	U	9.7
3-Nitrobiphenyl	9.7	U	9.7
3,4-Dichloronitrobenzene	9.7	U	9.7
4-Nitrobiphenyl	9.7	U	9.7
2-chloronitrobenzene / 4-chloronitrobenzene	19	U "J"	19
1-chloro-2,4-dinitrobenzene	9.7	U	9.7

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	86		50 - 113
2-Fluorophenol	62		36 - 110
Nitrobenzene-d5	72		45 - 112
Phenol-d5	56		38 - 116
Terphenyl-d14	54		10 - 121
2,4,6-Tribromophenol	65		40 - 139

Ale 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-31A-1210**

Lab Sample ID: 680-63928-1
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 680-191242		Instrument ID:	MSG
Preparation:	3520C	Prep Batch: 680-188952		Lab File ID:	g5132.d
Dilution:	1.0			Initial Weight/Volume:	1050 mL
Date Analyzed:	01/11/2011 1220			Final Weight/Volume:	1 mL
Date Prepared:	12/14/2010 1448			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.5	U	9.5
2,4-Dichlorophenol	9.5	U	9.5
Nitrobenzene	11		9.5
Pentachlorophenol	48	U	48
2,4,6-Trichlorophenol	110		9.5
1-Chloro-3-nitrobenzene	10		9.5
2-Nitrobiphenyl	9.5	U	9.5
3-Nitrobiphenyl	9.5	U	9.5
3,4-Dichloronitrobenzene	9.5	U	9.5
4-Nitrobiphenyl	9.5	U	9.5
2-chloronitrobenzene / 4-chloronitrobenzene	85	"J"	19
1-chloro-2,4-dinitrobenzene	9.5	U	9.5

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	70		50 - 113
2-Fluorophenol	62		36 - 110
Nitrobenzene-d5	70		45 - 112
Phenol-d5	57		38 - 116
Terphenyl-d14	35		10 - 121
2,4,6-Tribromophenol	81		40 - 139

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-31A-1210-AD**

Lab Sample ID: 680-63928-2FD
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Method:	8270C	Analysis Batch: 680-191242		Instrument ID:	MSG
Preparation:	3520C	Prep Batch: 680-188952		Lab File ID:	g5133.d
Dilution:	1.0			Initial Weight/Volume:	1050 mL
Date Analyzed:	01/11/2011 1248			Final Weight/Volume:	1 mL
Date Prepared:	12/14/2010 1448			Injection Volume:	1 uL

Analyte	Result (ug/L)	Qualifier	RL
1,1'-Biphenyl	9.5	U	9.5
2,4-Dichlorophenol	9.5	U	9.5
Nitrobenzene	11		9.5
Pentachlorophenol	48	U	48
2,4,6-Trichlorophenol	120		9.5
1-Chloro-3-nitrobenzene	12		9.5
2-Nitrobiphenyl	9.5	U	9.5
3-Nitrobiphenyl	9.5	U	9.5
3,4-Dichloronitrobenzene	9.5	U	9.5
4-Nitrobiphenyl	9.5	U	9.5
2-chloronitrobenzene / 4-chloronitrobenzene	92	"J"	19
1-chloro-2,4-dinitrobenzene	9.5	U	9.5

Surrogate	%Rec	Qualifier	Acceptance Limits
2-Fluorobiphenyl	76		50 - 113
2-Fluorophenol	70		36 - 110
Nitrobenzene-d5	78		45 - 112
Phenol-d5	68		38 - 116
Terphenyl-d14	44		10 - 121
2,4,6-Tribromophenol	87		40 - 139

KG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-58A-1210**

Lab Sample ID: 680-63890-1
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

RSK-175 Dissolved Gases (GC)

Method:	RSK-175	Analysis Batch: 680-189349	Instrument ID:	VGUFID2
Preparation:	N/A		Initial Weight/Volume:	17000 uL
Dilution:	1.0		Final Weight/Volume:	17 mL
Date Analyzed:	12/16/2010 1517		Injection Volume:	1 uL
Date Prepared:			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	0.35	U	0.35
Ethylene	0.33	U	0.33
Methane	3.2		0.19

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-31A-1210**

Lab Sample ID: 680-63928-1
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

RSK-175 Dissolved Gases (GC)

Method:	RSK-175	Analysis Batch: 680-189349	Instrument ID:	VGUFID2
Preparation:	N/A		Initial Weight/Volume:	17000 uL
Dilution:	1.0		Final Weight/Volume:	17 mL
Date Analyzed:	12/16/2010 1738		Injection Volume:	1 uL
Date Prepared:			Result Type:	PRIMARY

Analyte	Result (ug/L)	Qualifier	RL
Ethane	0.35	U	0.35
Ethylene	0.33	U	0.33
Methane	3.2		0.19

3/11/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-58A-1210**

Lab Sample ID: 680-63890-1
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-189384		Instrument ID:	ICPD
Preparation:	3005A	Prep Batch: 680-189163		Lab File ID:	1216101526.chr
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/16/2010 2235			Final Weight/Volume:	50 mL
Date Prepared:	12/15/2010 1751				

Analyte	Result (mg/L)	Qualifier	RL
Iron	0.47		0.050
Manganese	1.3		0.010

AG 3/1/11

Analytical Data

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-58A-F(0.2)-1210**

Lab Sample ID: 680-63890-2
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-189384		Instrument ID:	ICPD
Preparation:	3005A	Prep Batch: 680-189163		Lab File ID:	1216101526.chr
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/16/2010 2251			Final Weight/Volume:	50 mL
Date Prepared:	12/15/2010 1751				

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	0.050	U	0.050
Manganese, Dissolved	1.4		0.010

AB 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-31A-1210**

Lab Sample ID: 680-63928-1
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

6010B Metals (ICP)-Total Recoverable

Method:	6010B	Analysis Batch: 680-189384		Instrument ID:	ICPD
Preparation:	3005A	Prep Batch: 680-189163		Lab File ID:	1216101526.chr
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/16/2010 2256			Final Weight/Volume:	50 mL
Date Prepared:	12/15/2010 1751				

Analyte	Result (mg/L)	Qualifier	RL
Iron	1.5		0.050
Manganese	1.2		0.010

AG 3/1/11

Analytical Data

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Client Sample ID: **GM-31A-F(0.2)-1210**

Lab Sample ID: 680-63928-3
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

6010B Metals (ICP)-Dissolved

Method:	6010B	Analysis Batch: 680-189384		Instrument ID:	ICPD
Preparation:	3005A	Prep Batch: 680-189163		Lab File ID:	1216101526.chr
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	12/16/2010 2301			Final Weight/Volume:	50 mL
Date Prepared:	12/15/2010 1751				

Analyte	Result (mg/L)	Qualifier	RL
Iron, Dissolved	0.050	U	0.050
Manganese, Dissolved	1.2		0.010

3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

General Chemistry

Client Sample ID: **GM-58A-1210**

Lab Sample ID: 680-63890-1
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	49		mg/L	1.0	1.0	325.2
Analysis Batch: 680-189417	Date Analyzed: 12/17/2010 1441					
Nitrate as N	0.50		mg/L	0.050	1.0	353.2
Analysis Batch: 680-188846	Date Analyzed: 12/09/2010 1747					
Sulfate	100		mg/L	25	5.0	375.4
Analysis Batch: 680-189461	Date Analyzed: 12/18/2010 1135					
Total Organic Carbon	3.3	"J"	mg/L	1.0	1.0	415.1
Analysis Batch: 680-190005	Date Analyzed: 12/22/2010 2227					

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	460		mg/L	5.0	1.0	310.1
Analysis Batch: 680-189751	Date Analyzed: 12/21/2010 1455					
Carbon Dioxide, Free	13		mg/L	5.0	1.0	310.1
Analysis Batch: 680-189751	Date Analyzed: 12/21/2010 1455					

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

General Chemistry

Client Sample ID: **GM-58A-F(0.2)-1210**

Lab Sample ID: 680-63890-2
Client Matrix: Water

Date Sampled: 12/08/2010 1600
Date Received: 12/09/2010 0912

Analyte	Result	Qual	Units	RL	Dil	Method
Dissolved Organic Carbon-Dissolved	4.5	"J"	mg/L	1.0	1.0	415.1

Analysis Batch: 680-189390 Date Analyzed: 12/16/2010 1138

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

General Chemistry

Client Sample ID: **GM-31A-1210**

Lab Sample ID: 680-63928-1
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

Analyte	Result	Qual	Units	RL	Dil	Method
Chloride	26		mg/L	1.0	1.0	325.2
Analysis Batch: 680-189417	Date Analyzed: 12/17/2010 1441					
Nitrate as N	1.2		mg/L	0.25	5.0	353.2
Analysis Batch: 680-188847	Date Analyzed: 12/10/2010 1659					
Sulfate	99		mg/L	25	5.0	375.4
Analysis Batch: 680-189461	Date Analyzed: 12/18/2010 1126					
Total Organic Carbon	3.9	"R"	mg/L	1.0	1.0	415.1
Analysis Batch: 680-190005	Date Analyzed: 12/22/2010 2243					

Analyte	Result	Qual	Units	RL	Dil	Method
Alkalinity	490		mg/L	5.0	1.0	310.1
Analysis Batch: 680-189845	Date Analyzed: 12/21/2010 1930					
Carbon Dioxide, Free	24	B	mg/L	5.0	1.0	310.1
Analysis Batch: 680-189845	Date Analyzed: 12/21/2010 1930					

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

General Chemistry

Client Sample ID: **GM-31A-F(0.2)-1210**

Lab Sample ID: 680-63928-3
Client Matrix: Water

Date Sampled: 12/09/2010 1045
Date Received: 12/10/2010 0933

Analyte	Result	Qual	Units	RL	Dil	Method
Dissolved Organic Carbon-Dissolved	10	"R"	mg/L	1.0	1.0	415.1

Analysis Batch: 680-189390 Date Analyzed: 12/16/2010 1138

3/1/11

DATA REPORTING QUALIFIERS

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	U	Indicates the analyte was analyzed for but not detected.
GC VOA		
	U	Indicates the analyte was analyzed for but not detected.
Metals		
	U	Indicates the analyte was analyzed for but not detected.
General Chemistry		
	B	Compound was found in the blank and sample.
	U	Indicates the analyte was analyzed for but not detected.

3/1/11

QUALITY CONTROL RESULTS

AO 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS Semi VOA					
Prep Batch: 680-188952					
LCS 680-188952/19-A	Lab Control Sample	T	Water	3520C	
LCS 680-188952/25-A	Lab Control Sample	T	Water	3520C	
MB 680-188952/18-A	Method Blank	T	Water	3520C	
680-63890-1	GM-58A-1210	T	Water	3520C	
680-63890-1MS	Matrix Spike	T	Water	3520C	
680-63890-1MSD	Matrix Spike Duplicate	T	Water	3520C	
680-63890-3	GM-58A-1210-EB	T	Water	3520C	
680-63928-1	GM-31A-1210	T	Water	3520C	
680-63928-2FD	GM-31A-1210-AD	T	Water	3520C	
Analysis Batch:680-190184					
LCS 680-188952/19-A	Lab Control Sample	T	Water	8270C	680-188952
LCS 680-188952/25-A	Lab Control Sample	T	Water	8270C	680-188952
680-63890-1	GM-58A-1210	T	Water	8270C	680-188952
680-63890-1MS	Matrix Spike	T	Water	8270C	680-188952
680-63890-1MSD	Matrix Spike Duplicate	T	Water	8270C	680-188952
Analysis Batch:680-190290					
680-63890-3	GM-58A-1210-EB	T	Water	8270C	680-188952
Analysis Batch:680-190606					
MB 680-188952/18-A	Method Blank	T	Water	8270C	680-188952
Analysis Batch:680-191242					
680-63928-1	GM-31A-1210	T	Water	8270C	680-188952
680-63928-2FD	GM-31A-1210-AD	T	Water	8270C	680-188952

Report Basis
T = Total

GC VOA

Analysis Batch:680-189349					
LCS 680-189349/24	Lab Control Sample	T	Water	RSK-175	
LCSD 680-189349/26	Lab Control Sample Duplicate	T	Water	RSK-175	
MB 680-189349/25	Method Blank	T	Water	RSK-175	
680-63890-1	GM-58A-1210	T	Water	RSK-175	
680-63928-1	GM-31A-1210	T	Water	RSK-175	

Report Basis
T = Total

KG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 680-189163					
LCS 680-189163/21-A	Lab Control Sample	R	Water	3005A	
MB 680-189163/20-A	Method Blank	R	Water	3005A	
680-63890-1	GM-58A-1210	R	Water	3005A	
680-63890-2	GM-58A-F(0.2)-1210	D	Water	3005A	
680-63928-1	GM-31A-1210	R	Water	3005A	
680-63928-3	GM-31A-F(0.2)-1210	D	Water	3005A	
Analysis Batch:680-189384					
LCS 680-189163/21-A	Lab Control Sample	R	Water	6010B	680-189163
MB 680-189163/20-A	Method Blank	R	Water	6010B	680-189163
680-63890-1	GM-58A-1210	R	Water	6010B	680-189163
680-63890-2	GM-58A-F(0.2)-1210	D	Water	6010B	680-189163
680-63928-1	GM-31A-1210	R	Water	6010B	680-189163
680-63928-3	GM-31A-F(0.2)-1210	D	Water	6010B	680-189163

Report Basis
D = Dissolved
R = Total Recoverable

3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:680-188846					
LCS 680-188846/2	Lab Control Sample	T	Water	353.2	
MB 680-188846/1	Method Blank	T	Water	353.2	
680-63890-1	GM-58A-1210	T	Water	353.2	
Analysis Batch:680-188847					
LCS 680-188847/2	Lab Control Sample	T	Water	353.2	
MB 680-188847/1	Method Blank	T	Water	353.2	
680-63928-1	GM-31A-1210	T	Water	353.2	
680-63928-1MS	Matrix Spike	T	Water	353.2	
680-63928-1MSD	Matrix Spike Duplicate	T	Water	353.2	
Analysis Batch:680-189390					
680-63890-2	GM-58A-F(0.2)-1210	D	Water	415.1	
680-63928-3	GM-31A-F(0.2)-1210	D	Water	415.1	
Analysis Batch:680-189417					
LCS 680-189417/1	Lab Control Sample	T	Water	325.2	
MB 680-189417/2	Method Blank	T	Water	325.2	
680-63890-1	GM-58A-1210	T	Water	325.2	
680-63928-1	GM-31A-1210	T	Water	325.2	
Analysis Batch:680-189461					
LCS 680-189461/2	Lab Control Sample	T	Water	375.4	
MB 680-189461/1	Method Blank	T	Water	375.4	
680-63890-1	GM-58A-1210	T	Water	375.4	
680-63928-1	GM-31A-1210	T	Water	375.4	
Analysis Batch:680-189751					
LCS 680-189751/3	Lab Control Sample	T	Water	310.1	
LCSD 680-189751/29	Lab Control Sample Duplicate	T	Water	310.1	
MB 680-189751/2	Method Blank	T	Water	310.1	
680-63890-1	GM-58A-1210	T	Water	310.1	
Analysis Batch:680-189845					
LCS 680-189845/3	Lab Control Sample	T	Water	310.1	
LCSD 680-189845/29	Lab Control Sample Duplicate	T	Water	310.1	
MB 680-189845/2	Method Blank	T	Water	310.1	
680-63928-1	GM-31A-1210	T	Water	310.1	
Analysis Batch:680-190005					
LCS 680-190005/4	Lab Control Sample	T	Water	415.1	
MB 680-190005/2	Method Blank	T	Water	415.1	
680-63890-1	GM-58A-1210	T	Water	415.1	
680-63928-1	GM-31A-1210	T	Water	415.1	

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch

Report Basis
D = Dissolved
T = Total

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Surrogate Recovery Report

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	FBP %Rec	2FP %Rec	NBZ %Rec	PHL %Rec	TPH %Rec	TBP %Rec
680-63890-1	GM-58A-1210	50	42	45	38	49	48
680-63890-3	GM-58A-1210-EB	86	62	72	56	54	65
680-63928-1	GM-31A-1210	70	62	70	57	35	81
680-63928-2	GM-31A-1210-AD	76	70	78	68	44	87
MB 680-188952/18-A		79	62	64	59	79	58
LCS 680-188952/19-A		76	67	68	64	82	70
LCS 680-188952/25-A		61	55	60	47	71	52
680-63890-1 MS	GM-58A-1210 MS	65	56	58	51	70	64
680-63890-1 MS	GM-58A-1210 MS	62	49	62	45	57	60
680-63890-1 MSD	GM-58A-1210 MSD	73	60	65	57	79	74
680-63890-1 MSD	GM-58A-1210 MSD	50	44	52	39	44	48

Surrogate	Acceptance Limits
FBP = 2-Fluorobiphenyl	50-113
2FP = 2-Fluorophenol	36-110
NBZ = Nitrobenzene-d5	45-112
PHL = Phenol-d5	38-116
TPH = Terphenyl-d14	10-121
TBP = 2,4,6-Tribromophenol	40-139

AL 3/1/11

Quality Control Results

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-188952

Method: 8270C
Preparation: 3520C

Lab Sample ID: MB 680-188952/18-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 01/04/2011 1009
Date Prepared: 12/14/2010 1448

Analysis Batch: 680-190606
Prep Batch: 680-188952
Units: ug/L

Instrument ID: MSG
Lab File ID: g4988.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume: 1 uL

Analyte	Result	Qual	RL
1,1'-Biphenyl	10	U	10
2,4-Dichlorophenol	10	U	10
Nitrobenzene	10	U	10
Pentachlorophenol	50	U	50
2,4,6-Trichlorophenol	10	U	10
1-Chloro-3-nitrobenzene	10	U	10
2-Nitrobiphenyl	10	U	10
3-Nitrobiphenyl	10	U	10
3,4-Dichloronitrobenzene	10	U	10
4-Nitrobiphenyl	10	U	10
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20
1-chloro-2,4-dinitrobenzene	10	U	10

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	79	50 - 113
2-Fluorophenol	62	36 - 110
Nitrobenzene-d5	64	45 - 112
Phenol-d5	59	38 - 116
Terphenyl-d14	79	10 - 121
2,4,6-Tribromophenol	58	40 - 139

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Lab Control Sample - Batch: 680-188952

Method: 8270C
Preparation: 3520C

Lab Sample ID: LCS 680-188952/19-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/29/2010 0403
Date Prepared: 12/14/2010 1448

