

August 18, 2004

Mr. Robert A. Young  
Director of Engineering  
Southern Union Company  
New England Division  
100 Weybossett Street  
Providence, Rhode Island 02903

RE: Supplemental Site Investigation Work Plan  
Bay Street Tiverton Study Area  
**Case #2002-065(a)**

Dear Mr. Young:

The Department of Environmental Management's Office of Waste Management has received and reviewed Southern Union Company/New England Gas Division's (NEGAS) Supplemental Site Investigation Work Plan by VHB, Inc. for the Bay Street Neighborhood Study. As a result of our review, please find below comments and/or requests that the Department would like implemented as part of our conditional concurrence for this Supplemental Phase of investigation. The Department is eager for NEGAS to move forward with this next sampling round, and it is anticipated that the proposed scope of work, subject to the conditions contained herein, will specify the proposed minimum activities for this next round. NEGAS's environmental consultant however, should be given flexibility in their authorization to exercise professional judgment, where warranted, should field conditions encountered dictate that additional actions are appropriate.

1. **Executive Summary-** The Department acknowledges (paragraph 2 on page ES-1) that the results of the original Site Investigation Report (SIR) and Risk Assessment (RA) are the current understanding of Southern Union Company/NEGAS, VHB and Environ. As stated in the comments submitted in early 2004, the Department believes it is premature to draw conclusions concerning exceedances and risk until the results of this next phase of the investigation is complete and it is anticipated this next round of sampling proposed should provide a clearer overall picture concerning property conditions and potential hazards (i.e., COPCs).
2. **Page ES-2** The Department believes that final categories of properties will be based on the results of this next round of testing. Further evaluation can be performed after the sampling and analysis has been completed and clear remedial alternatives have been identified.

3. **Page 4-** The Department reserves its right to comment on VHB's Findings of the Site Investigation based upon the results of this next sampling round.
4. NEGAS has proposed looking at Arsenic in soils as a background contaminant given the geologic structure of Tiverton. Some considerations include
  - The Arsenic concentration of 7.0ppm is not risk based and the calculated risk based concentration is .04 ppm.
  - Section 12 of the Remediation Regulations outlines how to deal with Arsenic that may be naturally occurring under Method 1 Criteria, however, not where Arsenic is commingled with other Contaminants of Potential Concern and a Method 3 Risk Assessment is proposed.
5. Based upon the comments submitted earlier by EPA-Region 1 concerning the 2003 SIR, please add the Inorganic Metal "Vanadium" to the 13 priority pollutant metals parameters that are proposed for this investigation.
6. Previous comments submitted by USEPA Region 1 recommended that NEGAS have lower detection limits for PAH's. Given that the Benzo (a) Pyrene (BaP) concentration in the Remediation Regulations is not Risk Based, USEPA has recommended using the Region 9 concentration of .06 ppm for BaP; Region I recommends EPA Method 8270B (sims).
7. **Soil Sampling-** Surface soils and subsurface soils
  - a.** The Department concurs with sampling for BTEX if the PID soil screening exceeds 10 ppm.
  - b.** The Department concurs with sampling for Total Petroleum Hydrocarbons (TPH) if observed in the field.
  - c.** The Department concurs with sampling for the 13 priority pollutant metals and Vanadium.
  - d.** The Department concurs with sampling for cyanide if there is evidence of any "blue coloration" to the soils.
  - e.** The Department concurs with testing for Mercury if there visual evidence or evidence of felt waste material.
  - f.** The Department requests that all soil samples be tested for the full Semi-Volatile Organic Compounds (SVOC's by Method 8270C) if original samples (2003 Sampling) for that specific property indicated any SVOC compound above the Method 1 Residential Direct Exposure Criteria (RDEC) or EPA Region 9 soil screening levels, whichever is more stringent, rather than just sampling for Polycyclic Aromatic Hydrocarbons (PAH's).
    - If the specific property did not have any SVOC exceedances above the RDEC or EPA Region 9 soil screening levels, then the Department concurs with soil sampling for just the PAH compounds on that specific property.