Analysis Batch: 680-190184
Prep Batch: 680-188952
Units: ug/L

Instrument ID: MSG
Lab File ID: g4892.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1'-Biphenyl	100	81.3	81	54 - 130	
2,4-Dichlorophenol	100	78.2	78	54 - 130	
Nitrobenzene	100	64.4	64	56 - 130	
Pentachlorophenol	100	80.1	80	42 - 138	
2,4,6-Trichlorophenol	100	76.9	77	57 - 130	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	76	50 - 113
2-Fluorophenol	67	36 - 110
Nitrobenzene-d5	68	45 - 112
Phenol-d5	64	38 - 116
Terphenyl-d14	82	10 - 121
2,4,6-Tribromophenol	70	40 - 139

Lab Control Sample - Batch: 680-188952

Method: 8270C
Preparation: 3520C

Lab Sample ID: LCS 680-188952/25-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/29/2010 0459
Date Prepared: 12/14/2010 1448

Analysis Batch: 680-190184
Prep Batch: 680-188952
Units: ug/L

Instrument ID: MSG
Lab File ID: g4894.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 1 mL
Injection Volume:

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1-Chloro-3-nitrobenzene	100	75.8	76	10 - 130	
2-Nitrobiphenyl	100	95.5	95	10 - 130	
3-Nitrobiphenyl	100	87.1	87	10 - 130	
3,4-Dichloronitrobenzene	100	69.8	70	10 - 130	
4-Nitrobiphenyl	100	96.0	96	10 - 130	
2-chloronitrobenzene / 4-chloronitrobenzene	200	144	72	10 - 130	
1-chloro-2,4-dinitrobenzene	100	82.4	82	10 - 130	

Surrogate	% Rec	Acceptance Limits
2-Fluorobiphenyl	61	50 - 113
2-Fluorophenol	55	36 - 110
Nitrobenzene-d5	60	45 - 112
Phenol-d5	47	38 - 116
Terphenyl-d14	71	10 - 121

AL 3/1/11

Quality Control Results

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	52	40 - 139

3/1/14

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-188952

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	680-63890-1	Analysis Batch: 680-190184	Instrument ID:	MSG	
Client Matrix:	Water	Prep Batch: 680-188952	Lab File ID:	g4895.d	
Dilution:	1.0		Initial Weight/Volume:	500	mL
Date Analyzed:	12/29/2010 0527		Final Weight/Volume:	0.5	mL
Date Prepared:	12/14/2010 1448		Injection Volume:	1	uL

MSD Lab Sample ID:	680-63890-1	Analysis Batch: 680-190184	Instrument ID:	MSG	
Client Matrix:	Water	Prep Batch: 680-188952	Lab File ID:	g4896.d	
Dilution:	1.0		Initial Weight/Volume:	500	mL
Date Analyzed:	12/29/2010 0555		Final Weight/Volume:	0.5	mL
Date Prepared:	12/14/2010 1448		Injection Volume:	1	uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1'-Biphenyl	82	82	54 - 130	1	50		
2,4-Dichlorophenol	80	81	54 - 130	2	50		
Nitrobenzene	85	89	56 - 130	5	50		
Pentachlorophenol	92	90	42 - 138	1	50		
2,4,6-Trichlorophenol	82	86	57 - 130	3	50		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	65	73	50 - 113
2-Fluorophenol	56	60	36 - 110
Nitrobenzene-d5	58	65	45 - 112
Phenol-d5	51	57	38 - 116
Terphenyl-d14	70	79	10 - 121
2,4,6-Tribromophenol	64	74	40 - 139

AB 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-188952

Method: 8270C
Preparation: 3520C

MS Lab Sample ID:	680-63890-1	Analysis Batch: 680-190184	Instrument ID: MSG
Client Matrix:	Water	Prep Batch: 680-188952	Lab File ID: g4899.d
Dilution:	1.0		Initial Weight/Volume: 500 mL
Date Analyzed:	12/29/2010 0719		Final Weight/Volume: 0.5 mL
Date Prepared:	12/14/2010 1448		Injection Volume: 1 uL

MSD Lab Sample ID:	680-63890-1	Analysis Batch: 680-190184	Instrument ID: MSG
Client Matrix:	Water	Prep Batch: 680-188952	Lab File ID: g4900.d
Dilution:	1.0		Initial Weight/Volume: 500 mL
Date Analyzed:	12/29/2010 0747		Final Weight/Volume: 0.5 mL
Date Prepared:	12/14/2010 1448		Injection Volume: 1 uL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1-Chloro-3-nitrobenzene	78	71	10 - 130	9	50		
2-Nitrobiphenyl	95	99	10 - 130	4	50		
3-Nitrobiphenyl	97	93	10 - 130	4	50		
3,4-Dichloronitrobenzene	63	67	10 - 130	5	50		
4-Nitrobiphenyl	108	88	10 - 130	21	50		
2-chloronitrobenzene / 4-chloronitrobenzene	88	77	10 - 130	8	50		
1-chloro-2,4-dinitrobenzene	90	73	10 - 130	21	50		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2-Fluorobiphenyl	62	50	50 - 113
2-Fluorophenol	49	44	36 - 110
Nitrobenzene-d5	62	52	45 - 112
Phenol-d5	45	39	38 - 116
Terphenyl-d14	57	44	10 - 121
2,4,6-Tribromophenol	60	48	40 - 139

AG 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189349

Method: RSK-175
Preparation: N/A

Lab Sample ID: MB 680-189349/25
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/16/2010 1226
Date Prepared: N/A

Analysis Batch: 680-189349
Prep Batch: N/A
Units: ug/L

Instrument ID: VGUFID2
Lab File ID: UQ331.D
Initial Weight/Volume: 17000 uL
Final Weight/Volume: 17 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	Result	Qual	RL
Ethane	0.35	U	0.35
Ethylene	0.33	U	0.33
Methane	0.19	U	0.19

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 680-189349

Method: RSK-175
Preparation: N/A

LCS Lab Sample ID: LCS 680-189349/24
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/16/2010 1200
Date Prepared: N/A

Analysis Batch: 680-189349
Prep Batch: N/A
Units: ug/L

Instrument ID: VGUFID2
Lab File ID: UQ329.D
Initial Weight/Volume: 17000 uL
Final Weight/Volume: 17 mL
Injection Volume: 1 uL
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 680-189349/26
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/16/2010 1934
Date Prepared: N/A

Analysis Batch: 680-189349
Prep Batch: N/A
Units: ug/L

Instrument ID: VGUFID2
Lab File ID: UQ334.D
Initial Weight/Volume: 17000 uL
Final Weight/Volume: 17 mL
Injection Volume: 1 uL
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Ethane	120	109	75 - 125	10	30		
Ethylene	118	103	75 - 125	14	30		
Methane	117	108	75 - 125	8	30		

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189163

Method: 6010B
Preparation: 3005A
Total Recoverable

Lab Sample ID: MB 680-189163/20-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/16/2010 2220
Date Prepared: 12/15/2010 1751

Analysis Batch: 680-189384
Prep Batch: 680-189163
Units: mg/L

Instrument ID: ICPD
Lab File ID: 1216101526.chr
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Iron	0.050	U	0.050
Iron, Dissolved	0.050	U	0.050
Manganese	0.010	U	0.010
Manganese, Dissolved	0.010	U	0.010

Lab Control Sample - Batch: 680-189163

Method: 6010B
Preparation: 3005A
Total Recoverable

Lab Sample ID: LCS 680-189163/21-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/16/2010 2225
Date Prepared: 12/15/2010 1751

Analysis Batch: 680-189384
Prep Batch: 680-189163
Units: mg/L

Instrument ID: ICPD
Lab File ID: 1216101526.chr
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Iron	1.00	1.02	102	75 - 125	
Iron, Dissolved	1.00	1.02	102	75 - 125	
Manganese	0.500	0.513	103	75 - 125	
Manganese, Dissolved	0.500	0.513	103	75 - 125	

AL 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189751

Method: 310.1
Preparation: N/A

Lab Sample ID: MB 680-189751/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 1152
Date Prepared: N/A

Analysis Batch: 680-189751
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110a.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Alkalinity	5.0	U	5.0
Carbon Dioxide, Free	5.0	U	5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 680-189751

Method: 310.1
Preparation: N/A

LCS Lab Sample ID: LCS 680-189751/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 1201
Date Prepared: N/A

Analysis Batch: 680-189751
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110a.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

LCSD Lab Sample ID: LCSD 680-189751/29
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 1507
Date Prepared: N/A

Analysis Batch: 680-189751
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110a.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Alkalinity	96	89	80 - 120	7	30		

3/1/11
AC

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189845

Method: 310.1
Preparation: N/A

Lab Sample ID: MB 680-189845/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 1911
Date Prepared: N/A

Analysis Batch: 680-189845
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110c.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Alkalinity	5.0	U	5.0
Carbon Dioxide, Free	11.7		5.0

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 680-189845

Method: 310.1
Preparation: N/A

LCS Lab Sample ID: LCS 680-189845/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 1919
Date Prepared: N/A

Analysis Batch: 680-189845
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110c.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

LCSD Lab Sample ID: LCSD 680-189845/29
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/21/2010 2210
Date Prepared: N/A

Analysis Batch: 680-189845
Prep Batch: N/A
Units: mg/L

Instrument ID: MANTECH
Lab File ID: alk122110c.TXT
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Alkalinity	91	93	80 - 120	2	30		

AB 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189417

Method: 325.2
Preparation: N/A

Lab Sample ID: MB 680-189417/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1413
Date Prepared: N/A

Analysis Batch: 680-189417
Prep Batch: N/A
Units: mg/L

Instrument ID: KONELAB1
Lab File ID: KONE1121710B1CLA.xls
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Result	Qual	RL
Chloride	1.0	U	1.0

Lab Control Sample - Batch: 680-189417

Method: 325.2
Preparation: N/A

Lab Sample ID: LCS 680-189417/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1406
Date Prepared: N/A

Analysis Batch: 680-189417
Prep Batch: N/A
Units: mg/L

Instrument ID: KONELAB1
Lab File ID: KONE1121710B1CLA.xls
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride	50.0	51.3	103	85 - 115	

AC 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-188846

Method: 353.2
Preparation: N/A

Lab Sample ID: MB 680-188846/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1731
Date Prepared: N/A

Analysis Batch: 680-188846
Prep Batch: N/A
Units: mg/L

Instrument ID: Latchat 2
Lab File ID: OM_12-9-2010_17-04-23.OM
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Result	Qual	RL
Nitrate as N	0.050	U	0.050
Nitrate Nitrite as N	0.050	U	0.050
Nitrite as N	0.050	U	0.050

Lab Control Sample - Batch: 680-188846

Method: 353.2
Preparation: N/A

Lab Sample ID: LCS 680-188846/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1732
Date Prepared: N/A

Analysis Batch: 680-188846
Prep Batch: N/A
Units: mg/L

Instrument ID: Latchat 2
Lab File ID: OM_12-9-2010_17-04-23.OM
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	0.976	98	90 - 110	
Nitrite as N	0.500	0.491	98	90 - 110	

AK 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-188847

Method: 353.2
Preparation: N/A

Lab Sample ID: MB 680-188847/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/10/2010 1631
Date Prepared: N/A

Analysis Batch: 680-188847
Prep Batch: N/A
Units: mg/L

Instrument ID: Latchat 2
Lab File ID: OM_12-10-2010_16-04-31.OM
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Result	Qual	RL
Nitrate as N	0.050	U	0.050
Nitrate Nitrite as N	0.050	U	0.050
Nitrite as N	0.050	U	0.050

Lab Control Sample - Batch: 680-188847

Method: 353.2
Preparation: N/A

Lab Sample ID: LCS 680-188847/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/10/2010 1632
Date Prepared: N/A

Analysis Batch: 680-188847
Prep Batch: N/A
Units: mg/L

Instrument ID: Latchat 2
Lab File ID: OM_12-10-2010_16-04-31.OM
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrate Nitrite as N	1.00	0.995	99	90 - 110	
Nitrite as N	0.500	0.497	99	90 - 110	

AG 3/1/11

Quality Control Results

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-188847

Method: 353.2
Preparation: N/A

MS Lab Sample ID:	680-63928-1	Analysis Batch: 680-188847	Instrument ID: Latchat 2
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: OM_12-10-2010_16-04-31.C
Dilution:	5.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/10/2010 1701		Final Weight/Volume: 10 mL
Date Prepared:	N/A		

MSD Lab Sample ID:	680-63928-1	Analysis Batch: 680-188847	Instrument ID: Latchat 2
Client Matrix:	Water	Prep Batch: N/A	Lab File ID: OM_12-10-2010_16-04-31.OM
Dilution:	5.0		Initial Weight/Volume: 10 mL
Date Analyzed:	12/10/2010 1704		Final Weight/Volume: 10 mL
Date Prepared:	N/A		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrate Nitrite as N	95	98	90 - 110	1	10		
Nitrite as N	98	99	90 - 110	0	10		

3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-189461

Method: 375.4
Preparation: N/A

Lab Sample ID: MB 680-189461/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/18/2010 1053
Date Prepared: N/A

Analysis Batch: 680-189461
Prep Batch: N/A
Units: mg/L

Instrument ID: KONELAB1
Lab File ID: KONE11218101SO4B.xls
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Result	Qual	RL
Sulfate	5.0	U	5.0

Lab Control Sample - Batch: 680-189461

Method: 375.4
Preparation: N/A

Lab Sample ID: LCS 680-189461/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/18/2010 1053
Date Prepared: N/A

Analysis Batch: 680-189461
Prep Batch: N/A
Units: mg/L

Instrument ID: KONELAB1
Lab File ID: KONE11218101SO4B.xls
Initial Weight/Volume: 2 mL
Final Weight/Volume: 2 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate	20.0	18.6	93	75 - 125	

AO 3/1/11

Client: Solutia Inc.

Job Number: 680-63890-1
Sdg Number: KOM010

Method Blank - Batch: 680-190005

Method: 415.1
Preparation: N/A

Lab Sample ID: MB 680-190005/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/22/2010 1717
Date Prepared: N/A

Analysis Batch: 680-190005
Prep Batch: N/A
Units: mg/L

Instrument ID: TOC3
Lab File ID: TOC122210.txt
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Total Organic Carbon	1.0	U	1.0

Lab Control Sample - Batch: 680-190005

Method: 415.1
Preparation: N/A

Lab Sample ID: LCS 680-190005/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/22/2010 1747
Date Prepared: N/A

Analysis Batch: 680-190005
Prep Batch: N/A
Units: mg/L

Instrument ID: TOC3
Lab File ID: TOC122210.txt
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Organic Carbon	20.0	19.7	98	80 - 120	

AO 3/1/11

Serial Number 035183

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
TAL (LAB) PROJECT MANAGER: LIOYA GULIZIA	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM	CLIENT PHONE: 314-674-3312	CLIENT FAX
CLIENT NAME: GM RINALDI	CLIENT E-MAIL: gmrinaa@solutia.com	
CLIENT ADDRESS: SOLUTIA / 575 MARYVILLE CTR, ST. LOUIS MO		
COMPANY CONTRACTING THIS WORK (if applicable): S		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ☒
DATE DUE _____
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOC 8270C (HCl)	TOTAL Fe/Mn 6010B (none)	Al/CO2 8210.1 (none)	Chloride 325.2 / Sulfate 375.4 (none)	Methane RSK / Ethane Ethene 175 (none)	Nitrate 353.2 (HCl)	TOC 415.1 (HCl)	Diss Fe/Mn 6010B (HNO3)	DOC by 415.1 (HCl)		REMARKS
								NUMBER OF CONTAINERS SUBMITTED										
12-8-10	1600	GM-58A-1210	G	W				2	1	1	1	3	2	1				
↓	↓	GM-58A-1210-MS	G	W				2										
		GM-58A-1210-MSD	G	W				2										
		GM-58A-F(0.2)-1210	G	W											1	1		FILTERED

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12-8-10	2000						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Beth A. Daughtry	12/9/10	0910	YES ○ NO ○		L80-63890	Temp 0.6/0.2

TAL 8240-680 (1008)

3/1/11

Serial Number 033943

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
WGK-R3-4Q10		IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
LIDYA G.		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
GM RINALDI	314-674-3312	314-674-8808

CLIENT NAME	CLIENT E-MAIL
SOLUTIA	gmrina@solutia.com

CLIENT ADDRESS: 575 MARYVILLE CENTER, DR ST. LOUIS MO 63141

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE ___ OF ___

STANDARD REPORT DELIVERY ☒

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE (COMPOSITE (C) OR GRAB (G) INDICATE): AQUEOUS (WATER), SOLID OR SEMISOLID, AIR, NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	SVOCs 8270C	Total Fe/Mn 6010B	Alk/CO_2 310.1	Chloride 325.2	Sulfate 375.4	Methane Ethane Ethene RSK175	Nitrate 353.2	TOC 415.1	Diss Fe/Mn 6010B	TOC by 415.1	
PRESERVATIVE			HCl	none	none	none	none	H_2SO_4	H_2SO_4	HCl	HNO_3	HCl	
12-9-10	1045	GM-31A-1210	2	1	1	1	3	2	1				
↓	1045	GM-31A-1210-AD	2										
↓	1045	GM-31A-F(0.2)-1210									1	1	Filtered

REMARKS

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	12-9-10	1800						
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	12/10/10	0933	YES ○ NO ○		680-63928	3.2°C

TAL 8240-680 (1008)

Login Sample Receipt Check List

Client: Solutia Inc.

Job Number: 680-63890-1
SDG Number: KOM010

Login Number: 63890
Creator: Daughtry, Beth
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	2 coolers rec'd on ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	False	Miissing EB ID and submitted containers (2-1L SVOC).
COC is filled out with all pertinent information.	True	Lab PM corrected sampling month in EB ID for login.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	False	Rec'd "GM-58A-1110-EB" not listed on COC
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	pH needs to be adjusted for the HCL container
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	

AC 3/1/11

Login Sample Receipt Check List

Client: Solutia Inc.

Job Number: 680-63890-1
SDG Number: KOM010

Login Number: 63928
Creator: Hornsby, Jess
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.2 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	False	pH greater than 2 on metals bottle -3
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	

AG 3/1/11

MJW CORPORATION
Radiation Consulting Professionals

March 9, 2011

Mr. Duane T. Kreuger
Geotechnology, Inc.
11816 Lackland Road Suite 150
St. Louis, MO 63146

Dear Mr. Kreuger:

The data reported by Test America Laboratories under SDG KOM010 has been reviewed for quality assurance validation. Data was reported for Volatiles (dissolved gases), Semi-Volatiles, ICP Metals (total and dissolved), Chloride, Nitrate, Sulfate, Organic Carbon (total and dissolved), Alkalinity, and Carbon Dioxide for 8 samples as requested by Geotechnology, Inc. The 8 samples listed below were validated by MJW. The samples in **bold type** have been validated for level IV validation. The data in this report has either been approved for use, approved with qualification, or rejected.

- **GM-31A-1210 (Lab ID: 680-63928-1)**
- GM-31A-1210 AD (Lab ID: 680-63928-2 FD)
- **GM-31A-F(0.2)-1210 (Lab ID: 680-63928-3)**
- **GM-58A-1210 (Lab ID: 680-63890-1)**
- GM-58A-1210-MS (Lab ID: 680-63890-1MS)
- GM-58A-1210-MSD (Lab ID: 680-63890-1MSD)
- **GM-58A-F(0.2)-1210 (Lab ID: 680-63890-2)**
- GM-58A-1210-EB (Lab ID: 680-63890-3EB)

If you have any questions concerning this data validation report, please contact me at 585-344-7197.

Very truly yours,

MJW Corporation Inc.

Annette Guilds

Annette Guilds, CES
Senior Scientist

Approved by:

David A. Dooley

David A. Dooley, Ph.D., CHP
President, MJW Corporation Inc.

2010-1918.007 KOM010

University Park, 1900 Sweet Home Road
Amherst, NY 14228-3359
Voice: (716) 631.8291 Fax: (716) 631.5631 Toll Free: 1 (888) MJW.CORP www.mjwcorp.com

QUALITY ASSURANCE REPORT

Solutia Inc.
W.G. Krummrich Facility
Sauget, Illinois

4th Quarter 2010 Data Validation Report
Illinois Route 3 Drum Site
SDG: KOM010

Prepared for

GEOTECHNOLOGY, INC.
11816 Lackland Road, Suite 150
St. Louis, MO 63146

March 2011

MJW

MJW Corporation, Inc.
1900 Sweet Home Road
Amherst, NY 14228
(716)-631-8291
Project # 2010-1918

Summary Data Qualifiers

Summary of Sample Data Qualifiers

SDG # KOM010 Site Name Solutia W.G. Krummrich Plant (Drum Site)

Client ID	Lab ID	Matrix	TOC	DOC	2-chloronitrobenzene/ 4-chloronitrobenzene
GM-31A-1210	680-63928-1	Water	R		J
GM-31A-1210-AD	680-63928-2	Water			J
GM-31A-F(0.2)-1210	680-63928-3	Water		R	
GM-58A-1210	680-63890-1	Water	J		J
GM-58A-F(0.2)-1210	680-63890-2	Water		J	
GM-58A-1210-EB	680-63890-3	Water			J

Data Outlier Forms

Total and Dissolved Analyses

Sample	Analyte	Total Amt (mg/L)	Dissolved Amt (mg/L)	Qualifier
GM-31A-1210	Iron	1.50	0.05	none
GM-31A-1210	Manganese	1.200	1.20	none
GM-58A-1210	Iron	0.47	0.05	none
GM-58A-1210	Manganese	1.300	1.40	none
GM-31A-1210	Organic Carbon	3.90	10.0	R
GM-58A-1210	Organic Carbon	3.300	4.5	J

Data Package: KOM010

Date: 3/09/11

Calibration Quality Control

Samples Affected	Matrix	Analyte	Detector/Problem	Qualifier
GM-58A-1210	Water	2-chloronitrobenzene/4-chloronitrobenzene	Initial Cal 35.2%	J
GM-58A-1210	Water	2-chloronitrobenzene/4-chloronitrobenzene	CCal 29.6%	J
GM-58A-1210-EB	Water	2-chloronitrobenzene/4-chloronitrobenzene	CCal 29.6%	J
GM-31A-1210	Water	2-chloronitrobenzene/4-chloronitrobenzene	CCal 26.3%	J
GM-31A-1210-AD	Water	2-chloronitrobenzene/4-chloronitrobenzene	CCal 26.3%	J

DATA ASSESSMENT NARRATIVE
(INORGANICS)

INORGANIC DATA ASSESSMENT NARRATIVE

Site: Solutia W.G. Krummich Plant (Drum Site) **Matrix: Soil** _____

SDG# KOM010 **Lab** Test America **Water** X

Contractor Geotechnology Inc. **Reviewer** Annette Guilds-MJW **Other** _____

A.2.1 Validation **Flags-** The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as **estimated**

Red- Line- A red line drawn through a sample result indicates **unusable** value. The red lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully **usable**.

Contractual Qualifiers- The legend of contractual qualifiers applied by the lab on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below.

- **Data is usable with the exception of Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC), which has been rejected for sample GM-31A-1210 and estimated for sample GM-58A-1210 because all DOC results are greater than the corresponding TOC results and that is not possible. The validator cannot determine whether the error was in the field filtering or in the laboratory analyses.**

The following bulleted items summarize additional comments where data has not been qualified but it is recommended that additional communication with the laboratory be conducted to further assess the data.

- In the Laboratory Case Narrative, the lab reports MS/MSD out of control situations but they do not properly qualify the control data. In one instance the Chloride was greater than 4X the spike. Even though this does not qualify the sample data, the lab should have qualified the spike data with a "4". Instead the lab did not even include the MS/MSD data in the report. In the other instance the lab reported that the MSD recoveries were out of control for Sulfate but that the LCS met criteria. Even though this does not qualify the sample data, the lab should have qualified the spike data with an "E". Instead the lab did not even include the MS/MSD data in the report. The validator suggests that all analysis always be reported whether it passes QC or not. That is just good laboratory practice.

A.2.3 Contract-Problem/Non-Compliance

-

Data Reviewer: Annette Guilds Date: 3/09/2011
Signature

MJW Approval: David A. Cooley Date: 3/09/2011
Signature

DATA ASSESSMENT NARRATIVE
(ORGANICS)

ORGANIC DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE NO.: _____ SDG NO.: KOM010 _____ LABORATORY: Test America
SITE: Solutia W.G. Krummrich Plant (Drum Site)

DATA ASSESSMENT

The current SOP No. HW-6 (Revision 11), June 1996 for CLP Organics Review and Preliminary Review has been applied.

All data were found to be valid and acceptable except those analytes that have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Data is usable except for the following samples:

Samples GM-31A-1210, GM-58A-1210, GM-58A-1210-EB, and GM-31A-1210-AD were qualified as estimated "J" for 2-chloronitrobenzene/4-chloronitrobenzene due to initial and continuing calibrations that had a %D greater than 30% AND 25% respectively.

Reviewer's Signature: Annette Gentis Date: 3/09/2011

MJW Approval: David A. Cooley Date: 3/09/2011

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No action necessary.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No action necessary.

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

No action necessary.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

No action necessary.

B) Field or rinse blank contamination:

No action necessary.

C) Trip blank contamination:

No action necessary.

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene and for semi-volatiles Decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable "R".

No action necessary.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 in both initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No action necessary.

7. CALIBRATION:

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detects data may be qualified "R".

For the PEST/PCB fraction, if %RSD exceeds 20% for all analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

Initial calibration-BNA's: 2-chloronitrobezene/4-chloronitrobenzene has %D 35.2. All samples associated with this analyte have been qualified "J"

Continuing calibration-BNA's: 2-chloronitrobezene/4-chloronitrobenzene has %D 29.6 on 12/29/10 and 26.3% on 1/11/11. All samples associated with this analyte have been qualified "J".

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No action necessary.

9. COMPOUND IDENTIFICATION:

A) Volatile and Semi-Volatile Fractions:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No action necessary.

B) Pesticide Fraction:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

N/A

10. CONTRACT PROBLEMS NON-COMPLIANCE: **None**

11. FIELD DOCUMENTATION: **A field duplicate was analyzed for sample GM-31A-1210 and all %RPD's were acceptable.**

12. OTHER PROBLEMS: **None**

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified to be used.

None

CERTIFICATES OF ANALYSIS (COA's)

with Data Validation Qualifiers Added

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: GM-58A-1210
Lab Sample ID: 680-63890-1
Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG ID.: KOM010
Matrix: Water
Date Sampled: 12/08/2010 16:00
Reporting Basis: WET
Date Received: 12/09/2010 09:12

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	49	1.0	0.18	mg/L			1	325.2
14797-55-8	Nitrate as N	0.50	0.050	0.010	mg/L			1	353.2
14808-79-8	Sulfate	100	25	13	mg/L			5	375.4
7440-44-0	Total Organic Carbon	3.3	1.0	0.50	mg/L			1	415.1

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY - DISSOLVED

Client Sample ID: GM-58A-F(0.2)-1210
Lab Sample ID: 680-63890-2
Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG ID.: KOM010
Matrix: Water
Date Sampled: 12/08/2010 16:00
Reporting Basis: WET
Date Received: 12/09/2010 09:12

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Dissolved Organic Carbon	4.5	1.0	0.50	mg/L		3	1	415.1

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY

Client Sample ID: GM-31A-1210

Lab Sample ID: 680-63928-1

Lab Name: TestAmerica Savannah

Job No.: 680-63890-1

SDG ID.: KOM010

Matrix: Water

Date Sampled: 12/09/2010 10:45

Reporting Basis: WET

Date Received: 12/10/2010 09:33

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
16887-00-6	Chloride	26	1.0	0.18	mg/L			1	325.2
14797-55-8	Nitrate as N	1.2	0.25	0.050	mg/L			5	353.2
14808-79-8	Sulfate	99	25	13	mg/L			5	375.4
7440-44-0	Total Organic Carbon	3.9	1.0	0.50	mg/L		R	1	415.1

1B-IN
INORGANIC ANALYSIS DATA SHEET
GENERAL CHEMISTRY - DISSOLVED

Client Sample ID: GM-31A-F(0.2)-1210
Lab Sample ID: 680-63928-3
Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG ID.: KOM010
Matrix: Water
Date Sampled: 12/09/2010 10:45
Reporting Basis: WET
Date Received: 12/10/2010 09:33

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7440-44-0	Dissolved Organic Carbon	10	1.0	0.50	mg/L		K	1	415.1

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG No.: KOM010
Client Sample ID: GM-58A-1210
Lab Sample ID: 680-63890-1
Matrix: Water
Lab File ID: g4890.d
Analysis Method: 8270C
Date Collected: 12/08/2010 16:00
Extract. Method: 3520C
Date Extracted: 12/14/2010 14:48
Sample wt/vol: 500(mL)
Date Analyzed: 12/29/2010 03:07
Con. Extract Vol.: 0.5(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 190184
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	10	U	10	0.58
120-83-2	2,4-Dichlorophenol	10	U	10	1.1
98-95-3	Nitrobenzene	10	U	10	0.73
87-86-5	Pentachlorophenol	50	U	50	2.0
88-06-2	2,4,6-Trichlorophenol	17		10	0.85
121-73-3	1-Chloro-3-nitrobenzene	10	U	10	4.4
86-00-0	2-Nitrobiphenyl	10	U	10	4.3
2113-58-8	3-Nitrobiphenyl	10	U	10	4.1
99-54-7	3,4-Dichloronitrobenzene	10	U	10	4.2
92-93-3	4-Nitrobiphenyl	10	U	10	3.6
STL00671	2-chloronitrobenzene / 4-chloronitrobenzene	91	J	20	20
97-00-7	1-chloro-2,4-dinitrobenzene	10	U	10	10

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	50		50-113
367-12-4	2-Fluorophenol	42		36-110
4165-60-0	Nitrobenzene-d5	45		45-112
4165-62-2	Phenol-d5	38		38-116
1718-51-0	Terphenyl-d14	49		10-121
118-79-6	2,4,6-Tribromophenol	48		40-139

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG No.: KOM010
Client Sample ID: GM-58A-1210-EB
Lab Sample ID: 680-63890-3
Matrix: Water
Lab File ID: g4907.d
Analysis Method: 8270C
Date Collected: 12/08/2010 00:00
Extract. Method: 3520C
Date Extracted: 12/14/2010 14:48
Sample wt/vol: 1030(mL)
Date Analyzed: 12/29/2010 15:40
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 190290
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	9.7	U	9.7	0.56
120-83-2	2,4-Dichlorophenol	9.7	U	9.7	1.1
98-95-3	Nitrobenzene	9.7	U	9.7	0.71
87-86-5	Pentachlorophenol	49	U	49	1.9
88-06-2	2,4,6-Trichlorophenol	9.7	U	9.7	0.83
121-73-3	1-Chloro-3-nitrobenzene	9.7	U	9.7	4.3
86-00-0	2-Nitrobiphenyl	9.7	U	9.7	4.2
2113-58-8	3-Nitrobiphenyl	9.7	U	9.7	4.0
99-54-7	3,4-Dichloronitrobenzene	9.7	U	9.7	4.1
92-93-3	4-Nitrobiphenyl	9.7	U	9.7	3.5
STL00671	2-chloronitrobenzene / 4-chloronitrobenzene	19	U	19	19
97-00-7	1-chloro-2,4-dinitrobenzene	9.7	U	9.7	9.7

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	86		50-113
367-12-4	2-Fluorophenol	62		36-110
4165-60-0	Nitrobenzene-d5	72		45-112
4165-62-2	Phenol-d5	56		38-116
1718-51-0	Terphenyl-d14	54		10-121
118-79-6	2,4,6-Tribromophenol	65		40-139

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG No.: KOM010
Client Sample ID: GM-31A-1210
Lab Sample ID: 680-63928-1
Matrix: Water
Lab File ID: g5132.d
Analysis Method: 8270C
Date Collected: 12/09/2010 10:45
Extract. Method: 3520C
Date Extracted: 12/14/2010 14:48
Sample wt/vol: 1050(mL)
Date Analyzed: 01/11/2011 12:20
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 191242
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	9.5	U	9.5	0.55
120-83-2	2,4-Dichlorophenol	9.5	U	9.5	1.0
98-95-3	Nitrobenzene	11		9.5	0.70
87-86-5	Pentachlorophenol	48	U	48	1.9
88-06-2	2,4,6-Trichlorophenol	110		9.5	0.81
121-73-3	1-Chloro-3-nitrobenzene	10		9.5	4.2
86-00-0	2-Nitrobiphenyl	9.5	U	9.5	4.1
2113-58-8	3-Nitrobiphenyl	9.5	U	9.5	3.9
99-54-7	3,4-Dichloronitrobenzene	9.5	U	9.5	4.0
92-93-3	4-Nitrobiphenyl	9.5	U	9.5	3.4
STL00671	2-chloronitrobenzene / 4-chloronitrobenzene	85	J	19	19
97-00-7	1-chloro-2,4-dinitrobenzene	9.5	U	9.5	9.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	70		50-113
367-12-4	2-Fluorophenol	62		36-110
4165-60-0	Nitrobenzene-d5	70		45-112
4165-62-2	Phenol-d5	57		38-116
1718-51-0	Terphenyl-d14	35		10-121
118-79-6	2,4,6-Tribromophenol	81		40-139

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: TestAmerica Savannah
Job No.: 680-63890-1
SDG No.: KOM010
Client Sample ID: GM-31A-1210-AD
Lab Sample ID: 680-63928-2
Matrix: Water
Lab File ID: g5133.d
Analysis Method: 8270C
Date Collected: 12/09/2010 10:45
Extract. Method: 3520C
Date Extracted: 12/14/2010 14:48
Sample wt/vol: 1050(mL)
Date Analyzed: 01/11/2011 12:48
Con. Extract Vol.: 1(mL)
Dilution Factor: 1
Injection Volume: 1(uL)
Level: (low/med) Low
% Moisture:
GPC Cleanup:(Y/N) N
Analysis Batch No.: 191242
Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	RL	MDL
92-52-4	1,1'-Biphenyl	9.5	U	9.5	0.55
120-83-2	2,4-Dichlorophenol	9.5	U	9.5	1.0
98-95-3	Nitrobenzene	11		9.5	0.70
87-86-5	Pentachlorophenol	48	U	48	1.9
88-06-2	2,4,6-Trichlorophenol	120		9.5	0.81
121-73-3	1-Chloro-3-nitrobenzene	12		9.5	4.2
86-00-0	2-Nitrobiphenyl	9.5	U	9.5	4.1
2113-58-8	3-Nitrobiphenyl	9.5	U	9.5	3.9
99-54-7	3,4-Dichloronitrobenzene	9.5	U	9.5	4.0
92-93-3	4-Nitrobiphenyl	9.5	U	9.5	3.4
STL00671	2-chloronitrobenzene / 4-chloronitrobenzene	92	J	19	19
97-00-7	1-chloro-2,4-dinitrobenzene	9.5	U	9.5	9.5

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	76		50-113
367-12-4	2-Fluorophenol	70		36-110
4165-60-0	Nitrobenzene-d5	78		45-112
4165-62-2	Phenol-d5	68		38-116
1718-51-0	Terphenyl-d14	44		10-121
118-79-6	2,4,6-Tribromophenol	87		40-139

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

Tel: 314-674-3312
Fax: 314-674-8808

gmrina@solutia.com

May 19, 2011

Mr. Kenneth Bardo - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

VIA FEDEX

Re: Route 3 Drum Site Groundwater Monitoring Program
1st Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Mr. Bardo:

Enclosed please find the Route 3 Drum Site Groundwater Monitoring Program 1st Quarter 2011 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL.

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@solutia.com

Sincerely,

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

Route 3 Drum Site Groundwater Monitoring Program
1st Quarter 2011 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

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Dan Briller
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Solutia

Brett Shank 500 Monsanto Avenue, Sauget, IL 62206-1198

FIRST QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.11

May 18, 2011

J017210.11

FIRST QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

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Groundwater Analytical Results (with Data Review Sheets) ..... D

J017210.11

FIRST QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

Solutia Inc. (Solutia) is conducting groundwater monitoring activities as outlined in the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia, 2008). The Illinois Route 3 Drum Site (Site) is an area associated with the Solutia W.G. Krummrich (WGK) Facility located in Sauget, Illinois that is subject to a RCRA Administrative Order on Consent (AOC) entered into by the U.S. EPA and Solutia on May 3, 2000. This report presents the results of the sampling event completed in 1st Quarter 2011 (1Q11). The Site is located in the area identified as "Lot F" in Figure 1.