- For properties not previously sampled, the full suite of SVOCs is required.
8. The abovementioned soil sampling proposal did not include testing for Insecticides and Herbicides (I &H). VHB has indicated to the Department that it is their belief that the likelihood of compounds of lead arsenate historically might explain why there may be some correlation of lead and arsenic exceedances or detections. VHB has also indicated that organic based I & H compounds used historically have gone beyond their life and therefore it would not be prudent to test for these compounds. The Department would like to understand that if one of the potential remedial alternatives is performing a complete Human Health Risk Assessment pursuant to Federal and State Guidance, how will the lack of this data group affect calculated risk for any of these compounds that might be present or overall cumulative risk; especially considering that the environmental half-lives of some pesticides are rather high.
  9. All soil borings should be extended to the water table and/or the bottom of any fill observed.
  10. **Groundwater Investigation**- As previously stated to NEGAS and VHB, the Department requests that in addition to sampling the four (4) existing groundwater monitoring wells and the proposed three (3) additional wells by VHB. The Department also requests that two (2) more wells be installed and sampled. The Department would like these two wells installed in 1.) the area near the intersection of Bay and A Connell Street and in 2.) Judson Street near the former sampling location Judson 8.
  11. **Test Pits**- As previously stated to NEGAS and VHB, the Department requests that the proposed test pits go to a minimum of four (4) feet and to a maximum of eight (8) feet in depth depending on the depth of the water table and what is observed in the field. If there is evidence of filling, the test pit should be extended to a depth below the fill. The Department has requested that photographs be taken of all excavated materials and test pit locations and holes for purposes of documenting the observations. The Department also requested that test pits be performed on those lots within Block 3 where no further investigation has been proposed so that, at a minimum, visual observations and photographic documentation can be included in the final report. If fill or debris is observed, the Department requests that samples be obtained for laboratory analysis.
  12. **Surface water** – Based upon our earlier meeting at RIDEM, the Department requested that NEGAS obtain surface water samples at the following locations for the proposed parameters:
    - g.** Discharge under the railroad tracks south of the intersection of Bay and Judson Streets.
    - h.** Culvert at corner of Bay and Judson Streets
    - i.** Stream or culvert between Hooper and Judson street homes
    - j.** Unnamed stream between Conanicus and Hooper Streets
    - k.** Stream discharge at State Avenue

13. The Department requests that VHB insure that clean soil are used to fill the test pit excavations meets the Department's Method 1 Residential Direct Exposure criteria.
14. The Department requests a copy of all of the QA/QC laboratory results for this 2004 sampling event. Also, the Department cannot locate the QA/QC laboratory results for the 2003 sampling event in the documents that were submitted in the Fall of 2003.
15. To help ensure that the data obtained in this round of sampling will be adequate for the conduct of a comprehensive quantitative human health risk assessment, the Department requests that ENVIRON thoroughly review the proposed sampling plan (locations, methods, depth, etc.) and submit a letter to RIDEM that the sampling plan design conforms to published EPA soil sampling guidance relative to obtaining statistically valid, representative samples of sufficient number, location and depth to properly characterize each property. USEPA documents "Guidance for Data Usability in Risk Assessment," "Soil Screening Guidance: Technical Background Document," "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites," and "Soil Screening Guidance: Users Guide," for example, provide guidance concerning representative random sampling methods and the number of samples that should be taken in order to gain a pre-specified level of statistical confidence (including samples intended for use in background comparisons). If ENVIRON cannot provide this assurance in writing at this time, the Department may not be able to accept a HHRA based on the data. NEGAS should be aware that the Department reserves the right to submit the resulting data (and methods used to obtain the data) to qualified EPA/third party experts for review prior to the acceptance of any final risk assessment conclusions; inadequacies identified could result in the need for additional field work/sampling.

If you have any questions please contact me by telephone at (401) 222-2797 ext 7102.

Sincerely,

Jeffrey Crawford  
Principal Environmental Scientist  
Office of Waste Management

Cc: Leo Hellested, Chief OWM  
Kelly Owens, Supervising Engineer OWM  
Robert Vanderslice, Chief RI Department of Health  
Timothy O'Connor, VHB, Inc.  
Gail Corvello, E.N.A.C.T.