During the 1Q11 sampling event, groundwater samples were collected from two Shallow Hydrogeologic Unit (SHU) monitoring wells, designated GM-31A and GM-58A (Figure 2), located hydraulically downgradient of the Site. Samples from each well were analyzed for select semivolatile organic compounds (SVOCs) using EPA Method 8270C. In addition, samples were collected from both wells for evaluation of monitored natural attenuation (MNA). The types of natural attenuation processes active at the site were determined by measurements of the following key geochemical parameters: alkalinity, carbon dioxide, chloride, dissolved oxygen (DO), total and dissolved iron, total and dissolved manganese, methane, nitrate, sulfate, total and dissolved organic carbon, and oxidation-reduction potential (ORP).

2.0 FIELD PROCEDURES

Geotechnology, Inc. (Geotechnology) personnel collected groundwater level measurements on February 16, 2011 and conducted the 1Q11 Illinois Route 3 Drum Site groundwater sampling on February 23, 2011. Groundwater samples were collected from two monitoring wells during the 1Q11 sampling event. This section summarizes the field investigative procedures.

Groundwater Level Measurements. An oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL). Depth-to-groundwater measurements for the 1Q11 sampling event are presented in Table 1. NAPL was not detected in either of the monitoring wells.

Groundwater Sampling. Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 263 to 273 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed. Bottles were filled in the following order:

- Gas Sensitive Parameters (e.g., carbon dioxide, methane)
- Semivolatile Organic Compounds (SVOCs)
- General Chemistry (i.e., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, and total and dissolved organic carbon)
- Field Parameters (i.e., dissolved oxygen and oxidation reduction potential)

Samples for analysis of dissolved iron, dissolved organic carbon, and dissolved manganese were filtered in the field using in-line 0.2 micron disposable filters, represented by a “F(0.2)” in the sample nomenclature.

Quality Assurance/Quality Control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. One duplicate and one MS/MSD sample were collected.

Each sample was labeled immediately following collection. The groundwater sample identification system included the following nomenclature: "GM-31A-0211" which denotes Groundwater Monitoring well number 31A sampled in February 2011. QA/QC samples are identified by the suffix AD or MS/MSD. A notation of "F" in the sample nomenclature indicates a sample that was filtered in the field with a 0.2 micron filter.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4°C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of overnight delivery service. Field sampling data sheets are included in Appendix A. COC forms are included in Appendix B.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for the 40 CFR 264 Appendix IX SVOCs, and MNA parameters (per the Route 3 Drum Site O&M Plan), using the following methodologies:

- SVOCs, via USEPA SW-846 Method 8270C - The constituents of concern (COCs) identified by the USEPA are biphenyl, 2,4-dichlorophenol, dinitrochlorobenzene, 3-nitrobenzene, 2-nitrobiphenyl, 3-nitrobiphenyl, 4-nitrobiphenyl, 2-nitrochlorobenzene, nitrochlorobenzene, 4-nitrochlorobenzene, pentachlorophenol, and 2,4,6-trichlorophenol.

- MNA parameters consisted of alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), dissolved organic carbon (415.1), nitrate (353.2), sulfate (375.4), dissolved gases (RSK-175), and total organic carbon (TOC) (415.1).

Laboratory results were provided in electronic and hard copy formats.

4. QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as Appendix C. The laboratory report and data review sheets are included in Appendix D.

A total of six groundwater samples (two investigative groundwater samples, one field duplicate, one MS/MSD pair, and one equipment blank) were prepared and analyzed by TestAmerica for SVOCs and MNA parameters. The results for the various analyses were submitted as sample delivery group (SDG) KOM011 and contained results for GM-31A and GM-58A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004). Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for this SDG to meet the project objectives. Completeness, which is defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect data, was 94.74 percent.

5.0 OBSERVATIONS

SVOCs were detected in the groundwater samples collected from monitoring wells GM-31A and GM-58A during the 1Q11 sampling event. Laboratory analytical data for groundwater sample GM-31A-0211 indicated detections of 19 µg/L of 2,4,6-trichlorophenol and 9.9 µg/L of nitrobenzene. Laboratory analytical data for groundwater sample GM-58A-0211 indicates a detection of 63 µg/L of 2,4,6-trichlorophenol and 220 µg/L of 2-chloronitrobenzene/ 4-chloronitrobenzene. A summary of SVOC detections is provided in Table 2, with MNA results provided in Table 3.

6.0 REFERENCES

Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.

U.S. Environmental Protection Agency (USEPA), 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.

U.S. Environmental Protection Agency (USEPA), 2008 National Functional Guidelines for Superfund Organic Methods Data Review.

TABLE 1

MONITORING WELL GAUGING INFORMATION

Well ID	Construction Details						February 2011		
	Ground Elevation* (feet)	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)									
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	24.34	40.42	394.29
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	20.26	40.93	393.98

Notes:
* - Elevation based upon North American Vertical Datum (NAVD) 88 datum
bgs - below ground surface
btoc - below top of casing

TABLE 2

GROUNDWATER ANALYTICAL RESULTS

Sample ID	Sample Date	1,1'-Biphenyl (µg/L)	1-Chloro-2,4-Dinitrobenzene (µg/L)	1-Chloro-3-Nitrobenzene (µg/L)	2,4,6-Trichlorophenol (µg/L)	2,4-Dichlorophenol (µg/L)	2-Chloronitrobenzene/ 4-Chloronitrobenzene (µg/L)	2-Nitrobiphenyl (µg/L)	3-Nitrobiphenyl (µg/L)	3,4-Dichloronitrobenzene (µg/L)	4-Nitrobiphenyl (µg/L)	Nitrobenzene (µg/L)	Pentachlorophenol (µg/L)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)													
GM-31A-0211	02/23/11	<9.9	<9.9	<9.9	**19**	<9.9	<20	**9.9**	<9.9	<9.9	<9.9	<9.9*	<49
GM-31A-0211-AD	02/23/11	<10	<10	<10	**11**	<10	<21	<10	<10	<10	<10	<10*	<52
GM-58A-0211	02/23/11	<10	<10	<10	**63**	<10	**220**	<10	<10	<10	<10	<10	<50

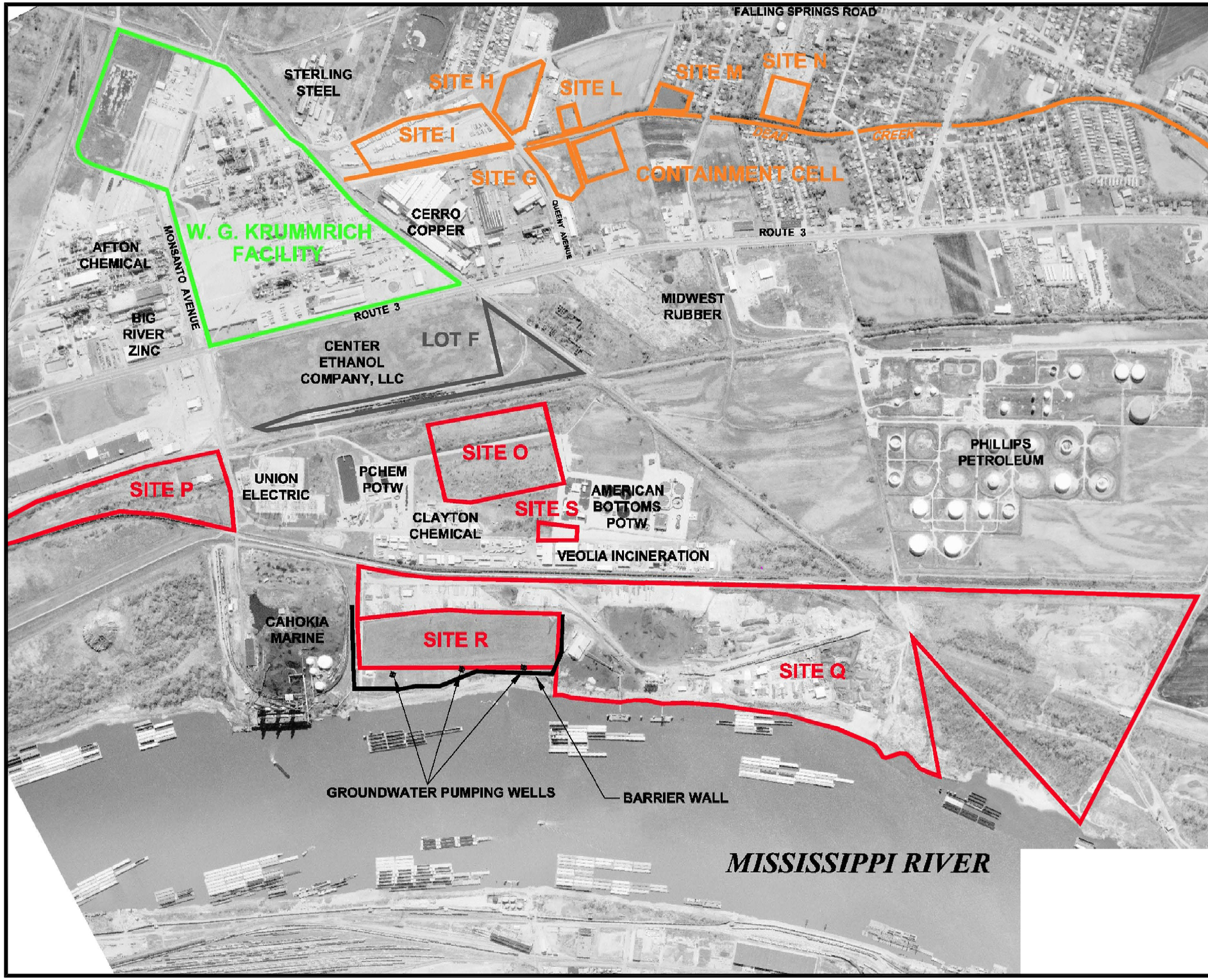
Notes:
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data
* = LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits
BOLD indicates concentration greater than the reporting limit

TABLE 3

MONITORED NATURAL ATTENUATION RESULTS SUMMARY

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/l)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (µg/L)	Ethylene (µg/l)	Ferrous Iron (mg/L	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/l)	Methane (µg/l)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)																		
GM-31A-0211	02/23/11	360	21	29	0.0	<1.1	<1.0	0.31	6.9 J		0.91		4.1	<0.050	93		3.7	105.3
GM-31A-F(0.2)-0211	02/23/11									<0.050 J		0.79				4		
GM-58A-0211	02/23/11	510	39	60	0.0	<1.1	<1.0	0.38	10 J		1.4		6.1	1.3	110		4.9	189.3
GM-58A-F(0.2)-0211	02/23/11									0.091 J		1.4				4.3		

Notes:
DO and ORP were measured in the field using a Horiba U22 equipped with a flow-thru cell.
Ferrous Iron readings were not measured in the field.
mg/L - milligrams per liter
µg/L = micrograms per liter
< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data
A blank space indicates sample not analyzed for select analyte
F(0.2) = Sample was filtered utilizing a 0.2 µm filter in the field
mV = millivolts
J=Estimated value



NOTES:

1. Plan adapted from a drawing titled "Site Location Map" provided by URS.

LEGEND:

- W.G. Krummrich Facility
- Sauget Area #1
- Sauget Area #2

N

0 1,000 2,000

SCALE IN FEET

Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 04-15-11	Date: 04-15-11	Date: 04-15-11

GEOTECHNOLOGY INC
FROM THE GROUND UP

1Q 2011
Route 3 Drum Site Program
Sauget, Illinois

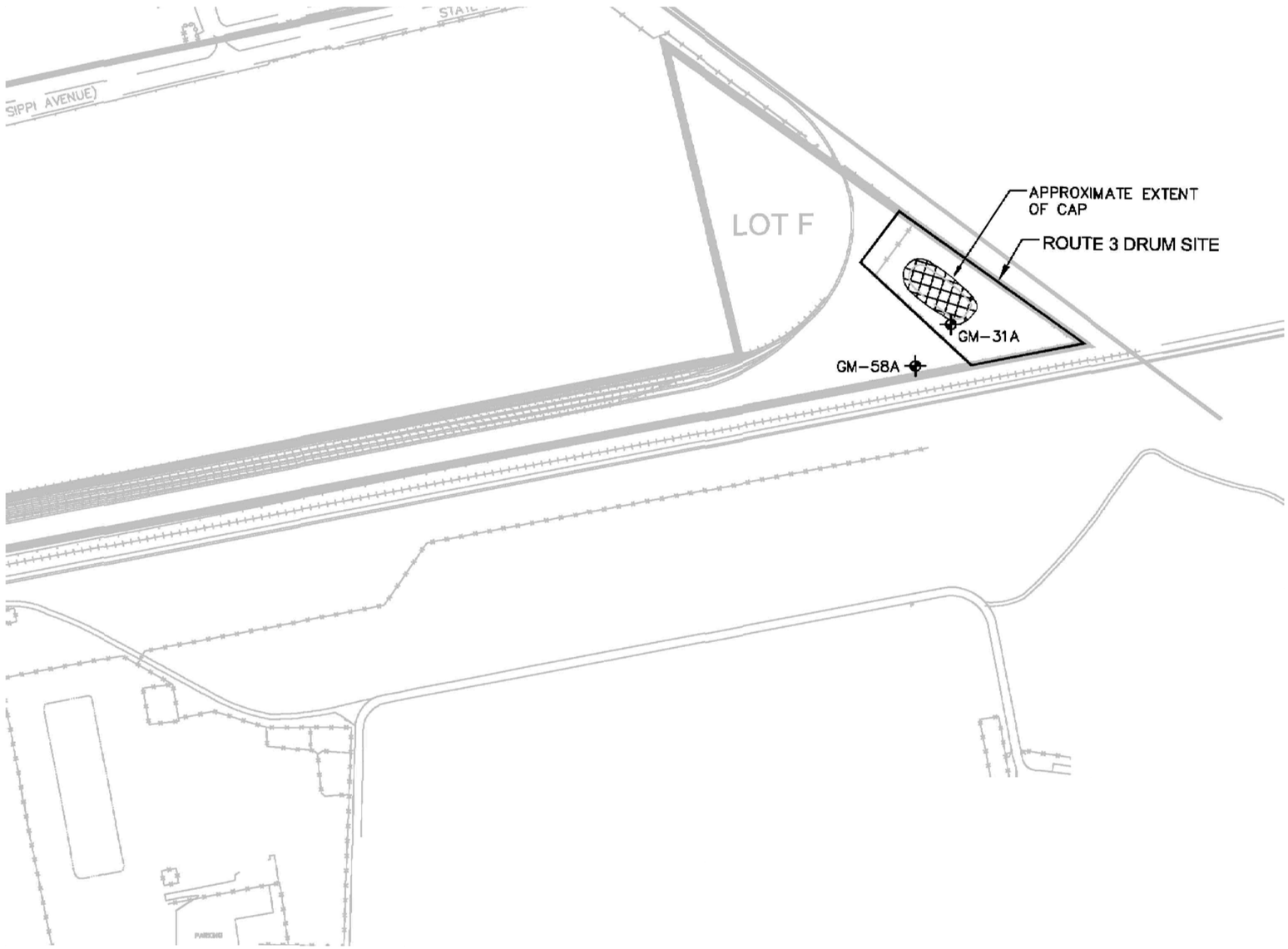
SITE LOCATION MAP

Project Number
J017210.11

PLATE 1

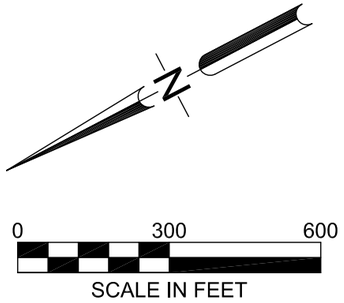
NOTES:

1. Plan adapted from a drawing titled "Monitoring Well Location Map" provided by URS.



LEGEND:

Monitoring Well Location



Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 04-15-11	Date: 04-15-11	Date: 04-15-11

GEOTECHNOLOGY INC
FROM THE GROUND UP

1Q 2011
Route 3 Drum Site Program
Sauget, Illinois

MONITORING WELL LOCATION MAP

Project Number J017210.11	PLATE 2

APPENDIX A

GROUNDWATER PURGING AND SAMPLING FORMS

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

J017210.02

PROJECT NAME: W6K DRUM 1Q11
PROJECT NUMBER: J017 210.11
FIELD PERSONNEL: KCR / DCW
DATE: 2-23-11
WEATHER: 40°F
MONITORING WELL ID: 6M-31A
SAMPLE ID: 6M-31A-0211

INITIAL DATA

Well Diameter: 2" in
Measured Well Depth (btoc): 40.42 ft
Constructed Well Depth (btoc): 41.00 ft
Depth to Water (btock): 24.04 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 21.00 ft
Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): 16.38 ft
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.0 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
Place Pump at: Total Well Depth -)9.5 X Water Column Height + DNAPL Column Height) = – ft btoc
If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = – ft btoc
DNPL Present No If Present, Do Not Sample

Volume of Flow Through Cell): 700 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 2100 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: 12.7 ppm

PURGE DATA

Pump Type: QED Sample Pro

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %

					± 0.2	Record Data Only	± 3%	Record Data Only	± 10% or ± 0.2	± 20
Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. Ms/cm	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1305	24.04	–	–	–	–	–	–	–	–
1000	1309	↓	Somewhat cloudy	none	7.13	14.28	0.12	151	0.15	108
2000	1312	↓	↓	↓	6.91	14.52	0.12	261	0.0	106
3000	1315	↓	yellow tint	↓	6.88	14.69	0.12	268	0.0	106
4000	1319	↓	↓	↓	6.80	13.96	0.12	381	0.0	104
5000	1323	↓	↓	↓	6.78	14.12	0.12	349	0.0	103
6000	1327	↓	↓	↓	6.60	14.19	0.12	326	0.0	109

Start Time: 1305
Stop Time: 1327
Elapsed Time: 22 min
Average Purge Rate (mL/min): 272.7
Water Quality Meter ID: Horiba U-22
Date Calibrated: 2-23-11

SAMPLING DATA

Sample Date: 2-23-11
Sample Method: low flow
Sample Time: 1330
Sample Flow Rate: 272.7
Analysis: SVOCs, metals, MNA
QA/QC Samples: AD

VOA Vials, No Headspace [X] Initials: KCR

COMMENTS: MNA: Alkalinity CO_2 chloride, Ferrous Iron, methane, Nitrate, Sulfate, DOC, TOC
Ferrous Iron (Filtered 0.2 micron) = 0.31

1312 to 1313 - Cleared out flow through cell since it was silting up
Didn't work, new water has high turbidity

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

J017210.02

PROJECT NAME: WGK Drum 1Q11
PROJECT NUMBER: J017210.11
FIELD PERSONNEL: KCR / DEW
DATE: 2-23-11
WEATHER: 40F Rainy
MONITORING WELL ID: GM-58A
SAMPLE ID: GM-58A-0211

INITIAL DATA

Well Diameter: 2" in
Measured Well Depth (btoc): 40.93 ft
Constructed Well Depth (btoc): 41.4 ft
Depth to Water (btock): 20.26 ft
Depth to LNAPL/DNAPL (btoc): – ft
Depth to Top of Screen (btoc): 21.4 ft
Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): 20.67 ft
If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.4 ft btoc
If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
Place Pump at: Total Well Depth -)9.5 X Water Column Height + DNAPL Column Height) = – ft btoc
If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = – ft btoc
DNPL Present NO If Present, Do Not Sample

Volume of Flow Through Cell): 700 mL
Minimum Purge Volume =
(3 x Flow Through Cell Volume) 2100 mL
Ambient PID/FID Reading: 0.0 ppm
Wellbore PID/FID Reading: ____ ppm

PURGE DATA

Pump Type: QED Sample Pro

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. Ms/cm	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
					± 0.2	Record Data Only	± 3%	Record Data Only	± 10% or ± 0.2	± 20
0	1435	19.88	–	–	–	–	–	–	–	–
1000	1439	19.90	Yellow tint	none	6.77	12.96	0.15	250.0	0.0	200
2000	1443	19.89	↓	↓	6.75	13.18	0.15	233.0	0.0	196
3000	1447	19.89			6.75	13.22	0.15	284	0.0	193
4000	1450	19.89			6.73	13.36	0.15	290	0.0	189
5000	1453				6.72	13.5	0.15	250	0.0	186

Start Time: 1435
Stop Time: 1453
Elapsed Time: 18 min
Average Purge Rate (mL/min): 263.15 mL/min
Water Quality Meter ID: Horiba U-22
Date Calibrated: 2-23-11

SAMPLING DATA

Sample Date: 2-23-11
Sample Method: low flow
Sample Time: 1505
Sample Flow Rate: 263.15 mL/min
Analysis: SVOCs, metals, MNA
QA/QC Samples: MS, MSD, & EB

VOA Vials, No Headspace [X] Initials: KCR

COMMENTS: MNA: Alkalinity, CO_2, chloride, Ferrous Iron, methane, Nitrate, Sulfate, TOC, DOC

Ferrous Iron (Filtered 0.2 micron) = 0.38

APPENDIX B

CHAINS-OF-CUSTODY

Serial Number 000119

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)
WGK - Drum site - 1Q11	Drum site	IL

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
GM Rinaldi		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
GM Rinaldi	314-674-3312	314-674-8808

CLIENT NAME	CLIENT E-MAIL
Solutia, Inc	gmrina@solutia.com

CLIENT ADDRESS: 575 Maryville Center Dr, St. Louis, MO 63141

COMPANY CONTRACTING THIS WORK (if applicable):

PAGE 1 OF 1

STANDARD REPORT DELIVERY ☒

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ○

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOC 8270 (None)	Total Fe/Mn 6010B (HNO3)	AIKA/CO2 310.1 (None)	Chloride 325.2 / Sulfate 375.4 (None)	Methane Ethane Ethene RSK 175 (HCl)	Nitrate 353.2 (None)	TOC 415.1 (HCl)	Diss Fe/Mn 6010B (HNO3)	Diss DOC 415.1 (HCl)		REMARKS
2-23-11	1330	GM-31A-0211	G	X				2	1	1	1	3	1	1				
	1330	GM-31A-0211-F(0.2)	G	X											1	1		Filtered
	1330	GM-31A-0211-AD	G	X				2										
	1505	GM-58A-0211	G	X				2	1	1	1	3	1	1				
	1505	GM-58A-0211-F(0.2)	G	X											1	1		Filtered
	1505	GM-58A-0211-MS	G	X				2										
	1505	GM-58A-0211-MSD	G	X				2										
	1505	GM-58A-0211-EB	G	X				2										

PRESERVATIVE

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	2-23-11	16:40						

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	2/24/11	0923	YES ○ NO ○		680-65900	3.4/4.0/1.2/2.2

TAL 8240-680 (1008)

APPENDIX C

QUALITY ASSURANCE REPORT

FIRST QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.11

May 18, 2011

J017210.11

FIRST QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

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J017210.11

FIRST QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in February of 2011 at the Solutia W.G. Krummrich plant as part of the 1st Quarter 2011 Illinois Route 3 Drum Site Groundwater Sampling. The samples were collected by Geotechnology, Inc. (Geotechnology) personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methodologies. Groundwater samples were analyzed for semi-volatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

Geotechnology subcontracted with the M.J.W. Corporation to conduct third party Level III data validation. One hundred percent of the data was subjected to a data quality review (Level III validation.) M.J.W. Corporation selected four random groundwater samples for Level IV data validation (GM-31A-0211, GM-31A-F(0.2)-0211, GM-58A-0211 and GM-58A-F(0.2)-0211. The Level III and IV reviews were performed in order to confirm that the analytical data provided by TestAmerica were acceptable in quality for their intended use.

A total of 6 samples (two investigative groundwater samples, one field duplicate, one matrix spike and matrix spike duplicate (MS/MSD) pair, and one equipment blank) were analyzed by TestAmerica. These samples were analyzed as part of Sample Delivery Group (SDG) KOM11 utilizing the following USEPA SW-846 Methods:

- Method 8270 for semi-volatile organic compounds
- Method RSK-175 for dissolved gases (ethane, ethylene and methane)
- Method 6010B for total and dissolved iron and manganese
- Method 325.2 for chloride
- Method 353.2 for nitrogen, nitrate
- Method 375.4 for sulfate
- Method 415.1 for total and dissolved organic carbon
- Method 310.1 for alkalinity and carbon dioxide

Samples were reviewed following procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Data was qualified based on the data quality review. Qualifiers assigned indicate data that did not meet acceptance criteria and for which corrective actions were not successful or not performed. The various qualifiers are explained in Tables 1 and 2 below:

Table 1 – Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Indicates the analyte was analyzed for but not detected.
F	MS or MSD exceeds the control limits.
H	Sample was prepped or analyzed beyond the specified holding time.
*	LC or LCS exceeds the control limits.

Table 2 – Geotechnology (MJW Corporation) Data Qualifiers

MJW Corp. Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
J	Indicates the result qualified as estimated.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report. In addition, analytical completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/nondetect (J/UJ) values was 94.74%.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, and field equipment blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard responses
- Mass spectrometer tuning

- Calibration
- Compound identification
- Other problems/documentation

Inorganics

- Receipt condition and sample holding times
- Laboratory method blank
- LCS recoveries
- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results report from dilutions

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

Since the LCS exceeded control limits for all samples submitted for Method 8270C analysis, the samples were re-extracted and re-analyzed outsize of the holding times. The original data is acceptable for use.

The cooler receipt form indicated that one of the four coolers was received by the laboratory at a temperature outside the temperature requirements – one was reported as "rec'd on ice" at 1.2 degrees Celsius, which is outside the 4°C $\pm$ 2°C criteria. Samples received were in good condition; therefore, no qualification of data was required.

3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. No analytes were detected in the method blank; therefore, no qualification of date was required.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. No analytes were detected in the equipment blank sample.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for SVOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet evaluation criteria. Surrogate recoveries were within evaluation criteria. No qualifications of data were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process. LCS 680-195497/13A was out of limit for Nitrobenzene. All samples were re-extracted outside of holding times and both sets of results were reported. The re-analysis of LCS 680-195497/13A was acceptable for all analytes; therefore, no qualification of data was required.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were required to be collected at a frequency of one per 20 investigative samples in accordance with the work plan (one per 20 investigative samples or 5%). Geotechnology submitted one MS/MSD sample set for two investigative samples, meeting the work plan frequency requirement.

No qualifications were made to the data if the MS/MSD percent recoveries were zero due to dilutions or if the Relative Percent Difference (RPD) was the only factor outside of criteria. Also, USEPA National Functional Guidelines for Superfund Organic Methods Data Review (2008) states that organic data does not need qualification based on MS/MSD criteria alone. Therefore, if recoveries were outside evaluation criteria due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria.

Sample GM-58A-0211 was spiked and analyzed for SVOCs in SDG KOM11. MS/MSD batch 680-195497 had results out of control limits for 1-chloro-3-nitrobenzene, 2-chloronitrobenzene/ 4-chloronitrobenzene, 1,1-biphenyl, nitrobenzene, and 2,4,6-trichlorophenol for Method 8270C. Matrix spike 680-65917-B-1-B MS was out of control limits for iron for Method 6010B and was qualified as estimated “J”. Data does not require qualification based on MS/MSD data alone; therefore no qualification of semi-volatile data was performed.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One field duplicate sample was collected for the two investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Field duplicate results were within evaluation criteria. No qualifications of data were required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. For the SVOCs, the IS areas must be within -50 to +10% percent of the preceding calibration verification (CV) IS value. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time.

The internal standards area responses for SVOCs were verified for the data reviews. IS responses met the criteria as described above. No qualifications of data were required.

9.0 RESULTS REPORTED FROM DILUTIONS

Samples were not diluted; therefore, qualifications of data were not required.

10. MASS SPECTROMETER TUNING

Instrument performance was determined to be satisfactory. No qualifications of data were required.

11.0 CALIBRATION

Percent Relative Standard Deviation (%RSD) is used to indicate the stability of a specific compound response factor over increasing concentration. Percent D (%D) is a measure of the instrument's daily performance. Percent RSD must be <30% and Percent D must be <25%.

No samples were qualified for percent D or percent RSD; therefore no qualifications of data were required.

12.0 COMPOUND IDENTIFICATION

Compound identification was determined to be satisfactory. No qualifications of data were required.

13.0 OTHER PROBLEMS/DOCUMENTATION

Other problems or documentation were no noted. No qualifications of data were required.

APPENDIX D

GROUNDWATER ANALYTICAL RESULTS
(WITH DATA REVIEW SHEETS)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-65900-1
TestAmerica Sample Delivery Group: KOM011
Client Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Jerry Rinaldi

Authorized for release by:
03/28/2011 05:48:22 PM

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

cc: Duane Kreuger

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

AG 4/11/11

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AC
4/11/11

Job ID: 680-65900-1

Laboratory: TestAmerica Savannah

Narrative

Job Narrative
680-65900-1 / SDG KOM011

Receipt
All samples were received in good condition within temperature requirements.

GC/MS Semi VOA
Method(s) 8270C: The laboratory control sample (LCS)) for batch 195497 exceeded control limits for multiple analytes that are not reported in the project samples. Per laboratory standard operating procedure (SOP), all samples were re-extracted outside holding times and both sets of results have been reported.

Method(s) 8270C: Internal standard (ISTD) response for the following sample(s) was outside control limits: GM-58A-0211-EB (680-65900-6). The sample(s) was re-analyzed with concurring results. The original set of data has been reported.

Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 195497 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8270C: Twice the required about of Internal standard solution (ISTD) was added to the extract for sample GM-58A-0211(680-65900-4). All calculations have been adjusted and data reported.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Comments
No additional comments.

Ale

Sample Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-65900-1	GM-31A-0211	Water	02/23/11 13:30	02/24/11 09:23
680-65900-2	GM-31A-0211-F(0.2)	Water	02/23/11 13:30	02/24/11 09:23
680-65900-3	GM-31A-0211-AD	Water	02/23/11 13:30	02/24/11 09:23
680-65900-4	GM-58A-0211	Water	02/23/11 15:05	02/24/11 09:23
680-65900-5	GM-58A-0211-F(0.2)	Water	02/23/11 15:05	02/24/11 09:23
680-65900-6	GM-58A-0211-EB	Water	02/23/11 15:05	02/24/11 09:23

Ab
4/11/11

Method Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

Ab
4/11/11

Qualifier Definition/Glossary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
F	MS or MSD exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

TestAmerica Savannah

AG
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-31A-0211

Date Collected: 02/23/11 13:30
Date Received: 02/24/11 09:23

Lab Sample ID: 680-65900-1

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
2,4-Dichlorophenol	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
Nitrobenzene	9.9	U *	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
Pentachlorophenol	49	U	49		ug/L		02/28/11 14:49	03/03/11 17:34	1
2,4,6-Trichlorophenol	**19**		9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
1-Chloro-3-nitrobenzene	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
2-Nitrobiphenyl	**9.9**		9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
3-Nitrobiphenyl	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
3,4-Dichloronitrobenzene	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
4-Nitrobiphenyl	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20		ug/L		02/28/11 14:49	03/03/11 17:34	1
1-chloro-2,4-dinitrobenzene	9.9	U	9.9		ug/L		02/28/11 14:49	03/03/11 17:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*38 - 130*	*02/28/11 14:49*	*03/03/11 17:34*	*1*
2-Fluorophenol	*58*		*25 - 130*	*02/28/11 14:49*	*03/03/11 17:34*	*1*
Nitrobenzene-d5	*61*		*39 - 130*	*02/28/11 14:49*	*03/03/11 17:34*	*1*
Phenol-d5	*57*		*25 - 130*	*02/28/11 14:49*	*03/03/11 17:34*	*1*
Terphenyl-d14	*52*		*10 - 143*	*02/28/11 14:49*	*03/03/11 17:34*	*1*
2,4,6-Tribromophenol	*85*		*31 - 141*	*02/28/11 14:49*	*03/03/11 17:34*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
2,4-Dichlorophenol	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
Nitrobenzene	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
Pentachlorophenol	49	U H	49		ug/L		03/08/11 14:38	03/15/11 12:10	1
2,4,6-Trichlorophenol	**13**	H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
1-Chloro-3-nitrobenzene	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
2-Nitrobiphenyl	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
3-Nitrobiphenyl	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
3,4-Dichloronitrobenzene	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
4-Nitrobiphenyl	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1
2-chloronitrobenzene / 4-chloronitrobenzene	19	U H	19		ug/L		03/08/11 14:38	03/15/11 12:10	1
1-chloro-2,4-dinitrobenzene	9.7	U H	9.7		ug/L		03/08/11 14:38	03/15/11 12:10	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*73*		*38 - 130*	*03/08/11 14:38*	*03/15/11 12:10*	*1*
2-Fluorophenol	*60*		*25 - 130*	*03/08/11 14:38*	*03/15/11 12:10*	*1*
Nitrobenzene-d5	*64*		*39 - 130*	*03/08/11 14:38*	*03/15/11 12:10*	*1*
Phenol-d5	*58*		*25 - 130*	*03/08/11 14:38*	*03/15/11 12:10*	*1*
Terphenyl-d14	*52*		*10 - 143*	*03/08/11 14:38*	*03/15/11 12:10*	*1*
2,4,6-Tribromophenol	*81*		*31 - 141*	*03/08/11 14:38*	*03/15/11 12:10*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			03/02/11 17:34	1
Ethylene	1.0	U	1.0		ug/L			03/02/11 17:34	1
Methane	**4.1**		0.58		ug/L			03/02/11 17:34	1

Ale
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-31A-0211

Lab Sample ID: 680-65900-1

Date Collected: 02/23/11 13:30
Date Received: 02/24/11 09:23

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.9	"J"	0.050		mg/L		03/02/11 12:50	03/07/11 19:37	1
Manganese	0.91		0.010		mg/L		03/02/11 12:50	03/07/11 19:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	29		1.0		mg/L			02/28/11 17:18	1
Nitrate as N	0.050	U	0.050		mg/L			02/24/11 16:49	1
Sulfate	93		25		mg/L			03/08/11 12:54	5
Total Organic Carbon	3.7		1.0		mg/L			03/03/11 16:40	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	360		5.0		mg/L			02/27/11 12:59	1
Carbon Dioxide, Free	21		5.0		mg/L			02/27/11 12:59	1

AG
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-31A-0211-F(0.2)

Lab Sample ID: 680-65900-2

Date Collected: 02/23/11 13:30
Matrix: Water
Date Received: 02/24/11 09:23

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U "J"	0.050		mg/L		03/02/11 12:50	03/07/11 19:41	1
Manganese, Dissolved	0.79		0.010		mg/L		03/02/11 12:50	03/07/11 19:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.0		1.0		mg/L			03/04/11 03:53	1

TestAmerica Savannah

Ab
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-31A-0211-AD

Date Collected: 02/23/11 13:30
Date Received: 02/24/11 09:23

Lab Sample ID: 680-65900-3

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
2,4-Dichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
Nitrobenzene	10	U *	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
Pentachlorophenol	52	U	52		ug/L		02/28/11 14:49	03/03/11 18:02	1
2,4,6-Trichlorophenol	**11**		10		ug/L		02/28/11 14:49	03/03/11 18:02	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
2-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
3-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
4-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1
2-chloronitrobenzene / 4-chloronitrobenzene	21	U	21		ug/L		02/28/11 14:49	03/03/11 18:02	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:02	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*67*		*38 - 130*	*02/28/11 14:49*	*03/03/11 18:02*	*1*
2-Fluorophenol	*55*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:02*	*1*
Nitrobenzene-d5	*59*		*39 - 130*	*02/28/11 14:49*	*03/03/11 18:02*	*1*
Phenol-d5	*53*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:02*	*1*
Terphenyl-d14	*42*		*10 - 143*	*02/28/11 14:49*	*03/03/11 18:02*	*1*
2,4,6-Tribromophenol	*85*		*31 - 141*	*02/28/11 14:49*	*03/03/11 18:02*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
2,4-Dichlorophenol	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
Nitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
Pentachlorophenol	51	U H	51		ug/L		03/08/11 14:38	03/15/11 12:38	1
2,4,6-Trichlorophenol	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
1-Chloro-3-nitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
2-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
3-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
3,4-Dichloronitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
4-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1
2-chloronitrobenzene / 4-chloronitrobenzene	21	U H	21		ug/L		03/08/11 14:38	03/15/11 12:38	1
1-chloro-2,4-dinitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 12:38	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*69*		*38 - 130*	*03/08/11 14:38*	*03/15/11 12:38*	*1*
2-Fluorophenol	*54*		*25 - 130*	*03/08/11 14:38*	*03/15/11 12:38*	*1*
Nitrobenzene-d5	*62*		*39 - 130*	*03/08/11 14:38*	*03/15/11 12:38*	*1*
Phenol-d5	*56*		*25 - 130*	*03/08/11 14:38*	*03/15/11 12:38*	*1*
Terphenyl-d14	*56*		*10 - 143*	*03/08/11 14:38*	*03/15/11 12:38*	*1*
2,4,6-Tribromophenol	*79*		*31 - 141*	*03/08/11 14:38*	*03/15/11 12:38*	*1*