August 18, 2004

Mr. Robert A. Young  
Director of Engineering  
Southern Union Company  
New England Gas Division  
100 Weybossett Street  
Providence, Rhode Island 02903

RE: Phase II Site Investigation Work Plan  
Bay Street Tiverton Study Area  
**Case #2002-065(a)**

Dear Mr. Young:

The Department of Environmental Management's Office of Waste Management has received and reviewed Southern Union Company/New England Gas Division's (NEGAS) Phase II Site Investigation Work Plan (by VHB, Inc.) for the Bay Street Neighborhood Study. As a result of the Department's review, please find below comments and/or requests that the Department would like implemented as part of our conditional concurrence for this Phase II Site Investigation. The Department is eager for NEGAS to move forward with this next sampling round, and it is anticipated that the proposed scope of work, subject to the conditions contained herein, will specify the proposed minimum activities for this next round. NEGAS's environmental consultant, however, should be given flexibility in their authorization to exercise professional judgment, where warranted, should field conditions encountered dictate that additional actions are appropriate.

1. The Department believes that final categories of properties will be based on the results of this next round of testing. Further evaluation can be performed after the sampling and analysis has been completed and clear remedial alternatives have been identified.
2. As stated in the Supplemental SIWP response to comments, the Department does not concur with the section concerning VHB's Findings of the Site Investigation.
3. The Department again requests that NEGAS include the Judson Strip property (Plat 8-6, Block 41, Lots 34 and 35) currently in the name of the Alvin B. Simpson Rev. Trust (1/2)(Deceased) and the Georgiana Simpson Rev. Trust (1/2) as part of this Phase II Site Investigation Work Plan. This request is based upon the understanding with NEGAS that they would investigate any abutting property where contamination was detected including properties abutting the public roads and rights of way.

4. NEGAS has proposed looking at Arsenic in soils as a background contaminant given the geologic structure of Tiverton. Some considerations include
  - The Arsenic concentration of 7.0ppm is not risk based and the calculated risk based concentration is .04 ppm.
  - Section 12 of the Remediation Regulations outlines how to deal with Arsenic that may be naturally occurring under Method 1 Criteria, however, not where Arsenic is commingled with other Contaminants of Potential Concern and a Method 3 Risk Assessment is proposed.
5. Based upon the comments submitted earlier by EPA-Region 1 concerning the SIR, please add the Inorganic Metal “Vanadium” to the 13 priority pollutant metals parameters that are proposed for this investigation.
6. Previous comments submitted by USEPA Region1 recommended that NEGAS have lower detection limits for PAH’s. Given that the Benzo (a) Pyrene (BaP) concentration in the Remediation Regulations is not Risk Based, USEPA has recommended using the Region 9 concentration of .06 ppm for BaP.
7. **Soil Sampling- Surface soils and subsurface soils**
  - a.** The Department concurs with the proposed number of surface soil samples (six 0-6inch, six 0-2 feet and three (>2 foot) subsurface soil borings for each of the twenty three properties. The Department again requests that the soil borings be advanced to the water table and/or the bottom of any observed fill.
  - b.** The Department concurs with sampling for BTEX if the PID soil screening exceeds 10 ppm.
  - c.** The Department concurs with sampling for Total Petroleum Hydrocarbons (TPH) if observed in the field.
  - d.** The Department concurs with sampling for the 13 priority pollutant metals (+ vanadium).
  - e.** The Department concurs with sampling for cyanide if there is evidence of any “blue staining or coloration” in the soils.
  - f.** The Department concurs with testing for Mercury if there visual evidence or evidence of felt waste material.
  - g.** The Department requests that all soil samples be tested full Semi-Volatile Organic Compounds (SVOC’s by Method 8270C).
8. The abovementioned soil sampling proposal did not include testing for Insecticides and Herbicides (I&H). VHB has indicated to the Department that it is their belief that the likelihood of compounds of lead arsenate might explain why there may be some correlation of lead and arsenic exceedances or detections. VHB has also indicated that organic based I&H compounds used historically have gone beyond their life and therefore it would not be prudent to test for these compounds. The Department would like

understand that if one of the potential remedial alternatives presented to the Department by NEGAS is performing a complete HHRA pursuant to Federal and State Guidance, how will the lack of this data group affect calculated risk for any of these compounds that might be present or overall cumulative risk; especially considering that the environmental half lives of some pesticides are rather high.