AG
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-58A-0211

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23

Lab Sample ID: 680-65900-4

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
2,4-Dichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
Nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
Pentachlorophenol	50	U	50		ug/L		02/28/11 14:49	03/03/11 18:30	1
2,4,6-Trichlorophenol	**63**		10		ug/L		02/28/11 14:49	03/03/11 18:30	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
2-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
3-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
4-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1
2-chloronitrobenzene / 4-chloronitrobenzene	**220**		20		ug/L		02/28/11 14:49	03/03/11 18:30	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:30	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*51*		*38 - 130*	*02/28/11 14:49*	*03/03/11 18:30*	*1*
2-Fluorophenol	*40*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:30*	*1*
Nitrobenzene-d5	*42*		*39 - 130*	*02/28/11 14:49*	*03/03/11 18:30*	*1*
Phenol-d5	*38*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:30*	*1*
Terphenyl-d14	*49*		*10 - 143*	*02/28/11 14:49*	*03/03/11 18:30*	*1*
2,4,6-Tribromophenol	*67*		*31 - 141*	*02/28/11 14:49*	*03/03/11 18:30*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
2,4-Dichlorophenol	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
Nitrobenzene	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
Pentachlorophenol	48	U H	48		ug/L		03/08/11 14:38	03/15/11 13:06	1
2,4,6-Trichlorophenol	**91**	H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
1-Chloro-3-nitrobenzene	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
2-Nitrobiphenyl	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
3-Nitrobiphenyl	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
3,4-Dichloronitrobenzene	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
4-Nitrobiphenyl	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1
2-chloronitrobenzene / 4-chloronitrobenzene	**290**	H	19		ug/L		03/08/11 14:38	03/15/11 13:06	1
1-chloro-2,4-dinitrobenzene	9.5	U H	9.5		ug/L		03/08/11 14:38	03/15/11 13:06	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*82*		*38 - 130*	*03/08/11 14:38*	*03/15/11 13:06*	*1*
2-Fluorophenol	*63*		*25 - 130*	*03/08/11 14:38*	*03/15/11 13:06*	*1*
Nitrobenzene-d5	*72*		*39 - 130*	*03/08/11 14:38*	*03/15/11 13:06*	*1*
Phenol-d5	*61*		*25 - 130*	*03/08/11 14:38*	*03/15/11 13:06*	*1*
Terphenyl-d14	*37*		*10 - 143*	*03/08/11 14:38*	*03/15/11 13:06*	*1*
2,4,6-Tribromophenol	*86*		*31 - 141*	*03/08/11 14:38*	*03/15/11 13:06*	*1*

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			03/02/11 17:47	1
Ethylene	1.0	U	1.0		ug/L			03/02/11 17:47	1
Methane	**6.1**		0.58		ug/L			03/02/11 17:47	1

Ab
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-58A-0211

Lab Sample ID: 680-65900-4

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23

Matrix: Water

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	10	J	0.050		mg/L		03/02/11 12:50	03/07/11 19:53	1
Manganese	1.4		0.010		mg/L		03/02/11 12:50	03/07/11 19:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	60		1.0		mg/L			02/28/11 17:18	1
Nitrate as N	1.3		0.050		mg/L			02/24/11 16:50	1
Sulfate	110		25		mg/L			03/08/11 12:54	5
Total Organic Carbon	4.9		1.0		mg/L			03/03/11 16:54	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	510		5.0		mg/L			02/26/11 18:56	1
Carbon Dioxide, Free	39		5.0		mg/L			02/26/11 18:56	1

TestAmerica Savannah

Ab
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-58A-0211-F(0.2)

Lab Sample ID: 680-65900-5

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23

Matrix: Water

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.091	"J"	0.050		mg/L		03/02/11 12:50	03/07/11 20:05	1
Manganese, Dissolved	1.4		0.010		mg/L		03/02/11 12:50	03/07/11 20:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.3		1.0		mg/L			03/04/11 03:53	1

TestAmerica Savannah

Ale
4/11/11

Analytical Data

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-58A-0211-EB

Lab Sample ID: 680-65900-6

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23

Matrix: Water

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
2,4-Dichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
Nitrobenzene	10	U *	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
Pentachlorophenol	52	U	52		ug/L		02/28/11 14:49	03/03/11 18:58	1
2,4,6-Trichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
2-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
3-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
4-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1
2-chloronitrobenzene / 4-chloronitrobenzene	21	U	21		ug/L		02/28/11 14:49	03/03/11 18:58	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 18:58	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*71*		*38 - 130*	*02/28/11 14:49*	*03/03/11 18:58*	*1*
2-Fluorophenol	*46*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:58*	*1*
Nitrobenzene-d5	*54*		*39 - 130*	*02/28/11 14:49*	*03/03/11 18:58*	*1*
Phenol-d5	*46*		*25 - 130*	*02/28/11 14:49*	*03/03/11 18:58*	*1*
Terphenyl-d14	*86*		*10 - 143*	*02/28/11 14:49*	*03/03/11 18:58*	*1*
2,4,6-Tribromophenol	*89*		*31 - 141*	*02/28/11 14:49*	*03/03/11 18:58*	*1*

Method: 8270C - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
2,4-Dichlorophenol	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
Nitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
Pentachlorophenol	51	U H	51		ug/L		03/08/11 14:38	03/15/11 13:34	1
2,4,6-Trichlorophenol	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
1-Chloro-3-nitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
2-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
3-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
3,4-Dichloronitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
4-Nitrobiphenyl	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U H	20		ug/L		03/08/11 14:38	03/15/11 13:34	1
1-chloro-2,4-dinitrobenzene	10	U H	10		ug/L		03/08/11 14:38	03/15/11 13:34	1

Surrogate	*% Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*78*		*38 - 130*	*03/08/11 14:38*	*03/15/11 13:34*	*1*
2-Fluorophenol	*62*		*25 - 130*	*03/08/11 14:38*	*03/15/11 13:34*	*1*
Nitrobenzene-d5	*65*		*39 - 130*	*03/08/11 14:38*	*03/15/11 13:34*	*1*
Phenol-d5	*60*		*25 - 130*	*03/08/11 14:38*	*03/15/11 13:34*	*1*
Terphenyl-d14	*97*		*10 - 143*	*03/08/11 14:38*	*03/15/11 13:34*	*1*
2,4,6-Tribromophenol	*88*		*31 - 141*	*03/08/11 14:38*	*03/15/11 13:34*	*1*

AC
4/11/11

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPH	TBP
Lab Sample ID	**Client Sample ID**	(38-130)	(25-130)	(39-130)	(25-130)	(10-143)	(31-141)
680-65900-1	GM-31A-0211	69	58	61	57	52	85
680-65900-1 - RE	GM-31A-0211	73	60	64	58	52	81
680-65900-3	GM-31A-0211-AD	67	55	59	53	42	85
680-65900-3 - RE	GM-31A-0211-AD	69	54	62	56	56	79
680-65900-4	GM-58A-0211	51	40	42	38	49	67
680-65900-4 - RE	GM-58A-0211	82	63	72	61	37	86
680-65900-4 MS	GM-58A-0211	45	41	46	41	64	63
680-65900-4 MS - RE	GM-58A-0211	83	67	71	67	66	91
680-65900-4 MS	GM-58A-0211	70	55	64	57	55	77
680-65900-4 MSD	GM-58A-0211	47	38	43	36	80	71
680-65900-4 MSD - RE	GM-58A-0211	79	66	70	65	56	89
680-65900-4 MSD	GM-58A-0211	52	48	52	48	63	64
680-65900-6	GM-58A-0211-EB	71	46	54	46	86	89
680-65900-6 - RE	GM-58A-0211-EB	78	62	65	60	97	88
LCS 680-195497/13-A	LCS 680-195497/13-A	57	40	47	41	84	84
LCS 680-195497/19-A	LCS 680-195497/19-A	53	53	55	48	86	67
LCS 680-196317/13-A	LCS 680-196317/13-A	85	73	71	71	97	89
LCSD 680-196317/14-A	LCSD 680-196317/14-A	82	69	74	67	95	89
MB 680-195497/12-A	MB 680-195497/12-A	68	56	57	51	95	87
MB 680-196317/12-A	MB 680-196317/12-A	84	70	74	69	98	88

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

TestAmerica Savannah

AG
4/11/11

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-195497/12-A
Matrix: Water
Analysis Batch: 196003

Client Sample ID: MB 680-195497/12-A
Prep Type: Total/NA
Prep Batch: 195497

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
2,4-Dichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
Nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
Pentachlorophenol	50	U	50		ug/L		02/28/11 14:49	03/03/11 15:42	1
2,4,6-Trichlorophenol	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
2-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
3-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
4-Nitrobiphenyl	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20		ug/L		02/28/11 14:49	03/03/11 15:42	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		02/28/11 14:49	03/03/11 15:42	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*68*		*38 - 130*	*02/28/11 14:49*	*03/03/11 15:42*	*1*
2-Fluorophenol	*56*		*25 - 130*	*02/28/11 14:49*	*03/03/11 15:42*	*1*
Nitrobenzene-d5	*57*		*39 - 130*	*02/28/11 14:49*	*03/03/11 15:42*	*1*
Phenol-d5	*51*		*25 - 130*	*02/28/11 14:49*	*03/03/11 15:42*	*1*
Terphenyl-d14	*95*		*10 - 143*	*02/28/11 14:49*	*03/03/11 15:42*	*1*
2,4,6-Tribromophenol	*87*		*31 - 141*	*02/28/11 14:49*	*03/03/11 15:42*	*1*

Lab Sample ID: LCS 680-195497/13-A
Matrix: Water
Analysis Batch: 196003

Client Sample ID: LCS 680-195497/13-A
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,1'-Biphenyl	100	56.8		ug/L		57	54 - 130
2,4-Dichlorophenol	100	57.1		ug/L		57	54 - 130
Nitrobenzene	100	44.5	*	ug/L		44	56 - 130
Pentachlorophenol	100	83.2		ug/L		83	42 - 138
2,4,6-Trichlorophenol	100	61.0		ug/L		61	57 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*57*		*38 - 130*
2-Fluorophenol	*40*		*25 - 130*
Nitrobenzene-d5	*47*		*39 - 130*
Phenol-d5	*41*		*25 - 130*
Terphenyl-d14	*84*		*10 - 143*
2,4,6-Tribromophenol	*84*		*31 - 141*

Lab Sample ID: LCS 680-195497/19-A
Matrix: Water
Analysis Batch: 196003

Client Sample ID: LCS 680-195497/19-A
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1-Chloro-3-nitrobenzene	100	70.2		ug/L		70	10 - 130
2-Nitrobiphenyl	100	69.2		ug/L		69	10 - 130
3-Nitrobiphenyl	100	72.8		ug/L		73	10 - 130

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Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-195497/19-A
Matrix: Water
Analysis Batch: 196003

Client Sample ID: LCS 680-195497/19-A
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
3,4-Dichloronitrobenzene	100	69.9		ug/L		70	10 - 130
4-Nitrobiphenyl	100	72.1		ug/L		72	10 - 130
2-chloronitrobenzene / 4-chloronitrobenzene	200	143		ug/L		71	10 - 130
1-chloro-2,4-dinitrobenzene	100	70.2		ug/L		70	10 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*53*		*38 - 130*
2-Fluorophenol	*53*		*25 - 130*
Nitrobenzene-d5	*55*		*39 - 130*
Phenol-d5	*48*		*25 - 130*
Terphenyl-d14	*86*		*10 - 143*
2,4,6-Tribromophenol	*67*		*31 - 141*

Lab Sample ID: 680-65900-4 MS
Matrix: Water
Analysis Batch: 196003

Client Sample ID: GM-58A-0211
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
1-Chloro-3-nitrobenzene	10	U	100	64.9		ug/L		65	10 - 130
2-Nitrobiphenyl	10	U	100	72.4		ug/L		72	10 - 130
3-Nitrobiphenyl	10	U	100	66.7		ug/L		67	10 - 130
3,4-Dichloronitrobenzene	10	U	100	62.7		ug/L		63	10 - 130
4-Nitrobiphenyl	10	U	100	63.1		ug/L		63	10 - 130
2-chloronitrobenzene / 4-chloronitrobenzene	220		200	332		ug/L		110	10 - 130
1-chloro-2,4-dinitrobenzene	10	U	100	67.6		ug/L		68	10 - 130

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*45*		*38 - 130*
2-Fluorophenol	*41*		*25 - 130*
Nitrobenzene-d5	*46*		*39 - 130*
Phenol-d5	*41*		*25 - 130*
Terphenyl-d14	*64*		*10 - 143*
2,4,6-Tribromophenol	*63*		*31 - 141*

Lab Sample ID: 680-65900-4 MS
Matrix: Water
Analysis Batch: 197304

Client Sample ID: GM-58A-0211
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
1,1'-Biphenyl	10	U	100	71.5		ug/L		71	54 - 130
2,4-Dichlorophenol	10	U	100	75.7		ug/L		76	54 - 130
Nitrobenzene	10	U	100	74.0		ug/L		73	56 - 130
Pentachlorophenol	50	U	100	90.8		ug/L		91	42 - 138
2,4,6-Trichlorophenol	63		100	161	F	ug/L		146	57 - 130

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl	*70*		*38 - 130*
2-Fluorophenol	*55*		*25 - 130*

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Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-65900-4 MS
Matrix: Water
Analysis Batch: 197304

Client Sample ID: GM-58A-0211
Prep Type: Total/NA
Prep Batch: 195497

Surrogate	MS % Recovery	MS Qualifier	Limits
Nitrobenzene-d5	64		39 - 130
Phenol-d5	57		25 - 130
Terphenyl-d14	55		10 - 143
2,4,6-Tribromophenol	77		31 - 141

Lab Sample ID: 680-65900-4 MSD
Matrix: Water
Analysis Batch: 196003

Client Sample ID: GM-58A-0211
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
1-Chloro-3-nitrobenzene	10	U	100	63.7	F	ug/L		-28	10 - 130	2	50
2-Nitrobiphenyl	10	U	100	80.1		ug/L		80	10 - 130	10	50
3-Nitrobiphenyl	10	U	100	75.0		ug/L		75	10 - 130	12	50
3,4-Dichloronitrobenzene	10	U	100	64.1		ug/L		64	10 - 130	2	50
4-Nitrobiphenyl	10	U	100	71.1		ug/L		71	10 - 130	12	50
2-chloronitrobenzene / 4-chloronitrobenzene	220		200	348	F	ug/L		159	10 - 130	5	50
1-chloro-2,4-dinitrobenzene	10	U	100	70.9		ug/L		23	10 - 130	5	50

Surrogate	MSD % Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	47		38 - 130
2-Fluorophenol	38		25 - 130
Nitrobenzene-d5	43		39 - 130
Phenol-d5	36		25 - 130
Terphenyl-d14	80		10 - 143
2,4,6-Tribromophenol	71		31 - 141

Lab Sample ID: 680-65900-4 MSD
Matrix: Water
Analysis Batch: 197304

Client Sample ID: GM-58A-0211
Prep Type: Total/NA
Prep Batch: 195497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	10	U	100	49.8	F	ug/L		50	54 - 130	36	50
2,4-Dichlorophenol	10	U	100	55.3		ug/L		55	54 - 130	31	50
Nitrobenzene	10	U	100	56.3	F	ug/L		55	56 - 130	27	50
Pentachlorophenol	50	U	100	78.6		ug/L		79	42 - 138	14	50
2,4,6-Trichlorophenol	63		100	114		ug/L		99	57 - 130	34	50

Surrogate	MSD % Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	52		38 - 130
2-Fluorophenol	48		25 - 130
Nitrobenzene-d5	52		39 - 130
Phenol-d5	48		25 - 130
Terphenyl-d14	63		10 - 143
2,4,6-Tribromophenol	64		31 - 141

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Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-196317/12-A — **Client Sample ID: MB 680-196317/12-A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
2,4-Dichlorophenol	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
Nitrobenzene	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
Pentachlorophenol	50	U	50		ug/L		03/08/11 14:38	03/15/11 10:45	1
2,4,6-Trichlorophenol	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
2-Nitrobiphenyl	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
3-Nitrobiphenyl	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
4-Nitrobiphenyl	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1
2-chloronitrobenzene / 4-chloronitrobenzene	20	U	20		ug/L		03/08/11 14:38	03/15/11 10:45	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		03/08/11 14:38	03/15/11 10:45	1

Surrogate	*MB % Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*84*		*38 - 130*	*03/08/11 14:38*	*03/15/11 10:45*	*1*
2-Fluorophenol	*70*		*25 - 130*	*03/08/11 14:38*	*03/15/11 10:45*	*1*
Nitrobenzene-d5	*74*		*39 - 130*	*03/08/11 14:38*	*03/15/11 10:45*	*1*
Phenol-d5	*69*		*25 - 130*	*03/08/11 14:38*	*03/15/11 10:45*	*1*
Terphenyl-d14	*98*		*10 - 143*	*03/08/11 14:38*	*03/15/11 10:45*	*1*
2,4,6-Tribromophenol	*88*		*31 - 141*	*03/08/11 14:38*	*03/15/11 10:45*	*1*

Lab Sample ID: LCS 680-196317/13-A — **Client Sample ID: LCS 680-196317/13-A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
1,1'-Biphenyl	100	86.7		ug/L		87	54 - 130
2,4-Dichlorophenol	100	80.8		ug/L		81	54 - 130
Nitrobenzene	100	70.7		ug/L		71	56 - 130
Pentachlorophenol	100	99.2		ug/L		99	42 - 138
2,4,6-Trichlorophenol	100	93.2		ug/L		93	57 - 130

Surrogate	*LCS % Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*85*		*38 - 130*
2-Fluorophenol	*73*		*25 - 130*
Nitrobenzene-d5	*71*		*39 - 130*
Phenol-d5	*71*		*25 - 130*
Terphenyl-d14	*97*		*10 - 143*
2,4,6-Tribromophenol	*89*		*31 - 141*

Lab Sample ID: LCSD 680-196317/14-A — **Client Sample ID: LCSD 680-196317/14-A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	100	81.0		ug/L		81	54 - 130	7	50
2,4-Dichlorophenol	100	79.3		ug/L		79	54 - 130	2	50
Nitrobenzene	100	71.3		ug/L		71	56 - 130	1	50

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Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 680-196317/14-A — **Client Sample ID: LCSD 680-196317/14-A**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Pentachlorophenol			100	91.5		ug/L		91	42 - 138	8	50
2,4,6-Trichlorophenol			100	84.2		ug/L		84	57 - 130	10	50

Surrogate	*LCSD % Recovery*	*LCSD Qualifier*	*Limits*
2-Fluorobiphenyl	*82*		*38 - 130*
2-Fluorophenol	*69*		*25 - 130*
Nitrobenzene-d5	*74*		*39 - 130*
Phenol-d5	*67*		*25 - 130*
Terphenyl-d14	*95*		*10 - 143*
2,4,6-Tribromophenol	*89*		*31 - 141*

Lab Sample ID: 680-65900-4 MS — **Client Sample ID: GM-58A-0211**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits		
1,1'-Biphenyl - RE	9.5	U H	94.5	81.0	H	ug/L		86	54 - 130		
2,4-Dichlorophenol - RE	9.5	U H	94.5	77.5	H	ug/L		79	54 - 130		
Nitrobenzene - RE	9.5	U H	94.5	75.2	H	ug/L		73	56 - 130		
Pentachlorophenol - RE	48	U H	94.5	103	H	ug/L		99	42 - 138		
2,4,6-Trichlorophenol - RE	91	H	94.5	182	H	ug/L		96	57 - 130		

Surrogate	*MS % Recovery*	*MS Qualifier*	*Limits*
2-Fluorobiphenyl - RE	*83*		*38 - 130*
2-Fluorophenol - RE	*67*		*25 - 130*
Nitrobenzene-d5 - RE	*71*		*39 - 130*
Phenol-d5 - RE	*67*		*25 - 130*
Terphenyl-d14 - RE	*66*		*10 - 143*
2,4,6-Tribromophenol - RE	*91*		*31 - 141*

Lab Sample ID: 680-65900-4 MSD — **Client Sample ID: GM-58A-0211**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 197226 — **Prep Batch: 196317**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl - RE	9.5	U H	94.3	76.3	H	ug/L		81	54 - 130	6	50
2,4-Dichlorophenol - RE	9.5	U H	94.3	76.6	H	ug/L		78	54 - 130	1	50
Nitrobenzene - RE	9.5	U H	94.3	75.1	H	ug/L		73	56 - 130	0	50
Pentachlorophenol - RE	48	U H	94.3	94.0	H	ug/L		90	42 - 138	9	50
2,4,6-Trichlorophenol - RE	91	H	94.3	168	H	ug/L		82	57 - 130	8	50

Surrogate	*MSD % Recovery*	*MSD Qualifier*	*Limits*
2-Fluorobiphenyl - RE	*79*		*38 - 130*
2-Fluorophenol - RE	*66*		*25 - 130*
Nitrobenzene-d5 - RE	*70*		*39 - 130*
Phenol-d5 - RE	*65*		*25 - 130*
Terphenyl-d14 - RE	*56*		*10 - 143*
2,4,6-Tribromophenol - RE	*89*		*31 - 141*

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Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-195877/24 — **Client Sample ID: MB 680-195877/24**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195877

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			03/02/11 12:42	1
Ethylene	1.0	U	1.0		ug/L			03/02/11 12:42	1
Methane	0.58	U	0.58		ug/L			03/02/11 12:42	1

Lab Sample ID: LCS 680-195877/22 — **Client Sample ID: LCS 680-195877/22**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195877

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethane	282	255		ug/L		90	75 - 125
Ethylene	271	240		ug/L		89	75 - 125
Methane	153	133		ug/L		87	75 - 125

Lab Sample ID: LCSD 680-195877/23 — **Client Sample ID: LCSD 680-195877/23**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195877

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethane	282	284		ug/L		101	75 - 125	11	30
Ethylene	271	266		ug/L		98	75 - 125	10	30
Methane	153	149		ug/L		97	75 - 125	11	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-195759/24-A — **Client Sample ID: MB 680-195759/24-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 196312 — **Prep Batch: 195759**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		03/02/11 12:50	03/07/11 19:17	1
Iron, Dissolved	0.050	U	0.050		mg/L		03/02/11 12:50	03/07/11 19:17	1
Manganese	0.010	U	0.010		mg/L		03/02/11 12:50	03/07/11 19:17	1
Manganese, Dissolved	0.010	U	0.010		mg/L		03/02/11 12:50	03/07/11 19:17	1

Lab Sample ID: LCS 680-195759/23-A — **Client Sample ID: LCS 680-195759/23-A**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 196312 — **Prep Batch: 195759**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	1.00	1.01		mg/L		101	75 - 125
Iron, Dissolved	1.00	1.01		mg/L		101	75 - 125
Manganese	0.500	0.493		mg/L		99	75 - 125
Manganese, Dissolved	0.500	0.493		mg/L		99	75 - 125

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Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-195441/21 — **Client Sample ID: MB 680-195441/21**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195441

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/26/11 14:57	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/26/11 14:57	1

Lab Sample ID: MB 680-195441/45 — **Client Sample ID: MB 680-195441/45**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195441

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/26/11 16:54	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/26/11 16:54	1

Lab Sample ID: LCS 680-195441/46 — **Client Sample ID: LCS 680-195441/46**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Alkalinity	352	331		mg/L		94	80 - 120

Lab Sample ID: LCSD 680-195441/40 — **Client Sample ID: LCSD 680-195441/40**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195441

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Alkalinity	352	332		mg/L		94	80 - 120	2	30

Lab Sample ID: LCSD 680-195441/78 — **Client Sample ID: LCSD 680-195441/78**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195441

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Alkalinity	352	331		mg/L		94	80 - 120	0	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-195597/1 — **Client Sample ID: MB 680-195597/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195597

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/28/11 16:36	1

Lab Sample ID: LCS 680-195597/2 — **Client Sample ID: LCS 680-195597/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195597

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	50.0	50.5		mg/L		101	85 - 115

Ab
4/11/11

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-195454/1 — **Client Sample ID: MB 680-195454/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195454

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			02/24/11 16:26	1
Nitrate Nitrite as N	0.050	U	0.050		mg/L			02/24/11 16:26	1
Nitrite as N	0.050	U	0.050		mg/L			02/24/11 16:26	1

Lab Sample ID: LCS 680-195454/2 — **Client Sample ID: LCS 680-195454/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 195454

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.511		mg/L		102	
Nitrate Nitrite as N	1.00	0.997		mg/L		100	90 - 110
Nitrite as N	0.500	0.487		mg/L		97	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-196411/1 — **Client Sample ID: MB 680-196411/1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 196411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			03/08/11 10:18	1

Lab Sample ID: LCS 680-196411/2 — **Client Sample ID: LCS 680-196411/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 196411

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	20.0	21.8		mg/L		109	75 - 125

Method: 415.1 - TOC

Lab Sample ID: MB 680-196100/2 — **Client Sample ID: MB 680-196100/2**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 196100

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			03/03/11 15:42	1

Lab Sample ID: LCS 680-196100/4 — **Client Sample ID: LCS 680-196100/4**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 196100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Total Organic Carbon	20.0	20.2		mg/L		101	80 - 120

AG
4/11/11

Method: 415.1 - DOC (Continued)

Lab Sample ID: MB 680-196112/1
Matrix: Water
Analysis Batch: 196112

Client Sample ID: MB 680-196112/1
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			03/04/11 03:53	1

Lab Sample ID: LCS 680-196112/2
Matrix: Water
Analysis Batch: 196112

Client Sample ID: LCS 680-196112/2
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Dissolved Organic Carbon	20.0	20.3		mg/L		102	80 - 120

Lab Sample ID: 680-65900-2 MS
Matrix: Water
Analysis Batch: 196112

Client Sample ID: GM-31A-0211-F(0.2)
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Dissolved Organic Carbon	4.0		20.0	24.2		mg/L		101	80 - 120

Lab Sample ID: 680-65900-2 MSD
Matrix: Water
Analysis Batch: 196112

Client Sample ID: GM-31A-0211-F(0.2)
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.0		20.0	24.2		mg/L		101	80 - 120	0	20

Ab
4/11/11

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

GC/MS Semi VOA

Prep Batch: 195497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-1	GM-31A-0211	Total/NA	Water	3520C	
MB 680-195497/12-A	MB 680-195497/12-A	Total/NA	Water	3520C	
LCS 680-195497/13-A	LCS 680-195497/13-A	Total/NA	Water	3520C	
680-65900-4 MS	GM-58A-0211	Total/NA	Water	3520C	
680-65900-4 MSD	GM-58A-0211	Total/NA	Water	3520C	
LCS 680-195497/19-A	LCS 680-195497/19-A	Total/NA	Water	3520C	
680-65900-3	GM-31A-0211-AD	Total/NA	Water	3520C	
680-65900-4 MS	GM-58A-0211	Total/NA	Water	3520C	
680-65900-4 MSD	GM-58A-0211	Total/NA	Water	3520C	
680-65900-4	GM-58A-0211	Total/NA	Water	3520C	
680-65900-6	GM-58A-0211-EB	Total/NA	Water	3520C	

Analysis Batch: 196003

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-195497/19-A	LCS 680-195497/19-A	Total/NA	Water	8270C	195497
680-65900-1	GM-31A-0211	Total/NA	Water	8270C	195497
680-65900-3	GM-31A-0211-AD	Total/NA	Water	8270C	195497
680-65900-4	GM-58A-0211	Total/NA	Water	8270C	195497
680-65900-6	GM-58A-0211-EB	Total/NA	Water	8270C	195497
680-65900-4 MS	GM-58A-0211	Total/NA	Water	8270C	195497
680-65900-4 MSD	GM-58A-0211	Total/NA	Water	8270C	195497
MB 680-195497/12-A	MB 680-195497/12-A	Total/NA	Water	8270C	195497
LCS 680-195497/13-A	LCS 680-195497/13-A	Total/NA	Water	8270C	195497

Prep Batch: 196317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-4 - RE	GM-58A-0211	Total/NA	Water	3520C	
680-65900-6 - RE	GM-58A-0211-EB	Total/NA	Water	3520C	
MB 680-196317/12-A	MB 680-196317/12-A	Total/NA	Water	3520C	
LCS 680-196317/13-A	LCS 680-196317/13-A	Total/NA	Water	3520C	
LCSD 680-196317/14-A	LCSD 680-196317/14-A	Total/NA	Water	3520C	
680-65900-4 MS - RE	GM-58A-0211	Total/NA	Water	3520C	
680-65900-4 MSD - RE	GM-58A-0211	Total/NA	Water	3520C	
680-65900-1 - RE	GM-31A-0211	Total/NA	Water	3520C	
680-65900-3 - RE	GM-31A-0211-AD	Total/NA	Water	3520C	

Analysis Batch: 197226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-196317/12-A	MB 680-196317/12-A	Total/NA	Water	8270C	196317
680-65900-3 - RE	GM-31A-0211-AD	Total/NA	Water	8270C	196317
680-65900-4 - RE	GM-58A-0211	Total/NA	Water	8270C	196317
680-65900-4 MS - RE	GM-58A-0211	Total/NA	Water	8270C	196317
680-65900-4 MSD - RE	GM-58A-0211	Total/NA	Water	8270C	196317
LCS 680-196317/13-A	LCS 680-196317/13-A	Total/NA	Water	8270C	196317
LCSD 680-196317/14-A	LCSD 680-196317/14-A	Total/NA	Water	8270C	196317
680-65900-6 - RE	GM-58A-0211-EB	Total/NA	Water	8270C	196317
680-65900-1 - RE	GM-31A-0211	Total/NA	Water	8270C	196317

Analysis Batch: 197304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-4 MS	GM-58A-0211	Total/NA	Water	8270C	195497
680-65900-4 MSD	GM-58A-0211	Total/NA	Water	8270C	195497

AC
4/11/11

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

GC VOA

Analysis Batch: 195877

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-1	GM-31A-0211	Total/NA	Water	RSK-175	
680-65900-4	GM-58A-0211	Total/NA	Water	RSK-175	
LCS 680-195877/22	LCS 680-195877/22	Total/NA	Water	RSK-175	
LCSD 680-195877/23	LCSD 680-195877/23	Total/NA	Water	RSK-175	
MB 680-195877/24	MB 680-195877/24	Total/NA	Water	RSK-175	

Metals

Prep Batch: 195759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-1	GM-31A-0211	Total Recoverable	Water	3005A	
LCS 680-195759/23-A	LCS 680-195759/23-A	Total Recoverable	Water	3005A	
MB 680-195759/24-A	MB 680-195759/24-A	Total Recoverable	Water	3005A	
680-65900-2	GM-31A-0211-F(0.2)	Dissolved	Water	3005A	
680-65900-4	GM-58A-0211	Total Recoverable	Water	3005A	
680-65900-5	GM-58A-0211-F(0.2)	Dissolved	Water	3005A	

Analysis Batch: 196312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-195759/24-A	MB 680-195759/24-A	Total Recoverable	Water	6010B	195759
LCS 680-195759/23-A	LCS 680-195759/23-A	Total Recoverable	Water	6010B	195759
680-65900-1	GM-31A-0211	Total Recoverable	Water	6010B	195759
680-65900-2	GM-31A-0211-F(0.2)	Dissolved	Water	6010B	195759
680-65900-4	GM-58A-0211	Total Recoverable	Water	6010B	195759
680-65900-5	GM-58A-0211-F(0.2)	Dissolved	Water	6010B	195759

General Chemistry

Analysis Batch: 195441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-195441/21	MB 680-195441/21	Total/NA	Water	310.1	
LCSD 680-195441/40	LCSD 680-195441/40	Total/NA	Water	310.1	
MB 680-195441/45	MB 680-195441/45	Total/NA	Water	310.1	
LCS 680-195441/46	LCS 680-195441/46	Total/NA	Water	310.1	
680-65900-4	GM-58A-0211	Total/NA	Water	310.1	
LCSD 680-195441/78	LCSD 680-195441/78	Total/NA	Water	310.1	

Analysis Batch: 195451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-1	GM-31A-0211	Total/NA	Water	310.1	

Analysis Batch: 195454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-195454/1	MB 680-195454/1	Total/NA	Water	353.2	-
680-65900-1	GM-31A-0211	Total/NA	Water	353.2	
680-65900-4	GM-58A-0211	Total/NA	Water	353.2	
LCS 680-195454/2	LCS 680-195454/2	Total/NA	Water	353.2	

Analysis Batch: 195597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-195597/1	MB 680-195597/1	Total/NA	Water	325.2	
680-65900-1	GM-31A-0211	Total/NA	Water	325.2	

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4/11/11

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

General Chemistry (Continued)

Analysis Batch: 195597 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-65900-4	GM-58A-0211	Total/NA	Water	325.2	
LCS 680-195597/2	LCS 680-195597/2	Total/NA	Water	325.2	

Analysis Batch: 196100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-196100/2	MB 680-196100/2	Total/NA	Water	415.1	
LCS 680-196100/4	LCS 680-196100/4	Total/NA	Water	415.1	
680-65900-1	GM-31A-0211	Total/NA	Water	415.1	
680-65900-4	GM-58A-0211	Total/NA	Water	415.1	

Analysis Batch: 196112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-196112/1	MB 680-196112/1	Dissolved	Water	415.1	
LCS 680-196112/2	LCS 680-196112/2	Dissolved	Water	415.1	
680-65900-5	GM-58A-0211-F(0.2)	Dissolved	Water	415.1	
680-65900-2	GM-31A-0211-F(0.2)	Dissolved	Water	415.1	
680-65900-2 MS	GM-31A-0211-F(0.2)	Dissolved	Water	415.1	
680-65900-2 MSD	GM-31A-0211-F(0.2)	Dissolved	Water	415.1	

Analysis Batch: 196411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-196411/1	MB 680-196411/1	Total/NA	Water	375.4	
680-65900-1	GM-31A-0211	Total/NA	Water	375.4	
680-65900-4	GM-58A-0211	Total/NA	Water	375.4	
LCS 680-196411/2	LCS 680-196411/2	Total/NA	Water	375.4	

TestAmerica Savannah

Ale
4/11/11

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-31A-0211

Lab Sample ID: 680-65900-1

Date Collected: 02/23/11 13:30
Matrix: Water
Date Received: 02/24/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			195497	02/28/11 14:49	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C		1	196003	03/03/11 17:34	LH	TestAmerica Savannah
Total/NA	Prep	3520C	RE		196317	03/08/11 14:38	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C	RE	1	197226	03/15/11 12:10	LH	TestAmerica Savannah
Total/NA	Analysis	RSK-175		1	195877	03/02/11 17:34	AJM	TestAmerica Savannah
Total Recoverable	Prep	3005A			195759	03/02/11 12:50	JPH	TestAmerica Savannah
Total Recoverable	Analysis	6010B		1	196312	03/07/11 19:37	BCB	TestAmerica Savannah
Total/NA	Analysis	310.1		1	195451	02/27/11 12:59	TR	TestAmerica Savannah
Total/NA	Analysis	353.2		1	195454	02/24/11 16:49	JR	TestAmerica Savannah
Total/NA	Analysis	325.2		1	195597	02/28/11 17:18	JR	TestAmerica Savannah
Total/NA	Analysis	415.1		1	196100	03/03/11 16:40	KB	TestAmerica Savannah
Total/NA	Analysis	375.4		5	196411	03/08/11 12:54	JR	TestAmerica Savannah

Client Sample ID: GM-31A-0211-F(0.2)

Lab Sample ID: 680-65900-2

Date Collected: 02/23/11 13:30
Matrix: Water
Date Received: 02/24/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			195759	03/02/11 12:50	JPH	TestAmerica Savannah
Dissolved	Analysis	6010B		1	196312	03/07/11 19:41	BCB	TestAmerica Savannah
Dissolved	Analysis	415.1		1	196112	03/04/11 03:53	KB	TestAmerica Savannah