9. All soil borings should be extended to the water table and/or the bottom of any fill observed.
10. **Test Pits**- although not proposed for this investigation, if there is evidence of filling, is NEGAS prepared to perform test pitting (with the homeowners approval) should observe fill and/or solid waste observed? If NEGAS agrees to perform test pits on a particular parcel, the Department requests that the same procedures for observations, sampling, soil replacement and photographs be conducted as outlined in the Supplemental SIWP.
11. The Department requests a copy of all of the QA/QC laboratory results for this 2004 sampling event.
12. To help ensure that the data obtained in this round of sampling will be adequate for the conduct of a comprehensive quantitative human health risk assessment, the Department requests that ENVIRON thoroughly review the proposed sampling plan (locations, methods, depth, etc.) and submit a letter to RIDEM that the sampling plan design conforms to published EPA soil sampling guidance relative to obtaining statistically valid, representative samples of sufficient number, location and depth to properly characterize each property. USEPA documents "Guidance for Data Usability in Risk Assessment," "Soil Screening Guidance: Technical Background Document," "Supplemental Guidance for Developing Soil Screening Levels for Superfund Sites," and "Soil Screening Guidance: Users Guide," for example, provide guidance concerning representative random sampling methods and the number of samples that should be taken in order to gain a pre-specified level of statistical confidence (including samples intended for use in background comparisons). If ENVIRON cannot provide this assurance in writing at this time, the Department may not be able to accept a HHRA based on the data. NEGAS should be aware that the Department reserves the right to submit the resulting data (and methods used to obtain the data) to qualified EPA/third party experts for review prior to the acceptance of any final risk assessment conclusions; inadequacies identified could result in the need for additional field work/sampling.

If you have any questions please contact me by telephone at (401) 222-2797 ext 7102.

Sincerely,

Jeffrey Crawford  
Principal Environmental Scientist  
Office of Waste Management

Cc: Leo Hellested, Chief OWM  
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100 Weybossett Street  
Providence, Rhode Island 02903

RE: Bay Street Neighborhood Study Area  
Tiverton, Rhode Island  
**Case #2002-065(a)**

Dear Mr. Young:

Please find attached a copy of the Department of Environmental Management's comments and our conditional concurrence concerning the proposed Supplemental Site Investigation Work Plan (SSIWP) and the Phase II Site Investigation Work Plan (Phase II) submitted by VHB, Inc. on July 20, 2004 concerning the Bay Street Neighborhood Study Area SIR on behalf of Southern Union Company/ New England Gas Division (NEGAS). Also, please find attached comments received by the Department from several consultants and residents concerning these investigation proposals:

1. Comments from Fuss & O' Neil Inc. and the Environmental Awareness Committee of Tiverton (ENACT) received on August 11, 2004;
2. Comments from John Thompson of Woodard & Curran on behalf of Tiverton residents who coordinated with W&C received on August 11, 2004;
3. Comments from Ransom Environmental Consultants, Inc. on behalf of the Simpson family heirs received August 10, 2004; and
4. Comments from Robert and Linda Ferreira, residents of 37 A Connell Street, Tiverton received August 10, 2004.

We look forward to seeing NEGAS proceed with field work in the coming weeks while taking into consideration these additional comments during the implementation of the field investigation work and in the development of the overall Site Investigation Report and Remedial Action alternatives. The consultants ENACT and the property owners have

identified concerns, key points and conceptual approaches for consideration to assist NEGAS in achieving its ultimate objective of determining the nature and extent of contamination in the various media of the Bay Street Neighborhood Study Area. Every effort to accommodate specific property owner's requests should help to expedite the investigation and data gathering process.

If you have any questions please contact me by telephone at (401) 222-2797 ext 7102.

Sincerely,

Jeffrey Crawford  
Principal Environmental Scientist  
Office of Waste Management

Cc: Terrence Gray, Assistant Director  
Leo Hellested, Chief Office of Waste Management  
Kelly Owens, Supervising Engineer OWM  
Richard Enander, RIDEM Customer & Technical Assistance  
Robert Vanderslice, Chief RIDOH Risk Assessment  
Claudette Linhares, Town Council President, Tiverton  
Christopher Cotta, Town Manager, Town of Tiverton  
Timothy O'Connor, VHB, Inc.  
Gail Corvello, E.N.A.C.T.  
Gary Kaufman, Ransom Environmental, Inc.  
(Simpson Family members)  
John Thompson, Woodard & Curran  
Paul Revere III, Esq. (Reis Family)  
Alicia Pina, The Providence Journal Company