Client Sample ID: GM-31A-0211-AD

Lab Sample ID: 680-65900-3

Date Collected: 02/23/11 13:30
Matrix: Water
Date Received: 02/24/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			195497	02/28/11 14:49	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C		1	196003	03/03/11 18:02	LH	TestAmerica Savannah
Total/NA	Prep	3520C	RE		196317	03/08/11 14:38	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C	RE	1	197226	03/15/11 12:38	LH	TestAmerica Savannah

Client Sample ID: GM-58A-0211

Lab Sample ID: 680-65900-4

Date Collected: 02/23/11 15:05
Matrix: Water
Date Received: 02/24/11 09:23

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			195497	02/28/11 14:49	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C		1	196003	03/03/11 18:30	LH	TestAmerica Savannah
Total/NA	Prep	3520C	RE		196317	03/08/11 14:38	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C	RE	1	197226	03/15/11 13:06	LH	TestAmerica Savannah
Total/NA	Analysis	RSK-175		1	195877	03/02/11 17:47	AJM	TestAmerica Savannah
Total Recoverable	Prep	3005A			195759	03/02/11 12:50	JPH	TestAmerica Savannah
Total Recoverable	Analysis	6010B		1	196312	03/07/11 19:53	BCB	TestAmerica Savannah

AG
4/11/11

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Client Sample ID: GM-58A-0211

Lab Sample ID: 680-65900-4

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Analysis	310.1		1	195441	02/26/11 18:56	TR	TestAmerica Savannah
Total/NA	Analysis	353.2		1	195454	02/24/11 16:50	JR	TestAmerica Savannah
Total/NA	Analysis	325.2		1	195597	02/28/11 17:18	JR	TestAmerica Savannah
Total/NA	Analysis	415.1		1	196100	03/03/11 16:54	KB	TestAmerica Savannah
Total/NA	Analysis	375.4		5	196411	03/08/11 12:54	JR	TestAmerica Savannah

Client Sample ID: GM-58A-0211-F(0.2)

Lab Sample ID: 680-65900-5

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			195759	03/02/11 12:50	JPH	TestAmerica Savannah
Dissolved	Analysis	6010B		1	196312	03/07/11 20:05	BCB	TestAmerica Savannah
Dissolved	Analysis	415.1		1	196112	03/04/11 03:53	KB	TestAmerica Savannah

Client Sample ID: GM-58A-0211-EB

Lab Sample ID: 680-65900-6

Date Collected: 02/23/11 15:05
Date Received: 02/24/11 09:23
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			195497	02/28/11 14:49	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C		1	196003	03/03/11 18:58	LH	TestAmerica Savannah
Total/NA	Prep	3520C	RE		196317	03/08/11 14:38	RBS	TestAmerica Savannah
Total/NA	Analysis	8270C	RE	1	197226	03/15/11 13:34	LH	TestAmerica Savannah

TestAmerica Savannah

Ale
4/11/11

Serial Number 030173

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE	PROJECT NO.	PROJECT LOCATION (STATE)	PAGE	OF
WGK - Drum site - 1Q11	Drum site	IL	1	1

TAL (LAB) PROJECT MANAGER	P.O. NUMBER	CONTRACT NO.
Gm Rinaldi		

CLIENT (SITE) PM	CLIENT PHONE	CLIENT FAX
Gm Rinaldi	314-674-3312	314-674-8808

CLIENT NAME	CLIENT E-MAIL
Solutia, Inc	gmrina@solutia.com

CLIENT ADDRESS: 575 Maryville Center Dr, St. Louis, MO 63141

COMPANY CONTRACTING THIS WORK (If applicable):

STANDARD REPORT DELIVERY ☒
DATE DUE _____
EXPEDITED REPORT DELIVERY (SURCHARGE) ○
DATE DUE _____
NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS / NUMBER OF CONTAINERS SUBMITTED

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOC 8270 (None)	Total Fe/Mn 6010B (HNO3)	Alk/Cl2 310.1 (None)	Chloride 325.2 / Sulfate 375.4 (None)	Methane Ethane Ethene RSK 175 (None)	Nitrate 353.2 (None)	TOC 415.1 (None)	Diss Fe/Mn 6010B (HNO3)	Diss DOC 415.1 (HCl)		REMARKS
2-23-11	1330	GM-31A-0211	G	X				2	1	1	1	3	1	1				
	1330	GM-31A-0211-F(0.2)	G	X											1	1		Filtered
	1330	GM-31A-0211-AD	G	X				2										
	1505	GM-58A-0211	G	X				2	1	1	1	3	1	1				
	1505	GM-58A-0211-F(0.2)	G	X											1	1		Filtered
	1505	GM-58A-0211-MS	G	X				2										
	1505	GM-58A-0211-MSD	G	X				2										
	1505	GM-58A-0211-EB	G	X				2										

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
[signature]	2-23-11	16:40						

RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	2/24/11	0923	YES ○ NO ○		680-65900	3.6/4.0/1.2/2.2

TAL 8240-680 (1008)

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Ate 4/11/11

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-65900-1
SDG Number: KOM011

Login Number: 65900
List Number: 1
Creator: Conner, Keaton

List Source: TestAmerica Savannah

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	4 coolers rec'd on ice
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6, 4.0, 1.2, 2.2 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	

AG
4/11/11

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 1Q11

TestAmerica Job ID: 680-65900-1
SDG: KOM011

Laboratory	Authority	Program	EPA Region	Certification ID	* Expiration Date
TestAmerica Savannah		USDA		SAV 3-04	10/29/10
TestAmerica Savannah	A2LA	DoD ELAP	0	0399-01	03/31/11
TestAmerica Savannah	A2LA	ISO/IEC 17025	0	399.01	03/31/11
TestAmerica Savannah	Alabama	State Program	4	41450	06/30/11
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A	06/30/10
TestAmerica Savannah	Arkansas	State Program	6	88-0692	02/01/12
TestAmerica Savannah	California	NELAC	9	3217CA	07/31/11
TestAmerica Savannah	Colorado	State Program	8	N/A	12/31/11
TestAmerica Savannah	Connecticut	State Program	1	PH-0161	03/31/11
TestAmerica Savannah	Delaware	State Program	3	N/A	06/30/11
TestAmerica Savannah	Florida	NELAC	4	E87052	06/30/11
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A	06/30/11
TestAmerica Savannah	Georgia	State Program	4	803	06/30/11
TestAmerica Savannah	Guam	State Program	9	09-005r	04/17/11
TestAmerica Savannah	Hawaii	State Program	9	N/A	06/30/11
TestAmerica Savannah	Illinois	NELAC	5	200022	11/30/11
TestAmerica Savannah	Indiana	State Program	5	N/A	06/30/11
TestAmerica Savannah	Iowa	State Program	7	353	07/01/11
TestAmerica Savannah	Kansas	NELAC	7	E-10322	10/31/11
TestAmerica Savannah	Kentucky	Kentucky UST	4	18	11/17/11
TestAmerica Savannah	Kentucky	State Program	4	90084	12/31/11
TestAmerica Savannah	Louisiana	NELAC	6	30690	06/30/11
TestAmerica Savannah	Louisiana	NELAC	6	LA100015	12/31/11
TestAmerica Savannah	Maine	State Program	1	GA00006	08/16/12
TestAmerica Savannah	Maryland	State Program	3	250	12/31/11
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006	06/30/11
TestAmerica Savannah	Michigan	State Program	5	9925	06/30/11
TestAmerica Savannah	Mississippi	State Program	4	N/A	06/30/10
TestAmerica Savannah	Montana	State Program	8	CERT0081	01/01/11
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah	06/30/11
TestAmerica Savannah	Nevada	State Program	9	GA6	07/31/11
TestAmerica Savannah	New Jersey	NELAC	2	GA769	06/30/11
TestAmerica Savannah	New Mexico	State Program	6	N/A	06/30/10
TestAmerica Savannah	New York	NELAC	2	10842	04/01/11
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269	12/31/11
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701	07/31/11
TestAmerica Savannah	Oklahoma	State Program	6	9984	08/31/11
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474	06/30/11
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006	01/01/12
TestAmerica Savannah	Rhode Island	State Program	1	LAO00244	12/30/11
TestAmerica Savannah	South Carolina	State Program	4	98001	06/30/11
TestAmerica Savannah	Tennessee	State Program	4	TN02961	12/31/11
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX	11/30/11
TestAmerica Savannah	Vermont	State Program	1	87052	11/16/11
TestAmerica Savannah	Virginia	State Program	3	302	06/30/11
TestAmerica Savannah	Washington	State Program	10	C1794	06/10/11
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94	06/30/11
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C	12/31/10
TestAmerica Savannah	Wisconsin	State Program	5	999819810	08/31/11
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q	06/30/11

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.
* Any expired certifications in this list are currently pending renewal and are considered valid.

AG
4/11/11

MJW CORPORATION
Radiation Consulting Professionals

April 21, 2011

Mr. Duane T. Kreuger
Geotechnology, Inc.
11816 Lackland Road Suite 150
St. Louis, MO 63146

Dear Mr. Kreuger:

The data reported by Test America Laboratories under SDG KOM011 has been reviewed for quality assurance validation. Data was reported for Volatiles (dissolved gases), Semi-Volatiles, ICP Metals (total and dissolved), Chloride, Nitrate, Sulfate, Organic Carbon (total and dissolved), Alkalinity, and Carbon Dioxide for 8 samples as requested by Geotechnology, Inc. The 8 samples listed below were validated by MJW. The samples in **bold type** have been validated for level IV validation. The data in this report has either been approved for use, or approved with qualification.

- **GM-31A-0211 (Lab ID: 680-65900-1)**
- **GM-31A-F(0.2)-0211 (Lab ID: 680-65900-2)**
- GM-31A-0211 AD (Lab ID: 680-65900-3 FD)
- **GM-58A-0211 (Lab ID: 680-65900-4)**
- GM-58A-0211-MS (Lab ID: 680-65900-4MS)
- GM-58A-0211-MSD (Lab ID: 680-65900-4MSD)
- **GM-58A-F(0.2)-1210 (Lab ID: 680-65900-5)**
- GM-58A-1210-EB (Lab ID: 680-65900-6EB)

If you have any questions concerning this data validation report, please contact me at 585-344-7197.

Very truly yours,

MJW Corporation Inc.

Annette Guilds, CES
Senior Scientist

Approved by:

David A. Dooley, Ph.D., CHP
President, MJW Corporation Inc.

University Park, 1900 Sweet Home Road
Amherst, NY 14228-3359
Voice: (716) 631.8291 Fax: (716) 631.5631 Toll Free: 1 (888) MJW.CORP www.mjwcorp.com

QUALITY ASSURANCE REPORT

Solutia Inc.
W.G. Krummrich Facility
Sauget, Illinois

1st Quarter 2011 Data Validation Report
Illinois Route 3 Drum Site
SDG: KOM011

Prepared for

GEOTECHNOLOGY, INC.
11816 Lackland Road, Suite 150
St. Louis, MO 63146

April 2011

MJW

MJW Corporation, Inc.
1900 Sweet Home Road
Amherst, NY 14228
(716)-631-8291
Project # 2010-1918

DATA ASSESSMENT NARRATIVE
(ORGANICS)

ORGANIC DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE NO.: _____ SDG NO.: KOM011 _____ LABORATORY: Test America _____
SITE: Solutia W.G. Krummrich Plant (Drum Site) _____

DATA ASSESSMENT

The current SOP No. HW-6 (Revision 11), June 1996 for CLP Organics Review and Preliminary Review has been applied.

All data were found to be valid and acceptable except those analytes that have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Data is fully usable and acceptable.

.

Reviewer's Signature: _____ Date: 4/21/2011

MJW Approval: _____ Date: 4/21/2011

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No action necessary.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No action necessary.

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

No action necessary.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

No action necessary.

B) Field or rinse blank contamination:

No action necessary.

C) Trip blank contamination:

No action necessary.

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene and for semi-volatiles Decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable "R".

No action necessary.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 in both initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No action necessary.

7. CALIBRATION:

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detects data may be qualified "R".

For the PEST/PCB fraction, if %RSD exceeds 20% for all analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

No action necessary.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ±30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No action necessary.

9. COMPOUND IDENTIFICATION:

A) Volatile and Semi-Volatile Fractions:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No action necessary.

B) Pesticide Fraction:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

N/A

10. CONTRACT PROBLEMS NON-COMPLIANCE: **None**

11. FIELD DOCUMENTATION: **A field duplicate was analyzed for sample GM-31A-1210. The RPD was 53.3% for 2,4,6-Trichlorophenol and 1.0% for 2-Nitrobiphenyl. All other analytes were non-detect and therefore were not evaluated.**

12. OTHER PROBLEMS: **None**

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified to be used.

None

DATA ASSESSMENT NARRATIVE
(INORGANICS)

INORGANIC DATA ASSESSMENT NARRATIVE

Site: **Solutia W.G. Krummich Plant (Drum Site)** **Matrix: Soil** _____

SDG# **KOM011** **Lab** **Test America** **Water** **X**

Contractor **Geotechnology Inc.** **Reviewer** **Annette Guilds-MJW** **Other** _____

A.2.1 Validation **Flags-** The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as **estimated**

Red- Line- A red line drawn through a sample result indicates **unusable** value. The red lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully **usable**.

Contractual Qualifiers- The legend of contractual qualifiers applied by the lab on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below.

- **Data is fully usable with the exception of Iron (Total and Dissolved), which has been estimated "J" for samples GM-31A-0211, GM-31A-0211-F(0.2), GM-58A-0211, and GM-58A-0211-F(0.2) due to out of control limits for the matrix spike.**

The following bulleted items summarize additional comments where data has not been qualified but it is recommended that additional communication with the laboratory be conducted to further assess the data.

- No CCV/CCB data provided on Form II for Alkalinity and Carbon Dioxide. Communication with the laboratory clarified that CCV's/CCB's are not analyzed for Alkalinity and Carbon Dioxide. These analyses are checked for quality with LCS/LCSD. Thus Form II was prepared in error and pages 613 and 614 should be ignored or eliminated. On Form XIII (Analysis Run Log) pages 633-635 the entries for CCV and CCB should also be ignored or eliminated.

- Page 44 has the wrong method blank listed and page 45 is missing an LCS/LCSD for Alkalinity/Carbon Dioxide. Refer to pages 616, 619, and 620 for the correct values.

A.2.3 Contract-Problem/Non-Compliance

- Matrix Spike was out of control for Iron but the laboratory did not report this in the case narrative nor did they flag the sample results (Form I's). Only the matrix spike results were flagged (Form V).

Data Reviewer: Annette Guilds Date: 4/21/2011
Signature

MJW Approval: David A. Colby Date: 4/21/2011
Signature

Summary Data Qualifiers

Summary of Sample Data Qualifiers

SDG # KOM011 Site Name Solutia W.G. Krummrich Plant (Drum Site)

Client ID	Lab ID	Matrix	Fe			
GM-31A-0211	680-65900-1	Water	J			
GM-31A-0211-F(0.2)	680-65900-2	Water	J			
GM-31A-0211-AD	680-65900-3FD	Water				
GM-58A-0211	680-65900-4	Water	J			
GM-58A-0211-F(0.2)	680-65900-5	Water	J			
GM-58A-1210-EB	680-65900-6EB	Water				

Data Outlier Forms

Matrix Spike Recovery

Samples Affected	Matrix	Analyte	Percent Recovery	Control Limits	Qualifier
GM-58A-0211	Water	Iron	50.0%	75-125%	J
GM-58A-0211-F(0.2)	Water	Iron	50.0%	75-125%	J
GM-31A-0211	Water	Iron	50.0%	75-125%	J
GM-31A-0211-F(0.2)	Water	Iron	50.0%	75-125%	J

Total and Dissolved Analyses

Sample	Analyte	Total Amt (mg/L)	Dissolved Amt (mg/L)	Qualifier
GM-31A-0211	Iron	6.90	0.05	none
GM-31A-0211	Manganese	0.910	0.79	none
GM-58A-0211	Iron	10.00	0.09	none
GM-58A-0211	Manganese	1.400	1.40	none
GM-31A-0211	Organic Carbon	3.70	4.0	none
GM-58A-0211	Organic Carbon	4.900	4.3	none

CERTIFICATES OF ANALYSIS (COA's)

with Data Validation Qualifiers Added

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: GM-31A-0211

Lab Sample ID: 680-65900-1

Lab Name: TestAmerica Savannah

Job No.: 680-65900-1

SDG ID.: KOM011

Matrix: Water

Date Sampled: 02/23/2011 13:30

Reporting Basis: WET

Date Received: 02/24/2011 09:23

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	6.9	0.050	0.024	mg/L		J	1	6010B
7439-96-5	Manganese	0.91	0.010	0.0030	mg/L			1	6010B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: GM-31A-0211-F(0.2)
Lab Sample ID: 680-65900-2
Lab Name: TestAmerica Savannah
Job No.: 680-65900-1
SDG ID.: KOM011
Matrix: Water
Date Sampled: 02/23/2011 13:30
Reporting Basis: WET
Date Received: 02/24/2011 09:23

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron, Dissolved	0.050	0.050	0.024	mg/L	U	J	1	6010B
7439-96-5	Manganese, Dissolved	0.79	0.010	0.0030	mg/L			1	6010B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - TOTAL RECOVERABLE

Client Sample ID: GM-58A-0211 Lab Sample ID: 680-65900-4

Lab Name: TestAmerica Savannah Job No.: 680-65900-1

SDG ID.: KOM011

Matrix: Water Date Sampled: 02/23/2011 15:05

Reporting Basis: WET Date Received: 02/24/2011 09:23

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron	10	0.050	0.024	mg/L		J	1	6010B
7439-96-5	Manganese	1.4	0.010	0.0030	mg/L			1	6010B

1A-IN
INORGANIC ANALYSIS DATA SHEET
METALS - DISSOLVED

Client Sample ID: GM-58A-0211-F(0.2)
Lab Sample ID: 680-65900-5
Lab Name: TestAmerica Savannah
Job No.: 680-65900-1
SDG ID.: KOM011
Matrix: Water
Date Sampled: 02/23/2011 15:05
Reporting Basis: WET
Date Received: 02/24/2011 09:23

CAS No.	Analyte	Result	RL	MDL	Units	C	Q	DIL	Method
7439-89-6	Iron, Dissolved	0.091	0.050	0.024	mg/L		J	1	6010B
7439-96-5	Manganese, Dissolved	1.4	0.010	0.0030	mg/L			1	6010B